

The study of consumption behaviors and factors affecting decision to purchase fishery products of consumers in the North and Northeast of Thailand

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Abstract

This study aims to explore the consumption behavior and consumer's attitude toward the important factors affecting decision to purchase fishery products for the development of fishery businesses and the Fish Marketing Organization (FMO), Thailand. The survey was conducted within two locations in Thailand: the North, representing by Chiang Mai province, and the Northeastern, representing by Nakhon Phanom province. The data were obtained from 388 and 400 respondents residing in two provinces, accordingly. The results show that target consumers are found to be apparently different in terms of demographic and socio-economic status. Target consumers in Chiang Mai are middle income class or above, office employees, and holding bachelor degrees. They focus on the food safety, hygiene of products and marketplaces, origins of products and no contamination. High income consumers tend to have high expectation on marketplace, particularly on the convenience to visit, cooking services and available parking space. However, the target consumers in Nakhon Phanom are moderately different. The majority of consumers are farmers and self-employed with lower educational and income levels. As a result, pricing is the most critical factor affecting decision to purchase fishery products, while product strategy is less influenced on them. The marketing mix strategy is hence developed to meet the demand of target consumers that would enhance the fishery businesses. Furthermore, the FMO, Thailand can use the findings from this study to formulate strategic distribution plans for its fishery products and provide more effective operations and services to the target consumers in both locations.

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Introduction

Fishery products were considered as an important source of nutritional foods for human. The recent data indicated that, over the past decades, fishery was the fastest growing sector with about 7% of annual growth rate (Kaimakoudi *et al.*, 2013). According to Food and Agriculture Organization of the United Nations (FAO), the world per capita consumptions of fishery products was about 18.9 kilograms in 2011, with an average annual growth rate of 1.62% from 2001-2011 (FAO, 2014). However, the trend in per-capita consumption was varying across regions; China, India and Southeast Asia were estimated to have rapid growing of fishery consumptions (World Bank, 2013).

Previously, most studies examining the fishery consumption behavior were based on the context of the US or European countries. Only a few studies were conducted in the context of Asia and developing countries (Houston and Li, 2000; Li *et al.*, 2000; Tuu *et al.*, 2008; Pethiyagoda and Olsen, 2012).

Foltz *et al.* (1999) investigated the US consumers' purchasing behaviors of trout products and their personal attributes. They investigated the impacts of demographic and socio-economic attributes and preferences on purchasing decisions for fish products and used the consumers' profiles to develop the marketing strategies for trout products in order to meet the demand of a particular segment. Olsen (2003) examined the relationship between consumer's age and seafood consumption in the US and found that age was positively related to the frequency of seafood consumption. Verbeke and Vackier (2005) studied the determinants of fish consumption behavior in Belgium using theory of planned behavior and found that fish consumption was higher among women and increased with higher age, and the lower income class had lowest consumptions. Higher education resulted in more intention to consume fishery products. However, there was no impact of food-health awareness among consumers. Olsen *et al.* (2008) conducted a research to study the intention

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to consume a new fish product between adolescents and young adults in Spain and Norway. The results indicated that there was a difference in preference and motivation to consume products across younger and elderly consumers. Kaimakoudi *et al.* (2013) examined Greek consumer's behavior for fishery products using a two-step cluster analysis to classify the consumers into two different clusters by the specific socio-economic data. The results showed that high-potential fishery consumers were younger with higher income and higher educational background than the low-potential consumer.

Currently, the research that explored the consumer behavior towards fishery products in Asia was increasing. Li *et al.* (2000) and Houston and Li (2000) studied the fishery consumptions of Taiwanese consumers. They indicated that the consumer who preferred consuming fish and shrimp tended to be adult, office workers, interested in nutrition, taste and food quality. Pethiyagoda and Olsen (2012) attempted to explain fish consumption behavior in Sri Lanka, focusing on the impacts of consumer attitude, convenience orientation, knowledge, variety seeking, and price consciousness. The results showed a positive relationship between attitude and fish consumption, insignificant relationship between product knowledge and consumption frequency, and negative relationship between price consciousnesses to fish consumption. Xu *et al.* (2012) developed a framework to study the Chinese consumer's willingness to pay for green and eco-label seafood. They found that Chinese consumers considered the seafood label became a more critical information source than consumption experience. Moreover, gender, shopping venues, education, expenditure and knowledge affected an intention to purchase. Nevertheless, price was not a significant factor affecting purchase decision. Bhuyan and Goswami (2013) explored the marketing possibility of value-added fish products based on the consumption and preference of consumers in Assam, India. They examined the consumers' behavior in terms of consumption patterns, consumer preferences, consumer buying process and purchasing behavior of fish products. The analysis results can be used to formulate the effective marketing strategy for the fishery business.

Fishery productions in Thailand are mainly from marine fishing, coastal aquaculture, freshwater culture and freshwater fishing. The total fishery production in 2011 was about 3.04 million tons (Department of Fisheries, 2013). The statistics report by Department of Fisheries (2013) showed that the total catch during 2001-2011 had decreased a little

with an average rate of 1.7% per year, mainly from the decrease in marine fisheries (2.4% decrease annually); whereas freshwater fisheries had an increase of 2.8% per year on average. The per-capita consumption of fishery products had decreased from over 30 kilograms per year during 2001-2006, to 22.4 kilograms per year in 2011 and now ranked 7th in South East Asia (FAO, 2014).

The marketing of fishery products in Thailand composes of different types of markets and a numbers of traders, including primary markets, intermediate markets, and terminal markets. The primary market is operated at the fishery farm gate. The terminal market is the market where fishery products are sold to consumers through retail outlets. The intermediate market includes the central market and the wholesale market. The central market can be divided into the state central market and the private central market. State central markets are managed by the Fish Marketing Organization (FMO), a state enterprise under the Ministry of Agriculture and Cooperatives, headquartered in Bangkok with a number of provincial branches, fish markets and fishing ports (FMO, 2014). FMO reported that, in 2013, about 42.67% of its fresh marine fishes were distributed through the fresh markets in Bangkok, 42.62% were distributed to provincial retail markets, 2.26% went to cold storages and 10.25% went to processing plants. Recently, the FMO has established the regional distribution centers, first launched in the Northeast (in Nakhon Phanom province — 740 km from Bangkok) and the North (in Chiang Mai province — 700 km from Bangkok). Its aims were to stabilize the demand and supply of fisheries in the country, to expand the distribution channel to regional consumers, and to help reduce the distribution cost in the supply chain, and to assure the quality and safety of fishery products, particularly to regional consumers (FMO, 2014). Becoming a business unit for fishery trading, the FMO needed to develop the marketing strategy to compete in the markets; therefore, the demand and consumption behaviors of consumers in the focal area were essential to be considered. This study aims to determine the impacts of marketing factors affecting the decision to purchase fishery products of consumers in the North and Northeast of Thailand. The results would be beneficial to the FMO, as well as other fishery businesses to understand the need of consumers and be able to formulate the effective marketing strategy to compete in the fishery markets.

Materials and Methods

Research design

This study was an exploratory research, conducted

by using a survey method with questionnaires. This research was scoped the survey within two regions, the North and Northeast of Thailand, representing by Chiang Mai and Nakhon Phanom provinces, respectively. Both regions were distant from seaside and had difficulties on fishery supplies. As a result, the FMO had established its distribution centers in Chiang Mai and Nakhon Phanom to facilitate the regional consumers in these two regions. Therefore, Chiang Mai and Nakhon Phanom were our focal area for conducting the survey. The questionnaire was developed based on previous academic literatures and used to obtain the consumption behaviors and opinions of the respondents. The questionnaire was divided into four sections: Section 1 aimed to collect the data about general consumption and purchasing behavior on fishery products; Section 2 asked the consumers' opinions about the marketing factors affecting decision to purchase fishery products; Section 3 gathered the problems or obstacles facing when the consumers purchased or consumed fishery products; and the last section, Section 4, represented the demographic and socio-economic characteristics. To answer the questions in sections 2 and 3, a 5-point Likert scale was used, in which 1 denoted "the least importance" and 5 denoted "the most importance".

Sample and data collection

In this study, there were two groups of targeted samples, living in two locations: the North and Northeast of Thailand. Two stages of the field survey were organized. The first stage was the pre-test in which 50 respondents in each location were sampling to answer the questionnaire, in order to assure the validity and reliability using Cronbach's alpha assessment. After the revision of questionnaire, the second stage was implemented with larger groups of respondents. The sample size was determined from the formula provided in Churchill (2001) and the minimum number of samples was 342 respondents for each location. The respondents were selected by purposive sampling for consumers who had experienced consuming fishery products.

The first group of respondents included 388 consumers who were living in Chiang Mai province. The second group consisted of 400 consumers who were living in Nakhon Phanom province. The data were collected by convenience sampling through face to face interviews, and analyzed using PASW Statistics 18.0.

Validity and reliability

The quality of the research instrument or questionnaire was examined by assessing the

face validity and the reliability (Hair *et al.*, 2006). The previous literature relating to fishery product consumption behaviors was reviewed and adapted to develop the questionnaire. Therefore, it can be concluded that all questions tabbed the established objectives and are valid. The reliability was assessed by using Cronbach's alpha to verify the internal consistency of the questionnaire (Hair *et al.*, 2006). The assessment showed that all Cronbach's alphas were greater than 0.70, which were sufficient for internal consistency (Nunnally and Bernstein, 1994).

Results and Discussions

Respondents' profile

The respondents' profiles of two consumer groups, living in Chiang Mai and Nakhon Phanom, were presented in Table 1. The majority of respondents were female for both locations since females were primarily the shoppers of foodstuffs for families. Approximately 70% of respondents were below 40 years old (72% for Chiang Mai and 69% for Nakhon Phanom). However, the respondents in these two groups were significantly different in educational backgrounds and monthly incomes. Most respondents in Chiang Mai held bachelor degree (63%), with an average monthly income around 5,000-15,000 THB, where the majority of those in Nakhon Phanom did not finish high school (42%), with an average monthly income less than 10,000 THB. Overall, the respondents in Chiang Mai tended to be company employees (26.8%), government officers (24.5%) and self-employed (22.5%), and may be classified as typical middle to high income family class. Unlike Nakhon Phanom, which was less urbanized than Chiang Mai, the respondents were varying in socio-economic status. The majority of respondents were farmers (21.1%), with lower educational background and income level.

Consumption behavior for fishery products

The consumption behavior for fishery products and opinions toward the Fishery Market Organization (FMO) expressed by the respondents were presented in Table 2. In Chiang Mai, most respondents preferred to consume shrimp/prawn (26%), fish (25%) and squid (20%), respectively, while respondents in Nakhon Phanom consumed slightly more fish (22%) and squid (21%) than shrimp/prawn (20%). The favorite types of shrimps/prawns, fish and squid were similar between two locations, which were freshwater prawn, giant tiger prawn, mackerel and splendid squid. Most respondents (approximately 40%) typically purchased seafood from wet markets.

Table 1. Demographic and socio-economic data of respondents

Variables		Chiang Mai (n = 388)	Nakhon Phanom (n = 400)
		Percentage	Percentage
Gender	Male	38.5	36.0
	Female	61.5	64.0
Age (years)	< 31	43.2	48.3
	31 – 40	29.5	21.3
	41 – 50	20.3	19.3
	> 50	7.0	11.1
Education	Lower than high school	5.0	42.3
	High school	17.3	26.3
	Bachelor	63.5	25.3
	Higher than bachelor	14.2	6.1
Occupation	Company employee	26.8	10.6
	Government / State enterprise officer	24.5	14.6
	Self-employed	22.5	17.8
	Student	12.3	20.1
	Farmer	0.8	21.1
	Others	12.9	15.8
Monthly Income (THB)	< 5,001	9.5	40.8
	5,001-10,000	32.0	33.5
	10,001-15,000	27.5	12.2
	15,001-20,000	12.8	3.7
	> 20,000	18.2	9.8

However, respondents in Chiang Mai preferred to buy seafood from hypermarkets and supermarkets much more than respondents in Nakhon Phanom did (30% and 14%, respectively). The reason is due to the fact that new mode of retail business, specifically modern trade, have rapidly expanded in Chiang Mai, while typical traditional trade is being prominent in Nakhon Phanom. The respondents in both locations regularly purchased seafood from the markets and cooked at home. The purchase quantity and frequency of those in Chiang Mai was 1-2 kg/times, 1-2 times/month, while it was moderately lower in Nakhon Phanom. The tendency to consume seafood by the respondents in both locations was expected to be constant. When asking about the FMO, more than 50% of respondents indicated that they had not known the FMO, but they expected that FMO should provide the same level of product qualities and services or even better than the markets. In addition, the respondents in both locations who were 20-30 years old, holding bachelor degree, with monthly income over 20,000 THB and working in the government offices or state enterprises tended to purchase more from the FMO than any other respondents.

Table 2. Consumption behaviors for fishery products and opinions toward the FMO

Variables		Chiang Mai (n = 388)	Nakhon Phanom (n = 400)
		Percentage	Percentage
Types of seafood	Shrimp/Prawn	26.0	20.6
	Fish	25.2	22.2
	Squid	20.2	21.2
	Crab	15.5	13.8
	Mussel	13.1	22.2
Purchasing Place	Wet market	43.2	37.5
	Hypermarket / Supermarket	30.6	14.6
	Restaurant	11.9	7.6
	Flea market	10.5	20.8
	The FMO	2.4	2.8
	Grocery	1.4	16.7
Purchase Quantity	All types of seafood	1-2 kg/times	1-2 kg/times, <1 kg/times
Frequency	All types of seafood	1-2 times/month	1-2 times/month
Knowing the FMO	Yes	35.7	45.9
	No	64.3	54.1
Opinion towards the FMO	Worse than market	1.8	11.8
	Same as market	28.7	29.7
	Better than market	23.2	27.4
	Same as supermarket	22.1	13.5
	Better than supermarket	24.2	17.6

Factors affecting decision to purchase fishery products

Table 3 presents the importance of marketing mix factors affecting the consumer's decision to purchase fishery products. The Marketing mix factors included product, price, place, and promotion strategies. Product strategy consisted of taste, nutrition, freshness, cleanliness, no contamination, quality assurance, packaging, and origin, variety and availability of products. Price strategy included cheap price and perceived value price. Place strategy composed of convenience to visit, availability of parking spaces, cleanliness, washing and chopping services, cooking services, as well as having other products sold at the same place, to promote customers' one-stop shopping. Finally, promotion strategy included discount price, providing nutritional information, introducing products or cooking instructions, shown price on the website and providing advanced order service. The results showed that the respondents in two locations were diverged in determining factors. The scale for each respondent's opinion was ranged from 1 to 5 and the average scores were calculated. In Chiang Mai, the most critical marketing factor affecting decision to purchase fisheries was product (4.11), followed by place (4.02), price (3.93), other factors (3.87) and

Table 3. The marketing factors affecting decision to purchase fishery products

Variables		Chiang Mai (n = 388)	Nakhon Phanom (n = 400)
		Importance (mean score)	Importance (mean score)
Product	Overall	4.11	3.77
	Taste	4.32	3.96
	Freshness	4.27	4.12
	Sanitary	4.25	4.08
Price	Overall	3.93	3.84¹
	Perceived value	4.04	4.01
	Cheap price	3.73	3.70
Place	Overall	4.02	3.61
	Cleanliness	4.12	3.88
	Convenience	4.10	3.92
	Parking space	4.10	3.80
Promotion	Overall	3.61	3.34
	Discount	3.71	3.63
	Introduction	3.71	3.44
	Nutrition	3.70	3.49
Others	Overall	3.87	3.70
	Health concern	3.95	3.83
	Special occasion	3.90	3.84
	Economic situations	3.84	3.62

promotion (3.61), respectively. In Nakhon Phanom, respondents focused on price (3.84) more than product (3.77), other factors (3.70), place (3.61) and promotion (3.34), accordingly. The socio-economic status probably became the main factor to explain the differences in their opinions. Product taste, freshness and hygiene were the top ranking critical factors for respondents in both provinces. Most respondents focused on perceived pricing or value (in term of price versus quality) and inexpensive price. In addition, they required clean marketplace, convenience to visit and availability of parking spaces. Other factors beyond marketing mix strategy also played a vital role for purchasing behavior in both provinces. The respondents in Chiang Mai had a higher concern on health of family members when consuming seafood more than those in Nakhon Phanom did (with scores of 3.95 and 3.83, respectively). However, the respondents in Nakhon Phanom focused the most on special occasions to purchase fishery products. The samples in both locations agreed on the importance of economic situation having impacts on their decisions to purchase fishery products. Finally, the respondents in both locations consented that promotion was the least influencing factors affecting their decisions. However, within the promotion factor, quantity

Table 4. The obstacles on purchasing and consumption of fishery products

Variables	Chiang Mai (n = 388)		Nakhon Phanom (n = 400)	
	Most critical obstacle	Mean score	Most critical obstacle	Mean score
Product	Contamination	3.95	Freshness	3.84
Price	High price	3.97	High price	3.94
Place	Cleanliness	3.79	Cleanliness	3.65
Promotion	Lack of price information	3.69	No discount	3.64
Others	Economic recession	3.83	Economic recession	3.76

discounts, introducing the product and providing the nutrition facts to the consumers were of the top concerns.

Obstacles on purchasing and consumption of fishery products

The respondents were asked to identify the problems or obstacles that they had faced when purchasing or consuming fishery products and the results were shown in Table 4. The respondents from both locations agreed that the most critical obstacle was the high price of the products which discouraged consumers to increase their consumptions. Furthermore, the respondents in Chiang Mai indicated the problem on contamination in fishery products, while respondents in Nakhon Phanom concerned about the freshness of the products. Economic recession also became an important obstacle, since consumers with low income would not be able to afford the expensive foodstuffs. The cleanliness of marketplace was the major problem, which the respondents in both locations were perceived. Finally, respondents in Chiang Mai had awareness about price information, which must be clearly declared, whereas respondents in Nakhon Phanom focused more on discounts on the fishery products. It was interesting that respondents in Nakhon Phanom indicated the least critical problem was about health concern or allergic problem.

The impacts of demographic and socio-economic status on the importance of marketing factors affecting decision to purchase fishery products

The data was further analyzed by the t-test and ANOVA to examine the impacts of demographic and socio-economic status on the respondent's opinion toward marketing factors affecting purchasing decision. The hypotheses testing were conducted to examine whether gender (male and female), age (less than 20, 20-30, 31-40 and over than 41 years old), education level (lower than high school, high school,

Table 5. The significant impacts of demographic and socio-economic status on marketing mix

(a) In Chiang Mai

4Ps	Gender				
	Male	Female			
Product	4.01 ^a	4.07 ^a			
Price	3.92 ^a	3.86 ^a			
Place	3.63 ^a	4.00 ^b			
Promotion	3.92 ^a	3.53 ^b			
4Ps	Age (years)				
	< 20	20-30	31-40	> 41	
Product	4.10 ^a	4.05 ^a	4.13 ^a	3.95 ^a	
Price	4.30 ^b	3.96 ^a	3.96 ^{ab}	3.64 ^a	
Place	3.77 ^a	3.98 ^a	4.03 ^a	3.82 ^a	
Promotion	3.84 ^a	3.58 ^a	3.60 ^a	3.49 ^a	
4Ps	Education				
	< High school	High school	Bachelor	> Bachelor	
Product	3.80 ^a	3.99 ^a	4.02 ^{ab}	4.29 ^b	
Price	3.72 ^a	3.81 ^a	3.88 ^a	4.10 ^a	
Place	3.95 ^a	3.94 ^a	3.91 ^a	4.24 ^a	
Promotion	3.66 ^a	3.54 ^a	3.54 ^a	3.74 ^a	
4Ps	Income (THB)				
	<= 5,000	5,001-10,000	10,001-15,000	15,001-20,000	> 20,000
Product	3.91 ^a	4.04 ^a	4.07 ^a	4.04 ^a	4.11 ^a
Price	3.73 ^a	3.93 ^a	3.93 ^a	3.85 ^a	3.82 ^a
Place	3.69 ^a	4.03 ^b	3.96 ^{ab}	3.85 ^{ab}	4.04 ^b
Promotion	3.40 ^a	3.67 ^a	3.59 ^a	3.39 ^a	3.55 ^a

Note: The different letters on row denoted the significant differences with p-value < 0.05

(b) In Nakhon Phanom

4Ps	Gender			
	Male	Female		
Product	3.74 ^a	3.77 ^a		
Price	3.97 ^a	3.78 ^b		
Place	3.61 ^a	3.66 ^a		
Promotion	3.67 ^a	3.37 ^b		
4Ps	Age (years)			
	< 20	20-30	31-40	> 41
Product	3.73 ^a	3.69 ^a	3.66 ^a	3.95 ^b
Price	3.85 ^a	3.79 ^a	3.82 ^a	3.92 ^a
Place	3.60 ^a	3.57 ^a	3.64 ^a	3.76 ^a
Promotion	3.24 ^a	3.28 ^a	3.33 ^a	3.51 ^a
4Ps	Education			
	< High school	High school	Bachelor	> Bachelor
Product	3.63 ^a	3.70 ^a	3.74 ^{ab}	3.87 ^b
Price	3.86 ^b	3.85 ^{ab}	3.79 ^a	4.02 ^b
Place	3.73 ^a	3.63 ^a	3.50 ^a	3.78 ^a
Promotion	3.48 ^a	3.28 ^a	3.18 ^a	3.28 ^a

Note: The different letters on row denoted the significant differences with p-value < 0.05

bachelor degree and higher than bachelor degree) and monthly income (less than 5,000, 5,001-10,000, 10,001-15,000, 15,001-20,000 and over than 20,000 THB) had significant impacts on the opinions toward the importance of marketing mix strategy (product, price, place, promotion). The independent variables (X) include the gender, age, education and income, and the dependent variables (Y) were four marketing mix strategies. The significant impacts, along with their statistical comparisons (post hoc) were shown in Table 5.

In Chiang Mai, it was found that females had more focused on the cleanliness of market than males did, while males focused on promotion more than females did, particularly on providing nutritional facts and introducing products. Age of respondents had an impact on the opinions toward the price of fishery products. Respondents who were below 20 had significantly different opinion from respondents who were over than 41. Respondents who were 20-40 years old indicated that the perceived value pricing was the most critical factor, more than the other age groups did. Respondents who had higher education (bachelor degree or higher) had significantly different opinions toward product strategy from those with lower educations. They concerned about the safety of products, cleanliness of products and markets, origin of products and no contamination, while consumers who had lower educations (high school and less) tended to be more interested in taste and variety of products. In addition, high-income consumers (10,000-20,000 THB) had significantly different opinions from low-income consumer (below 10,000 THB) regarding place strategy. They tended to have more focus on marketplace, particularly the convenience to visit, cooking services provided and availability of parking spaces.

According to respondents in Nakhon Phanom, the analysis showed that males had more concerned on price and promotion than females did. Male consumers expected the seller to provide nutritional information and inform the price of products more than females did. However, both males and females agreed that price discount was the most critical factor. The elder respondents (over 41 years old) had different opinions on product strategy, comparing to younger groups. The young consumers concerned on freshness, food safety and origin of products. In addition, the higher the education of consumers (bachelor degree and higher), the more they were aware of product quality, safety and freshness. The nutritional information and product introduction were more recognized by high educated consumers than lower educated consumers. Most respondents who had low education were farmers or housewives and the analysis showed that the product strategy had lesser influences on them than price did. The respondents with higher educational background agreed that perceived value pricing was the important factor for them, while low educational consumers focused on cheap price of fishery products.

Implications for fishery businesses and the FMO

The survey results reveal that consumers' purchasing behaviors for fishery products in two

locations are different in terms of their demographic and socio-economic characteristics and attitude towards marketing factors. In particular, the results of this study support the previous research which has pinpointed that consumer's decision to purchase is associated with demographic characteristics, consumption and purchasing behavior (Kim, 2004; Bakshi, 2012; Kaimakoudi *et al.*, 2013). Consumers from two regions, the North (Chiang Mai) and the Northeast (Nakhon Phanom), are varying in age, occupation, education, income level and attitude towards marketing factors affecting decision to buy. Therefore, they tend to have different consumption behaviors for fishery products, as well as different determined factors for purchasing decisions. This result supports the adoption of market segmentation and targeting strategy and the formulation of appropriate marketing mix strategy to enhance the demand in fishery consumptions.

The marketing implications for the fishery retail business in the North (Chiang Mai) and the Northeast (Nakhon Phanom) are identified. The major favorable seafood products in both locations are found to be mackerel, freshwater prawn, splendid squid and a few favor mussel and blue crab. In Chiang Mai, the target market for fishery products are office workers in middle income class or above, 20-40 years old, with bachelor degrees. Place or channel of distribution is a critical strategy to influence the target consumers, particularly the cleanliness of marketplace and equipment, convenience to visit, cooking services provided at the market place and availability of parking spaces. The target consumers are not price sensitive; therefore the pricing strategy for fishery products should be perceived value pricing. The promotional strategy influencing on purchasing behavior are not only price discount, but also providing information and nutritional facts to consumers. This behavior is similar to the western consumers as they are health-concerned; therefore, food quality and safety attributes are typically considered when consuming fishery products (Verbeke and Vackier, 2005).

In Nakhon Phanom, the target consumers are moderately different in socio-economic status from those in Chiang Mai. The majority of consumers is farmers and self-employed who have lower educational and income levels. Pricing is the most critical factor affecting decision to purchase fishery products. Therefore, the business needs to consider the product positioning with affordable prices, in order to meet the demand of this segment. In addition, the target consumers prefer price discounts on products much more than other promotional strategies. This is in accordance with previous research indicating that

before deciding what to consume, consumers consider the different kind dimensions such as convenience, price, brand, nutrition, and so on (Pethiyagoda and Olsen, 2012).

For the FMO, the fishery distribution centers locating in Chiang Mai and Nakhon Phanom need to consider the distinct target consumers in each location. Overall, the most urgent task is to improve product strategy and develop communication strategy that is suitable for local consumers. Regarding product strategy, the FMO should consider the consumer's preference for each types of seafood for demand management. In addition, a periodical plan for variety and quantity of products need to be set up. As a state enterprise, the FMO should become a leading center for quality inspection and safety assurance system to reassure the standard of their fishery products. Yet, the target consumers in two locations are considerably different. The segmentation and targeting strategy are required to set product positions for the two FMO distribution centers. For pricing strategy, perceived value pricing can be used for the Chiang Mai distribution center, while reasonable and affordable pricing should be used for the Nakhon Phanom distribution center. The FMO should have a mission in stabilizing the prices of fishery products being traded in their locations. According to the research results in both locations, one of the important reasons why most consumers prefer to purchase at the wet markets is convenience. Consequently, the FMO needs to provide convenience to target consumers such as convenience to visit, delivery service, cooking service and parking spaces. It is interesting that most respondents in Chiang Mai and Nakhon Phanom stated that they have not known the FMO even though the FMO distribution centers have been established in both locations. Therefore, it is essential to consider communication strategy designed to create awareness of the FMO and promote the fishery products. Integrated marketing communication tools could be implemented. Previous studies have suggested that demographic and socio-economic differences, i.e. gender, education and age are significant in the use of information sources (Holgado *et al.*, 2000; Verbeke, 2005; Pieniak *et al.*, 2007).

Regarding the promotion strategy, beside the discount prices, consumers in both areas give an importance to nutritional information and product introductions. Thus, the FMO needs to develop the communication strategy that is suitable for local consumers who need information through various media. Finally, due to the low quantity of seafood consumption in Nakhon Phanom, and to enhance

the demand for fishery products, the FMO, as a wholesaler may extend the market to the hotel, restaurant and catering (HORECA) sectors and other service sectors, such as hospitals, schools, and universities in both regions.

Conclusion

This study is an exploratory research using survey method to examine the consumption behavior and consumer's attitude toward the important factors affecting decision to purchase fishery products. The survey was conducted in two locations; the northern region, representing by Chiang Mai, and the northeastern region, representing by Nakhon Phanom. The analysis results identify that the consumption behaviors and opinions on marketing factors affecting decision to purchase fishery products are varying across consumers in different locations. The target consumers in Chiang Mai concern more on product strategy, safety and cleanliness of products and markets, origin of product, and no contamination. High income consumers tend to have high expectations on marketplace, particularly on the conveniences and services provided. In addition, the target consumers are not price sensitive and more interested in perceived value pricing. On the contrary, pricing becomes the most critical factor affecting decision to purchase fishery products for the target consumers in Nakhon Phanom, who tend to have lower educational and income levels. The FMO should formulate strategic distribution plans of its fishery products and provide effective operations and services to its target consumers in both distribution centers accordingly. Note, however, that the limitations of this study should be acknowledged. The data were collected in two provinces, Chiang Mai and Nakhon Phanom, representing the North and the Northeast of Thailand, respectively. Therefore, the generalization of the research findings in different context such as other regions and provinces should be carefully made.

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