

# Effects of Farmers' Goals on Strategic Marketing Decisions: A Study of Fruit Farmers in Chanthaburi Province of Thailand

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## Abstract

Strategic marketing decisions (SMDs) of farmers are essential elements in response to the worldwide transformation of agri-food marketing systems. Generally, SMDs are made in regards to the goals that need to be accomplished. This paper aims to analyse the relationship between farmers' goals and SMDs of fruit farmers in Thailand. It is a quantitative survey study with 216 fruit farmer respondents. Nineteen goal statements based on extensive literature review and the results of the pilot study were developed. The survey data was analysed by using the principal component analysis (PCA) that grouped the farmers' goals into four factors, i.e. effectiveness, efficiency, sustainability and self-sufficiency. These factors were then tested based on their effects on the SMDs by using a logistic regression. The results suggested that farmers who participated in high-value markets were usually more market oriented, while farmers who utilised traditional marketing channels were usually production oriented. The results are informative to policy makers and industry stakeholders in fulfilling the complex goals of farmers as they are a key part in success of the fruit industry in Thailand.

**Keywords:** Strategic Marketing Decisions, Farmers' Goals, Fruit Farmer, Thailand

## Introduction

The transformation of agri-food marketing systems worldwide has implications for small-scale farmers in many developing countries (McCullough, Pingali, & Stamoulis, 2008; Reardon, Timmer, & Minten, 2012; Swinnen, 2007). Likewise, in Thailand, the agricultural sector has undergone rapid transformation in the last three decades due to the economic boom during 1986 to 1996 and the modernisation after the Asian financial crisis in 1997-98 (Poapongsakorn, 2011; Tokrisna, 2006). These occurrences have enhanced opportunities in both domestic and international markets for Thai agriculture (Lippe, Seebens, & Isvilanonda, 2010; Uathaveekul, 2010). However, Kersting & Wollni (2012), Poapongsakorn (2011), Sardud (2007), and Schipmann & Qaim (2011a) argue that, similar to most developing countries, the agriculture sector in Thailand is characterised by small-scale farmers who struggle to take advantage of such opportunities. This is because selling to high-value markets usually requires certification in good farming practices and in particular for fresh produce such as fruit and vegetables (Gulati, Minot, Delgado, & Bora, 2005; Shukla & Jharkharia, 2013). Consequently, making decisions in response to the transformation of marketing systems and high-value market participation is an important task for Thai small-scale farmers, in order to be able to deal with this strategic issue.

The literature describes strategic decision making as a key process in management and a foundation for business success that usually occurs within a wide range of industries (David,

2013; Jeffs, 2008; Rothaermel, 2013). However, the application of this normative literature to small-scale farmers might not be simple and straightforward, since studies in strategic decision making have generally developed their theories from the perspective of large established business corporations (Carpenter & Sanders, 2007; Hart, 1992; Papadakis, Lioukas, & Chambers, 1998). There are numerous studies analysing how farmers make strategic decisions, thus implying how to develop strategic capability among farmers (Brodt, Klonsky, & Tourte, 2006; Duesberg, O'Connor, & Dhubháin, 2013; Fairweather & Keating, 1994; Farmar-Bowers & Lane, 2009; Hansson & Ferguson, 2011; Inderhees & Theuvsen, 2009; Nuthall, 2012; Ohlmer, Olson, & Brehmer, 1998). These previous studies indicate that farmers' strategic decisions are usually based on individual needs and motives, rather than the rational well-structured process found in large firms. Long (2013) and Nuthall (2009, 2012) point out that the quality of farmers' strategic decisions relies on knowledge, experience and farmers' goals. Some authors, such as Fairweather and Keating (1994), Ondersteijn, Giesen, and Huirne (2003) and Brodt et al. (2006), also studied strategic decision making based on farmers' goals and indicated the types of strategies farmers used.

However, this available research mostly explains strategic decisions made by individual farmers in developed countries, such as USA (Brodt et al., 2006; Park, Mishra, & Wozniak, 2013), Sweden (Hansson & Ferguson, 2011; Ohlmer et al., 1998), Ireland (Duesberg et al., 2013), the Netherlands (Ondersteijn et al., 2003), Germany (Inderhees & Theuvsen, 2009), Australia (Farmer-Bowers & Lane, 2009) and New Zealand (Fairweather & Keating, 1994; Nuthall, 2009). A large amount of research work emphasises the impacts of agri-food market transformation on small-scale farmers, implying strategies for high-value market access in developing countries, such as India (Roy & Thorat, 2008), Thailand (Kersting & Wollni, 2012), Kenya (Narro, Roy, Okello, Avendaño, & Rich, 2009), Mexico and Central America (Hellin, Lundy, & Meijer, 2009) and other countries in Asia (Reardon, Timmer, & Minten, 2012). However, both strands of research rarely address strategic decisions from farmers' perspectives, in response to market transformation in developing countries. Although a small number of studies have already investigated the marketing preferences of small-scale farmers in developing countries, such as Honduras (Blandon, Henson, & Islam, 2009), Thailand (Schipmann & Qaim, 2011a) and Indonesia (Umberger, Reardon, Stringer, & Mueller Loose, 2015), research on the strategic marketing decisions of small-scale farmers in developing countries, based on their goals, is especially scarce. This situation could lead to an underestimating of the capability of small-scale farmers in developing countries to deal with strategic marketing issues.

This study addresses the research gap by analysing effects of farmers' goals on the strategic marketing decisions of fruit farmers in Chanthaburi province of Thailand. Fruit is one of the key high-value agricultural products produced in Thailand and it has been promoted over the past three decades, in order to encourage diversification from traditional crops such as maize and tapioca. Specifically, Chanthaburi is the most important fruit producing province of the country, as it dedicates 72% of its agricultural area for growing major tropical fruit crops yielding nearly half of the overall production in Thailand. Therefore, the transformation of the market has particularly occurred in Chanthaburi province, thus providing valuable information for this study.

## Background

The contribution of Thailand's agriculture sector is very important to the Thai rural economy since half of the population live in rural areas, covering 32% of employment (OAE, 2014). Thailand's agriculture also contributes to domestic consumption and export earnings (Poapongsakorn, 2011). The most important agricultural products are rice, natural rubber, livestock, fish products, fruit and vegetables (FAO, 2017; OAE, 2014). Similar to most

developing countries, Thailand has witnessed a transformation of agri-food systems over the last three decades, expanding capacity to produce high-value agricultural products, e.g. fresh fruit and vegetables (Poapongsakorn, 2011).

The agricultural sector in Thailand has become more modernised and internationalised, with focuses on quality, safety and convenience to meet the changing food consumption behaviours (Gorton, Sauer, & Supatpongkul, 2009; Poapongsakorn, 2011). Simultaneously with the expansion of export markets, modern retail chains in Thailand have increased sharply especially since the Asian financial crisis in 1997 (Schipmann & Qaim, 2011b; Tokrisna, 2006). Rapid economic development in the 1980s and 1990s resulted in higher per capita incomes and urbanisation especially in Bangkok and surrounding suburbs, as well as in other large cities. Incorporated with this higher income and urbanisation, female labour force participation and modern lifestyles spurred the development of modern retail structures in Thailand, such as, supermarkets, and convenience stores (Schipmann & Qaim, 2011b; Tokrisna, 2006). The value of modern retail sales have comprised over half the overall retail sales since 2001 (TDRI, 2002). According to the Thailand Development Research Institute (TDRI), following the Asian financial crisis, total retail sales in Thailand increased by 25% in five years (from 958 million baht in 1997 to 1.19 billion baht in 2001). During the same period, modern retail sales sharply increased by 155 %, from 249 million baht to 635 million baht, which gained the share from 26% to 53% (Schipmann & Qaim, 2011b; Tokrisna, 2006). Despite rapid growth of high-value markets, traditional markets still play an important role in domestic trades. Farmers historically distribute their produce only through traditional marketing channels such as through local collectors to central wholesale markets or to fresh (wet) markets. In order to participate in high-value markets, fruit farmers have to work based on more advanced knowledge and technologies that require substantial changes in farm practices (Sardsud, 2007). Also generally, fruit farmers who decide to use high-value markets for their produce have to be certified in good agricultural practices (Kersting & Wollni, 2012). Hence, farmers have made important decisions when they choose to grow for high-value markets.

### **Strategic Decision Making in Agriculture and Farmers' Goals**

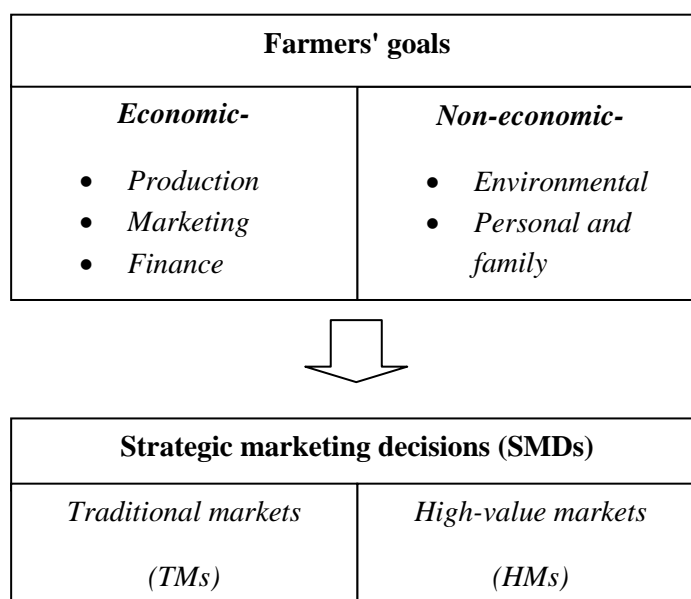
The strategic decision making subject is commonly found in most contemporary texts in the area of strategic management (David, 2011; Jeffs, 2008; Mintzberg, 2002). In strategic management, a firm has to make decisions on how to formulate its strategies and also allocate the firm resources that are required for implementing the strategies (Morden, 2007). Drucker (2007) pointed out that the prime responsibility in strategic management is to think through the overall *mission* of the firm. This brings about the establishment of goals and objectives for selecting particular strategies, and it subsequently brings about strategic direction and resource allocation to key results. A mission is a general expression of purpose that distinguishes the scope and boundaries of a firm (David, 2011; Johnson & Scholes, 2002). Many business firms usually develop a mission statement, in order to address their main aspirations: a so called vision or strategic intent. A clear mission statement provides the foundation for establishing *goals* or long-term objectives. Johnson and Scholes (2002) explained that goals are general statements of purpose in line with the mission, whereas objectives are more likely to be quantified or have a more precise purpose in line with the goals.

It is generally accepted that strategic decisions are made in order to achieve *economic goals* such as profit maximisation, production efficiency and market orientation. However, in agriculture, farmers' goals are usually combined economic goals with *non-economic goals* including their lifestyles, social and environmental aspirations and motivations (Morel & Léger, 2016; Sutherland, 2010). Many previous studies on farmers' goals confirm the

importance of multiple goals that come from a combination of economic and non-economic goals, playing to understand strategic decisions of farmers. Fairweather and Keating (1994), Perkin and Rehman (1994), and Willock et al. (1999) found that farmers' decision making is not only based on their farm business goals but also on the unique mix of their complex personal and family values and attitudes. The various aspects of farmers' values that identify farmers' multiple goals are also considered to be 'mission statements' in a study of farm strategy conducted by Ondersteijn et al. (2003). Hofstrand and Jolly (2007) similarly stated that goal setting in farm businesses is intended to achieve personal, family and business success. Farmar-Bowers and Lane (2009), in a study on farmers' strategic decision making processes, pointed out that farmers applied different justifications for their decisions, which included the farm business in terms of money and technologies, together with family issues regarding fairness, support, protection and agreement. Similarly, Duesberg et al. (2013) found that farmer decision behaviour is influenced by multiple goals and values about farming and they indicated that intrinsic values are a greater influence than other values, especially profit maximisation.

It is important to note that different goals reflect different types of strategies, which can be referred to as management styles, strategic groups or strategic orientations. In agriculture, many studies indicate that farmers usually prioritise their economic and non-economic goals differently, thus leading to different management styles, strategic groups or strategic orientations of farmers. For example, Fairweather and Keating (1994) investigated how the multiple goals of farmers in New Zealand were integrated under three management styles, namely dedicated producers, flexible strategists, and environmentalists. Similarly, Brodt et al. (2006) examined the multiple goals of almond and wine-grape growers in California USA. The results show the farmers had three management styles, namely environmental stewards, Production maximizers, and networking entrepreneurs. Tsourgiannis et al. (2008) analysed factors affecting the milk distribution channel choice of sheep and goat farmers in Greece, by grouping farmers' goals into five factors called 'strategic dimensions': production orientation, cost focus, profit orientation, differentiation, and interpersonal relationships. More recently, Guillem, Barnes, Renwick, and Rounsevell (2012) explored the decision making process of farmers, in order to inform ecological policy design in Scotland, by using perception-based typologies of attitudes and goals in farming. The results indicated four types of farmers: profit oriented, multifunctionalist, traditionalist, and hobbyist. Furthermore, Rantamäki-Lahtinen and Väre (2012) have studied strategic goals and the development plans of beginning farmers in Finland. They classified strategic goals into three types: environment responsibility, work satisfaction, and economic goals. These previous studies have informed the range of ways in which management styles, strategic groups, or strategic orientations in agriculture can be categorised in relation to the multiples goals of farmers. According to these studies, farmers' goals were related to economic goals (i.e. production, marketing and finance) and non-economic goals (i.e. environmental and lifestyle).

Previous literature indicates that farmers' goals are important factors that influence their decisions and strategies they used in response to strategic issues. This study aims to investigate farmers' goals that will affect strategic marketing decisions (SMDs) of farmers in response to the transformation of agri-food marketing systems towards high-value marketing channels. Figure 1 illustrates the research framework showing the relationships between farmers' goals and the SMDs. The farmers' goals consist of economic goals (i.e. production, marketing and financial goals) and non-economic goals (i.e. environmental and personal and family goals). The SMDs are classified into two types of farmers, i.e. farmers who use traditional marketing channels (TM users) and those who use high-value marketing channels (HM users).



**Figure 1** Relationship between farmers' goals and SMDs

## Methodology

This study is a survey-based research with some qualitative elements. It was conducted in Chanthaburi province—the most important fruit producing province in Thailand. Qualitative data was collected during the pilot study to identify variables included in the study and to develop the main questionnaire. The survey data was analysed to construct the conceptual model and test the model, in order to understand effects of farmers' goals on the SMDs.

The knowledge gained from the literature review on farmers' goals provided framework for identifying related variables included in the study. These variables were interpreted in the form of goal statements, and they were developed in the pilot study, using semi-structured face-to-face interviews with related government officials and fruit farmers. The outcomes comprised 19 goal statements classified into two categories: economic and non-economic goals' of farmers together with sub-categories and the name of each variable (see Appendix 1). These goal statements were included in the questionnaire for the main survey. In order to ensure the validity and reliability of the results, the questionnaire was carefully constructed to cover the full range of issues intended to measure and produce accurate information. Furthermore, it was pre-tested with fruit farmers who were not part of the sample.

The survey data was gathered, using structured face-to-face interviews with the sample of 216 respondents, consisting of two sample groups: 1) 104 fruit farmers who used traditional market channels (TM users) and 2) 112 fruit farmers who used high-value marketing channel (HM users). The respondents were asked to evaluate their multiple goals through identifying the 19 goal statements (variables) measured on 5-point Likert scale, from strongly disagree (1) to strongly agree (5). Five-point Likert scales have been used in previous agricultural research for measuring farmers' attitudes, such as Gorton et al. (2008) and Hansson et al. (2012). In order to construct the conceptual model in regards to farmers' goals in a Thailand context, the goal variables were analysed to explore the structure of variables by using a principal component analysis (PCA) with varimax rotation. The results provided latent constructs or underlying factors of the farmers' goals. Consequently, these underlying factors were tested their effects on the SMDs by using a logistic regression analysis.

## Results

### Underlying factors of farmers' goals

The results from PCA suggested that there were 13 variables to be included in the model of analysis because some variables did not load exclusively on one underlying factors. The assumptions for factorability were assessed and met: 1) the correlations between variables were high enough (greater than .3); 2) the Kaiser-Meyer-Olkin (KMO) was .750, thus indicating adequate distribution of values for factor analysis and adequate observed variables for each underlying factor; and 3) the Bartlett's test indicated that the correlation matrix was significantly different from an identity matrix ( $p$ -value=.000).

Based on Kaiser's criterion, a four-factor structure was suggested because the eigenvalue for each underlying factor was greater than 1, and it explained a total of 60.3% of variance (see Appendix 2). A varimax rotation was required, in order to identify a simple structure for simplicity of factor interpretation. The results showed that there were four different focuses of farmers' goals, labelled as '*effectiveness*', '*sustainability*', '*self-sufficiency*' and '*efficiency*'. Table 1 presents factor loadings of the original variables on these four factors, communalities ( $h^2$ ), the eigenvalues after varimax rotation, and percentages of variance explained by these four factors. The variables were grouped in four factors, ordered by size of factor loadings, and omitted loadings less than .40, in order to facilitate interpretation and improve clarity of the results.

**Table 1** Total variance explained in the original variables

Variable*	Factor loading				$h^2$
	<i>Effectiveness</i>	<i>Sustainability</i>	<i>Self-sufficiency</i>	<i>Efficiency</i>	
<i>Customer requirements</i>	.835				.701
<i>Market channels</i>	.801				.680
<i>Pricing</i>	.740				.566
<i>Market information</i>	.698				.536
<i>Living condition</i>		.841			.766
<i>Environmental awareness</i>		.760			.697
<i>Agro-chemicals</i>		.660			.599
<i>Family</i>			.766		.671
<i>Happiness</i>			.710		.594
<i>Quality of life</i>			.584		.355
<i>Farm work</i>				.740	.650
<i>Quality products</i>				.585	.462
<i>Production techniques</i>				.521	.567
Eigenvalues	2.752	2.010	1.614	1.468	
% of variance	21.0%	15.5%	12.5%	11.0%	

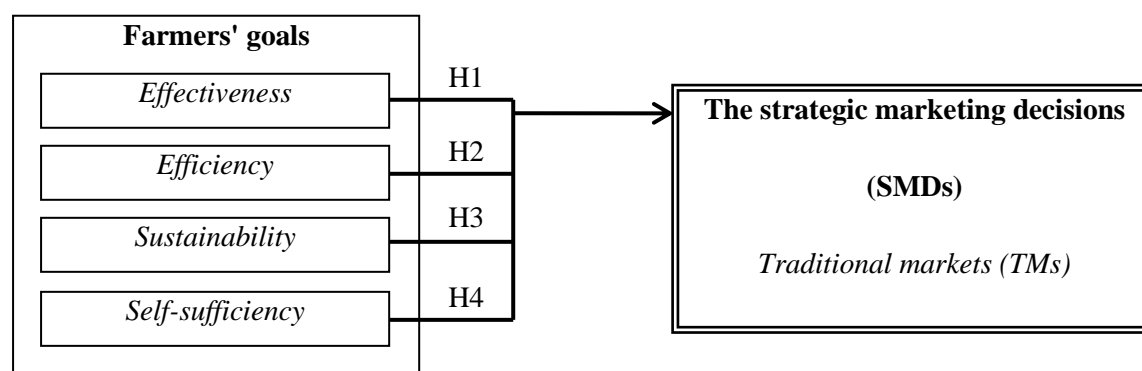
Note: \*the goal statement for each variable was presented in Appendix 1

The first goal factor accounted for 21% of the variance and could be interpreted as '*effectiveness*'. According to Page (2010), effectiveness focuses on the customer and whether the process delivers what they want. This definition implies that the business, which adheres to effectiveness, is market oriented and always produces the correct item/s that matches market requirements. Similarly in this study, the four variables, which were strongly loading on the effectiveness factor, were *customer requirements*, *pricing*, *market channels*, and *market information*. The second factor accounted for 15.5% of the variance and could be named as '*sustainability*'. Epstein and Rejc (2014) noted that sustainability is the business

responsibility needed to endure economic, social and environmental performance. In agriculture, sustainability mostly focuses on practices that have a minimal impact on the environment (Stewart & Stewart, 2015). In this study, there were three variables: *agro-chemicals*, *living condition*, and *environmental awareness* for the sustainability factor. The third factor accounted for 12.5% of the variance interpreted as '*self-sufficiency*'. Idato (2013) noted that with regard to food production, self-sufficiency needs no external assistance in satisfying one's basic needs and maintain a frugal lifestyle. In agriculture, self-sufficiency is usually applied to small-scale farms that use low external inputs (Tripp & Longley, 2006). In a Thailand context, it is generally accepted that self-sufficiency means satisfaction of a simple lifestyle which reflects the quality of mind and happiness. In this study, the self-sufficiency factor consisted of three variables: *quality of life*, *family* and *happiness*, suggesting that the farmers orientated their farms on a livelihood basis to satisfy family needs and happiness. The last factor accounted for 11% of the variance, namely '*efficiency*'. According to Page (2010), efficiency focuses on responsibility for the overall process that minimises the use of resources. This definition implies that the business, which adheres to efficiency, always focuses on the right process or production techniques that will provide good results. In this study, the efficiency factor came from three variables: *production techniques*, *farm work*, and *quality products*.

### Conceptual model

Based on the general framework (Figure 1), this study further developed a more specific conceptual model describing the relationships between some specific goal factors and the strategic marketing decisions (SMDs) of the farmers in Chanthaburi. The results of this the PCA identified underlying goal factors that were hypothesised to affect the SMDs of farmers. Figure 2 illustrates the conceptual model with four underlying goal factors affecting the SMDs of farmers. The underlying factors were seen as the independent variables, whereas the 'SMDs of farmers' was seen as the dependent variable in testing the model.



**Figure 2** Conceptual model

Based on the conceptual model, there were four hypotheses to be tested:

*H1: There is a significant relationship between effectiveness and strategic marketing decisions.*

*H2: There is a significant relationship between efficiency and strategic marketing decisions.*

*H3: There is a significant relationship between sustainability and strategic marketing decisions.*

*H4: There is a significant relationship between self-sufficiency and strategic marketing decisions.*

Since the four independent variables were hypothesised to affect a dichotomous dependent variable (the SMDs of farmers using TM or HM channels), the most appropriate statistical technique for testing the model was a logistic regression.

#### Effects of farmers' goals on strategic marketing decisions

The assumptions of logistic regression, i.e. ratio of cases to independent variables, influential outliers and multicollinearity, were checked and met. The logistic regression model was represented as: *the HM user type may be predicted by effectiveness, efficiency, sustainability and self-sufficiency*. The results of logistic regression showed that without the four goal factors, the predictive accuracy of the null model was only 52%. When modelling the four factors together, three factors, i.e. *effectiveness*, *efficiency* and *self-sufficiency* were statistically significant, thus indicating the hypotheses *H1*, *H2* and *H4* may be accepted (see Table 2). The Wald statistic with the *p*-value less than .05 indicated that the logistic coefficients of these significant factors were different from 0, pointing out that the exponentiated coefficients were not equal to 1. The remainder of the factors, i.e. *sustainability*, was not statistically significant and the hypothesis *H3* may be rejected.

**Table 2** Statistical tests for the logistic coefficients of the model

	<b>B*</b>	<b>S.E.</b>	<b>Wald</b>	<b>df</b>	<b>p-value</b>	<b>Exp(B)*</b>
<i>Effectiveness</i>	2.541	.506	25.263	1	.000	12.694
<i>Efficiency</i>	-1.255	.509	6.086	1	.014	.285
<i>Sustainability</i>	-.639	.401	2.543	1	.111	.528
<i>Self-sufficiency</i>	-.833	.398	4.391	1	.036	.435
Constant	-5.964	2.518	5.609	1	.018	.003

\*B = logistic coefficient, Exp(B) = exponentiated coefficient

The overall model of the four factors also proved its significance from the null model ( $\chi^2 = 144.62$ ,  $p = .000$ ). The goodness-of-fit statistic -2 log likelihood (-2LL) equated to 156.58. The Cox & Snell  $R^2$  and Nagelkerke  $R^2$  were .48 and .64 respectively, so this model explained 48% to 64% of the variation in the dependent variable (*Logit<sub>HM</sub>*). The overall predictive accuracy of the four-factor model was high. Table 3 presents that the correct classification rates were 81% for TM users and 87% for HM users; the overall correct classification rate was 84%.

**Table 3** Classification table for the four-factor model

<b>Observed</b>		<b>Predicted</b>		
		<b>Types of market users</b>		<b>Percentage Correct</b>
		<b>TM users</b>	<b>HM users</b>	
Types of market users	TM users	84	20	80.8
	HM users	15	97	86.6
Overall Percentage				83.8

According to Table 2, *effectiveness* was the most influential significant factor because it had the highest exponentiated coefficient value (12.694). The positive sign of the *effectiveness* factor's coefficient indicates positive relationship with the HM user type. Since the effectiveness factor refers to market orientation (Page, 2010), HM users were more market oriented than TM users. Conversely, *efficiency* and *self-sufficiency* were less influential significant factors, and they had negative relationships with the HM user type. This indicates that TM users are more production oriented than HM users.



## Discussion

Farmers' decisions in response to market transformation in the Thai fruit industry are considered as *strategic* decisions because they shape the direction of the farm enterprise (Guillaume et al., 2016). They also affect the farm enterprise over a long-term period because they bring changes in farming practices (Keshavarz & Karami, 2014; Robert et al., 2016) for perennial fruit crops (Cittadini et al., 2008). Three key goal factors that have affected the strategic marketing decisions (SMDs) of fruit farmers in Chanthaburi, i.e. *effectiveness*, *efficiency* and *self-sufficiency*, were found. The study's results demonstrated that the fruit farmers made their SMDs based on strategic thinking that was reflected in their multiple goals, which are directed to whole-farm operations (Le Gal, et al., 2013; Murray-Prior & Wright, 2001). The farmers' goals in this study referred to a sense of 'mission' (in strategic management theory) that is related to values, attitudes and expectations of decision makers (David, 2011; Johnson & Scholes, 2002).

According to the results of this study, the fruit farmers who have a greater focus on effectiveness usually have updated information on market requirements, fruit prices and the marketing channels they use. In the general decision making process, farmers who continually update information tend to detect problems and eventually find suitable solutions for solving them (Ohlmer et al., 1998). In this study, the effectiveness factor focused on market information, in order to produce fruit with the quality that matched market requirements. Therefore, farming for those who have a greater focus on effectiveness is to satisfy market needs, so they produce fruit that meets the standard required, meaning they are focused on both marketing and production of fruit. The results of this study are consistent with previous research conducted by Brodt et al. (2006) and Fairweather and Keating (1994), which indicates that farmers whose marketing focus attention usually seeks a balance between on- and off-farm activities and who are motivated to 'think more business', are like general entrepreneurs. This implies that farmers who largely focus on effectiveness have a capability for strategic thinking, as they broaden their world views and include 'outside the farm' information in their SMD process.

The capability to think strategically for Thai fruit farmers is increasingly important in the current market situation. Strategic thinking is relevant to the processes of examining uncertainty within the external environment and solving strategic problems (Graetz, 2002; Moon, 2013). Strategic thinking allows a holistic view that considers the connection and interaction among individuals or components, by focusing on the whole picture, rather than many isolated parts (Comstock, 2015). This suggests that farmers, who would like to develop their strategic thinking, should think holistically. The fruit farmers who think strategically would be advised not to focus on only a single goal, but should find a balance between their multiple goals.

Apart from the positive effect of effectiveness, the study's results also indicates that the fruit farmers who have a greater focus on efficiency have less probability of using HMs. This is because they commonly focused on working on their farm operation rather than off-farm activities, in order to find new or updated market information. Furthermore, they generally produced fruit without the good agricultural practices certification, since they were unaware of market requirements. This confirms the results stated previously that the farmers, who did not obtain the certification, reported a lack of information and awareness of market requirements. Although the farmers who had a greater focus on efficiency generally dedicated themselves to farm operations by using production techniques for quality fruit, they usually sold their produce at TMs. This indicates that farmers, who largely focused on efficiency, intended to produce quality fruit, but generally they did not seek market opportunities to obtain better prices, but instead they would sell at markets at their own convenience. Although greater focus on efficiency brought less probability of using HM

channels, efficiency should always be promoted, as it adds benefits to the way of good production. In order to develop farmers to be more HM users, it is necessary to find a balance between the multiple goals of farmers through the integration of 'outside the farm' information with 'inside the farm' operation'.

Regarding the self-sufficiency factor, the fruit farmers who have a greater focus on self-sufficiency have less probability of using HM channels. Farming for these farmers is largely for livelihood, rather than making money. They farm as a family, and they do so for happiness and quality in their own lives, thus confirming Long (2013) viewpoint that some farmers value their lifestyle and see it as more important than making money for business. Thus, the farmers who focus on self-sufficiency do not generally produce fruit in order to serve market requirements. Traditionally, Thai farmers have generally relied on semi-subsistence farming. However, during Thailand's fourth National Economic and Social Development Plan (NESDP) in 1977-1981, fruit production was promoted for increasing diversification and commercialisation of high-value agricultural products. Since that time, public policies have emphasised productivity and market improvement until the seventh NESDP that began in 2002. Later on and up to the present time, policies have included the issue of food safety, in response to market requirements (Srimanee & Routray, 2012). As a result of this development, it can be assumed that Thai farmers have currently changed their goals to focus more on economic advantages. Therefore, the efficiency and effectiveness factors have become dominant and replaced self-sufficiency dominance. However, fruit farmers who think strategically also need to think holistically, in order to find a balance between their multiple goals that focus on economic and non-economic advantages. This is because economic advantages can be used to accomplish non-economic advantages and vice versa (Farmer-Bowers & Lane, 2009; Gasson, 1973).

## Conclusions

This study has analysed the effects of farmers' goals on strategic marketing decisions of fruit farmers in Chanthaburi province of Thailand. It found that, in the situation of agri-food market transformation, there are key goal factors that have led some farmers to participate in high-value marketing channels, compared to others who continue using traditional marketing channels. The study determined that effectiveness factor positively related to high-value market participation, whereas efficiency and self-sufficiency factors have led the fruit farmers to continue utilising traditional marketing channels. The results of this study suggest fruit farmers need to think strategically, in order to achieve their complex goals that comprise market needs together with their own needs. In order to broaden market opportunities fruit farmers need to develop and think as strategists. This study's results indicate that HM farmers were market oriented, and they were more involved in strategic thinking than TM farmers. However, as the business environment is not static, 'strategist-farmers' may not only view current situations, but also try to anticipate future directions of the fruit industry, which could provide new market opportunities and help themselves to meet complex goals.

The results of this study can contribute to the literature regarding strategic decisions in agriculture from the perspective of the developing world. Understanding the effects of farmers' goals, on the strategic marketing decisions of farmers, can help to reveal the important components of farmers' decision behaviour. This knowledge can serve as input when formulating policies and strategies for developing farmers' strategic capability. In addition, the knowledge can also help individual farmers and farmers' organisations to set the right goals, make the right decisions and think strategically.

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## Appendices

### Appendix 1 Variable names and goal statements

Variables	Goal statements
<b>Economic goals</b>	
<b>Production goals</b>	
<i>Production techniques</i>	You continually update the production techniques on your fruit farm.
<i>Farm work</i>	A successful farmer focuses on production, i.e. farm work, and not on activities outside the farm.
<i>Quality products</i>	You strive to produce the highest quality fruit in your district.
<i>Specialty fruit crops</i>	You grow specialty fruit crops, e.g. different varieties or exotic fruit, more than other farms in your district.
<b>Marketing goals</b>	
<i>Customer requirements</i>	You grow fruit crops that best meet customer requirements.
<i>Pricing</i>	You receive a fair price for your fruit crops
<i>Market channels</i>	You know where your produce goes after it leaves the farm.
<i>Market information</i>	You usually meet other people in order to find market information.

**Appendix 1 (Con.)**

<b>Variables</b>	<b>Goal statements</b>
<b>Financial goals</b>	
<i>Costs</i>	You always focus on the best quality of the inputs you use rather than the lowest cost of buying.
<i>Profits</i>	You are aware of the exact return for any fruit crop you produce.
<i>Investment</i>	Your goal is to diversify your assets by having other investments apart from fruit farm.
<i>Farm development</i>	You are satisfied with the current level of development on your farm
<b>Non-economic goals</b>	
<b>Environmental goals</b>	
<i>Agro-chemicals</i>	Fertilisers and pesticides are not the most necessary item for your fruit farming.
<i>Living condition</i>	You consider a decrease in the use of agricultural chemicals would improve the living conditions on the farm.
<i>Environmental awareness</i>	You are doing everything you can to be environmentally aware and conserve the land you farm.
<b>Personal and family goals</b>	
<i>Family needs</i>	Your ultimate goal is to generate a secure, sufficient level of income to meet the needs of your family.
<i>Quality of life</i>	You think that reducing your work load will help you improve the quality of your life.
<i>Family</i>	The best part of farming is having your family working alongside you.
<i>Happiness</i>	You enjoy farm work because it makes you feel happy.

**Appendix 2** Total variance explained by the goal variables

<b>Component</b>	<b>Initial Eigenvalues</b>		
	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>
<b>1</b>	<b>3.326</b>	25.581	25.581
<b>2</b>	<b>2.003</b>	15.404	40.985
<b>3</b>	<b>1.452</b>	11.171	52.156
<b>4</b>	<b>1.064</b>	8.181	60.337
5	.952	7.327	67.664
6	.788	6.060	73.725
7	.672	5.169	78.893
8	.606	4.665	83.558
9	.519	3.994	87.552
10	.486	3.737	91.289
11	.466	3.583	94.872
12	.368	2.830	97.702
13	.299	2.298	100.000