

Attitudes and Marketing Mix Affecting to Rice Field Crab Consumption Behavior: A case study in Mueng Chiang Mai District, Chiang Mai Province

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Abstract

This research study is Attitudes and Marketing Mix Affecting to Rice Field Crab Consumption Behavior: A case study in Mueng Chiang Mai District, Chiang Mai Province. The objective of this study was to study consumers' attitudes towards crab consumption, marketing mix consumption behavior and factors affecting the consumption of crab. Survey results from 400 people were collected using a structured interview format and a random sampling of locations where Rice Field Crab related merchandise is sold. The results found that more than half of the people surveyed were female (57.60 %), of working age (52.00 %) and consisted of 4-5 family members (58.97%). As for the educational level, it was found that of the survey participants, 41.2% received a bachelor's degree. The most common occupation of the survey participants was farmer (25.25%), and most survey participants have average monthly income of 20,000-30,000 baht (58.97 %). For the attitudes of consumers of Rice Field Crabs, it was found that consumers had the most health-conscious attitude towards consumption of crabs. In addition, consumer's satisfaction with the marketing mix factor found that the overall satisfaction of the consumers was at a high level. Consumers place the highest level of importance on the products' taste and freshness. As for Rice Field Crab consumption behavior, it was found that the survey participants consumed an average of 485.26 ± 7.14 g/week of Rice Field Crab, most of which had an average cost per purchase of at 95.50 ± 7.46 baht, with more than a third of the survey participants consuming Rice Field Crab 1-2 times per week. The factors impacting Rice Field Crab consumption were age range, the number of family members, occupation, average monthly income, attitude towards quality, price, confidence and safety and marketing promotion factors. From this research, it was found that in Chiang Mai, crab was consumed at all ages. with the highest level of importance placed on health. The safe cultivation of Rice Field Crab should be promoted in order to meet the consumer demand, and to meet the demand for healthy and safe food consumption. It is advisable for those involved in the promotion of the sales of Rice Field Crab products, to focus marketing on the factors that stimulate consumption behavior.

Keyword: Rice Field Crab, Attitudes, Marketing Mix, Consumption Behavior and Chiang Mai Province.

Preface

Rice Field Crab is a very interesting species that can commonly be found in rice fields during the rainy season. Today, Rice Field Crab found in natural water bodies has begun to decrease while at the same time, demand for Rice Field Crab is constantly increasing. Rice Field Crabs are economically important for many fishermen and farmers, they are well known and familiar, and crabs are important for the way they live. In addition to fresh sales, there are a variety of processing methods used to add value to Rice Field Crab (Karn, 2019).

As for the consumption of Rice Field Crab, Rice Field Crab is considered a great source of protein and calcium, which is easy to find in rice fields and can be used for many kinds of dishes, such as pickled crabs in som tam or mango salad. The meat is used to make crab labneh, and claws are used to make steamed claws, dipping them with dipping sauce, or sautéing claws with curry powder. Villagers will also make crab water, a famous local dish of the North. Crab juice is used to flavor food, such as putting crab juice in bamboo shoot salad, bamboo shoot curry, som tam, and grapefruit. It can also be used to make paste and crab paste and is eaten with boiled bamboo shoots. (Nittaya, 2008) In terms of marketing, Rice Field Crab can be sold both live and pickled, or processed into shrimp paste, which can be sold wholesale or at a restaurant. Rice Field Crab can be sold for 80-100 baht per kilogram, while large crabs that are about to molt, also known as soft crabs, will sell for 1,200 baht per kilogram. Other common products are priced as follows: 150 baht/kg, Rice Field Crab juice or crab juice, and 380 baht/kg, pu-ong for 200 baht/kg, 80 grams of Rice Field Crab paste at 60 baht per jar, crispy crab, boiled crab, steamed crab, etc., which adds value to Rice Field Crab and is of great interest to consumers today (Patcharee, 2017).

However, based on the study of the initial data from interviews and search that were conducted for documents, there has been no relevant research, resulting in this research, the attitudes and marketing mix affecting Rice Field Crab consumption behavior: A case study in Mueng Chiang Mai District, Chiang Mai Province. This study intends to analyze consumer attitudes towards the consumption of Rice Field Crab, market ingredients, consumption habits and factors affecting Rice Field Crab consumption habits of Rice Field Crab consumers in Chiang Mai. This analysis and the results of the study can be used as a guideline for promoting and developing the marketing of Rice Field Crab to meet the needs of today's Rice Field Crab consumers.

Conduct of Research

Populations and samples

The population studied were people aged 18 and over who lived in Mueang Chiang Mai District, Chiang Mai Province. Chiangmai Provincial Public Health Office (2021), the number of samples calculated according to Yamane's prefabricated schedule at a confidence level of 95%. The tolerance accepted by the researchers is 5% (Yamane, 1973).

Rice Field Crab refers to fresh Rice Field Crab and Rice Field Crab products such as pu-ong, Rice Field Crab paste, crispy crab, boiled crab, steamed crab, etc.,

Sampling

Random sampling was performed at locations where Rice Field Crab-related products are sold.

Table 1. Location and the number of samples

Place	The Number of Sample
Hyper Market	100
Super Market	100
Fresh Food Market	100
Flea Market	100
Total	400

Data Collection

This research uses qualitative research and personal interviews using structured interviews to gather information from consumers who shop at specific locations. In Mueang Chiang Mai, Chiang Mai, the interview form consists of **5 parts**:

Section 1 Personal Information

Section 2: Attitude towards the consumption of Rice Field Crab

Section 3 Marketing Ingredients Information

Section 4 Rice Field Crab Consumption Behavior

Section 5 Problems Related to The Consumption of Rice Field Crab

Quality check of the tools used to consolidate data

The test design of this interview will be based on relevant ideas and research results. The interviews are designed, then used to present to experts to validate content validity. Interviews are then reviewed to ensure accurate content. Results can be used to measure study topics.

Data analysis

Descriptive statistics

Individual factors were analyzed using statistics, frequency, percentages, including gender, age, number of household members, education level, occupation, and average monthly income.

Factors regarding Rice Field Crab consumption and market ingredient data were analyzed by finding averages and standard deviations and using the Likert Scale gauge to set scores on each level and average variation criteria as shown in Table 2.

Table 2 Scoring and Meaning interpretation criteria of criteria Attitudes and Marketing Mix Affecting to Rice Field Crab Consumption Behavior according to the Likert Scale

Scoring criteria				Meaning interpretation criteria			
Opinion Level			Point	Interpret opinion level			Mean
Highest	/	Strongly agree	5	Highest	/	Strongly agree	4.21 - 5.00
High	/	Agree	4	High	/	Agree	3.41 - 4.20
Middle	/	Unsure	3	Middle	/	Unsure	2.61 - 3.40
Low	/	Disagree	2	Low	/	Disagree	1.81 - 2.60
Lowest	/	Strongly Disagree	1	Lowest	/	Strongly Disagree	1.00 - 1.80

Analysis of consumption habits includes the amount of consumption per week, average cost per purchase and consumption frequency using average and standard deviation

Analysis statistics

Factors affecting the amount of consumption per week and the average cost per time purchased were analyzed by personal factors, including gender, using T-Test statistics to analyze differences, while age, occupation, education level, and average monthly income used One-way Anova statistics for attitudes towards Rice Field Crab consumption and satisfaction with market contributions using relationship analysis using Pearson's correlation coefficient statistics. For factors affecting the frequency of consumption, Chi-Square statics were used to analyze the data.

Study Results

1. General information of samples

General survey data showed that more than half of the survey participants were female (57.60 %). Participants were commonly working age (52.00 %), possessed undergraduate degrees (41.20 %) had 4-5 family members in their household (58.97%), worked in the field as their primary occupation (25.25), and had an average monthly income of 20,000-30,000 baht (58.97%). (Table 3)

Table 3. General information

General information		Amount (case)	Percentage
2. Sex	Male	170	42.40
	Female	230	57.60
Age	Teens (18 – 24 years old)	80	20.00
	Working age (25 – 49 years old)	208	52.00
	Old age (≥ 50 years old)	112	28.00
Education	Primary school	66	16.50
	Junior high school	24	5.90
	High school or equivalent	108	27.10
	Bachelor's degree	165	41.20
	Postgraduate	38	9.40
Member in family	1-3 people	123	30.77
	4-5 people	236	58.97
	≥ 6 people	41	10.26
Occupation	Student	70	17.50
	Civil servant/state	80	20.00
	Enterprise/government employee	50	12.50
	Private business/Trade	49	12.25
	Employee	50	12.50
	Private company employees	101	25.25
	Farmer	80	20.00
Average monthly income	< 10,000 baht	80	20.00
	10,001-20,000 baht	94	23.40
	20,000-30,000 baht	132	33.10
	≥ 30,000 baht	94	23.50

attitude of consumers in Chiangmai province to Rice Field Crab consumption

Rice Field Crab consumer attitudes showed that consumers place high importance in consuming Rice Field Crab for health purposes (4.18±0.52 points). This was second only to the quality of Rice Field Crab purchased, which has a very high level of importance (4.02±0.71 points). The importance of price was least agreed upon, with a moderate importance level (3.14±1.14 points). (Table 4)

Table 4. The attitude of consumers in Chiangmai province to Rice Field Crab consumption

Attitude	\bar{x}	S.D.	Attitude level
Health	4.18	0.52	High
Quality	4.02	0.71	High
Ethics	4.00	0.74	High
Price	3.14	1.14	Middle
Reliability	3.23	1.04	Middle
Nutrition fact	3.40	0.96	Middle
Safety	3.74	0.98	High

3. Marketing Mix of consumers in Chiangmai province to Rice Field Crab consumption

It was found that consumers were very satisfied with the overall product (4.01 ± 0.67 points). The highest degree of product satisfaction was taste and freshness (4.42 ± 0.60 points). Second, was a reasonable price (4.32 ± 0.71 points). The retailer's satisfaction showed that Rice Field Crab consumers had a high level of distribution satisfaction (3.86 ± 0.65 points), with satisfaction scores on store cleanliness and store arrangements to be relatively easy to attain and promote satisfaction. It was also found that overall promotional satisfaction was very high (3.74 ± 0.78 points). (Table 5)

Table 5 The Marketing Mix of consumers in Chiangmai province to Rice Field Crab consumption

Marketing Mix	\bar{x}	S.D.	Opinion level
Product	4.42	0.60	High
Price Side	4.32	0.71	High
Distribution	3.86	0.65	High
Promotional satisfaction	3.74	0.78	High
Average	4.01	0.67	High

4. Consumption of Rice Field Crab

This study of Rice Field Crab consumption habits will study behaviors in the field of consumption per week. The cost of buying Rice Field Crab each time and the frequency of consumption showed that the sample had an average consumption of 485.26 ± 7.14 g/week, mainly with an average cost of buying Rice Field Crab at a time of 95.50 ± 7.46 baht, and more than a third of the sample consumed Rice Field Crab 1-2 times/week (36.50 %).

5. Factors affecting the consumption of Rice Field Crab

5.1. Personal factors

In age, teenagers were found to have significant differences in consumption and the cost of buying Rice Field Crab was statistically different from working age and old age ($P < 0.05$), with adolescents consuming the least, averaging 80.00 ± 1.21 g./week. Working age consumers averaged the largest amount of Rice Field Crab with an average of 582.69 ± 5.46 g./week, and the lowest cost of buying Rice Field Crab at 42.37 ± 4.65 baht/time. The group that incurred the highest cost to buy Rice Field Crab were older consumers with an average cost of 111.03 baht per purchase.

The number of family members found that survey participants with 1-3 family members had a consumption volume and cost of buying Rice Field Crab each time which was different from survey participants with 4-5 and more family members ($P < 0.05$); with an average minimum consumption of 403.75 ± 7.44 g./week, and the average minimum purchase cost of 69.25 ± 6.31 baht/time.

Considering the occupation of survey participants, student participants had the lowest rate of Rice Field Crab consumption, averaging 169.83 ± 3.70 g./week. This amount of Rice Field Crab consumption differed statistically from other occupations ($P < 0.05$).

Considering the income of survey participants, those with an average monthly income of less than 10,000 baht had a volume of consumption and purchase size that was statistically significantly different from the survey participants with an income of more than 10,000 baht ($P < 0.05$); with an average minimum consumption of 145.23 ± 8.48 g/week, and the average minimum purchase cost of 45.00 ± 5.92 baht/time. (Table 6)

Table 6. The relationship between personal factors and Rice Field Crab consumption behavior

Rice Field Crab consumption behavior	Personal factors					
	Sex	Age	Education	Member in family	Occupation	salary
Daily consumption (g./week)	0.64	0.00*	0.48	0.03*	0.01*	0.00*
Average cost/purchasing (Baht)	0.67	0.00*	0.31	0.01*	0.62	0.01*
Consumption frequency (Times/week)	0.45	0.36	0.36	0.77	0.16	0.75

5.2. Attitude factors towards the consumption of Rice Field Crab

It was found that quality, price, confidence and safety factors had a statistically significant impact on consumption ($P < 0.05$), while price and confidence affected the average cost per consumption and statistically significant consumption frequency ($P < 0.05$). (Table 7)

Table 7. The relationship between attitude factors and Rice Field Crab consumption behavior

Rice Field Crab consumption behavior	Attitude factors						
	Health	Quality	Ethics	Price	Confidence	Nutrition fact	Safety
Daily consumption (g./week)	0.77	0.00*	0.43	0.01*	0.02*	0.98	0.00*
Average cost/purchasing (Baht)	0.51	0.14	0.28	0.00*	0.04*	0.08	0.20
Consumption frequency (Times/week)	0.72	0.91	0.10	0.02*	0.00*	0.96	0.83

5.3. Market Ingredients Factor

It was found that marketing promotion factors influenced the daily intake. The frequency of purchases of Rice Field Crab and the average cost per purchase was statistically significant ($P < 0.05$). (Table 8)

Table 8. The relationship between Marketing Mix factors and Rice Field Crab consumption behavior

Rice Field Crab consumption behavior	Marketing Mix factors			
	Price	Place	Product	Promotion
Daily consumption (g./week)	0.46	0.98	0.59	0.00*
Average cost/purchasing (Baht)	0.72	0.98	0.89	0.02*
Consumption frequency (Times/week)	0.50	0.26	0.84	0.01*

Summary and Discussion

The attitude of Rice Field Crab consumers found that consumers have the highest attitude towards the consumption of Rice Field Crab in health, since agriculture has a way of raising Rice Field Crab in cement ponds, which are closed systems and grow naturally. The market is also interested in a broader range of income from farming (Nation, 2021), in line with Wittaya research (2012). Tumbol Saluang sai, Amphoe Mae Rim, Chiang Mai the attitude of dietary choices in cognitive cuisine is very high and people obtain knowledge and information on symptoms and nutrition from television. Arunrat and Kanda (2014) also found that having a health promotion policy, receiving health support advice from different people and being health conscious resulted in a high level of health awareness, resulting in a high level of bias.

Consumer satisfaction with market ingredient factors was as follows: It was found that consumers were very satisfied with the overall situation, with the highest level of product satisfaction for taste and freshness. This was in line with research by Papawadee and Rungathit (2016).

In this study, consumption behavior can be prioritized by the following sequential factors: age range, the number of family members, occupation, average monthly income, attitudes and marketing promotion. The results of a Sawitree (2010) study showed that age and number of family members correlated with the frequency of freshwater fish consumption and were consistent with Kessara (2010). It was also found that consumer attitudes are important and affect decision-making and market promotion factors. Under the concept of marketing ingredient theory, this is consistent with research by Duangjai (2020), which has shown that consumers will focus on marketing promotion factors such as quality assurance, reduction, redemption, giveaways, and during festive seasons, the publicity of product details, and the presence of new sales patterns, and in line with Angwara (2008).

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