

MARKETING PLACE AND PROMOTION OF HIGH SAFETY VEGETABLE NO.8

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ABSTRACT

The research purposes were to study 1) the trading structure and consumer market of high safety agricultural product, vegetable no. 8, of agriculturists in terms of price, adequacy, characteristics, quality, supply chain management and logistics, and safety of product, 2) the marketing channels, types, and characteristics of the products which are the market needs for agricultural products (vegetable no. 8) of agriculturists, and 3) the guidelines and practice to increase marketing channels and promote trade balance in order to elevate the fundamental economy to local career creation. The research methodology is divided into 2 methods: participatory research and quantitative research. The research sample were 400 consumers, a group of suppliers or marketing organizations, and agriculturists who produce safe agricultural products. Analyze statistical information which is used in analyzing information is descriptive statistics such as percentages, averages and analyzing information by using description. The results show that, the marketing channels that consumers prefer to choose to buy safe vegetables are supermarket. The main marketing channel for corporate consumers is the middleman. It was found that the major constraints to entry into the corporate consumers, especially the supermarket, was to pass the safety vegetable certification standards issued by the responsible agency. It also found the need for middleman to manage the collection of products by orders, transactions, purchase orders, and finances. The research also estimated the frequency of purchase of safe vegetables 2.1-2.4 times/ week and each expense is about 146.52-170.14 baht/ time and 1,254-1,650 baht/ month/ household. The research expected that the high-safe vegetable market will increase by 22.5 percent over the next three months.

Keywords: Consumer markets, Safe vegetables and agricultural products delivered by market

Introduction

The quality and safety food is one of the important factors for the good health of the people. Thailand is the biological diversity and fertility country; therefore it can produce food enough for people and export. However, a lot of change of economic conditions, society, and culture from the past, globalization, technological change, new disease and threats,

decadent natural resource situation and global warming including the necessity of practice as international rules about international trade and free trade are factors affecting the stable and sustainable situation of food in country. (Ministry of Agriculture and Cooperatives, 2013)

Chachoengsao Province (Chachoengsao Provincial Office, 2015) has organized the project of developing high safety agricultural product of

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Chachoengsao since 2015. The high safety agricultural product of Chachoengsao is a model for promoting to integrate a plan or project regarding development of agriculturist income and occupation. The agency taking a role in developing villages or integrating with communities, applying the concept of sufficiency economy theory, the new theory of agriculture including the approaches of developing the royally initiated projects to the target groups is Chachoengsao provincial agriculture and cooperatives office. It is the main agency to be responsible the project of developing high safety agricultural product of Chachoengsao which is supported by 9 agencies: 1) Chachoengsao provincial agriculture office; 2) Chachoengsao provincial fishery office; 3) Chachoengsao provincial livestock office; 4) Chachoengsao Agricultural Land Reform Office; 5) Chachoengsao Land Chachoengsao; 6) Chachoengsao Provincial Irrigation Project; 7) Office of Commerical Affairs chachoengsao; 8) Chachoengsao Provincial Public Health Office; 9) Chachoengsao Provincial Administration City Hall. The agriculturists participating in the project of developing high safety agricultural product of Chachoengsao are from 8 groups in 11 districts or 815 of members. According to the fundamental data in 2017, it reveals that agriculturists from Phanom Sarakham participate in the project most and got the highest standard of agricultural safety in Chachoengsao at 35.9%. Therefore, an increasing the strength of safety agricultural production, the vegetables no. 8, to the agriculturists at level of fundamental community in order to elevate the fundamental economy to local career creation should be an important choice. In addition, the development plan and the government's policies, that have to drive local production, are to focus on community-based enterprises, community products, and pushing for small and medium enterprises, SMEs, and expansion into export.

The important one of factors in driving local agriculturists to be able to increase value of their product and produce safety food, elevate income and way of life of minor farmers and communities, including decreasing the number of the poor in rural is a management factor in order to increase marketing channels, promote balance trade, and elevate the fundamental economy to local career creation.

The importance of agricultural sector is a source of career, a source of income of the community and also as a source of food for the community. At the same time, and in the future, the agricultural sector is encountering with several challenges leading to the conditions of problems about low price and high cost of production. Meanwhile, agricultural prices are likely to decline. The price of food is expected to rise very high. This is a factor that makes Thailand has a risk of food security in the future. Driving local agriculturists to produce the high safety agricultural products with promoting the customer relationship management and logistics (CRM&L) of agricultural products such as marketing management and delivering the product to consumers in order to elevate the fundamental economy to local career creation together is an important policy choice. This research aims to study and analyze for obtaining proposals regarding marketing approaches and marketing channel planning of high safety agricultural products (vegetable no. 8) which is the product from agriculturists participating in project of developing high safety agricultural product of Chachoengsao. It is for trading, raising income and standard of living of original agriculturists.

Objectives of the Study

1. To study the trading structure and consumer market of high safety agricultural product, vegetable no. 8, of agriculturists in terms of price, adequacy, characteristics,

quality, supply chain management and logistics (SCM&L), and safety of product.

2. To study marketing channels, types, and characteristics of the products which are the market needs for agricultural products (vegetable no.8) of agriculturists.

3. To study guidelines and practice to increase marketing channels and promote trade balance in order to elevate the fundamental economy to local career creation.

Literature Review

There are three main types of safety requirements for organic vegetable production in Thailand: 1) organic farming, which is the most chemical-free form of production, is often referred to as “organic vegetables”. 2) organic agriculture Production is the same as organic agriculture. The chemicals are used in production, but more relaxed. 3) safe vegetables, fertilizers or chemicals are used to help. But the chemicals used are low hazard. Including the harvest spacing (Thailand Development Research Institute, 2010).

The supply chain, value chain, and marketing channels

Nowadays, businesses focus on the supply chain instead of just focusing on each activity: purchasing, production, consumption. The focus on the supply chain is the link from raw materials, parts, finished goods. Until the movement of products to the last consumer (Kotler, 2012)

Value chain is a system of cooperation and alliances to seek common goods. value creation, and offers to the consumers. The marketers need to focus on maintaining the value chain in connection with the consumer and need to be in upstream activities. In fact, most manufacturers do not sell their products directly to the last consumer. But between the producer and the consumer, there are intermediaries to help with various functions.

These intermediaries make up a marketing channel, sometimes referred to as a trade channel or distribution channel, Some types of the middlemen, buy products and sell them out called “merchants”, such as wholesalers, retailers, or some middlemen, find and negotiate with customers on behalf of manufacturers without buying the product called “agents”, another type of intermediary which facilitates the smooth distribution, such as transport companies, warehouses, banks, advertising agencies called “facilitators”.

Marketing channel is a business group that was involved in the process to make products and services to consumers appropriately. Therefore, choosing a marketing channel is an important decision. This will have a direct impact on other marketing mix decisions such as product prices, advertising.

It is useful and reasonable to use intermediaries to represent manufacturers such as 1) many manufacturers do not have the resources to sell directly to consumers, 2) in some cases direct selling to consumers may not be possible. For example, it is not possible to open smaller stores to accommodate consumers in many areas, 3). Manufacturers are getting more than the return on investment in their marketing channels.

In addition, intermediaries can distribute products. Reach a wide range of consumers It relies on relationships, expertise, experience and with economies of scale. The mediator would be able to offer a higher return to the manufacturer than the manufacturer would distribute. The middle man made the movement of goods and services smoothly. It is the mismatch between the manufacturer’s production and the consumer’s demand. This irrationality comes from Where manufacturers tend to produce large volumes of products but only few While consumers need a wide variety of products in small quantities, etc.

Functions of the marketing channel

Marketing channels drive products from the manufacturer to the consumer, solving the problem of time, place, and the gap between the owner and the consumer's needs.

Marketing channel functions as follows

1. Collect information about current customers, prospective customers and other organizations related to the marketing environment.
2. Create a compelling communication method to stimulate consumer purchase.
3. Negotiate price and other terms and conditions in order to change hands or change the possession.
4. Send an order to the manufacturer.
5. Provide funds to maintain inventory levels.
6. undertake the risk of carrying out distribution activities.
7. arrange a warehouse and moving goods.
8. make payment for products Take care of changing hands of products from the organization or a person to another person.

Some duties such as product supervision, holding, marketing promotion. Activity is driven forward) from businesses to consumers, some functions such as ordering payment activity is driven backwards from consumers to businesses. While the duties of collecting information, negotiating finances, taking risks Is a driving activity in both ways. Selling goods and services generally relies on three types of channels. These are sales channels, delivery channels, and service channels. These 3 channels are required to be fully-integrated. It depends on who will do the operation or where will the obligation be. If the manufacturer passes certain obligations to the supplier, their costs will be lower. Distributors will have to add more prices to cover their responsibilities. If the supplier performs that function Effectively, the cost that is added to the consumer will be lower or in the case of the consumer carrying the burden himself will make the purchase at a lower price.

Marketing channel level

The Marketing channel level refers to the length of the marketing funnel. By using the number of mediators to measure the length of Marketing channels as follows

1. Zero-level channel, also known as direct-marketing channel, consists of manufacturers selling products directly to consumers.
2. One-level channel with one level of mediator involved: retailer.
3. Two-level channel marketing consists of two levels of intermediaries: Wholesaler and retailer.
4. Three-level marketing channels consists of three levels of intermediaries. Wholesaler, jobber, and retailer.

Marketing channels can have more than three levels. The longer the marketing channel, the producers will get information from consumers, and controlling the marketing channels will be even more difficult.

In general, marketing channels describe the movement of products from the source of the product to the consumer. But at the same time, there may be a reversing channel in some cases, such as recycled products, new improvements, recycled items or the use of leftovers to be converted into new products.

A review of studies showing the market structure of safe vegetables from a supply chain analysis included 1) producer farmers who produce them for sale to intermediaries or produce them for direct sales to processing plants, hotels and restaurants, or produce exclusively for supermarkets. And non-toxic stores, 2) intermediaries, 3) shops, supermarkets, hotels, restaurants and exporters. (Thailand Development Research Institute, 2010).

Other research studies are as follows: Places to buy organic vegetables, including supermarkets. Receiving organic vegetables via radio, television, newspapers. Consumers buy organic vegetables 2-3 times a week with the cost of each purchase of 50-100 baht. Quality is the

first the most influencing factor in choosing to consume vegetables that are safe from toxins is information and advice from close people. (Chaichana, 2008)

Factors used in deciding to buy organic vegetables among consumers in Bangkok. Consumers pay the most attention to products and distribution channels. As for the price and promotion aspects, the importance was at a very high level as well. In terms of incentives for choosing organic vegetables, the most important level is. Do not want to have dirt contaminated with organic vegetables. Consumers feared the dangers of consuming vegetables at a high level and found that gender, age, income differed in favor of different marketing mixes (Jeensorn, 2013).

Consumer behavior in buying organic fruit in Bangkok The factors that affect the decision to buy organic fruit on a regular basis are age and gender. Most of the consumers are female, buying them for their own consumption, with knowledge and understanding about organic fruits from the recommendations of friends or relatives (Surin, 2016).

Research Methodology

This research is a quantitative research, together with the collection of qualitative data.

The quantitative research design was a survey research with questionnaires, for collecting data from samples of consumer. The sample size of 400 consumers was determined by Taro Yamane's tables with 95% of confidence levels, for collecting data to know the consumption patterns and purchasing behavior of vegetables, safe vegetables and highly safe vegetables number 8 and estimates the need for consuming highly safe vegetables number 8 in the future.

The Content Validity of questionnaire by IOC (Index of Item Objective Congruence) was

0.702, indicates that the question is relevant to the research objective. The Reliability of questionnaire by Coefficient Cronbach's Alpha was 0.92, greater than the criteria, indicates that this questionnaire were acceptable.

The qualitative data was collected using structured interviews as a tool. By targeting the group of internal and downstream supply chain. Sampling was specific to the organization. It is mixed with Snow-ball sampling by continuous inquiries such as downstream, back to the mentioned intermediary, etc. The number of samples were 29 consisting of the internal supply chain, namely Middleman in and outside Chachoengsao Province, including supermarkets, the safe vegetable stores, schools, hospitals, hotels, restaurants, tourist attractions, restaurants. and distribution center for food ingredients

Equipment used in the research (Shown in the Table 1)

1. Surveys: for gathering information from consumers to understand the consumptive plan for vegetable products and vegetable number 8 that is being studied, the needed characteristics and needed price.

2. Interviews: interviews with a structure to gather information in-depth from the representative sample group and observation.

Analyzing the information and statistics used in analyzing the information

The statistical tools for data analysis consisted of Descriptive Statistics. The statistics used were Frequencies, Percentage, Mean and Standard Deviation (SD) as data analysis. General of the consumer sample Buying behavior and consumption of vegetables, safe and high-safety vegetables No. 8 weighting is important to various factors. In purchasing/ consuming vegetables safely by An Inferential Statistics with 0.5 significance level or 95% confidence level as interval estimation at 95% confidence level (95% Confidence Interval of the Difference) for frequency and value

estimation. Spending on the purchase of safe vegetables and highly safe vegetables No. 8.

Table 1 Equipment used in the research

Research questions	Research methodology	Activities	Expected results	Procedure's date
1. Estimated need for vegetable number 8 by consumers	1. Quantitative research 2. Estimated statistic	1. Research 2. Analyze statistics	Estimated figures	Jan-Feb 2018
2. Targeted market, consumers, organization types and needed characteristics	1. Qualitative research	Research and surveying	amount of targeted groups in the consumer market and organization types.	Feb-March 2018
3. Agriculture or agricultural group that has demand side information	1. Qualitative research	n Research and surveying	1. Amount of agricultural group that wants to join the production	April-May 2018
4. Market agreement between consumer and agriculturist	1. Group meeting	Consumer meets agriculturist	negotiating agreements between consumer and agriculturist	May-June 2018

The qualitative data analysis with Descriptive Research. A data collection tool, using the set of questions such as; Demand for safe vegetables. vegetable type, process of ordering, transporting, term of payment and safe vegetable market view. Once the field data was collected. The initial analysis by categorized according to the subject outline. In order to analyze and find additional information. Additional information on the incomplete portion was collected through repeated interviews. And analyze the data one more time Which provides more accurate and true information.

Results

For marketing channel, most consumer samples selected to buy safe vegetables from supermarkets for 35.8%, from fresh markets for 31.0% and from the Royal Project shops for 18.7%.

In sum, the venues consumer samples preferred buying safe vegetables are supermarkets and fresh markets. For the behavior of consumer samples, they bought safe vegetables 2.3 times/ week on average and the average of each expense is 158.33 baht/ time.

Safe vegetables which consumer samples selected to buy the most are vegetables that need to be cooked first. These include Chinese broccoli, choy sum, cauliflower, green pea, and so on.

For secondly preferred vegetables are the ones eaten fresh which are yardlong bean, cucumber, cabbage, tomato, winged bean, and so on.

Lastly, the vegetables used for seasoning are spring onion, chili, peppermint, sweet basil, lemon basil and kaffir lime leaf.

For the trend of buying safe vegetables, more than 95.0 of consumer samples tended to buy

or eat them in the next 3 months and we can sum up that more than 95% of consumers have a tendency to buy or eat safe vegetables in the future.

For the factor which affects the purchase and consumption of safe vegetables, consumer samples focused on trust of safety in high level. For example, certified vegetables from safety agriculture becomes a guarantee for consumers. The factor of product is also in high level as safe vegetables are fresh, colorful and look delicious. The factor of product distribution is also in high level as they are put on shelves in department stores and leading supermarkets. The factor of trust in cleanliness is in high level. Clean containers are used for packaging. The factor of selling price is in high level. Clear selling price tags are presented, while the factor of promotion; for example, introducing types of safe vegetables, is in moderate level.

The estimate trend of consumption safe vegetables and safe vegetables no. 8 are as follows.

The estimate frequency of safe vegetables purchase is 2.1-2.4 times/week and each expense is about 146.52-170.14 baht/ time and 1,254-1,650 baht/ month/ household. The estimate tendency of consumers to buy or eat safe vegetables in the next 3 months increased by 22.5%. It is expected that the number of consumers who buy and eat safe vegetables in the market in the future will also rise by 22.5%.

The results of surveys and collected qualitative data of organizational consumers from two groups (internal and downstream supply chain) for 29 samples are concluded as follows.

The marketing channels of ended- current group are hotels, and big restaurants. This group will daily order vegetables from regular middlemen. There are a variety of vegetables in demand and the payment due date is

between 15 and 45 days with quality assurance of the vegetables conditions.

Restaurants in Chachoengsao Province mostly buy fresh vegetables daily by selecting fresh vegetables from retailer in fresh markets and pay by cash. They sometimes purchase safe vegetables mainly depending on the prices. For franchised restaurants as well as products distribution center which has the head office in Bangkok, the purchasing department will contact with the middlemen or farmers to buy and deliver the vegetables. There are two ways of purchasing vegetables. First, the products are bought and dispatched from the head office or the raw material distribution center of the company.

Second, some vegetables are directly bought from the middlemen in the nearby area of schools in Chachoengsao Province. These include both governmental and private schools, from kindergartens to secondary schools. The schools will buy vegetables directly from the retail merchants in the fresh markets and pay by cash every day or every other day. They rarely purchase safe vegetables due to the very high price. Governmental hospitals in Chachoengsao Province have a policy to support safe vegetables, especially safe vegetables no. 8 Chachoengsao. Each hospital manages to set up a special area for selling safe vegetables. For the purchase of safe vegetables for nutritional meals in the hospitals, the farmers have to sign the contract and deliver the vegetables daily. The hospitals in districts level will purchase the vegetables directly from farmers or middlemen and some hospitals have regularly bought highly safe vegetables no. 8. Most supermarkets and department stores in Chachoengsao Province have a policy to support farmers. Safe vegetables from local areas are allowed to be on shelves for sale. The farmers have to contact the head office of those stores and their vegetables need to be tested and pass the standard of safe vegetables

from certified organizations. The vegetables for sale needs to follow the set conditions which are daily delivery and have separate packaging depending on type and size of each vegetable. Due date for payment is between 15 and 45 days. Especial venues and shops for safe vegetables are provided in form of shops and stalls and allowed in governmental offices in Chachoengsao Province. The retail stores or 'Talat-nud' will open on specific days in each week for general consumers.

The marketing channel of middle- current group is the middlemen who are the farmers of safe vegetables or highly safe vegetable no.8 themselves. These farmers include project leaders who have potentials in management and business administration and also have some capitals for registration as an individual or a legal entity. They own their vegetable plots to grow safe vegetables and also gather safe vegetables from the project cooperative farmers for sale. For general middlemen, they can be an individual or an entrepreneurial business owner who buy vegetables from iconic fresh markets like Talaad Si Mummuang, Talaad Rangsit, and Talaad Thai for wholesale and retail trade.

Discussion

The discussion on the research results is as follows.

1. From the study, the important marketing channel that consumers go for shopping safe vegetables are supermarkets and department stores since they have confidence in vegetables thoroughly tested and certified. This is corresponding to the study of Chaichana (2008) and also the results of the study of the Office of Agricultural Economics that consumers decided to buy non-chemical contaminated products from the shops they trust.

2. As for Good Agricultural Practice (GAP), the study found that certification standards as well as the accredited certification entities are important factors of safety confidence. Moreover, they are keys for distribution, especially supermarkets and department stores.

3. The study on safe vegetables distribution structure also found that middlemen play important roles in the business, and farmers themselves take this part in contacting, liaising, and doing commercial and financial transaction with customers who are organizations.

4. Furthermore, this study found that alternative marketing channels for farmers, mainly the smallholders of highly safe vegetables no. 8 project, where they can directly sell their products. These places would be specifically advertised, such as, talaad-nud, fresh markets, and fairs.

5. Factors that affect safe vegetables purchasing are the products, channels of distribution, prices, and marketing which is greatly essential, corresponding with many studies, for example, Chaichana (2008), Jeensorn (2013), and Surin (2016).

6. The results from both quantitative study and qualitative data collection show that the market for highly safe vegetables no. 8 in Chachoengsao Province has a tendency to expand profusely and is inclined to safe vegetables and food consumption. It is expected that this market will expand no less than 20%, and purchasing frequency is estimated to be 2.1-2.4 times a week. This finding is relatively similar to a study of Chaichana (2008) in which purchasing frequency is estimated to be 2-3 times a week. However, from this study, the spending amount is 146.52- 170.14 Baht each time, which is slightly higher than Chaichana (2008)'s study in which the spending amount is 50-100 each time.

7. The research's result finds that customers' acknowledge and receive news on highly safe

vegetables no.8 in limited scope, and the most efficient way for advertising is by word of mouth.

Recommendations

1. Policy recommendations

1. Relevant governmental units should set the priority to promote and support the registration of safe vegetables standards from accredited certification entities and improve the system to allow quick access for the farmers. Moreover, they should also encourage to increase potentials for checking safety standards of the venue, department and personnel to be able to serve more needs. Additionally, they may coordinate with private sector to serve the set standard test.

2. The governmental units, both in central and local areas, have to promote and support the gathering of the farmers to strengthen their productivity, product aggregation, sales and distribution, and negotiation power among farmers when selling their products. Other supports include the management of co-production to respond to the needs of types and the amount of safe vegetables. The governmental units have to manage co-transportation for transportation cost reduction due to the problem of less-than-container load for each delivery. The gathering of the farmers can be developed to a cooperative or a cooperative federation.

3. The governmental sectors and financial institutes have to provide and support funding sources for the farmers as community enterprises so that they have the capital for investment in technological development in production. For example, the establishment of a venue to wash and pack the products and have the working capital during the transition of the production process to safe agriculture and the purchase of agricultural products to sell in various marketing channels. Therefore, the governmental sectors and financial institutes

should provide loans for an individual farmer, a group of farmers, and community enterprises. The agreement contract of trading with the supermarkets, department stores, and governmental units can be used as evidence or guarantee for loan approval.

4. The governmental units, public health and educational entities should publicize and widely educate people about the consumption of safe food, safe vegetables and highly safe vegetables no. 8 Chachoengsao Province. There should be campaigns for people to be watchful and aware of having safe food.

5. The governmental units and educational institutes should promote and disseminate the integration of knowledge and their useful information to farmers and relevant organizations for best practice, including knowledge of the production, production management, standards certification test, marketing and distribution, as well as the group gathering.

2. Recommendation on management and practice

Production

1. The farmers who participate in the development project of safe agricultural products, highly safe vegetables no. 8, need to adjust their production process, harvesting, selection and packing, transportation, product distribution and sale. The practices throughout the process have to be stable and consistent according to the certified standards, so that they will pass the evaluation for safety standards certification and pass the test to sell their products in the supermarkets and department stores which are the most important marketing channel for safe vegetables. This increases more confidence to consumers, middlemen, and all-level distributors. The important operations include standardized venue for washing and packing safe vegetables and the controlled-temperature transportations.

2. Farmers have to improve their production and production operation to reduce the

fluctuation of market needs for the types and amounts of seasonal products by continuously following up the information of the middleman, distributor and the market. In case of the shortage or insufficiency of the products, the farmers still need to keep production standards. They cannot ignore production process with standards or fill in the quantity needed with non-standard products. They may ask for additional products from other farmers in the group, community or other local areas which are controlled and also passed the standard certification.

For distribution

1. Farmers may want alternative distribution channels, mostly the smallholders group, in order to directly dispense their highly safe vegetables no. 8 products, for example, government compounds, 'Pracharat' markets, farmers' market, fresh markets, and fairs. The standard of production process must be controlled, as farmers have to maintain the standard of packaging, transportation, including products layout, to keep the image of highly safe vegetables no.8 brand standard.
2. Farmers may gather into a group to form a place or a center for selling highly safe vegetables no. 8, or even create a network to compile safe fruits and vegetables from other places for distribution as well.
3. As for the expansion of the distribution channel to government's hospitals, it is still in progress since farmers need to register as legal entities in order to be included in procurement, bidding and contracting in governmental sector.

For management

1. Farmers should form a group to strengthen their network, and make a plan for categorizing and crop rotation of the vegetables in order to meet markets' needs, both types and quantities, as well as confederating for products distribution.
2. Farmers should manage products transportation together to reduce the cost per unit which

cause the problem as it is less than the container load/ under load per ride as it is better to cooperate in planning on agricultural, cultivating, and harvesting process.

3. Apart from forming the network, farmers may promote themselves to be middlemen to buy products from others and distribute through different channels.

3. Recommendation for educational purpose

1. For further study, the researcher may study cost structure of farmers in highly safe vegetables no. 8 project, for example, production cost, marketing cost, and management cost, comparing to other safe vegetables project or vegetables on market.
2. Study on processing safe vegetables to increase product line.
3. Study on fair contract farming between farmers and middlemen, including full circle operation of contract farming

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References

- Chachoengsao Provincial Office. (2015). *E-service*. Retrieved from <http://www.chachoengsao.go.th/ccco/index.php/2016-02-15-05-53-15/2018-06-09-10-28-56>
- Chaichana, T. (2008). *A study of marketing factors important for buying decision of organic vegetables in Muang district, Chonburi Province*. Chonburi: Burapha University.
- Jeensorn, W. (2013). *Factors used in decision making buying organic vegetables by consumers in Bangkok*. Bangkok: Rajamangala University of Technology.

- Ministry of Agriculture and Cooperatives. (2013). *National guideline for food sustainability, Ministry of Agriculture and Cooperatives 2013-2016*. Retrieved from <http://www.oae.go.th/download/journal/foodSecurityMOAC56-59.pdf>
- Kotler, P. (2012). *Marketing management* (T. Sangsuwan, A. Pongyila, U. Yamniyom, Y. Thammacharoen, & Y. Fupongsiriphan, Trans.). Bangkok: Se-Education Co., Ltd.
- Surin, P. (2016). *A study of consumer behavior in buying organic fruit in Bangkok*. Independent study, Business Economics, Faculty of Economics, Thammasat University, Bangkok.
- Thailand Development Research Institute. (2010). *The study of supply chain method and logistics of agricultural products*. Bangkok: Thailand Development Research Institute.