

THE DESIRABLE PRODUCT FEATURES FOR URBAN FARMING KITS IN THAI MARKET

BY

MR. SUPAJET TRAKARNSIRIWANICH

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE PROGRAM IN MARKETING (INTERNATIONAL PROGRAM) FACULTY OF COMMERCE AND ACCOUNTANCY THAMMASAT UNIVERSITY ACADEMIC YEAR 2015 COPYRIGHT OF THAMMASAT UNIVERSITY

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THAMMASAT UNIVERSITY FACULTY OF COMMERCE AND ACCOUNTANCY

INDEPENDENT STUDY

BY

MR. SUPAJET TRAKARNSIRIWANICH

ENTITLED

THE DESIRABLE PRODUCT FEATURES FOR URBAN FARMING KITS IN THAI MARKET

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ABSTRACT

The desirable product features for urban farming kits in Thai market is the study that focuses on studying customer behavior toward urban farming kits, the small DIY set for plant the vegetable such as small sunflower, mushroom or the mint, in aspect of perception, attitude and behavior in order to develop the desirable features for this product.

The farming kit is an attractive products that matches with the needs of many people in a developed county but it is still lacks of development in Thailand.

The research objective is allocated in many areas to cover all related factors in order to design the most desirable product features. The study perspective starts from the industry overview, exploration of customer perception, measurement of customer attitudes, describe the segmentation and measure the key important factors in purchasing the product.

From the research results, there are 3 groups of people who are interested in the product 1. People who like cooking 2. People who like to plant the tree 3. People who are considering an organic and healthy product. Although the concept of urban farming kit in Thailand is very attractive but there are many barriers in current market that obstruct the product especially in channel and communication.

Keywords: Urban Farming, Organic food



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CHAPTER 1 INTRODUCTION

Healthy and wellness products are one of the big consumer categories in the world. Market value of healthy products is increasing to 750 Billion USD in 2014 (Euro monitor). However, the problem of the healthy food is that there are many healthy foods claimed to be contaminated with the toxins.

Today, many health-conscious consumers are looking for organic products such as hydroponic vegetable. Unfortunately, many organic products are still impure and harmful. A study by Mahidol University showed that most hydroponic vegetables, normally are made for salad, contain over the standard rate of Nitrates and may cause of cancer.

From these situations, many of health conscious consumers are thinking of controlling the whole process in the food supply chain from plantation to the cooking stage. Urban farming or planting their own vegetable is also one of the solutions for the health conscious consumers to protect themselves from contamination of toxins in food production process.

"Urban farming is the practice of cultivating, processing, and distributing food in or around a village, town, or city" (Bailkey, M., and J. Nasr. 2000). The market of urban farming is growing as Ensia.com reported that "from the information from The Food and Agriculture Organization of the United Nations, Over 800 million people worldwide grow vegetables, fruit or raise their animals in the city". Moreover seedstock.com also predicts that "Urban agriculture is expected to maintain strong growth in the United States in 2015 as cities and states provide more incentives, more start-up farmers enter the field, smaller operations improve their profitability and consumer demand for locally grown food remains strong."

However, many health-conscious consumers with rushing and busy lifestyles, who intend to plant their own vegetable, do not have enough space and time for plantation.

"Urban farming kits" is the DIY (Do It Yourself) set of mini urban garden of fast growing vegetables that is convenient for health-conscious consumers who have limited time and space for plantation. The fast growing vegetables are such as small Sunflower, small barley, Mushroom, Mint and tec. The market for urban farming kits is growing. According to Back to the root Company, one of the leaders in urban farming kits, reported their revenue growth to 4.6 million USD in 2014 from 1.4 million in 2011.

In Thailand, the urban farming kits was introduced many years ago but it is still not famous in wide spread area because of limitation of vegetable species in the kit.

Therefore, urban farming kits are not the priority choice of strategic product for the super market or healthy product shop such as Bai Miang or Lemon farm. According to healthy shop store visit, urban farming kits are not available in the store. The well-known brand is Whe Kit which is sold only at department store and online shop.

From the global trend of organic food and urban farming, there are many opportunities to Thai entrepreneur who can deliver the right product of urban farming kit in Thailand but it need to study more in customer behavior toward the urban farming kit in order to develop the product that match with Thai people behavior.



CHAPTER 2 CONTEMPORARY TOPIC DESCRIPTION

2.1. Current Problem in Food

The major problem in food consumption today is the contamination by chemicals and insecticides which are a cause of cancer. Long beach organic organization said that "The study of EPA considers 60 percent of all herbicides, 90 percent of all fungicides and 30 percent of all insecticides are carcinogenic"

2.2. Customer React from Low Hygienic-contaminated Food

The customer behavior study showed that the customers tend to avoid foods that are perceived to be contaminated with chemical is such as insecticides. "The perception of food safety risk is influenced by a combination of perceptions of the degree of exposure to a hazard and the consequences of this exposure. Consumer risk perception and the impact on purchasing behavior were seen to be very relevant to food safety issues" Ruth M.W. Yeung and Joe Morris Cranfield University, Silsoe, Bedfordshire, UK

"People want to move away from food grown using artificial chemicals. The huge success of farmers' markets clearly indicates consumers want a personal connection with those who grow their food." Kearney, Urban agriculture: it's a veggie-roots movement, 2011, ECOS

2.3. Organic Food Trend

According to Willer & Yussefi 2007, "Recently, the demand for local, sustainable and organic food production has increased. Organic farming tends to improve biodiversity and sustainability within rural communities and has become one of the fastest growing segments of agriculture in many parts of the world with 82 per cent growth between 2006 and 2008"

2.4. Benefit of Growing Own Food

Heidi stated that growing own backyard food is good for health as consumers will be ensured of high food quality with no contamination of chemicals.

According to Tee Riddle from vegetablegardener.com "Making your own farm not only improve the health quality from hygienic food but also from reducing the stress".

2.5. Trend of Organic Food in Thailand

The trend of organic food is increasing not only in the developed countries but also in the developing countries such as Thailand.

"Thai people demand on "safe food" is increasing. This has resulted in a number of initiatives and labels indicating 'pesticide safe' vegetables.", Roitner-Schobesberger, Darnhofer, Somsook: Consumer perceptions of organic foods in Bangkok, Thailand, 2008, Food Policy

According to Dr. Sam C. M. Hui "Urban farming is developing in many area of Bangkok such as the roof gardening." (Sam C. M. Hui 2011)



CHAPTER 3 RESEARCH METHODOLOGY

3.1. Research Objective

The purpose of this study is to understand Thai market for urban farming kit product and describe the most desirable features for urban farming kits by exploring the perception and attitude in potential target user such as healthy user for evaluate the opportunity for the product.

The research objectives are as follows.

3.1.1. To describe the perspective of urban garden kits industry in Thailand. This objective is intent to show the whole picture of urban garden kits industry in Thailand in term of players in the market, channel management and pricing strategy of available product.

3.1.2. To explore customer perception toward urban farming kits. This objective is to explore customer mind toward urban farming kits in both accept (good perception) and reject (bad perception) user.

3.1.3. To explore customer perception toward urban farming kits. This objective is to explore customer mind toward urban farming kits in both accept (good perception) and reject (bad perception) user.

3.1.4. To describe the segment of potential urban farming user in Thailand. This objective will describe the character of potential user in each segment.

3.1.5. To measure the key important factors in purchasing the urban farming kits. This objective is measure the key variable of each important factors for design the most desirable product of urban farming kits.

3.2. Research Methodology

In order to capture in every aspect of the study, the study consist of three approaches:

- Secondary research
- Qualitative research
- Quantitative research

3.3. Secondary Research

The purpose of the secondary research is to describe the perspective of urban garden kits industry in Thailand in terms of players in the market, current product available, channel management and current pricing strategy

The data was gathered from academic journals, reference books, government published information, health club community, various websites, and online blogs.

3.4. Primary Research

The primary researches were conducted in both qualitative and quantitative methods in order to obtain information completely in both descriptive and explorative information.

3.4.1 Qualitative research objective: The key objective of this research is to explore perception and attitude toward urban garden kit in Thailand. The key attributes in perception, attitude and other key important factors were explored by using qualitative research. Objective of qualitative research are listed as follow;

3.4.1.1. To get the key important factors for use in questionnaire design3.4.1.2. To explore the potential of customer segmentation

3.4.2 Qualitative data collection: In-depth interview is the research method in qualitative research and 8 of face-to-face interviews were conducted for this study. The criteria to select the targeted respondent will be following;

3.4.2.1. Age between 24 – 65 years' old **3.4.2.2.** Living in Bangkok area **3.4.2.3.** Any gender

In this stage both potential customer (not reject the urban farming kit) and nonpotential customer (reject the urban farming kit) were interviewed to get both side of the information. The respondents in qualitative research were collected following these quotas.

- Not reject the urban farming kit: 6 people
- Reject the urban farming kit: 2 people

3.4.3 Quantitative research objective: Key objective of this research is describe the result in perception, attitude, key important factors and attribute in each segment.

3.4.4 Quantitative data collection: Data collection was done by using the online questionnaire survey. The questionnaire was designed base on the result from the indepth interviews. Target According to the proposal, target respondents for this research is 100 people; however, the total number of respondent was collected at 156 respondents.

3.5. Data Analysis Plan

For both observation and in-depth interview were interpreted and analyze to find out consumer insight to match objective of research and be able to identify key point from data. Also, on process to conducted quantitative to interpret by SPSS.

3.6. Limitations of the Study

The research was conduct only in Bangkok area because of this area is the main target area for the product although in some place such as Saraburi province also provide this kind of similar product.

The quantitative phase did not include the reject user (Non potential customer) because of the scope of study is focuses on the potential customer who consider the product.

CHAPTER 4 RESULTS AND DISCUSSION

4.1. Primary Research Result

Healthy food industry is the big trend in Thailand and many healthy food products are offered to the customer in both off-line and on-line channels. Another fact that support growing in healthy product in Thailand is fast-growing rate of healthy food supermarket such as lemon farm and Baimiang. Even though healthy food is a big trend in Thailand; urban farming kit products have limited availability and are popular with health caring people.

In off-line channels, many famous for organic foods are vegetables and processed snacks such as imported granola. From the survey in many top super market such as TOPS, Villa market and Gourmet market, there are very few Urban farming products available in the market.

In on-line channels, most of healthy product are cool-pressed juice, herb juice such and processed snack. The urban farming kit still has limited availability in the on-line channel, there are only 2 brands of this kind of product offering for the customer.

4.2. Qualitative Results

4.2.1 Perception toward healthy and organic food: From qualitative research, perception toward healthy and organic can be described into 3 levels;

4.2.1.1. Not consider in healthy and organic food

4.2.1.2. Considering only healthy food

4.2.1.3. Consider an organic food

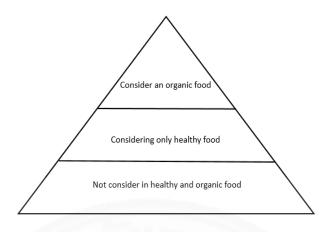


Figure 1: Pyramid of healthy food perspective

Respondent in group of "not consider in healthy and organic food" think that this kind of product is over than their need, high price and no taste so they are ignoring these kind of product.

"I think that healthy food is some kind of vegetable or boiled food, so it is **not** delicious. I prefer to eat delicious one that make me happy."

- Phoomkrit

"I prefer to buy moderate food quality rather than pay more money to get the healthy or an organic one."

- Jaruwan

4.2.2 Considering only healthy food: This group is the group who think of high quality of food such as hygienic, high quality of an ingredients. However, this group of people do not understand the real concept of organic food and sometimes they cannot separate between healthy food and organic food.

Price is the main factor to separate between healthy and organic food in these group. If they have a chance to select food, only healthy is good enough for them.

"I am not interest much on organic food; only healthy food is enough for me

- Pavida

4.2.3 Considering an organic food: From this study, only K.Sirunya understands the concept of an organic food truly. However, she does not desire to consume only an organic food. She thinks that combination between an organic and hygienic food is enough for her.

"The organic food is the food without chemicals in every process even hormone or pesticide, this kind of product will relate to higher price"

- Sirunya

From the results in product test, the target customer for urban farming kit can be both group of "Considering only healthy food" and "Prefer to eat an organic food". Because of low different gap between these two group, Organic food is not the major factor in their consideration set. So the later stage of this study, perception of healthy and organic food will consider as one factor.

4.2.4 Product concept test: In the product concept test in those respondent who are interest in Urban farming kit, the factors to drive respondent to interest in this product can be describe in 3 main factors.

4.2.4.1. Cooking sophisticate

4.2.4.2. Planting lover

4.2.4.3. Healthy and organic perceive

From these qualitative survey, main factors to drive demand in Urban farming kit can be describe by this model.

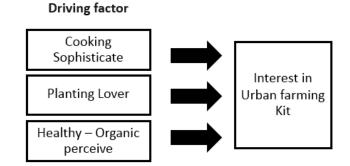


Figure 2: Driving Factor Model

For the cooking sophisticate, cooking for themselves or other family members is one of most important factors because they can decide to select food ingredient quality by themselves.

"My mother will cook the food for everyone in family. She is also the key decision maker for buying food ingredient to the home because she is housewife."

- Piyawan

"I always buy the food ingredient by herself because she need to select the best ingredient for cooking."

- Sudkanueng

Planting lover is also important factor for respondent who are interest in the product. They are thinking that planting is the activity when they have free-time. Another interesting perspective in this group is small-achievement from the product when they can grow it successfully.

"Growing small plant is the good activity for retired like me."

- Krit

"My mother is a housewife so she has nothing to do much during the day. This product is good for her hobby."

- Piyawan

"I am interested in this product because of self-achievement when I can grow it successfully."

- Sirunya

For the health caring and organic food conscious people, this product can provide them the good benefit with more convenience and trustable way.

"I interest in this product because it can guarantee that there are no contaminate from chemical 100% in the vegetable."

- Piyawan

"My mother is care about high quality food so I may buy it her."

- Pavida

4.3. Quantitative Result

The quantitative questionnaire (Appendix A) was distributed on the 19th March 2016 by online survey. The survey was finished on 31th march 2016 for data collected input. Respondents profile and characteristic as following;

4.3.1 Cooking behavior: From the 5 scale in survey, Top 2 box (Extremely like and Moderate like) are concluded in "Like cooking" group while the others (Neutral, Moderate dislike and extremely dislike) are concluded in "Not like cooking" group

45% of respondents describe them as a cooking-lover user while the rest is non cooking-lover (including neutral and non-cooking lover). Behavior of Cooking-lover group are different from the others group significantly at Chi-square t.05 level

There are different in cooking behavior among these 3 groups, cooking-lover tends to buy food ingredient by themselves than the other and they spend the time to shopping than the other groups.

	Like cooking	Not like cooking
	n = 69	n = 84
Yourself	61%	36%
With Family	29%	38%
With friend	9%	5%
Rarely to go	1%	21%

Table 1: Food ingredient shopping behavior

Super market is the most famous place to buy the food ingredient for both of these group. However, there are no significant different between Like cooking Not like cooking in Chi-square at the 0.5 level. So shopping place do not impact to buying behavior of these groups.

	Like cooking	Not like cooking
	n = 70	n = 83
Super market	60%	49%
Fresh market	17%	19%
Hyper market	14%	19%
Food super market	9%	11%
Other	0%	1%

Table 2: Shopping place for food ingredient

4.3.2 Planting behavior: From the 5 scale in survey, Top 2 box (Extremely like and Moderate like) are conclude in "Like planting" group while the others (Neutral, Moderate dislike and extremely dislike) are concluded in "Not like planting" group.

30% of respondents describe themselves as a planting lover. Currently, 83% of planting lover are caring their own plant while group of not like planting not. The behavior of these 2 groups are different significantly at Chi-square t .05 level. Plant lover could be found in variety of age unlike the other groups.

	Like planting	Not like planting
	n = 46	n = 107
Growing the plant	83%	22%
Not growing the plant	17%	78%

Table 3: Planting behavior

4.3.3 Healthy perception: From the 5 scale in survey, Top 2 box (Strongly agree and Sometime agree) are concluded in "Health caring" group while the others (Neutral, Sometime disagree and Strongly disagree) are concluded in "Not health caring" group.

From this study, over than half of the respondents describe themselves as a health-caring people while only few respondent describe that they are not.

Group of respondent	Column percentage	n
Health-caring	52.4%	77
Not health-caring	47.6%	70

Table 4: Number of health-caring people

Hygienic food and vegetable consumption are the major behavior for the healthy while an exercise and good defecate are the second priority.

By these perceptions, healthy people tend to selective the food by eating more vegetable which relate to good defecate than the other groups. The behevaior of these 2 groups are different significantly from test result between 2 groups is significant at Chi-square t .05 level.

	Health-Caring	Not Health-caring	
ILV BLENN	n = 77	n = 70	
Eat food and vegetable	68%	46%	
Buy food from hygienic place	60%	60%	
Go to exercise	56%	26%	
Good defecate	55%	37%	
Take rest more than 7 hours	33%	30%	
Avoid fried or grilled food	26%	23%	
Prefer homemade food	8%	13%	

Table 5: Behavior related to health-caring behavior

4.3.4 Organic food perception: In understanding the organic concept group, organic sign or label in the package is the most important factor that respondent perceive to an organic product. This factor is important to a variety groups because there are no significantly difference between Organic understanding and not understanding group in Chi-square at .05 level.

	Understand	Do not understand
	n = 133	n = 11
Organic label	85%	64%
Price	12%	36%
Packaging	22%	18%
Advertisement	20%	46%
Others	15%	18%

Organic food can charge more than 20% compare with the other product from the benefit that the respondents perceive.

Table 6: Characteristic to describe organic product

92% of the respondent interest in an organic food. Most of the respondents like the organic food because it is good for their health. For the non interest group, they ignore this product because the organic food is not a necessary item in their life, they do not trust in organic product and product price is higher than the other one.

4.3.5 Product concept: Small herbs such as Mint and Basil are popular categories of plant that the respondent is interested to grow it in the urban farming kit. The following categories are Mushroom and Salad vegetable.

Easiness in growing the plant and how to grow it are the major factors that come to the customer's mind when they are thinking of this product. The following factors are type of the plant and price.

However, the product concept can apply to all respondents, both interested and non-interested group, because there is no significantly difference between these 2 groups in Chi-square at .05 level.

	Interested	Not interested
	n = 74	n = 64
Easiness to take care the plant	69%	63%
Easy to understand growing method	62%	64%
Type of the plant	49%	41%
Price	38%	39%
Packaging design	22%	22%
Packaging size	15%	14%
Cropping period	15%	27%
Planting manual	12%	8%
Easiness to buy the product	4%	5%

Table 7: Key factor toward urban farming kits

4.3.6 ATAR Model for new product testing: Regarding to ATAR model for testing new product concept, awareness and availability are the major issues for introducing the product because of high drop rate in awareness and availability. From total 142 respondents, only 31% or 4 respondents are aware of the urban farming kits and from 27 trial users, only 22% or 6 respondents have seen the product availability.

Unlike both 2 levels, respondent response in positive level in determine to trial the product. From 44 aware users, 61% or 27 users think that they interest to try the product and from 6 users who able to find the product, only 50% or 3 respondents like the product and decide to purchase it again.

For the interested user group, the product concept is very attractive to this group, intention to trial is equal to awareness level at 25 respondents or 100% from awareness. The current user of the product intends to repurchase it at high level from level of repeat purchase compare with availability is very high at 75%.

		Total User		Interest User	
		Percent	n	Percent	n
Awareness	Yes	31.4%	44	33.8%	25
	No	68.6%	96	66.2%	49
Trial	Yes	61.4%	27	100%	25
	No	38.6%	17	0%	0
Availability	Yes	22.2%	6	16%	4
	No	77.8%	21	84%	21
Repeat Purchase	Yes	50%	3	75%	3
	No	50%	3	25%	1

Table 8: Number of accept and reject user in ATAR model

Total	Awareness	Trial	Availability	Repeat
n = 140	44	27	6	3
100%	69%	39%	78%	50%

4.3.7 Driving factors to interest in urban farming kit: From assumption in qualitative research, there are 3 main driving factor to stimulate interest in urban farming kits which are

4.3.7.1. People who love cooking (Cooking sophisticate)
4.3.7.2. People who love to plant the tree (Planting lover)
4.3.7.3. People who care on food quality and their health (Health-organic perceive)

From correlation analysis, the Planting lover is the group who intend to buy the product most at significant level at 0.05, however; the others group are lower and not significant correlation between these 2 factors.

The result therefore concludes that the planting lover is the group who is most interested most in the urban farming kit product.

	Cooking		Health-organic
Statistic	sophisticate	Planting lover	perceive
	n = 137	n = 138	n = 138
Pearson Correlation	.189	.270	.126
Sig. (2-tailed)	.027	.001	.140

Table 10: Correlation of driving factors



CHAPTER 5 CONCLUSIONS

5.1. Conclusions

Organic and healthy food are the interesting products though customers cannot distinguish between organic food and healthy food. Except from price perception, there is not much difference between these two products in the customers mind.

The urban farming kits is an interesting concept to a variety groups of people, not only the healthy concerned or the organic lover. From the perspective of the interested user, the urban farming kit is a very attractive product from the high level of interest trial intention and repeat purchase. However, the main barrier for this product is availability. The results from market observation and quantitative research in ATAR model show that this product is lacks of availability in the strategic places such as the super market shelf or healthy or organic food websites.

According to qualitative research, healthy-organic product can charge a price at higher than current alternatives at an average of 20%

The potential customer of this product concept are the people who love to plant the tree, like cooking and considering an organic-healthy food.

Easiness to plant is the key factor to motivate people to interest to the product following by type of the plant, price and package. Small herbs such as Mint and Basil is the plant type that the people thinking of most. On the other hand, limitation of the time and skill of planting is the key reason of rejected urban farming kit product.

5.2. Managerial Implication

From the research analysis, People who like to plant the tree is the group that has the highest potential and interest in the product concept rather than the cooking sophisticate or healthy-organic conscious group. This result be applied to the marketing strategy to the target plant lover segment and provide the product with more availability on this channels such as garden fairs rather than depending only on the super market. The key message to communicate to the target respondent should reinforce the easiness of planting the product because this is the solid barrier that most of people are concerned about when purchasing the product.

For the product design, the most desirable product that for the urban farming kit should select is the small herb and salad vegetable as a flagship product in the early stage of the marketing plan.

For the pricing strategy, this product can charge up to 20% from the current available vegetable in the market.



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APPENDICES

APPENDIX A SURVEY QUESTIONAIRE

Instructions

• This survey is part of course MK 703: Independent Study of Master Degree in Marketing (International Program), MIM, Thammasat University.

• The questionnaire seeks to find out the potential opportunity for the new product in Thai market.

• There is no "right" or "wrong" answers, we are simply interested in your opinion, which is important to us. The survey will require approximately 5-10 minutes completing. Please answer all questions truthfully. Your responses shall be kept confidential. Thank you for your cooperation.

Remark

SA = Single Answer MA = Multi Answer OA = Open Answer

Main Questions

Cooking Behavior

- 1. Do you like cooking? (SA)
 - 1. Extremely like
 - 2. Moderate like
 - 3. Neutral
 - 4. Moderate dislike
 - 5. Extremely dislike
- 2. What is your most frequent shopping behavior? (SA)
 - 1. By yourself
 - 2. With others
 - 3. Never go shopping
- 3. How many times you go shopping for food ingredient per week? (SA)
 - 1. 1 time per week
 - 2. 2-3 times per week
 - 3. 4-5 times per week
 - 4. Over 6 times per week

Planting behavior

- 4. Do you like planting? (SA)
 - 1. Extremely like
 - 2. Moderate like
 - 3. Neutral
 - 4. Moderate dislike
 - 5. Extremely dislike

5. Do you currently growing the plant? (SA)

- 1. Yes
- 2. No

Healthy perspective

- 6. Do you think that you are healthy person? (SA)
 - 1. Strongly agree
 - 2. Sometime agree
 - 3. Neutral
 - 4. Sometime disagree
 - 5. Strongly disagree
- 7. What is an activity that make you believe that you are healthy person? (MA)
 - 1. Buying food from hygienic place
 - 2. Avoid fried or grilled food
 - 3. Prefer vegetable rather than meat or carbohydrate
 - 4. Eat what only home cooking
 - 5. Usually go to exercise
 - 6. Take many sleeping hour
 - 7. Good defecate
- 8. Could you please ranking the important thing when you select the food? (Ranking 1 is the most important, 5 is the lowest important)
 - 1. Price
 - 2. Hygienic
 - 3. Quality of food ingredient
 - 4. Place to buy
 - 5. Convenience

6.

- 9. How many times when you are going to exercise? (SA)
 - 1. Once a week
 - 2. 2-3 times per week
 - 3. 3-4 times per week
 - 4. Over 5 times per week

Organic food perspective

10. Do you know/understand what an organic food is? (SA)

- 1. Extremely understand
- 2. Somewhat understand
- 3. Neutral
- 4. Somewhat do not understand
- 5. Extremely do not understand

11. In your opinion, what is the important thing that can describe an organic food? (MA)

- 1. Label "Organic"
- 2. Price
- 3. Good packaging
- 4. Poster or stalled media at point POS
- 5. Recommendation from other people

12. What is most important thing to describe an organic food? (SA)

- 1. Label "Organic"
- 2. Price
- 3. Good packaging
- 4. POS
- 5. Recommendation from other people

13. Do you prefer organic food (SA)

- 1. Yes
- 2. No
- 14. Why you prefer organic food? (For RDs who answer 1. In question 10) (MA)
 - 1. Good for health
 - 2. Good for other people in family
 - 3. Better quality comparing with price
 - 4. Good taste
 - 5. Better menu created

15. Why you do not prefer organic food? (For RDs who answer 2. In question 10) (MA)

- 1. Not necessary need
- 2. Hard to find organic product
- 3. Do not believe in quality
- 4. No taste
- 5. Expensive
- 16. Comparing with normal vegetable, how many percentage you can pay from organic product? (OA)

_____%

Urban farming kit concept test

"Small planting kit for growing small vegetable set by yourself"



- 17. What is the top 3 important issues when you considering about this product? (Ranking)
 - 1. Price
 - 2. How easy to grow it
 - 3. Packaging
 - 4. Time to plant
 - 5. Plant species
 - 6. Product availability
 - 7. How to do with product after harvested
 - 8. Planting manual
- 18. What is the plant species that should grow in Urban farming kit? (SA)
 - 1. Small herb such as Basil, Mint
 - 2. Salad vegetable such as Red oak, Lettuce
 - 3. Mushroom
 - 4. Small plant such as baby sun flower
 - 5. Others. Please describe (______
 - 6. None of the above
- 19. What is the plant species that you want to grow most? (SA)
 - 1. Small herb such as Basil, Mint
 - 2. Salad vegetable such as Red oak, Lettuce
 - 3. Mushroom
 - 4. Small plant such as baby sun flower
 - 5. None of above
- 20. Comparing with normal vegetable, how many percentage you can pay from this product? (OA)

(Percentage can be lower or higher)

_____%

- 21. From this product description and picture, have you ever seen this kind of product? (SA)
 - 1. Yes
 - 2. No
- 22. Where did you find or buy Urban farming kit product? (SA)
 - 1. Health and organic food supermarket
 - 2. No
- 23. From this product description and picture, do you interest in this kind of product? (SA)
 - 1. Very interested
 - 2. Moderate interested
 - 3. Neutral
 - 4. Moderate disinterested
 - 5. Very disinterested
- 24. Why do you interest this product concept? (MA) (For RDs who answer 1. In question 17)
 - 1. Convenient
 - 2. Good product quality
 - 3. Guarantee about hygienic
 - 4. Fun
 - 5. Activity for the family
 - 6. Others. Please describe (_____)
- 25. Why you do not interest in this product concept? (MA) (For RDs who answer 2. In question 17)
 - 1. No time to manage it
 - 2. Do not care much on vegetable quality
 - 3. No space to plant
 - 4. Not sure that it will survive
 - 5. This product is too expensive
 - 6. Others. Please describe (_____)
- 26. From this product description and picture, do you interest to try this kind of product? (SA) (From RDs who answer 1. In Question 17)
 - 1. Yes
 - 2. No

- 27. Did you repurchase this product? (SA) (From RDs who answer 1. In Question 20)
 - 1. Yes
 - 2. No

Demographic

- 1. How old are you?
 - 1. 15 25 years
 - 2. 26 35 years
 - 3. 36 45 years
 - 4. 46 55 years
 - 5. 56 65 years
- 2. What is your gender?
 - 1. Male
 - 2. Female
 - 3. Others
- 3. What is your highest education level?
 - 1. High School
 - 2. Bachelor Degree
 - 3. Master Degree
 - 4. Other, please specify:
- 4. What is your occupation?
 - 1. Student
 - 2. Corporate officer
 - 3. Government Officer
 - 4. Specialist i.e. Doctor, Architect, Artist
 - 5. Business owner / Self Employed
 - 6. Freelance
 - 7. Other, please specify:
- 5. What is your marriage status?
 - 1. Single
 - 2. Married
 - 3. Married with child (children)
 - 4. Others

- 6. What is type of your house
 - 1. Dispatched house
 - 2. Townhouse
 - 3. Condominium
 - 4. Others
- 7. How many people in your family
- 8. How much your personal income?
- 9. How much your household income?



APPENDIX B SUMMARY OF RESPONDENT'S PROFILE IN QUALITATIVE RESEARCH

1. Piyawan Prukprakarn

Age:	27 years old
Occupation:	Exxon Thailand Co.,ltd.
Number of family member:	4 people
Type of house:	Condominium



Cooking behavior

Her mother will cook the food for everyone in family. She is also the key decision maker for buying food ingredient to the home because she is housewife. In general, mother will make the food in morning and everyone will pick it up for breakfast and lunch.

For Piyawan herself, she is not intend to cook because she think that her mother make it good.

Healthy behavior

She think she is healthy girl because she spend much time for exercise each week and she is selective buyer for food

Exercise behavior

Spend at least 3 days per week for exercise such as running and yoga

Eating behavior

Selective buyer for out of home food (street food and restaurant). She try to avoid fried and grilled food because she think that it is not good for her health.

Moreover, she also avoid ready-to-eat food too because she perceive it is contained with a lot of chemical.

This perception came from her father who has though her to avoid it since she was young.

Generally, she perceive that home cooking food is the best one because her mom will select the best ingredient for her food.

Freshness is another important point in term of healthy food in her opinion because she usually bought fresh-juice when she go to an office.

She sometimes eat vitamin or supplement but not prefer it so much because it is not fresh.

Organic food

Not sure about the real concept of organic food but she think that the expensive vegetable is one kind of organic food.

Key attribute to make her believe the organic food is price and distribution channel such as expensive vegetable or brown rice in the supermarket is potentially organic food in her perspective.

She is not interest much on organic food because she think it too much for her, only heathy food is enough.

In her opinion, Organic food price can higher than the normal 50%

Urban farming concept test

She feel good with this kind of product because her mother is housewife and have nothing to do much during the day. She see positive side from in the product from benefit for hobby to her mother. Secondary benefit is purify because it can guarantee that there are no contaminate from chemical 100% in the vegetable.

The product should plant only 1 week before harvesting because more than 1 week is too long for her.

She prefer vegetable in ordinary Chinese food such as Chinese Morning glory in the product because it is the basic vegetable or her family.

The price for Urban farming in her view is higher than organic food not more than 20% per pack.

2. Sirunya Buntornvoraphan

Age:	30 years old
Occupation:	Business Development,
	Central group
Number of family member:	1 people
Type of house:	Condominium



Cooking behavior

She has cooking skill but not prefer to make it much because buying food from outside (restaurant or street food is cheaper than make it by herself (She is familiar with buying food ingredient from super market rather than fresh market)

Healthy behavior

She think that she is healthy girl because she play sport and try to avoid processed food such as burger, instant noodle and also avoid soft drink and soda

Exercise behavior

Spend at least 2 days per week for exercise such as running and play Thai boxing

Eating behavior

She perceive that freshness is the most important thing for evaluate healthy so this is the reason that she try to avoid processed food such as junk food, instant noodle and soft drink. Even for the snack, she also prefer to eat snack from natural ingredient such as Tamarind than potato chips.

She always eat fruit because she believe that fruit is the good for health.

Organic food

She think she understand the concept of Organic food. The organic food in her view is "the food without chemicals in every process even hormone of pesticide and organic food must relate to higher price" The most important attribute for organic food in her view is the label "Organic food" and higher price comparing with the same product.

For the price perspective, acceptable organic food price can be higher than normal food 40%

Concept test for Urban farming kit

She is interest in this product and intent to buy it even she is not cook so much. The positive view for this product in her opinion is not just the value for food but it is self-achievement when she can grow it successfully.

For usage perspective, she prefer to plant annual crop food such as mint, basil rather than one time crop such as cabbage and lettuce because she can pick it for the side dish many times. This product should harvest at least 1 month after plant. She prefer Mint, Basil and other kind of herb in this package.

For the pricing, this product should not expensive than organic vegetable because it take your time for growing it and she believe that growing by yourself cannot produce better quality product than the systematic farm (in term of size).



3. Sudkanueg Malithong

Age:	58 years old
Occupation:	Secretary office, Loxley Co., ltd.
Number of family member:	4 people
Type of house:	Dispatched house



Cooking behavior

She love cooking and always prepare food for the family. She always buy the food ingredient by herself because she need to select the best ingredient for cooking

Healthy behavior

She think that she is healthy girl because she spend much time for exercise each week and she is selective buyer for food

Exercise behavior

Spend at least 2 days per week for exercise such as running, cycling and golfing

Eating behavior

She try to avoid every kind of processed food such as sausage, fish or meat ball and white bread. Even the meat she also try to avoid beef or pork and prefer the fish instead.

To select high quality of food, she prefer to avoid street food as well because she believe that street food always make her have diarrhea.

Organic food

Organic food in her perspective is the food such as vegetable, brown rice and honey with no chemical in the process. The most important factor for organic food is the label especially the label from "Royal Project Foundation" will make her belief in quality and accept the high price for the product.

For the pricing perspective, organic food can be higher around 20% from the normal product because it higher quality.

Urban farming concept test

She interest in this concept and intend to buy it. The most important factor for this product is the success rate from planation because she is working and she think that failure in growing will lost her time.

The product should grow for harvest within 2 weeks and the vegetable should be well-known food ingredient such as Chinese morning glory or Basil. The price for product should not above than 10% from organic food because it take your time to growing it and cannot guarantee success rate in each crop.



4. Krit Trakarnsiriwanich

Age:	63 years old
Occupation:	Retired
Number of family member:	4 people
Type of house:	Dispatched house



Cooking behavior

Enjoy cooking and prefer to cook for the family. He is also key decision making for buying food ingredient even he may not buy it by himself.

Healthy behavior

He don't think he is heathy man because he have no sport any or exercise activity and by this age, he is still drink alcohol.

Eating behavior

Because of his age and some illness, he have to pay attention to food but generally he still eat variety of food even perceive that it is not healthy such as alcohol and fried food

Healthy food

In his opinion, healthy food is like vegetarian or organic food but he has not much idea on it. One related attribute to his opinion for heathy food is not delicious.

Organic food

Not sure about the real concept of organic food but in his opinion, organic food is like hydroponic vegetable or the other vegetable in salad bowl.

In his opinion, organic food much higher price than the normal one but have no idea for the price range

Urban farming kits concept test

It is very interesting for him because he is retired and nothing much to do in his home. Growing plant in the small package is very good activity for him because no need to put much energy to take care.

The most important thing for this product is how easy to grow it because he not sure that he can grow it successfully. If this product is easy to plant, he may buy it constantly.



5. Panida Jiravarnsirikul

Age:	27 years old
Occupation:	Marketing at Mae Fah
	Luang foundation
Number of family member:	10people
Type of house:	Dispatched house



Cooking behavior

She sometimes cook the food but normally her mother is taking this role. Her mother also the buyer for food ingredient for her family. Her family usually buy food ingredient from super market in department store such as The Mall or Central. Normally her family prefer to eat homemade food rather than buying it from the restaurant or street food because they believe in quality of their own food.

Healthy behavior

She think that she is healthy because she is selective eating and spend the time to exercise

Exercise behavior

Spend at least 2 days per week for yoga

Eating behavior

She prefer vegetable and fish rather than meet. Moreover, she try to avoid fried food, cola, sweet and snack.

Organic food

Not sure about the real concept of organic food but she think that the expensive vegetable is one kind of organic food.

Key attribute to make her believe the organic food is price and distribution channel such as expensive vegetable or brown rice in the supermarket is potentially organic food in her perspective. She is not interest much on organic food because she think it too much for her, only heathy food is enough.

Urban farming concept test

This kind of product is interesting for her because it can create activity to her family in looking after it. And because of her mother also care about high food quality, she may buy it for her mother to take care of it. However, If she fails in growing at the first time, she may not buy it anymore.



6. Saengkhae Satitkasem

Age:25 years oldOccupation:Media Planner, OMDNumber of family member:4Type of house:Dispatched house



Cooking behavior

She interest to cook but have no time to study cooking. She can cook a simple menu such as Omelet, fried egg. She interest to cook because she believe that cooking by herself will make a good quality such as control level of MSG and sugar.

Healthy behavior

She think that she is moderate healthy person. She occasionally eat healthy food such as salad but sometimes she prefer to eat junk food when she is tried.

Exercise behavior

One time per month.

Eating behavior

No specific criteria for eating because she prefer to eat by convenience. In rush hour she prefer to eat street food rather but if she have a time she may go to restaurant.

Organic food

She think that organic food is vegetable from natural process without any chemicals. She have no interest about organic food because she is still not clear about organic food concept. She cannot separate between fresh vegetable and organic vegetable.

Concept test for Urban farming kit

She interest in this product concept because it is convenience for her to prepare cooking. In her. Opinion, this kind of product should be salad vegetable such as red oak, lettuce. The product should guarantee quality especially in first time must survive over 80% and the price should not higher than 100 THB because normal salad meal.



7. Jaruwan Prasansiang

Age: Occupation: Type of house:

41 years old **SCG** Chemicals Number of family member: 4 people (with 2 children) Dispatched house



Cooking behavior

She sometimes cook the food but normally her mother is taking this role. Her mother also the buyer for food ingredient for her family. Her family usually buy food ingredient from super market in department store such as The Mall or Central. Normally her family prefer to eat homemade food rather than buying it from the restaurant or street food because they believe in quality of their own food.

Healthy behavior

She think that she is healthy because she is selective eating and spend the time to exercise

Exercise behavior

She is athlete women so she usually play Badminton with her family when she have a time

Eating behavior

Price and quality is the most important things in her opinion for buying a food. By this condition, good quality is not mean to clean or healthy food just hygienic food is enough for her.

Organic food

Not sure about the real concept of organic food but she think that the expensive vegetable or rice are representative for the organic food. The channel is one of the most important thing to represent image of organic food such as in premium super market.

However, from her attitude in food purchasing that she will not spend too much for high quality food but prefer to spend moderate level with standard quality food.

Urban farming concept test

She really do not like this product concept because of 2 main reasons,

- 1. This concept take her time to take care the young plant and I cannot make it.
- 2. She think that organic product is too expensive for her to purchase

Jaruwan also concern about the survive rate because she is not sure that she can make it survive. In pricing concept, she set the urban farming kits price in same level as current organic food because it have to trade of between convenience of available organic vegetable and hygienic of urban farming product.



8. Phoomkit Fangmogkol

Age:	31 years old
Occupation:	Business Owner
Number of family member:	3 people
Type of house:	Townhouse



Cooking behavior

He is interest in cooking because in e is owner of restaurant and in his opinion cooking is like an art. For the view of restaurant owner, he involved in some cooking in order to understand it for business purpose but if he have a time, he interest to join cooking class.

Healthy behavior

He do not believe that he is healthy man because he do not pay much attention to the food quality or hygienic

Exercise behavior

He takes fitness class 2 days per week

Eating behavior

He have a strong believe that healthy food is not delicious. When talking about healthy food, he will thinking about streamed vegetable or boiled vegetable. He prefer to eat delicious food which make him happy than tasteless food.

Organic food

He believe that organic food is similar to healthy food. One different point between these products is growing quality because organic food need more care level such as close growing system. Because of his strong believe in tasteless in healthy food, he also reject organic food because.

In his opinion, organic price cannot sell in lower price because it is premium product.

Urban farming concept test

He do not interest in this product because he have no time to look after it and he also do not believe that he can grow it successfully.

In his opinion, vegetable is cheap so no need to pay extra money for this kind of product. One reason that my turn him to interest in urban farming kits is only trend for example if many of his close friend grow it, he may grow it too.

APPENDIX C SUMMARY OF QUANTITATIVE RESEARCH RESULT

Cooking Behavior

		Not like cooking		Like cooking	
		Column N %	Count	Column N %	Count
Who will go to buy food	yourself	35.7%	30	60.9%	42
ingredient with you	With your family	38.1%	32	29.0%	20
	With your friend	4.8%	4	8.7%	6
	rarely to go to buy food ingredient	21.4%	18	1.4%	1
11151	Total	100.0%	84	100.0%	69
Where will you go to buy food ingredient	Super Market in shopping mall such as TOP, Villa Market	49.4%	41	60.0%	42
	Hyper Market such as Lotus, BigC	19.3%	16	14.3%	10
米官	Food Super Market such as Foodland	10.8%	9	8.6%	6
1	Fresh Market	19.3%	16	17.1%	12
	Other	1.2%	1	0.0%	0
	Total	100.0%	83	100.0%	70

Pearson Chi-Square Tests			
Who will go to buy food ingredient with you	Chi-square	19.093	
	df	3	
	Sig.	$.000^{*}$	
Where will you go to buy food ingredient	Chi-square	2.481	
	df	4	
	Sig.	.648 ^{b,c}	

Planting Behavior

		Not like pl	anting	Like plan	ıting
		Column N % Count Column N		Column N %	Count
Currently, Do you plant or	Yes	21.5%	23	82.6%	38
grow up a tree	No	78.5%	84	17.4%	8
	Total	100.0%	107	100.0%	46

Pearson Chi-Square Tests		
Currently, Do you plant or	Chi-square	50.117
grow up a tree	df	1
11.20	Sig.	$.000^{*}$

Healthy perspective

124		24	3.2.1	
	Not health o	caring	Health caring	
	Column N %	Count	Column N %	Count
I usually to buy food from hygienic place	60.0%	42	59.7%	46
I try to avoid fried or grilled food	22.9%	16	26.0%	20
I usually eat food or vegetable	45.7%	32	67.5%	52
I usually eat home-made food	12.9%	9	7.8%	6
I usually go to exercise	25.7%	18	55.8%	43
I take a rest more than 7 hours per day	30.0%	21	32.5%	25
I have a good defecate	37.1%	26	54.5%	42
Total	100.0%	70	100.0%	77

Pearson Chi-Square Tests			
New_A7_2			
Chi-square	26.629		
df	7		
Sig.	$.000^{*}$		

Correlation between driving factors and intention to purchase

		Correlations			
		Do you like cooking	Do you like to plant a tree or small plant	Do you think that you are carrying of your health or not	Do you interest in Urban farming Kit
Do you like cooking	Pearson Correlation	1	.182*	.195*	.189*
12-1	Sig. (2-tailed)	11/10	.025	.018	.027
	Ν	154	152	146	137
Do you like to plant a tree or	Pearson Correlation	.182*	1	.055	.270**
small plant	Sig. (2-tailed)	.025		.505	.001
	Ν	152	153	147	138
Do you think that you are	Pearson Correlation	.195*	.055	1	.126
carring of your health or not	Sig. (2-tailed)	.018	.505		.140
	Ν	146	147	147	138
Do you interest in Urban	Pearson Correlation	.189*	.270**	.126	1
farming Kit	Sig. (2-tailed)	.027	.001	.140	
	Ν	137	138	138	138

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Organic food characteristic

	Do you like an organic food				
	Yes		No		
	Column N %	Count	Column N %	Count	
Organic signal	85.0%	113	63.6%	7	
Price	12.0%	16	36.4%	4	
Packaging	21.8%	29	18.2%	2	
Advertisement	19.5%	26	45.5%	5	
Others	15.0%	20	18.2%	2	
Total	100.0%	133	100.0%	11	

Pearson Chi-Square Tests

		Do you like an organic food
Set.A12	Chi-square	12.549
	df	5
	Sig.	.028 ^{*,b}

Important factor of urban farming kit

		YAN		
Se. 024	Do not in	Do not interest		est
	Column N %	Column N % Count Column N 9		Count
Price	39.1%	25	37.8%	28
How to grow it	64.1%	41	62.2%	46
Packaging size	14.1%	9	14.9%	11
Packaging design	21.9%	14	21.6%	16
Type of the plant	40.6%	26	48.6%	36
How easiness to take c of the plant	are 62.5%	40	68.9%	51
Plantation manual	7.8%	5	12.2%	9
Croping period	26.6%	17	14.9%	11
Where to buy it	4.7%	3	4.1%	3

Type of plant for urban farming kit

		Do not interest	Interest
		Column N %	Column N %
What is the plant that you	Other	4.7%	1.4%
want to grow most in urban	Small Herb	40.6%	29.7%
farming kit	Salad	17.2%	36.5%
	Mushroom	21.9%	21.6%
	Young plant	15.6%	10.8%
	Others	0.0%	0.0%

Pearson Chi-Square Tests

11.15		A22_Yes_No
What is the plant that you	Chi-square	7.742
want to grow most in urban	df	4
farming kit	Sig.	.102ª

Reason of not interest urban farming kit

	Column N %
No time to take care of it	62.5%
Cleanness is not the most important	25.0%
No space enough to grow it	6.3%
Not sure that can grow it successfully	43.8%
Over price than necessary	6.3%
Other	18.8%

Pearson Chi-Square Tests

		A22_Yes_No
Most 3 important factor	Chi-square	5.266
	df	9
	Sig.	.811

ATAR model result

		Column N %	Count
Have you ever seen the concept	Yes	31.4%	44
of Urban farming kit before	No	68.6%	96
Have you ever trial this product	Yes	61.4%	27
before?	No	38.6%	17
Have you ever bought Urban	Yes	22.2%	6
farming kit before?	No	77.8%	21
Have you ever bought this	Yes	50.0%	3
product before	No	50.0%	3

T-Test result for additional price of organic food and urban farming kit

		One	-Sample Test			
	Test Value = 0					
	22	-1111		Mean	95% Confide of the Dif	
	t	df	Sig. (2-tailed)	Difference	Lower	Upper
How many percentage that you will add on to an organic food comparing with the other food	16.358	134	.000	21.437	18.85	24.03
How many percentage that you will add on to an urban farming kits comparing with the other food	13.201	125	.000	18.294	15.55	21.04

One-Sample Test

Profile

		Column N %	Count
How old are you	15 - 25	8.8%	12
	26 - 35	75.0%	102
	36 - 45	10.3%	14
	46 - 55	2.2%	3
	56 - 65	3.7%	5
	Total	100.0%	136
Household income (Binned)	<= 50000	11.7%	14
	50001 - 100000	33.3%	40
	100001 - 200000	30.8%	37
	200001 - 400000	14.2%	17
	400001+	10.0%	12
	Total	100.0%	120
Personal income (Binned)	<= 25000	17.7%	22
	25001 - 50000	49.2%	61
	50001 - 75000	15.3%	19
	75001 - 100000	14.5%	18
	100001+	3.2%	4
	Total	100.0%	124
How many family members do	<= 1	3.9%	5
you have (Binned)	2 - 3	34.6%	44
	4 - 5	48.8%	62
	6+	12.6%	16
	Total		
		100.0%	127

Profile

		1	
What is your residence type	Dispatch house	53.7%	73
	Townhouse	24.3%	33
	Condominium	17.6%	24
	Others	4.4%	6
	Total	100.0%	136
What is your occupation	Others	3.0%	4
	Student	4.4%	6
11.0~	Corporate employee	65.2%	88
	Government employee	4.4%	6
1 EP	Specialist such as doctor, architect	0.0%	0
	Business owner	17.0%	23
	Freelance	5.9%	8
	Total	100.0%	135
What is your education level	High school	0.0%	0
	Bachelor degree	41.9%	57
	Master degree	55.1%	75
	Over master degree	2.9%	4
	Total	100.0%	136
What is your marriage status	Single	75.7%	103
	Mary	14.0%	19
	Mary with child (ren)	8.8%	12
	Others	1.5%	2
	Total	100.0%	136
What is your gender	Male	34.3%	46
	Female	64.2%	86
	Others	1.5%	2
	Total	100.0%	134

BIOGRAPHY

Name Date of Birth Educational Attainment

Work Position

Mr. Supajet Trakarnsiriwanich March 19, 1985 Bachelor of Business Administrative, Major in Finance Managing Partner SUN Capital and Consulting Limited Partnership

