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Knowledge sharing from farmer/processor and the perceived benefits of processed banana consumers

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Abstract

This study aimed to find what knowledge can influence consumers to perceive benefit in order to make decision to purchase processed banana products in the Thai market. There might be an opportunity for farmers/suppliers to understand what knowledge they have and what can be shared with consumers. Consumers will also be able to benefit by justifying the money they spend. In-depth personal interviews and observations were adopted as the data collection approach by interviewing farmers who both grow bananas and sell processed banana products in the Thai market, as well as consumers who buy and consume processed banana products. The result found that knowledge sharing from farmers/processors to consumers is important. Knowledge from farmers/processors should be considered and relevant information selected prior to sharing with consumers, based on five groups of consumer categories. In this study, knowledge from farmers/processors cannot target all types of consumers. There are some consumer segments that need different types of knowledge from various sources.

Introduction

Nowadays, consumers are more concerned about health effects. Therefore, it is becoming important for food manufacturers to ensure that their products are clean, not contaminated by chemicals or bacteria, and without unpleasant supplements, in order to pass the Food and Drug Administration review. Importantly, in a world of information and communication, information has become an important factor in the purchasing decision. From the food industry perspective in general, business operations are becoming more personalized to accommodate the consumers' wants and needs. In this context, bananas are considered one of the most widely grown tropical fruits (Mohapatra, Mishra, & Sutar, 2010). Thailand was ranked 12th with a value of $217,766,000 USD (Food and Agriculture Organization of the United Nations, 2009, 2010) among all producers around the world. Bananas can be grown on small-scale farms with low production costs while harvest begins 14 months after planting with a yield of up to 10 years. As a result, famers earn income via the harvest of bananas throughout the year. There are five important commercial cultivars of bananas in Thailand, namely, Kluai Hom Thong, Kluai Namwa, Kluai Khai, Kluai Hakmuk, and Kluai Lep Mu Nang (Thonnalak, Silayoi, Paisooksantivatana, & Pongtongkam, 2010).

Even though bananas are indigenous to Thailand, related to the Thai way of life from birth to death with a variety of nutrients and benefits, processed banana products in Thailand are still underpriced. There might be a number of reasons why these products are not priced higher in markets. Knowledge is one reason that can change consumers' perceptions.

This study aims to understand the knowledge sharing of banana processing from farmers/processors to consumers. After identifying the knowledge being shared from farmers/processors to consumers, a set of recommendations can be made to both banana suppliers and consumers. From the consumers' perspective, they can justify the money spent on buying food products based on the knowledge they have gained.

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From the suppliers' side, if they are aware of what knowledge can influence consumers to buy products at higher prices, they can focus more on such knowledge to have a higher profit margin.

Literature Review

There are 3 important factors to be considered in the literature review regarding the willingness to pay higher prices for processed banana products, which are knowledge sharing, banana processing, and consumers' motivation to purchase.

Knowledge Sharing

Knowledge is designated as a reasonable belief that increases an entity's capability for effective action (Huber, 1991; Nonaka, 1994). Knowledge management has been proved to be vital in the competitiveness of large, and small and medium firms (Cerchione & Esposito, 2017). It might be seen from different aspects such as an object, a state of mind, a process, or a position of having access to information and a capacity. There are 4 important factors influencing knowledge sharing, which are knowledge nature, sharing motivation, sharing opportunities, and the culture and work environment (Dulipovici & Baskerville, 2015; Ipe, 2003). Normally, knowledge sharing starts when more than one person who has common problems or experience meet up to share and exchange ideas, practices, and information (MacNeil, 2003). In this study, knowledge is considered as key factor being shared between farmers and consumers at the individual level.

Banana Processing

The banana supply chain focuses on farmer production inputs, distribution channels, quality, and prices. There are many challenging factors, such as production inputs, that affect banana distribution and exports in terms of both the bananas' quality and farmers' revenue. Banana prices have become unpredictable due to the complexity of banana distribution from farmers to consumers, as there are many layers between farmers and consumers. If bananas can be delivered directly from the farm to consumers, this will help reduce delivery time and logistic costs. Additionally, pricing strategies for bananas should correspond with real demand and supply (Suvittawatt, 2014). Even though bananas have a lot of nutrients and benefits, processed banana products in Thailand are still underpriced. There are some reasons which can change consumers' perceptions based on their motivation to buy.

Consumers' Motivation to Purchase

Motivation is the process or act of giving a motive which causes a person to take some action. Motivation can come from needs and wants that influence behavior which leads to some type of reward when those needs and wants are fulfilled (Shanks & Dore, 2012). This need may be utilitarian (a desire to accomplish some practical or functional benefit, as when a consumer eats organic fresh vegetables for nutritional reasons). The other need may be hedonic (relating to emotional responses, an experiential need, as when a consumer thinks longingly about a juicy steak) (Solomon, Bamossy, Askegaard, & Hogg, 2006). There are two types of expected benefits shown in Figure 1 based on different purchasing behavior and consumption of consumers.

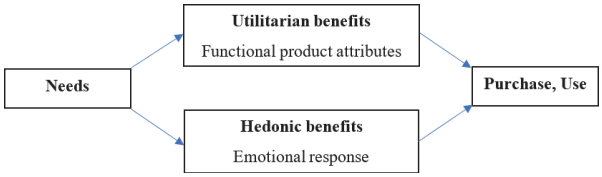

Figure 1 Expected Benefit

Utilitarian benefits are practical and are more related to necessity than luxury. For example, consumers care about the camera's battery life and resolutions (Chitturi, 2009). Those benefits are derived from functional product attributes. Hedonic benefits are identified as those pertaining to experiential and aesthetic benefits which might be called luxuries. For example, consumers buy a phone due to its aesthetic look from its color and shape which are hedonic benefits (Chitturi, 2009). Analyzing the knowledge being shared from banana farmers to banana processors to consumers, or the knowledge sent from farmers to consumers directly, might lead to willingness to purchase banana processing products based on the consumers' motivation. Figure 2 demonstrates the proposed theoretical framework.

Figure 2 Proposed Theoretical Framework

Methodology

For this study, qualitative methodology, particularly face-to-face semi-structured interviews were conducted. Kvale (1996) described that interviews in qualitative research seek to explain the meanings of central themes of the subjects. Interviews are helpful for seeking the story behind an interviewee's experiences. Open-ended questions were used because this approach provides greater freedom to the interviewees and in-depth data can be collected.

Participants

Representatives of the population of interest from the interviewees were Thai farmers who had grown bananas for more than 10 years, Thai vendors who had sold and/or processed bananas for more than 10 years, selling their products at Sookjai Market, Suan Sampran, Nakhon Pathom. In addition, Thai consumers who had eaten and bought processed bananas were selected. The sample size for this interview was 45 people, which consisted of 15 farmers/processors and 30 consumers.

Data Collection

Primary data is described as new data, either by observation, interview, survey, or experiment, gathered and collected to solve research objectives or problems (Mcdaniel & Gates, 2013). In this research, data were collected by interviewing 15 farmers/processors who had their own organic farms and sold their products at Sookjai market. Additionally, interviews were conducted with 30 consumers as representatives of a sampling method who bought and ate processed banana products outside Sookjai market, in order to focus on different groups of consumers.

During each interview, notes were taken by the researchers, which were later used for the data reduction process. Transcripts and notes were evaluated and concepts and common themes that were mentioned by the interviewees were classified.

Data Analysis

To ensure the reliability, triangulation was applied by allowing a research question to be examined from various angles. Two or more researchers can use the same process and compare their results (Miles & Huberman, 1994). Interview data obtained by open-ended questions were independently coded and analyzed by two researchers. Each researcher coded individual interview data to identify major themes, and then developed summary sheets for each interview. Categories generated by the individual coders were compared and discussed in research meeting between the two coders.

Fifteen farmers/processors whom both grew bananas and produced processed bananas were interviewed at Sookjai market, Suan Sampran, Nakhon Pathom. Sookjai market is an open marketplace, where consumers and sellers of organic vegetables and fruits can meet. All products in this market are tested for chemical contamination, which is one of the strict quality control processes. There are many processes including farmers' medical checkup, to ensure that farmers are healthy after planting organic produce, as proof that these farmers are not using chemical fertilizers to increase yields. This becomes an opportunity for both farmers and consumers to exchange knowledge with each other as well. Sookjai Farmer's Market is one Sampran Model to balance local food systems by finding new opportunities for farmers who had heavily used fertilizers in the past, but now practice organic farming methods. The Sampran Model aims to connect local farmers directly to consumers through organic value chains and fair trade (Sookjai Weekend Farmer's Market, 2019).

Among 15 farmers, 10 were men, while 5 farmers were women. All were in the age range of 40–65 years old. All of them had practiced farming with chemicals in the past, prior to changing to organic farming, especially bananas. They all had at least 3 years of experiences in organic farming practices. Moreover, the researcher interviewed 30 respondents who bought and ate processed banana products.

Knowledge Influencing Purchasing of Processed Banana Products

There are 4 main knowledge areas from farmers who both grow and produce processed bananas starting from planting, nurturing, harvesting, and processing, as shown in Figure 3.

Planting

Farmers at Sookjai market completely changed their farming practices by turning into organic farmers. They said organic bananas have a natural sweet taste and better texture than bananas with chemicals. Apart from taste, most farmers at Sookjai market decided to practice organic farming due to their own health concerns. One farmer who had grown banana plants for more than 10 years first stated,

"Before starting growing banana plants, we need to prepare the soil by ensuring that it is not too wet or too dry. Only good soil should be selected for planting."

Nurturing

They used 100 percent non-chemical fertilizers. Even though growing organic plants requires a lot of time in taking care of them to prevent insect- attack or diseases, they still insisted on growing them as there are more advantages than disadvantages.

"Bananas like water but not that much. I need to avoid overwatering. We must ensure that the water is clean, especially when your neighbor's farms use chemicals. You need to have a clarifier and wait for almost a week before you can use the water," they said.

To ensure that organic bananas look good and have the size, farmers need to take care of them by always fertilizing them and keeping the mother plant as the main plant.

"I had my own organic fertilizer in the past but it wasn't producing the results I wanted. I reformulated and now bananas are bigger and nicer. I fertilize 3–4 times per week. When my bananas are mature, there will be several suckers. I need to remove all but one to become the next mother plant. This will help improve fruit yield and mother plant condition." they said.

Harvesting

Most farmers look at the shape of bananas before cutting off the tree to represent ripening. A farmer who had grown only organic banana plants for more than 4 years said that there were other factors to consider, as well as to make sure when the bananas were ready to be harvested, using knowledge based on the farmers' experiences such as size and color.

"You cannot just look at the size because it depends on the banana type. Based on my experience, I look at its color and shape. Its color is changed from dark to a light greenish yellow with a plump shape. Some bananas do not turn a greenish yellow, but they are still sweet. Bananas in winter are bigger than in summer because of more water; however, they are not as sweet as bananas in summer," he said.

Processing

there are many types of banana processing such as dried bananas, banana puree, banana powder, banana jam, and banana chips. Most of the farmers processed dried bananas and banana chips. Even though they got the same source of bananas to be processed, they still have their own knowledge using different techniques to make processed bananas

Figure 3 Four stages of processed bananas

delicious. One of the banana processors described the knowledge she applied when producing banana chips:

"I will select bananas that have ripened about 70 percent. It is the best for banana chips because it is not too sweet, nor too hard to slice. KluaiHom and KluaiNamwa are the most popular. KluaiHom can be salty and sweet, but KluaiNamwa is only processed in a sweet flavor."

It can be summarized that farmers have knowledge in each step from planting to processing of bananas. Even though, such knowledge is important from farmers' perspective, it does not mean all knowledge should be shared with consumers as there are many consumer segments based on the motivation to buy. Each type of consumer requires different information from farmers in terms of the willingness to pay higher prices for processed banana products.

Regarding the customers' perspectives, there were many kinds of consumers in this study. Transcripts and notes were used to compare and categorized concepts and common consumer characteristics that were mentioned by the interviewees. Two researchers independently coded and identified major themes. Customer type generated by the individual coders were compared and discussed in research meeting between the two coders.

From the result, each type of consumer was categorized by motivational benefits as described in Figure 4. Consumers who were motivated by utilitarian benefits; health conscious, and gift buyers, and consumers who were motivated by hedonic benefits; trend followers, taste influencers, and adventure seekers. Each type of consumer is categorized in Figure 4.

Consumers who have different kinds of motivation are willing to pay higher prices of processed banana products differently. This depends on whether knowledge being shared from farmers/processors gives what the consumers want and need or not. Even though farmers and processors have deep knowledge, this does not mean all of it should be shared with consumers as some of it is not necessary for their consideration at all. To influence consumers to pay higher prices willingly, only receiving knowledge from farmers and processors is not enough. There should be some recommendations for both farmers/processors and consumers. This is to ensure that farmers or processors can focus more on these knowledge factors to gain a higher profit margin, while consumers can justify the money spent on buying food products with higher prices based on the knowledge they have gained.

Results and Discussion

The main purpose of this study was to analyze the knowledge being shared from banana farmers/processors to consumers. Consumers are willing to pay more depending on their personal motivation, whether they buy the product because of hedonic benefits or utilitarian benefits. Knowledge from farmers/processors needs to match with what consumers need.

As seen from this study, consumers can be influenced to pay higher prices for processed banana products based on the five groups of consumer categories, which are Health Conscious, Gift Buyer, Trend Follower, Taste Influencer, and Adventure Seeker, as shown in Figure 5. Only planting knowledge and processing knowledge from farmers/processors should be shared with consumers who are health conscious, taste influencers, and adventure seekers. Nurturing and harvesting knowledge is not considered as a key factor for consumers' willingness to pay higher prices. Consumers who are gift buyers and trend followers need different kinds of knowledge from various sources derived from academic research. This should be shared with both farmers/processors and consumers. For example, packing and labeling knowledge, market trends, nutrition facts and benefits.

Below are the recommendations for manufacturers who would like to sell more based on each type of consumers' perspective.

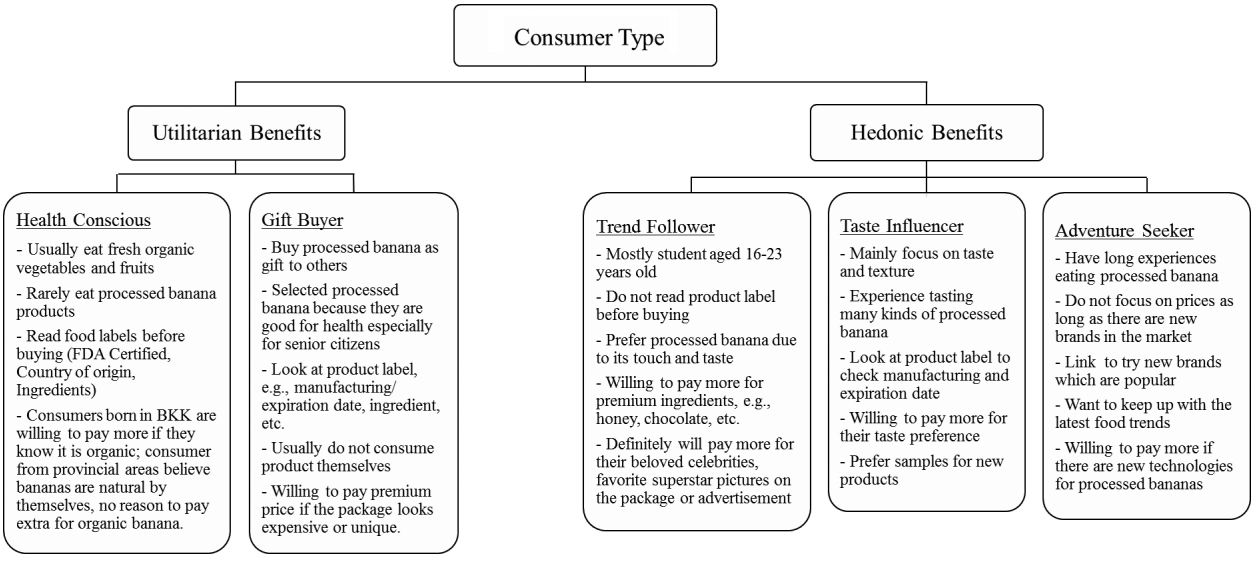

Figure 4 Consumer Type

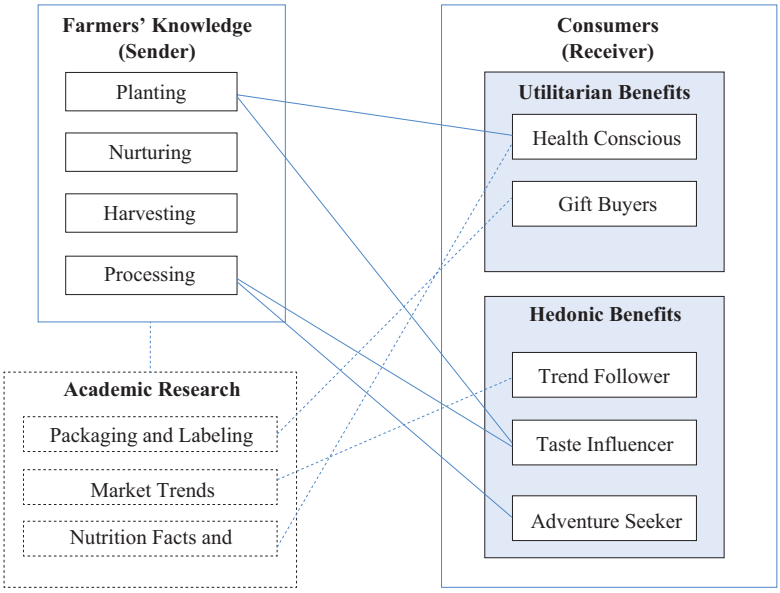

Figure 5 Knowledge sharing from farmers/processors to consumers

Health Conscious

For this consume type, it is more beneficial if they receive additional knowledge apart from the existing knowledge they already have. Since consumers in this category are health conscious, they have better knowledge than the other groups. For example, manufacturers might not need to provide too much detail that bananas have high potassium and manganese or antioxidants. Even though they do not significantly concentrate much on this nutrition, manufacturers need to ensure to provide mandatory information on product labels such as manufacturing date, expiration date, ingredient list, net weight or volume, name and address of the manufacturer. They will be willing to pay more if manufacturers are able to find a way to mix between bananas and other healthy materials such as almond. Moreover, they are also willing to pay extra if bananas are organic, but they need to be certain that they are 100 percent organic. For some consumers, they do not realize that there are some organizations that take care of these organic products such as IFOAM. If they know that these products are certified by IFOAM, it might increase their willingness to pay more. In addition, external knowledge such as academic research should be provided to this type of consumers.

Gift Buyer

Many consumers buy processed banana products as a gift for others. Most of them realize that bananas are natural and a good present for older people. They also often buy such gift when traveling to other parts of Thailand and bring it back as a souvenir for colleagues or family members. This type of consumers cares more about packaging than its taste. To persuade these types of consumers to pay more for processed banana products, manufacturers need to provide good packaging or expensive packaging if they want consumers to pay premium prices. Moreover, they need to ensure to provide important information on product labels such as manufacturing date, expiration date, ingredient list, net weight or volume, nutrition facts, name and address of manufacturers. In addition, including specific knowledge about the bananas is also valuable to this consumer.

Trend Follower

Sharing knowledge with this type of consumer is quite hard as they are not interested in the details. Manufacturers might increase their interest by having Thai celebrities, Korean celebrities, or contemporary major influencers promote the products. By having these influencers to represent the brand, consumers may be willing to pay more, especially if manufacturers have a collection set or limited-edition products. Even though they do not pay much attention to the taste, if manufacturers can make consumers love the taste as well, it can be good for them in terms of repurchasing.

Taste Influencer

Taste influencer consumers do not concentrate much on price, nutrition, or even packaging. It is hard from the manufacturers' perspectives to make everyone satisfied with the taste, as each consumer has a personal taste preference. Therefore, sellers need to provide real products for them to try and test first. If they can make these types of consumers satisfied with the taste, there will be a high likelihood of them to repurchasing. Moreover, in terms of knowledge sharing, they might tell their friends as well if they know some techniques for making high quality processed bananas from farmers. For example, if they know that not every type of banana can be processed, or even if it can be processed, it might not be as delicious as others. Consumers may be willing to pay higher prices.

Adventure Seeker

Adventure seeker likes to try new things. The knowledge of new products or new processes for making processed banana products should be presented to them. Manufacturers might not need to implement new methods or to innovate new processes, however, they might find an existing source which is not yet well-known or published in the market, and let consumers know that there are many ways to produce processed bananas, for example, using Parabola dome, which might come up with a different taste. Apart from bananas themselves, if manufacturers can find a good mix between bananas and other ingredients which might be healthy or unhealthy, there will be a very high potential for these types of consumers to buy, e.g., processed banana with strawberry.

Conclusion and Recommendation

In conclusion, knowledge sharing from farmers/processors to consumers is important based on the knowledge management aspect. Knowledge from farmers/processors should be considered and information selected before sharing with consumers because consumers can be influenced to pay higher prices for processed banana products based on the 5 groups of consumer categories. Knowledge from farmers and processors is not enough to fulfill what consumers need and want. Knowledge from academic research i.e., article, research publication, etc. can become a helper to ensure that farmers/processors have additional knowledge that matches with consumers' motivation to make decision to purchase. Knowledge Management System (KMS) stores in research database can help to combine explicit and tacit knowledge to enhance knowledge exploitation (Santoro, Vrontis, Thrassou, & Dezi, 2018).

After insightful knowledge from farmers/processors that corresponds with what consumers' needs is shared with different types of consumers, the next step should be to work on how to communicate this knowledge to consumers. Further research might need to investigate which market channel is appropriate to communicate these messages to each consumer segment.

Limitation

The data analysis from the farmer side was done only from farmers who sold at Sookjai market, Sampran Riverside, Nakhon Pathom, where orchard farmers in the communities can bring their own organic products to sell free of charge. This could expand to other farmers who grow bananas in different areas as well.

Conflict of Interest

There is no conflict of interest.

References

Cerchione, R., & Esposito, E. (2017). Using knowledge management systems: A taxonomy of SME strategies. *International Journal of Information Management*, *37*(1), 1551–1562. doi: 10.1016/j.ijinfomgt.2016.10.007

Chitturi, R. (2009). Emotions by design: A consumer perspective. *International Journal of Design*, *3*(2), 7–17.

Dulipovici, A., & Baskerville, R. (2015). An education model of disciplinary emergence: The ripples of knowledge management. *Knowledge Management Research & Practice*, *13*(2), 115–133.

Food and Agriculture Organization of the United Nations. (2009). *FAOSTAT Database*. Bangkok, Thailand: FAO. Retrieved from http://faostat.fao.org/ Food and Agriculture Organization of the United Nations. (2010). *Total World Banana Production*. Bangkok, Thailand: FAO. Retrieved from http://www.fao.org/country-showcase/tha/en/

Huber, G. (1991). Organizational learning: The contributing processes and the literatures. *Organization Science*, *2*(1), 88–115.

Ipe, M. (2003). Knowledge sharing in organizations: A conceptual framework. *Human Resource Development Review*, *2,* 337–359. doi:10.1177/1534484303257985

Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. New York, NY: Sage Publications.

MacNeil, C. M. (2003). Line managers: Facilitators of knowledge sharing in teams. *Employee Relations*, *25*(3), 294–307.

Mcdaniel, C., & Gates, R. (2013). *Marketing research*. Singapore: John Wiley & Sons Singapore Pte. Ltd.

Miles, M., & Huberman. A. M. (1994). *Qualitative data analysis: An expanded sourcebook*, Thousand Oaks, CA: Sage Publications.

Mohapatra, D., & Mishra, S., & Sutar, N. (2010). Banana and its by-product utilisation: An overview. *Journal of Scientific and Industrial Research*, *69*, 323–329.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, *5*(1), 14–37.

Santoro, G., Vrontis, D., Thrassou, A., & Dezi, L. (2018). The internet of things: Building a knowledge management system for open innovation and knowledge management capacity. *Technological Forecasting and Social Change*, *136*, 347–354. doi: 10.1016/j.techfore.2017.02.034

Shanks, N. H., & Dore, A. (2012). Management and motivation. In S. B. Buchbiner, & N. H. Shanks (Eds.), *Introduction to healthcare management* (2nd ed., pp. 39–55). Burlington, MA: Jones and Bartlett Learning.

Solomon, M., Bamossy, G., Askegaard, S. & Hogg, M. K. (2006). *Consumer behaviour: A European perspective.* London, UK: Financial Times Prentice Hall.

Sookjai Weekend Farmer's Market. (2019). *Suan Sampran*. Retrieved from https://suansampran.com/activities/

Suvittawatt, A. (2014). Thailand's banana supply chain management: Export success factors. *International Journal of Management Sciences and Business Research*, *3*(10), 6–11.

Thonnalak, T., Silayoi, B., Paisooksantivatana, Y., & Pongtongkam, P. (2010). Meiotic behavior in microsporocytes of some bananas in Thailand. *Kasetsart Journal Natural Science*, *44*(4), 536–543.