

Development of Thai Cuisine for Western Consumers: Product Idea Generation and Screening

Sujinda Sriwattana¹, Anna V. A. Resurreccion², Vichai Haruthaithanasan¹
and Penkwan Chompreeda¹

ABSTRACT

Thai cuisine is now popular in Western countries. As companies increasingly vie for increased distribution and market expansion, how products are marketed and developed for international consumers pose a serious challenge. This survey was conducted to investigate attitudes of Western consumers toward Thai cuisine, to obtain ideas that should be developed to provide convenience and to identify the market potential for further Thai cuisine product development studies. Personal interviews were conducted. The questionnaire used consisted of 16 questions on personal, attitudinal and preference ranking data. The 400 respondents participated in the study. The vast majority of the respondents rate strongly agree and somewhat agree to these following statements; 'Thai food is now a very popular international cuisine', 'hot and spicy describe Thai food', 'Thai food contains health promoting ingredients' and 'I may not want to eat Thai food everyday but I will certainly want to return to it often'. The result of preference ranking showed that the top three most popular dishes were Tom Yum Kung, followed by Pad Thai and Kaeng Kew Wan. After checklist screening, a decision was made to develop Tom Yum Kung. These results provide direction for the development of Thai cuisine for Western consumers.

Key words: Thai cuisine, Tom Yum Kung, survey, product idea, personal interview

INTRODUCTION

Thai cuisine is currently one of the most popular foods known all over the world. Thailand was successful in its inbound tourism promotion

under the campaign 'Amazing Thailand' (Paul, 1999). One of the amazing products that has made a name for itself and Thailand is food. The National Restaurant Association of the U. S. indicated Thai cuisine as having strong ethnic influences in U. S.

¹ Department of Product Development, Faculty of Agro-Industry, Kasetsart University, Bangkok 10900, Thailand

² Department of Food Science and Technology, University of Georgia, 1109 Experiment Street, Griffin, GA 30223-1797.

menu choices and showing significant growth in popularity since 1994 (Ohr and Swientek, 1999; Sloan, 2001a; Sloan, 2001b). The Thomas Food Industry Register Food Trends'94 survey reported Thai cuisine was the third fastest-growing cuisine in the U. S. (Allen, 1995). Similarly, Taylor Nelson Sofres, market information group, identified that Thai made the sixth most popular restaurant cuisine (Sloan, 2001c). The popularity of Thai cuisine among foreigners is clearly evident from the growing number of Thai restaurants in several countries. There are presently around 5,000 Thai restaurants worldwide, 40% of those are in the U. S., 14% in Europe, 10% in Australia, 6 % in Japan and 30% in other countries (Department of Export Promotion, Thailand, 2000).

Western consumers including Americans, Europeans and Canadians, tend to desire health foods, cross-cultural foods and convenience foods (May, 1999; Foreign Agricultural Service, 1999; Sloan, 1999; Hollingsworth, 2000; Uhl, 2000; Hlina, 2001; Robert, 2001; The National Turkey Federation, 2002). Americans perceive Asian foods to be healthier than its Western counterparts (Hu, 2000). Thai cuisine has long been known for its high nutritional value and its harmonious blend of flavors (CNN.com, 2001). Several major Thai ingredients used in Thai cuisine are claimed to possess beneficial compounds for human health (Murakami et al., 1994; Tourism Authority of Thailand, 2000; CNN.com, 2001). The trends point to an increase in the popularity of Thai cuisine throughout the world. It was clear that a positive attitude toward Thai cuisine forecasts an increase in sales and profitability due to expanding markets (Assael, 1984).

However, traditional Thai dishes take considerable time to prepare. Thai ingredients are seldom available in Western supermarkets or available at high price. Therefore, to satisfy consumers' needs for health, cross-cultural and convenience food, development of Thai dishes that are easy to prepare is essential. Convenience food as defined by Institute of Food Science and Technology, UK (2001), is a manufactured product requiring little or no preparation (other than heating, diluting or dissolving in water, where appropriate) before consumption.

The product development process is initiated with idea generation (Aaker and George, 1986). Due to many dishes in Thai menu, product idea generation and product screening are essential steps before developing Thai cuisine. The 3 specific objectives in this study were to (1) investigate attitudes of Western consumers toward Thai cuisine, (2) obtain product ideas that should be developed into a ready-to-prepare product, and (3) identify the potential product for further Thai cuisine development studies.

MATERIAL AND METHODS

Questionnaire development

A structured questionnaire was developed and used to collect information. The structured questions are used for greater control of the interview and respondents (Resurreccion, 1998). The questionnaire consisted of 16 questions for obtaining personal data, attitudinal data and preference ranking data. Five – point likert scale were used to measure their attitudes toward Thai cuisine. The scales categories corresponded to strongly agree, somewhat

agree, neither agree nor disagree, somewhat disagree and strongly disagree.

To obtain answers regarding the most popular Thai dishes, preference ranking was used. The respondents were asked to choose 5 of 10 Thai dishes, then rank these five according to 1 = the most preferred and 5 = the least preferred. The questionnaire was pre-tested using Western exchange students at Chiang Mai University, Thailand to ensure that the respondents understood the questionnaire.

Data collection

Personal interviews with the close – ended questionnaire were used in collecting information of Western consumers. The equation used for sample size calculation was $n = P (1-P)/\text{Standard error}^2$ where n = sample size and P = the population proportion. Since the population parameter was unknown, we set $P = 0.5$ which give the largest n for any value of P (Aaker and George, 1983). For a confidence interval of 95 percent, the standard error multiplied by 1.96 is the sampling error (Narins, 2002). Therefore, as the sampling error (0.05) we have chosen, sample size of 400 consumers was set for the study. The survey was conducted in two cities, Bangkok and Chiang Mai, in Thailand where the Western consumers were available at international airports, Thai restaurants, and the Universities during August – October 2000. The respondents were selected using a convenience sampling approach. Before the interview, the respondents were informed about the purposes of the study. After the interview, each respondent was given a Thai souvenir. Incomplete questionnaires were eliminated and more interviews were conducted

to attain the target number of respondents.

Checklist screening

Checklist screening was used to identify the potential product that should be developed into a convenience product. Three product ideas having the highest preference ranking scores from this survey were screened. There were 5 criteria used in checklist screening. The first criterion was ‘popular dish’ weighted 30 points out of 100 considering its preference ranking scores and frequency of appearance in Thai restaurant menus abroad. ‘Health food’, the second criterion weighted 25 points based on healthful ingredients used in its recipe. The third criterion weighted 15 points for a ‘low number and price of ingredients used’. The smaller the number and price of ingredients used, the higher points up to a maximum of 15 points. The reason is the lower the number of ingredients used, the less complicated to develop the product. The fourth criterion, ‘new to use in a restaurant’ weighted 15 points was determined on the basis of existing convenience products in Thai restaurants abroad. The more convenience product has been existed the lower points the product were accounted. The last criterion was ‘typical Thai dish’ weighted 15 points and was considered according to literature reviews. The points resulting from checklist screening were obtained from five judges experienced in product development and marketing researches. The product that receives the highest total points will be the potential product to develop.

Data analysis

The questionnaire was coded to facilitate

data entry. The data were analyzed using the Statistix (2000), Version 7.0 (Analytical software, Inc., Tallahassee, Florida). The percentages of responses of the personal data and attitudinal data were calculated. Cross tabulation between age and nationality, and age and occupation were performed. Chi-square tests were carried out to determine if age, nationality and occupation significantly influenced the attitudinal data collected. The rank orders were transformed into scores where 1 = 5 scores, 2 = 4 scores, 3 = 3 scores, 4 = 2 scores and 5 = 1 score. Then the sums of preference ranking for each Thai dish were calculated. The Wilcoxon Rank Sum tests were used to determine significant differences between rank sum scores.

RESULTS AND DISCUSSION

Product idea generation

The nationality of each respondent is shown

in Table 1. The sample of 400 Western respondents were American, British, Canadian, Danish, Dutch, French, German, Italian, Spanish, Swedish and Swiss. The demographic profile of the respondents (Table 2) indicates that most of them were 18 – 24 years of ages (38.2%), 25 – 29 years of ages (28%) and 30 – 39 years of age (24%). Less than 2% of the respondents were younger than 18 or older than 60 years old. There were 4 major work sectors: students (34%), government workers (15.8%), private workers (37.2%) and business owners (13%). There were 58% males and 42% females.

A cross tabulation between age and nationality (Table 3) shows that most of the nationality in this survey could be found among the respondents who were 18-39 years old. Only three respondents were under 18 years and were American, Spanish and Danish. Two respondents over 60 years of age were American and French. Another cross tabulation between age and occupation (Table 3) indicates that

Table 1 The nationality of the respondents ($n=400$).

Nationality	Response (%)
American	25.5
British	26.7
Canadian	4.0
Danish	1.5
Dutch	7.7
French	11.0
German	10.0
Italian	4.3
Spanish	4.3
Swedish	2.2
Swiss	2.8
Total	100.0

Table 2 The demographic profile of the respondents ($n=400$).

Age (years)	Response (%)	Occupation	Response (%)	Gender	Response (%)
<18	0.8	Student	34.0	Male	58.0
18-24	38.2	Government worker	15.8	Female	42.0
25-29	28.0	Private worker	37.2		
30-39	24.0	Business owner	13.0		
40-49	5.7				
50-59	2.8				
>60	0.5				

Table 3 Cross tabulation between age and nationality and between age and occupation ($n=400$).

	Age (years)						
	>18	18-24	25-29	30-39	40-49	50-59	>60
<u>Nationality</u>							
British	-	39	37	26	2	3	-
American	1	41	27	20	9	3	1
French	-	15	12	13	-	3	1
German	-	15	11	12	2	-	-
Dutch	-	14	6	7	3	1	-
Italian	-	4	6	6	1	-	-
Spanish	1	2	3	7	3	1	-
Canadian	-	8	5	2	1	-	-
Swiss	-	8	1	1	1	-	-
Swedish	-	3	3	2	1	-	-
Danish	1	4	1	1	-	-	-
<u>Occupation</u>							
Student	-	119	10	4	-	-	-
Government officer	-	6	20	26	6	5	-
Private officer	-	23	66	44	13	3	-
Business owner	-	5	16	22	4	3	2

the majorities of the respondents were 18-24 years old and were students. A reason may be this survey was conducted in August that was a time for summer vacation for Western students.

Table 4 shows general information about the respondents. More than half of respondents were in Thailand for the first time, 28% said that they had been in Thailand 1-3 times before, 6.7% 4-5 times and 3% more than 5 times. When asked about the length of their trip to Thailand, about half of the respondents said that they would stay in Thailand for 2-4 weeks. Only 0.2% said that they would stay longer than a year. When asked about the frequency of eating Thai food during their stay, 76.0% said that they would eat it everyday, 18% 3-4 times a week, 2.5% twice a week, 3% once a week and only 0.5% answered once a month. The majority, 78.5% have

had Thai food before coming to Thailand and 21.5% never did. This finding generally agrees with Noparatnaraporn's (2000) who reported that 83.3% of 1,001 tourists who visited Thailand ate Thai food prior to their trips and 11.5% never did. The majority ate Thai food prior to visiting Thailand indicating that their preference for Thai food might be one of their motivations for visiting Thailand.

Information of the respondents whom experienced Thai food prior to visiting Thailand are shown in Table 5. Ninety-eight percents of the respondents ($n=314$), who ate Thai food before visiting Thailand ate Thai food at a restaurant in their country (58.6% at restaurant and 39.5% both at home and restaurant). This data shows that it has a good chance to develop product for restaurant use. About 40% of the respondents ate Thai food at home (1.9%

Table 4 The general information of the respondents ($n=400$).

Information	Response (%)	Information	Response (%)
<u>Visiting Thailand</u>		<u>Frequency of eating Thai food during stay</u>	
First visit	62.3	Everyday	76.0
1-3times before	28.0	3-4 times a week	18.0
4-5 times before	6.7	Twice a week	2.5
>5 times before	3.0	Once a week	3.0
		Once a month	0.5
<u>Length of stay</u>		<u>Ate Thai food before coming to Thailand</u>	
< 1 week	12.3	Yes	78.5
1-2 weeks	22.5	No	21.5
2-4 weeks	50.8		
1-6 months	13.0		
6-12 months	1.2		
> 1 year	0.2		

at home and 39.5% both at home and restaurant). Fifty-two percents of the respondents who ate Thai food at home ($n=128$) used a cookbook. Twenty percents of respondents who ate Thai food at home cooked following an instruction on package of ready-to-cook product and 22.7% bought some ingredients from supermarket and cooked in their own style. Almost 80% of the respondents ($n=308$) who ate Thai food at restaurants prior to visiting

Thailand ate it at a Thai restaurant, while 16% said that they ate it at a Chinese restaurant and 2.2% ate it at a local restaurant. The answer of the rest was at a pub. When asked how the flavor of Thai food in their country was compared with that of Thai food in Thailand, 64.6% responded somewhat difference, 24.8% indicated very different and only 10.2% indicated the same ($n=314$).

The attitudes of consumers toward Thai

Table 5 The experience of the respondents who ate Thai food prior to visiting Thailand.

Experience on Thai food	Response (%)
Place ¹	
At home	1.9
At restaurant	58.6
Both	39.5
Cooking ²	
Ready to cook product	25.0
Cookbook	52.3
Own style	22.7
Restaurant ³	
Local restaurant	2.2
Chinese restaurant	16.0
Thai restaurant	80.8
Others	1.0
Compare ⁴	
Much different	24.8
Somewhat different	64.6
The same	10.6

¹ = approach question, “Where did you eat Thai food in your country?” ($n=314$)

² = approach question, “How did you cook Thai food at home?” ($n=128$)

³ = approach question, “What type of restaurant did you go to eat Thai food in your country?” ($n=308$)

⁴ = approach question, “How about a flavor of Thai food in your country compare with a flavor of Thai food in Thailand?” ($n=314$).

cuisine responses to four statements are presented in Table 6. Forty-two percents of respondents somewhat agreed and 38.8% strongly agreed that 'Thai food is now a very popular international cuisine', 12.2% neither agreed nor disagreed with this statement, 5.5% somewhat disagreed and 1% strongly disagreed with this statement. About half (54%) of the respondents somewhat agreed with the statement 'hot and spicy describe Thai food' and 31% strongly agreed. No one strongly disagreed with the statement 'Thai foods contain health promoting ingredients', 46.5% and 43.7% responded strongly agreed and somewhat agreed, respectively, while a few (0.8%) somewhat disagreed. This finding may be used to position Thai foods as health foods in the market

place. On the statement 'I may not want to eat Thai food everyday but I will certainly want return to it often', 47.3% and 46% strongly agreed and somewhat agreed, respectively, with this statement. This result and their intent to eat Thai food everyday during their stay in Thailand indicated that Thai cuisine may have potential for international markets.

The Chi-square tests indicate that nationality significantly influenced the attitudinal data collected. On the other hand, age and occupation did not.

The results of preference ranking are shown in Table 7. The top three most preferred Thai dishes were Tom Yum Kung or hot and sour shrimp soup, with 1,014 scores, followed by Pad Thai or fried noodle Thai style, with 994 scores and Kaeng Kew

Table 6 Attitudes of the respondents toward Thai cuisine ($n=400$).

Statement	% of respondents				
	Strongly agree	Somewhat agree	Neither	Somewhat disagree	Strongly disagree
Thai food is now a very popular international cuisine	38.8	42.5	12.2	5.5	1.0
Hot and spicy describe Thai food	31.0	54.0	9.5	5.0	0.5
Thai food contains health promoting ingredients	46.5	43.7	9.0	0.8	0.0
I may not want to eat Thai food every day but I will certainly want to return to it often	47.3	46.0	4.7	1.5	0.5

Wan or green curry, with 853 scores. These results generally agree with the results obtained from Noparatnaraporn's (2000) in that the most popular Thai dishes were Tom Yum Kung, Pad Thai and Kaeng Kew Wan. Similarly, results from the survey conducted by Office of the National Culture and Ministry of Foreign Affairs, Thailand (2000) reported

that the top three most favorite Thai dishes voted by foreigners were Tom Yum Kung, followed by Kaeng Kew Wan and Pad Thai.

Product screening

Three product ideas obtained from consumer survey, Tom Yum Kung, Pad Thai and Kaeng Kew

Table 7 Sum scores of preference ranking¹ of the most popular Thai dishes ($n=400$).

Thai dish	Sum of scores ^{2, 3}
Tom Yum Kung (Hot and sour shrimp soup)	1,014 a
Pad Thai (Fried noodle Thai style)	994 a
Kaeng Kew Wan (Green curry)	853 b
Tom Kha Gai (Chicken coconut soup)	716 c
Pad Prew Wan (Sweet and sour stir-fried with mix vegetable)	630 d
Pad Gaprao (Spicy basil chicken)	536 d
Mussaman Curry (Sweet coconut and potato based curry)	449 e
Satay (Skewered chicken with sweet paste)	307 f
Panang (Pork red curry paste)	290 f
Somdtam (Green papaya salad)	215 g

¹ Rank 5 orders (choose 5 from 10 dishes; where 1=most preferred and 5= least preferred)

² Rank orders were transformed into scores where 1=5 scores, 2=4 scores, 3=3 scores, 4=2 scores and 5=1 score

³ Rank sum scores within column not followed by the same letters are significantly different ($p < 0.05$) as determined by Wilcoxon Rank Sum tests.

Wan, were screened using checklist screening. Results of checklist screening are shown in Table 8. Tom Yum Kung received the highest points (30), followed by Pad Thai (27) and Kaeng Kew Wan (26) for 'popular dish' criterion.

The second criterion 'health food', Tom Yum Kung also received the highest points (24 points) due to its several health-promoting ingredients. It is claimed to possess beneficial compounds for human health. A joint study by Thailand's Kasetsart University and Japan's Kyoto and Kinki Universities announced that the ingredients in Tom Yum Kung soup are 100 times more effective in inhibiting cancerous tumor growth than other foods (CNN.com, 2001). In addition, Murakami et al. (1994) had also found possible anti-tumour promoters from lemon grass, one of the major ingredients used in Tom Yum Kung. Pad Thai and Kaeng Kew Wan obtained the same points (20 points) for this criterion. Although there are many health-promoting ingredients used in Kaeng Kew Wan, it also contained coconut milk that

has saturated fatty acid. Pad Thai contains fewer health's promoting ingredients in its recipe and oil is used for cooking.

The result of the third criterion 'low number and price of ingredients used' showed that Pad Thai had the highest points, followed by Tom Yum Kung and Kaeng Kew Wan. Kaeng Kew Wan had the lowest point since it contained the highest number of ingredients used.

The forth criterion 'new to use in a restaurant' Pad Thai obtained the lowest score. The reason was that there were many researches developed Pad Thai product. Pad Thai sauce consists of ingredients used was generally used in some restaurants abroad.

The last criterion 'typical Thai dish', Kaeng Kew Wan got the lowest score. It was explained that Kaeng Kew Wan was derived from Indian cuisine.

Finally, Tom Yum Kung received the highest (93), followed by Pad Thai (86) and Kaeng Kew Wan (80) for the total points. Therefore, Tom Yum Kung

Table 8 Points¹ of checklist screening for the top three popular Thai dishes.

Criteria (weight point)	Product idea (point)		
	Tom Yum Kung	Pad Thai	Kaeng Kew Wan
1. Popular dish (30)	30	27	26
2. Healthy ingredients (25)	24	20	20
3. Low number and price of ingredients used (15)	12	14	10
4. New to use in a restaurant (15)	12	10	12
5. Typical Thai dish (15)	15	15	12
Total (100)	93	86	80

¹ The points resulting from checklist screening were obtained from five judges experienced in product development and marketing researches.

is considered to be the potential product to be developed.

CONCLUSIONS

Results of the survey showed that there is a good attitude on Thai cuisine among Western consumers interviewed. The majority of the respondents rated strongly agree and somewhat agree to these following statements: 'Thai food is now a very popular international cuisine', 'hot and spicy describe Thai food', 'Thai food contains health promoting ingredients' and 'I may not want to eat Thai food everyday but I will certainly return to it often'. Product ideas that should be developed into convenience product were Tom Yum Kung, Pad Thai and Kaeng Kew Wan. Rank preference of Thai dishes showed that the top three most popular dishes were Tom Yum Kung, followed by Pad Thai and Kaeng Kew Wan. After checklist screening, decision was made to develop Tom Yum Kung. This study has identified some potential Thai dishes for future product development studies. Although the results are useful for reaching interesting conclusions, it would be important to consider regarding the small sample size with not-well-distributed occupational groups. Therefore, surveys of larger and more representative samples are called for.

ACKNOWLEDGEMENTS

This research was supported by grant from the Ministry of University Affairs of Thailand. The authors acknowledge 'Lai-Thai restaurant' and 'JJ restaurant' in Chiang Mai, Thailand for permitting

conducting this survey in their restaurants. We appreciate the participation of all respondents who participated in this survey.

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