



Research Journal of
**Business
Management**

ISSN 1819-1932



Academic
Journals Inc.

www.academicjournals.com

Development and Retaining Model of Long Term Relationship Between Buyers and Sellers in Supply Chain of Palm Oil Industry in Thailand: A Seller's Perspective

S. Lungtae and W. Atthirawong

King Mongkut's Institute of Technology Ladkrabang, Thailand

Corresponding Author: S. Lungtae, King Mongkut's Institute of Technology Ladkrabang, Administration and Management College, Chalongkrung Soi 1, Chalongkrung Road, Ladkrabang Sub-district, Ladkrabang District, Bangkok, 10520, Thailand Tel: +662 329 8459/60 Ext. 6301, 2119, +662 329 8000 Fax: +662 329 8461

ABSTRACT

This study aims to investigate important factors influencing on long term relationship between palm oil mill plants and palm oil yards in Thailand by studying on points of view of sellers (palm oil yards). This research is a quantitative research and its hypothetical model was created from related theories and researches. The obtained data was collected from 393 palm oil yards in Thailand and SEM was employed to test hypotheses. It was found that relationship quality had direct influence on long term relationship while price satisfaction had no direct influence on long term relationship. On the other hand, it had indirect influence on long term relationship through relationship quality. Relational norms had direct influence on price satisfaction and indirect influence on long term relationship through relationship quality and long term relationship. Finally, supply strategy had direct influence on relationship quality as well as had indirect influence on long term relationship through relationship quality. Executives of palm oil mill plants are able to apply this model by determining supply strategy and developing relational norms to be consistent with demands of palm sellers leading to price satisfaction and relationship quality influencing on intention to maintain long term relationship of palm sellers.

Key words: Long term relationship, relationship quality, price satisfaction, relational norms, supply strategy, B2B relationship, supply chain management, Thailand palm oil industry, Thailand

INTRODUCTION

The world's food and energy security tends to become a critical problem because demands of plants, energy and agricultural products seem to be higher due to the increasing of world population (National Economic and Social Development Board, 2012). Oil palm is classified as both food crop and energy crop with economic significance in domestic and international levels. From data on the world's vegetable oil production, it was indicated that market share of palm oil in vegetable oil markets throughout the world was in high level calculated to be 62%. From the world's vegetable oil production during 2007-2011, it was shown that it tended to be higher by 5.14% per year averagely, i.e., palm oil production was increased from 41.08 million tons in 2007 to be 50.57 million tons in 2011. Indonesia was considered as the country with the largest amount of palm oil production in the world or 25.40 million tons followed by Malaysia with the capacity of

palm oil production of 18.70 million tons while Thailand was the third rank (OAED, 2011). As a result, oil palm is considered as one of important economic crops and strategies of Thailand. From historical data since 1985-2011, it was revealed that the plantation areas of oil palm were increased by 8.05% per year with continuous expansion. There are approximately 128,000 households of farmers who grow oil palm (OAED, 2011). The total plantation areas of oil palm of 4.5 million rai throughout Thailand and the production capacity of fresh oil palm is 11.33 million tons while the production capacity of crude palm oil is 1.93 million tons. The economic value of oil palm and palm oil is not lower than 64,000 million baht with the expansion of oil palm's plantation areas as the second rank after Indonesia (KRC, 2012).

Thailand palm oil industry is consisted of (1) Upstream industry, (2) Intermediate industry and (3) Downstream industry (Rattanaprom, 2012). As a result, supply chain of palm oil industry is consisted of the following key elements (1) Farmers growing oil palm, (2) Entrepreneurs of palm oil yards, (3) Palm oil mill plants, (4) Palm oil refineries and (5) Biodiesel plants (Rattanaprom, 2012; Chanklub and Pantharak, 2011). Moreover, there are several related businesses including condensed milk factories, feed mill factories, soap manufacturers and bread factory and so on. Uncertainty of agricultural product's supply chain is mostly occurred at the upstream of supply chain, i.e., from farmers to processing plants. As a result, upstream planning is very important and necessary for downstream industry. In addition, since agricultural product's supply chain has the length of time dimension, there is a possibility on various variations caused by natural factors and other factors. For example, oil palm has irregular quantity of fresh palm fruit in each season (e.g., the quantity of fresh palm fruit is lower than normal quantity in dry season) therefore its price is uncertain. Since, ages of oil palm after harvesting affecting on quality of crude palm oil, product quality is uncertain (Univanich Co., 2011; CPI, 2011; KRC, 2012). From the study on problems of supply chain management in upstream palm oil industry of Thailand regarding palm oil mill plants, the problem on supplying fresh palm fruits was found (Rattanaprom, 2012) and the competition of buying fresh palm fruits was in high level (Cherngthong *et al.*, 2008). Consequently, to purchase and supply fresh palm fruits for palm oil mill plants, price cutting strategy that is unsustainable strategy was used (Cherngthong *et al.*, 2008; Rattanaprom, 2012). Furthermore, the quality of law palm oil of palm oil mill plants also depended on quality of fresh palm fruits purchased from farmers and palm oil yards (Cherngthong *et al.*, 2008; Rattanaprom, 2012). However, those problems mentioned above were able to be solved by utilizing principles of efficient supply chain management (Gardner *et al.*, 1999), i.e., agricultural product processing plants must build long term cooperation with farmers because it would build stability on supplying raw materials to manufacturers (Pathumnakul *et al.*, 2010). Therefore, to develop upstream palm oil industry of Thailand successfully, it must depended on efficient supply chain management whereas, palm oil mill plants must harmonize and build relationship and cooperation among agencies in supply chain regarding raw materials, news and information, finance, development of efficiency on product collecting, development of abilities on purchasing sufficient quality fresh palm fruits (fresh palm fruits with high percentage of oil) for production (KRC, 2012). In addition, methods for building cooperation among agencies in supply chain should be investigated (Rattanaprom, 2012) as it would help to reduce the risk of operation (Fig. 1).

The supply chain management in the business process integration from end customers to initial suppliers, these business processes is about providing products, services and information that is adding value to customers and company stakeholders. The purpose of supply chain management is focused on the operational efficiency and the cost efficacy (Gardner *et al.*, 1999). The supply

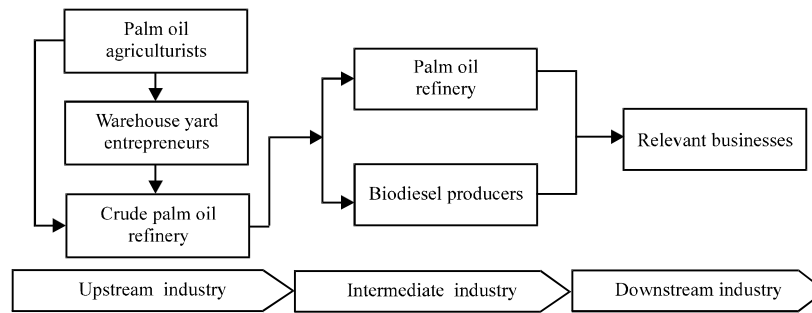


Fig. 1: Thailand palm oil industry

chain macro process consists of three parts which are (1) Supplier relationship management, SRM, (2) Internal supply chain management, ISCM and (3) Customer relationship management, CRM (Chopra and Meindl, 2007). The supplier relationship management, SRM is important in the supply chain macro process which is focused on the upstream segment by creating collaboration and relationship through activities between the company and suppliers (Chopra and Meindl, 2009) in order to obtain high quality products, sufficient quantity in a timely manner and justified cost, including services from suppliers. The qualified suppliers should be selected and collaborated which can lead to the cost reduction efficiency, reduce inventory process, raw material handling, rework and increase the product quality including delivery and also become a threat for price competition (Venetis and Ghauri, 2004). Moreover, this can help increase the competitive advantage such as trust in quantity and quality of raw material supply, potential to increase product quality, reduction of unreliability and able to increase production capacity as planned (Gyau *et al.*, 2011). As raw material can be provided according to needs so the production process will be efficient, reduce the loss from quality deterioration from long-distance transportation and provide a good relationship between buyers and sellers (Boniface, 2012; Somogyi *et al.*, 2010).

From studying on related domestic and international researches, it was revealed that most researches on building long term relationship between sellers and buyers in supply chain emphasized on products classified in production industry. There were a few amount of researches studying on building long term relationship between buyers and suppliers in supply chain of agricultural products (Boniface, 2012) for example, Somogyi *et al.* (2010) had paid attention on enhancing long-term grape grower/winery relationship in Australia's wine industry. Boniface (2012) conducted research on producer relationships segmentation in Malaysia's milk supply chain and Gyau *et al.* (2011) studied on price or relational behaviours, supplier relationship management in the German dairy industry. There is no this kind of research applied in palm oil industry as yet. In addition, when considering on educational dimension of researches on relationship management between buyers and suppliers, it was revealed that most researchers studied on dimension of buyers. As a result, this research aims to emphasize on studying structure equation model regarding factors influencing on long term relationship between buyers and sellers of fresh palm fruits by studying on dimension of sellers.

Therefore, the objectives of this research are as follows:

- To analyze direct and indirect influences on long term relationship in the dimension of fresh palm fruit sellers in supply chain of upstream oil industry of Thailand

- To create factor model influencing on maintain long term relationship in the dimension of fresh palm fruit sellers based on concepts, theories and papers related to Supply Chain Management (SCM) by emphasizing on supplier relationship management to create a model representing relationship structure of variables
- To integrate relational norms theory and supply strategy; to build some knowledge for explaining factors influencing on price satisfaction, relationship quality and sustainable long relationship between entrepreneurs of palm oil yards and palm oil mill plants in Thailand

Consequently, the model obtained from this research is different from that of other researches regarding its elements that are consisted of general variables on long term relationship building and variables on providing satisfaction to suppliers. Therefore, this model is suitable for utilizing as the model for studying long term relationship building from the point of view of suppliers.

Values and benefits of this research are: Firstly, it is able to integrate theory of relational norms, supply strategy and price satisfaction of sellers in order to provide knowledge explaining factors influencing on relationship quality and long term relationship between entrepreneurs of palm oil yards and palm oil mill plants. Secondly, executives of palm oil mill plants are able to apply this model to establish their supply strategy to be consistent with demands of fresh palm fruit sellers contributing long term relationship among agencies in supply chain of upstream palm oil industry of Thailand. Consequently, palm oil mill plants are able to gain sufficient quantity of fresh palm fruits upon their quantitative and qualitative goals contributing lower cost of production (Boniface, 2012; Lu *et al.*, 2008) and better quality palm oil as well as reduction of business operation. Lastly, related government agencies are able to implement obtained data to develop and improve their strategies on supply chain management and logistics of palm oil industry in Thailand. Consequently, supply chain management of palm oil industry would be effective and efficient sustainably improving competitive benchmarking of Thailand palm oil industry in world market.

LITERATURE REVIEW

Development of Long Term Relationship Model: In this research on “Long Term Relationship Model between Buyers-Sellers in Supply Chain of upstream palm oil industry of Thailand: In dimension of fresh palm fruit sellers”. Concepts, theories and research papers related to variables under conceptual framework are investigated. Variables used in this research were consisted of 5 latent variables including (1) Relational Norms (RN), (2) Supply Strategy (SS), (3) Price Satisfaction (PS), (4) Relationship Quality (RQ) between organizations and (5) Long Term Relationship (LTR). The variables used in Fig. 2 and the corresponding hypotheses are further elaborated below.

Long Term Relationship (LTR): In the highly competitive environment, the buyer will try to maintain the long term relationship with selected suppliers in order to reduce operational costs and future uncertainty (Walter *et al.*, 2003). The long term relationship can create mutual benefits between supply chain members and also increase the price competitiveness and therefore increase revenue (Somogyi *et al.*, 2010) such as reduce operational cost, increase operational efficiency, collaborate in planning and making decisions and also create a joint venture (Boniface, 2012; Lu *et al.*, 2008). The long term relationship means the willingness to remain trading partners in the future which can be measured by the willingness and the decision to sell fresh palm to selected

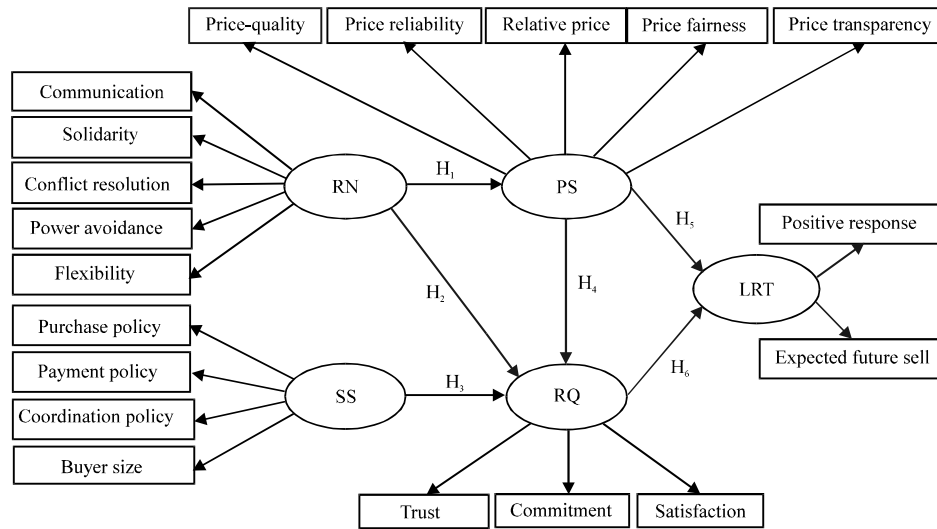


Fig. 2: Conceptual model and associated hypotheses. H₁, H₂, H₃, H₄, H₅ and H₆ refer to research hypothesis

buyers and recommend those buyers to other sellers (Boniface *et al.*, 2012) and also sellers are willing to sell products to same buyers in the future (Rauyruen and Miller, 2007; Boniface *et al.*, 2012).

Relational Norms (RN): The appropriate relational norms can create behaviors that can sustain long term relationship and relationship refusal (Gyau *et al.*, 2011). Any relational norms have a potential that is able to influent behaviors and may be used to design concepts for studies about relationship behaviors (Ivens, 2004). Many components of relational norms have been revealed during the study. The five important components are (1) Conflict resolution, (2) Power avoidance (Gyau *et al.*, 2011; Somogyi *et al.*, 2010; Fink *et al.*, 2008; Ivens and Pardo, 2007), (3) Flexibility (Gyau *et al.*, 2011; Somogyi *et al.*, 2010; Fink *et al.*, 2008; Ivens and Pardo, 2007), (4) Solidarity (Somogyi *et al.*, 2010; Fink *et al.*, 2008; Ivens and Pardo, 2007) and (5) Communication and information exchange (Gyau *et al.*, 2011; Somogyi *et al.*, 2010; Reynolds *et al.*, 2009; Ivens and Pardo, 2007). Each factor has an operational definition as follows (1) Conflict resolution is the utilization of good interpersonal relationship and using unconventional method to solve the problem (Kaufmann, 1987), (2) Power avoidance expecting no organization in the supply chain to exercise their power to influent other organizations (Kaufmann and Dant, 1992), (3) Flexibility is those who are ready to change negotiated conditions under the new business circumstances (Noordewier *et al.*, 1990), (4) Solidarity is the willing to maintain relationships especially in the situation when one party faces hardship (Kaufmann and Stern, 1988) and (5) Communication and information exchange means readiness and providing information that benefits the trade partners (Batt and Wilson, 2000; Schulze *et al.*, 2006; Somogyi *et al.*, 2010). There were several researchers discovered that relational norms had influence on relationship quality. For example, Gyau *et al.* (2011) recommended that variables of relational norms (including communication, information exchange, restraint in the use of power, cooperation, social bonds, flexibility and conflict resolution) had influence on relationship quality. In addition, the research of Samogyi *et al.* (2010) also proposed that elements of variables of relational norms consisted of communication, goal

compatibility, restraint in the use of power, were elements influencing on relationship quality between buyers-sellers regarding trust and commitment increasing their long term relationship. Similarly, Ndubisi *et al.* (2007) explained that conflict handling, competence, communication and commitment had direct influence on relationship quality while trust also had indirect influence on customer loyalty. From the research of Rasila (2010), it was indicated that there were 6 elements of factors influencing on relationship quality perceptions including (1) Commitment, (2) Ethical profile, (3) Sharing of information and communication, (4) Conflict resolution, (5) Balance of power and (6) Personal attributes. Moreover, Gyau *et al.* (2011) also described that relational norms influenced on price satisfaction of suppliers as well, i.e., relational norms are generally used for building business to business relationship (B2B relationship) as well as in agricultural business. Simultaneously, Reynolds *et al.* (2009) suggested that effective communication, personal bonds and equal power are important factors of sustainable B2B relationship. In addition, Heide and John (1992) stated that the objective of implementing relational norms is to build long term relationship between sellers and buyers. These arguments lead to our following hypotheses:

H1: Relational Norms (RN) has a direct and positive effect on Price Satisfaction (PS) in sellers' points of view

H2: Relational Norms (RN) has a direct and positive effect on Relationship Quality (RQ) in sellers' points of view

Supply Strategy (SS): The strategic road map to develop relationship with suppliers will be considered from the complexity of the supplier market and the importance level of products (Chopra and Meindl, 2009). The component consists of three variables. The first variable is (1) Purchasing policy: The purchasing policy contains multiple activities such as procurement, product and service delivery. These activities directly affect the satisfaction of suppliers in the trading activities, apart from this; the level of satisfaction also depends on the delivery response time, communication and bi-directional information flow from the buyers (Essig and Amann, 2009). The second variable is (2) Payment policy: The difference in the procurement activities of the buyer such as time for product and service payment, the conditions and procedures regarding payment and delivery directly affect the level of satisfaction as unfavorable payment conditions will result in supplier refusal to supply the products. Moreover, the acknowledgement of strong financial information of buyers will lead to supplier satisfaction (Essig and Amann, 2009). The third variable is (3) Coordination policy: The collaboration will be extended to other activities when buyers are able to impress the suppliers. The good coordination policy will help improve the overall procurement policy development and generate reputation (Essig and Amann, 2009). Moreover, it can create satisfaction among buyers and sellers and also improve the image of the buyer's organization (Meena and Sarmah, 2012). The last variable is buyer size means factor reflecting capacity of buyers, for example, capacity of purchasing, quantity of employees, sufficient equipment and tools, etc. (Gyau *et al.*, 2011). Meena and Sarmah (2012) mentioned that factor on supply strategy consisted of purchase policy, payment policy and cooperation policy, had influence on satisfaction of delivers and satisfaction was another variable in elements of relationship quality whereas, purchase policy had higher influence on satisfaction of suppliers than other factors. Moreover, Gyau *et al.* (2011) also exposed that the organization size of sellers also influenced on relationship quality between organizations. Similarly, Somogyi *et al.* (2010) revealed that buyer size influenced on relationship quality between sellers-buyers. These factors increased the level of

commitment. Finally, long term relationship would be increased as well. Simultaneously, Redondo and Fierro (2007) revealed that (4) Organization size of customers influenced on emphasis on relationship level of suppliers on trust, commitment and satisfaction. Therefore, the following hypothesis is proposed:

H3: Supply Strategy (SS) has a direct and positive effect on Relationship Quality (RQ) in sellers' points of view

Price Satisfaction (PS): This is a factor that influences price competitiveness and business success. Highly price satisfaction can improve the relationship quality and generates sustainable relationship for the business. This can lead to a profit incremental in each of supply chain level (Boniface *et al.*, 2012). The study of factors that are components of price satisfaction have identified five factors as follows: There are number of studies shown that price satisfaction consists of price reliability, relative price, price-quality ratio, price fairness and price transparency (Boniface, 2012; Boniface *et al.*, 2012; Gyau *et al.*, 2011; Matzler *et al.*, 2006). They also defined price reliability as the quotation is complete, accurate, precise, cover the price information, up-to-date and easy to understand (Matzler *et al.*, 2006, 2007; Boniface, 2012; Boniface *et al.*, 2012). The meaning of price-quality ratio means the recognition of buyers that it reflects the true products quality (Matzler *et al.*, 2006, 2007; Boniface, 2012; Boniface *et al.*, 2012). Relative price means the quoted price has already been compared with the competitor's price (Matzler *et al.*, 2007; Boniface, 2012; Boniface *et al.*, 2012) and price difference compare to those of competitors (Matzler *et al.*, 2006). Price fairness refers to the price satisfactory as the quoted price is fair and justified (Boniface, 2012; Boniface *et al.*, 2012) and the price is socially acceptable but not taking advantage and equitable for all social groups (Matzler *et al.*, 2006). Finally, price reliability means the price does not change negatively in the unexpected direction and the supplier has received the changing price information in a timely manner (Matzler *et al.*, 2006, 2007; Boniface, 2012; Boniface *et al.*, 2012). From study of Gyau *et al.* (2011), it was found that price satisfaction influenced on relationship quality between organizations while Boniface *et al.* (2012) explained that there were only 3 elements had positive influence on building loyalty that would be developed to be good B2B relationship in long term. These elements were (1) Relative price, (2) Price-quality ratio and (3) Price fairness. In addition, Boniface (2012) also studied long term relationship by measuring loyalty of farmers and recommended that farmers with different demographic characteristics had different relationship quality perception and long term relationship with buyers. Base on the above, we hypothesize that:

H4: Price Satisfaction (PS) has a direct and positive effect on Relationship Quality (RQ) in sellers' points of view

H5: Price Satisfaction (PS) has a direct and positive effect on Long Term Relationship (LTR) in sellers' points of view

Relationship Quality (RQ): The concept of relationship quality is used to measure the corporate success during the recent years (Zhang *et al.*, 2000). The relationship between companies can be cited from the perspective of trade partners whether the relationship is fulfilling needs, is aligned with expectation and how well it is able to achieve the objectives (Gyau *et al.*, 2011). From the studying of multiple literatures, it has been exposed that there are three similar factors of

relationship quality which are trust, commitment and satisfaction (Boniface, 2012; Nath and Mukherjee, 2012; Gyau *et al.*, 2011; Lin and Wu, 2011; Saura *et al.*, 2009; Reynolds *et al.*, 2009; Caceres and Paparoidamis, 2007; Ivens and Pardo, 2007). Each factor has an operational definition as follows. Trust is established when a person gained creditability and honesty being acknowledged by another party (Dwyer *et al.*, 1987). Commitment is the willing to preserve the precious relationship which is widely recognized as an importance component of the business relationship (Morgan and Hunt, 1994). This can be developed when the manufacturer is convinced about the value they are going to be received in the future from the relationship with suppliers (Dwyer *et al.*, 1987). Satisfaction is the overall service experience evaluation by comparing the result being received from using the service with the expectation before using the service. If what has been received is insufficient or lower than expectation then it is not satisfied, otherwise the satisfaction can be perceived (Walter *et al.*, 2003). There were several researchers affirmed that relationship quality influenced on long term relationship. For example, Somogyi *et al.* (2010) advised that trust and satisfaction influenced on relationship quality between sellers-buyers. These factors increased the level of commitment leading to the increasing of Long Term Relationship. In addition, Saura *et al.* (2009) suggested that trust influenced on commitment while trust, commitment and satisfaction influenced on loyalty. Simultaneously, Ndubisi *et al.* (2007) proposed that trust influenced on customer loyalty while relationship quality and trust had direct influence on customer relationship. From the study of Lin and Wu (2011), it was disclosed that relationship quality (including trust, commitment and satisfaction) influenced on customers' expected future use and service retention. Similarly, Caceres and Paparoidamis (2007) described that overall relationship satisfaction was the cause of loyalty. In addition, the results caused by trust and commitment also had influence on loyalty. Moreover, Tohidinia and Haghighi (2011) recommended that trust, commitment and competence influenced on relationship quality affecting on customer satisfaction contributing positive word of mouth, re-purchase intention and positive feedback. Furthermore, Ou *et al.* (2011) also advised that customers with positive relationship perception influenced on relationship commitment. In addition, customers with high level of relationship commitment had high level of loyalty as well. According to the above studied, the sixth hypothesis is stated of:

H6: Relationship Quality (RQ) has a direct and positive effect on long term relationship in sellers' points of view

Conceptual framework: As mentioned earlier, variables used in this research were consisted of 5 latent variables. Relational Norms (RN) and Supply Strategy (SS) were defined as exogenous variables while endogenous variables served as intervening variables were consisted of Price Satisfaction (PS) and Relationship Quality (RQ). Endogenous variable served as dependent variable was long term relationship with 19 observed variables used for measuring latent variables in model. Each latent variable was consisted of elements of observed variables and path of influence as shown in Fig. 2.

RESEARCH METHODOLOGY

Questionnaire design: This research is a quantitative research with questionnaire created as a tool for measuring variables. The questionnaire is developed from studying on research papers related to Supply Chain Management (SCM). Questions used for measuring each variable were

developed as follows: Variables of relational norms were adopted some of the scale from Tohidinia and Haghghi (2011), Jiang *et al.* (2011), Fink *et al.* (2008), Redondo and Fierro (2007) and Ivens and Pardo (2007) variables of supply strategy were adopted from Meena and Sarmah (2012); variables of price satisfaction were developed from Boniface (2012), Boniface *et al.* (2012) and Matzler *et al.* (2006); variables of relationship quality were adopted from Boniface (2012), Mysen *et al.* (2011), Tohidinia and Haghghi (2011), Saura *et al.* (2009), Redondo and Fierro (2007), Ivens and Pardo (2007), Walter *et al.* (2003) and Selnes (1998) and variables of long term relationship were developed from Boniface (2012), Boniface *et al.* (2012), Tohidinia and Haghghi (2011). All questions were five-point Likert-scale from mostly disagree to mostly agree (1: Mostly disagree, 2: Disagree, 3: Moderately agree, 4: Highly agree and 5: Mostly agree) in order to measure 5 latent variables. The quality of created questionnaire was tested by using content validity test through Item-Objective Congruence (IOC) of questionnaire from 6 experts who had expertise on supply chain management and agricultural business management. Any question with value lower than 0.60 would be removed from questionnaire (Ravinelli and Hambleton, 1997). Subsequently, reliability of questionnaire was investigated by trying out the created questionnaire with 30 samples with similar characteristics of target group. Then, the collected data was analyzed to find reliability by calculating alpha coefficient by using Cronbach's method. The results showed that reliability of all questions of questionnaire was 0.985. When considering on each latent variable, it was shown that reliability of questionnaire on relational norms was 0.966; supply strategy was 0.946; satisfaction price was 0.962; relationship quality was 0.908 and long term relationship was 0.836. Consequently, reliability value over than 0.70 was acceptable and this questionnaire was able to be used for this research (Bearden *et al.*, 1998).

Data collection: The data was collected from 1,500 entrepreneurs of palm oil yards in the southern part of Thailand during September-October 2013. The samples were obtained by using simple random sampling and data was collected through mail and face to face interview. In order to obtain validity in measuring long term relationship of entrepreneurs of palm oil yards and palm oil mill plants, the researcher selected only questionnaires of entrepreneurs of palm oil yards with independence on selling with the duration of selling fresh palm fruits to palm oil mill plants for more than 2 consecutive years. The obtained samples were 393 entrepreneurs of palm oil yards that was considered as proper sample size because Hair *et al.* (2010) suggested that the minimum size of sample group should be 300 samples when the quantity of latent variables were less or equal to 7 variables.

Reliability and validity construct: For this research, data was analyzed by using descriptive statistics for analyzing personal data of sample group and inferential statistics were used for hypothesis testing through analyzing relationship of factors influencing on long term relationship in dimension of fresh palm fruit sellers in Thailand. Confirmatory Factor Analysis (CFA) was used for testing hypothetical model and empirical data in order to confirm indicators of observed variables' elements in measurement model in order to evaluate harmony of model and empirical data as well as to test hypothetical data and empirical data by analyzing Structural Equation Modeling (SEM) leading to casual path analysis. To test model and research hypothesis, the researcher tested data prior analysis as follows (1) Testing missing data and accuracy of data files, (2) Testing normality and it was presented that the obtained data had normal distribution because the values of skewness (KS) and kurtosis (KU) were in the range of -3.0 to 3.0 (Glass and Stanley,

Table 1: Conclusion of model fit index

Fit index	Acceptable level	References
Chi-square (CMIN)	>0.05	Hair <i>et al.</i> (1998, 2006, 2010)
Relative Chi-square (CMIN/df)	<3.00	Hair <i>et al.</i> (1998, 2006, 2010), Kline (2005), Byrne (2001) and Bollen (1989)
RMR	<0.05	Diamantopoulos and Siguaaw (2000)
RMSEA	<0.05-0.08	Hair <i>et al.</i> (1998, 2006, 2010), Kline (2005)
NFI	>0.90	Hair <i>et al.</i> (1998, 2006, 2010)
IFI	>0.90	Hair <i>et al.</i> (1998, 2006, 2010)
CFI	>0.90	Hair <i>et al.</i> (1998, 2006, 2010)
GFI	>0.90	Hair <i>et al.</i> (1998, 2006, 2010)
AGFI	>0.90	Shevlin and Miles (1998)

1970), (3) Outliers were performed and it showed that there was no data with higher or lower values than normal value and (4) Multicollinearity was tested and it was displayed that there was no relationship of any pair of observed variables with value over than 0.80 (Hair *et al.*, 2010). Subsequently, the obtained data was analyzed to test construct validity by analyzing structural equation model from questionnaire obtained from collecting data of sample group by using AMOS program. The consistency of model and empirical data was evaluated according to indices as shown in Table 1.

Remarks: The use of chi-square to measure the consistency of model had a restriction, namely, chi-square value would be higher when the size of sample group was large and the quantity of latent variables was high causing high possibility to deny H_0 . Consequently, when the model denied H_0 , relative chi-square (CMIN/df) with lower value than 3.00 should be considered (Bollen, 1989; Kline, 2005).

RESULTS AND DISCUSSION

Description of the sample: Results shown in Table 2 revealed that sample group of this research was entrepreneurs of palm oil yards in southern provinces of Thailand and most of them (71.8%) were male with average age of 42.47 years. The highest range of their ages (51.4%) was between 36-50 years. Most of them (54.7%) graduated in lower bachelor degree and they had average experience in operating palm oil yard business for 7.32 years. About 42% of them had business experience for 6-10 years. Most of their business size (67.7%) was lower than 51 t day⁻¹ and they had average transportation distance for 59.37 kilometers.

Confirmatory Factor Analysis (CFA): Measurement model of factors promoting long term relationship in the dimension of fresh palm fruit sellers in Thailand was consisted of 5 latent variables including (1) Relational norms, (2) Supply strategy, (3) Price satisfaction, (4) Relationship quality and (5) Long term relationship of fresh palm fruit sellers. Confirmatory Factor Analysis (CFA) was conducted in order to confirm indicators of observed variables' elements in model and the factor loading of observed variables should be 0.40 and over (Nunnally and Bernstein, 1994). Table 3 shown results of CFA for measurement model. From analysis, it was presented that the factor loading of elements of observed variables used for measuring latent variables was as follows (1) For relational norms, the factor loading of elements of 5 observed variables was in the range of 0.757-0.858, (2) For supply strategy, the factor loading of elements of 4 observed variables was in the range of 0.654-0.834, (3) For price satisfaction, the factor loading of elements of 5 observed

Table 2: Characteristics of sample group

Demography variables	Frequency	Percentage
Gender		
Male	282	71.8
Female	111	28.2
Age (year)		
<36	110	28.0
Mean (42.47); SD (10.17)		
36-50	202	51.4
>50	81	20.6
Educational level		
Lower bachelor degree	215	54.7
Bachelor degree	160	40.7
Higher bachelor degree	18	4.6
Experience (year)		
2-5	164	41.7
Mean (7.32); SD (5.00)		
6-10	165	42.0
>10	64	16.3
Size (t Day⁻¹)		
<25	130	33.1
Mean (54.31); SD (49.87)		
26-50	136	34.6
51-100	98	24.9
>100	29	7.4
Transportation distance (km)		
<25	133	33.8
Mean (59.37); SD (62.47)		
26-50	122	31.0
51-75	46	11.8
76-100	40	10.2
>100	52	13.2

variables was in the range of 0.746-0.841, (4) For relationship quality, the factor loading of elements of 3 observed variables was in the range of 0.762-0.808 and (5) For long term relationship, the factor loading of elements of 2 observed variables was in the range of 0.802-0.830. Moreover, the factor loading of all observed variables had statistical significance ($p < 0.001$) therefore those variables were important indicators indicating factors of each dimension. From data analysis for measuring consistency of model, the values of model fit index of consistency were as follows: CMIN/df = 1.648, GFI = 0.941, AGFI = 0.919, CFI = 0.984, IFI = 0.984, NFI = 0.961, RMSEA = 0.041, RMR = 0.009 as shown in Table 3. When considering on goodness of fit statistics of model compared with those in Table 1, it was revealed that all goodness of fit statistics values were acceptable therefore measurement model of long term relationship was consistent with empirical data.

Structural Equation Modeling (SEM): Figure 3 showed the results of consistency testing of structural equation model of long term relationship in points of view of fresh palm fruit sellers. According to hypothesis and empirical data, it was shown highlighted that the model was consistent

Table 3: Results of CFA for measurement model

Latent variables	Observed variables	Factor loading	Cronbach's alpha
Relational Norms (RN)	Communication	0.858	0.945
	Conflict resolution	0.828	
	Power avoidance	0.822	
	Solidarity	0.757	
	Flexibility	0.782	
Supply Strategy (SS)	Purchasing policy	0.834	0.898
	Payment policy	0.654	
	Coordination policy	0.814	
	Size of buyer	0.679	
Price Satisfaction (PS)	Price reliability	0.820	0.934
	Relative price	0.746	
	Price-quality ratio	0.792	
	Price fairness	0.841	
	Price transparency	0.756	
Relationship Quality (RQ)	Trust	0.762	0.888
	Commitment	0.802	
	Satisfaction	0.808	
Long Term Relationship (LTR)	Expected future sell	0.830	0.855
	Positive response	0.802	

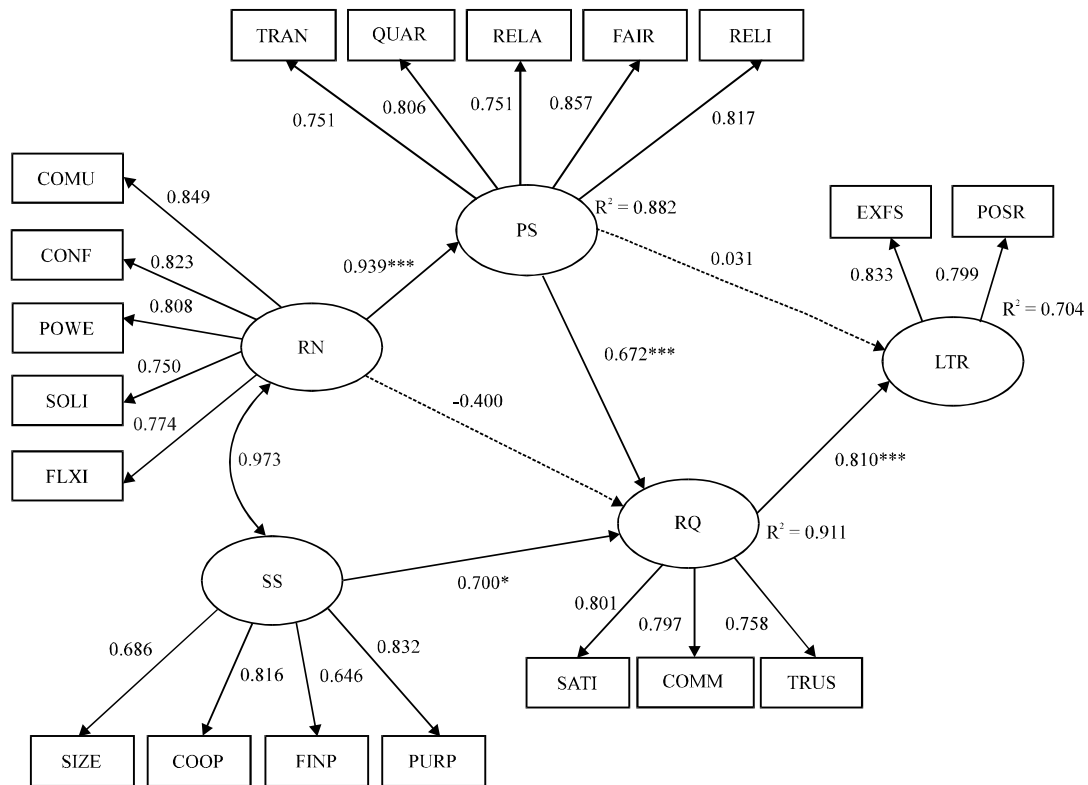


Fig. 3: Results of structural model. Refers to influence with statistical significance refers to influence path with no statistical significance refers that such variable had 2 directions of relationship and influence path has statistical significance

with empirical data by considering on goodness of fit statistics of model and empirical data (Chi square = 262.799, df = 142, p-value = 0.00, Chi square/df = 1.851, RMSEA = 0.047, RMR = 0.10, GFI = 0.931, AGFI = 0.908, CFI=0.979, IFI=0.979 and NFI=0.955).

Table 4 shows path coefficients among latent variables. Goodness of fit statistics of structural equation model and empirical data of long term relationship showed that latent variables influencing on long term relationship were able to be ordered according to their correlation coefficient as follows: Relationship quality (0.810) followed by price satisfaction (0.575), supply strategy (0.567) and relational norms (0.216).

Results of hypothesis testing: From the results of hypothesis testing, analysis on influences of variables in structural equation model of long term relationship of fresh palm fruit sellers, it was found that H₁, H₃, H₄ and H₆ were accepted, i.e., relational norms had positive influence on price satisfaction (p<0.001) while supply strategy had positive influence on relationship quality (p<0.05) and relationship quality had positive influence on long term relationship (p<0.001). On the other hand, H₂ and H₅ were denied, i.e., relational norms had no influence on relationship quality and price satisfaction had no influence on long term relationship with statistical significance at 0.05 as shown in Table 5.

From square multiple correlations (R²), it was explained that structural model of relationship of factors promoting long term relationship had validity because its R² was equal to 70% while measurement model of relationship of factors influencing relationship quality had R² equal to 91%. In addition, measurement model of relationship of factors promoting price satisfaction had R² equal to 88%.

After removing influence path with no statistical significance the first path between latent variables of relational norms and latent variables of relationship quality and the second path between latent variables of price satisfaction and variables of long term relationship and reanalysis to obtain the model of long term relationship of fresh palm fruit sellers in Thailand, it was indicated that there were 3 important factors that had causal influence on long term relationship including

Table 4: Summary of results for total effects among latent variables

Variables	RN	SS	PS	RQ	LTR
RN	-	-	0.939	0.231	0.216
SS		-	-	0.700	0.567
PS			-	0.672	0.575
RQ				-	0.810
LTR					-

Chi square: 265.975, df: 142, p-value: 0.001, Chi square/df: 1.873, RMSEA: 0.047, RMR: 0.10, GFI: 0.930, AGFI: 0.906, CFI: 0.978, IFI: 0.978, NFI: 0.955

Table 5: Path coefficients and related hypotheses decision

Hypothesis	Path	Path coefficient	Decision
H ₁	RN→PS	0.939***	Supported
H ₂	RN→RQ	-0.400	Not supported
H ₃	SS→RQ	0.700*	Supported
H ₄	PS→RQ	0.672***	Supported
H ₅	PS→LTR	0.031	Not supported
H ₆	RQ→LTR	0.810***	Supported

*,***p<0.001, 0.05 significat, respectively

(1) Relational norms that had direct influence on price satisfaction (path coefficient = 0.937) and indirect influence on relationship quality (path coefficient = 0.555) as well as had indirect influence on long term relationship (path coefficient = 0.467), (2) Supply strategy that had direct influence on relationship quality (path coefficient = 0.377) and indirect influence on long term relationship (path coefficient = 0.317) and (3) Relationship quality that had direct influence on long term relationship (path coefficient = 0.840). In addition, it was also suggested that the model was consistent with empirical data by considering on goodness of fit statistics of model and empirical data (Chi square = 264.478, df = 144, p-value = 0.00, Chi square/df = 1.837, RMSEA = 0.046, RMR = 0.10, GFI = 0.931, AGFI = 0.908, CFI=0.979, IFI=0.979 and NFI=0.955).

Base on Fig. 4, it could be concluded that long term relationship of fresh palm fruit sellers in Thailand was consisted of 4 factors including relational norms, supply strategy, price satisfaction and relationship quality.

Relational norms: Were important for long term relationship of sellers that could be ordered in descending order according to importance of variables' elements as follows: factors on communication and information exchange, conflict resolution, restrain in the use of power, flexibility and harmony. Relational norms were important for long term relationship of sellers because it had direct influence on price satisfaction and indirect influence on relationship quality through price satisfaction. Moreover, it also had indirect influence on long term relationship through relationship quality. These results were consistent with other research including Gyau *et al.* (2011), Somogyi *et al.* (2010), Reynolds *et al.* (2009) and Ivens and Pardo (2007) who discovered that relational norms influenced on relationship quality and explained that relational norms (e.g., communication) had no only influence on relationship quality of sellers but it also had influence on price satisfaction and indirect influence on long term relationship. As a result, general relational norms were utilized for building B2B relationship and in agricultural business. In addition, these results were also consistent with a study by Heide and John (1992) who mentioned that the objective of utilizing suitable relational norms was to build long term relationship between sellers and buyers. Thus, executives of palm oil mill plants must manage operation of relational norms by emphasizing on communication and information exchange, conflict resolution and restraint in the use of power.

Supply strategy: Was another important factor for long term relationship of sellers that its important elements could be ordered in descending order as follows: Purchasing policy, cooperation

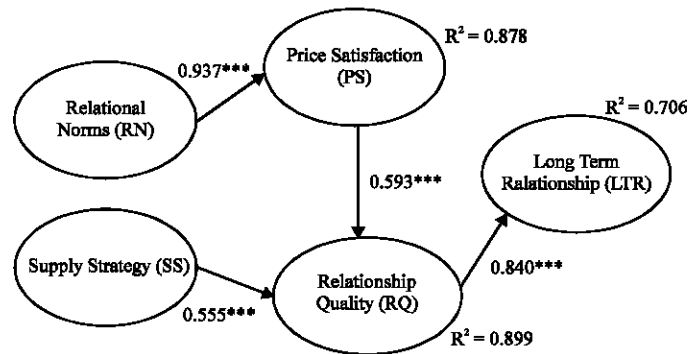


Fig. 4: Model of long term relationship between buyers and sellers in palm oil industry. Supply chain in Thailand: A seller's perspective. Significance at ***p<0.001

policy, organization size and payment policy. Supply strategy was important for long term relationship of sellers because it had direct influence on relationship quality and indirect influence on long term relationship through relationship quality. These results were consistent with a study by Meena and Sarmah (2012) who discovered that factors influencing on satisfaction of delivers were consisted of purchasing policy, payment policy and cooperation policy and satisfaction was another element of relationship quality. Moreover, these results were also consistent with those of Gyau *et al.* (2011) who exposed that organization size of buyers had influence on relationship quality between organizations as well. Consequently, managers of palm oil mill plants should highlight the establishing purchasing policy and cooperation policy to be consistent with demands of palm oil yards.

Price satisfaction: Was important for long term relationship of sellers with variables' elements ordered upon their importance as follows: Price fairness, price reliability, price-quality ratio, relative price, price transparency. Price satisfaction had direct influence on relationship quality. In addition, it also served as mediating variable contributing relational norms to have influence on relationship quality. These findings were consistent with a study by Gyau *et al.* (2011) who found that price satisfaction had influence on relationship quality but in our study price satisfaction had no influence on long term relationship. These results were not consistent with a study by Boniface *et al.* (2012) who measured price satisfaction on each variable, it was indicated that there were only 3 variables from 5 variables influencing on loyalty and long term relationship including (1) Relative price, (2) Price-quality ratio and (3) Price fairness while price transparency and price reliability had no influence on loyalty and long term relationship. It was explained that in the context of the Thailand palm oil mill industry, palm oil mill plants had no different on pricing therefore palm oil yards were able to sell their fresh palm fruits to any plant. Therefore, managers of palm oil mill plants have to focus on perception of pricing to be fair, reliable and suitable with quality of fresh palm fruits. In addition, they should set pricing standard of purchase price of palm oil mill plants systematically, especially, explicit standard on measuring quality of fresh palm fruits. When considering on price satisfaction, it was exposed that entrepreneurs of palm oil yards had the same opinions that the purchase price was unfair compared to quality of fresh palm fruits.

Relationship quality: Was important for long term relationship of sellers and it was revealed that its variables' elements were able to be ordered according to their importance as follows: Satisfaction, commitment and trust, whereas, relationship quality had direct influence on long term relationship. Moreover, they also served as mediating variables contributing relational norms, supply strategy and price satisfaction influenced on long term relationship. These findings were consistent with those of several researches including Somogyi *et al.* (2010) mentioned that trust and satisfaction increased commitment leading to increasing demands of long term relationship. In addition, Saura *et al.* (2009) also exposed that trust influenced on commitment while trust, commitment and satisfaction influenced on loyalty. Similarly, Ndubisi *et al.* (2007) explained that relationship quality and trust influenced on customer relationship. Moreover, Lin and Wu (2011) also referred that relationship quality (including trust, commitment and satisfaction) influenced on customers' expected future use and service retention. Similarly, Caceres and Paparoidamis (2007) discovered that overall relationship satisfaction was mediating variable contributing loyalty and results obtained from trust and commitment also influenced on loyalty. Moreover, Tohidinia and Haghighi (2011) also commented that trust and commitment influenced on relationship quality affecting on

customer satisfaction leading to positive word of mouth, re-purchase intention and positive feedback. Furthermore, these results were also consistent with those of Ou *et al.* (2011) who discovered that positive relationship quality influenced on relationship commitment. Moreover, customers with high relationship commitment also had high loyalty as well. If relationship quality perception of palm oil yards was higher, demands of long term relationship of palm oil mill plants was also higher.

CONCLUSION

This research examined the structural relationship among relational norms, supply strategy, price satisfaction, relationship quality and long term relationship of palm oil yards in Thailand. SEM was employed to test hypotheses. The results was indicated that relational norms influenced on price satisfaction while supply strategy and price satisfaction had positive influence on relationship quality. In addition, relationship quality also had positive influence on long term relationship but relational norms had no influence on relationship quality. Moreover, price satisfaction also had no influence on long term relationship. Structural equation model of long term relationship of fresh palm fruit sellers obtained from this research had percentage of prediction at 71%. As a result, it could be concluded that relationship quality the most important factor of long term relationship because it had direct influence and served as intervening variable contributing other variables to have indirect influence on long term relationship. The findings have some implications for both policy and management in the palm oil mill industry in Thailand. The main managerial implication is that executives of palm oil mill plants were able to apply the results of this research to determine their strategies and practices to obtain higher level of relationship quality in sellers' points of view regarding trust of sellers, commitment and satisfaction of palm oil mill plants. Moreover, related government agencies (including Ministry of Agriculture and Cooperatives, Ministry of Commerce and Ministry of Industry), they were able to implement obtained results to establish their strategies and integrate their operations to develop and improve effectiveness and efficiency of Thailand palm oil industry, especially, on supply chain management and logistics. Firstly, government should promote investment on palm oil mill plant construction along with expansion of new plantation areas in order to link all agencies in supply chain of upstream palm oil industry efficiently and to build mutual relationship. Secondly, government should develop clusters of palm oil industry seriously in order to provide continuous and timely communication and information exchange among agencies in supply chain of palm oil. This will lead to good and long term coordination and relationship as well as increase sustainable competitive benchmarking of Thailand palm oil industry. Further researches should study on long term relationship model by analyzing on each specific attribute of sellers in deeper details because sample group with different demographic characteristics has different relationship quality perception and long term relationship (Boniface, 2012). For example, long term relationship should be analyzed from sellers' points of view classified by business size of sellers, business experience, transportation distance and quantity of current plants, etc. Moreover, the research on long term relationship model by studying on points of view of buyers is also of interest because factors influencing on sustainable relationship are different in each level of supply chain (Reynolds *et al.*, 2009). The obtained results would be able to be implemented to develop long term relationship between buyers and sellers in supply chain sustainably.

REFERENCES

- Batt, P.J. and H. Wilson, 2000. Exploring the Nature of Buyer-Seller Relationships in the Western Australian Wine Industry. In: *Visionary Marketing for the 21st Century: Facing the Challenge*, O'Casey, A. (Ed.). Griffith University, Gold Coast, Australia, ISBN-13: 9780868579931, pp: 61-66.
- Bearden, W.O., G.R. Netemeyer and M. Mobley, 1998. *Handbook of Marketing Scales: Multi-Item Measure for Marketing and Customer Behavior*. Sage Publication, Newbury Park, USA.
- Bollen, K.A., 1989. *Structural Equations with Latent Variables*. 1st Edn., John Wiley and Sons, New York, USA., ISBN-10: 0471011711, Pages: 514.
- Boniface, B., 2012. Producer relationships segmentation in Malaysia's milk supply chains. *Br. Food J.*, 114: 1501-1516.
- Boniface, B., A. Gyau and R. Stringer, 2012. Linking price satisfaction and business performance in Malaysia's dairy industry. *Asia. Pac. J. Market. Logist.*, 24: 288-304.
- Byrne, B.M., 2001. *Structural Equation Modeling with AMOS: Basic Concepts, Application and Programming*. 1st Edn., Lawrence Erlbaum Associates, Mahwah, New Jersey, USA., ISBN-13: 9780805841046, Pages: 352.
- CPI, 2011. Annual report 2011. Chumporn Palm Oil Industry Public Company Limited (CPI), Bangkok, Thailand.
- Caceres, R.C. and N.G. Paparoidamis, 2007. Service quality, relationship satisfaction, trust, commitment and business-to-business loyalty. *Eur. J. Market.*, 41: 836-867.
- Chanklub, B. and P. Pantharak, 2011. The supply chain model of oil palm in Nakhon Si Thammarat province. Walailak University, Nakhon Si Thammarat, Thailand.
- Cherngthong, S., V. Limpattanasiry, S. Cherngthong and S. Chanprasit, 2008. Area data base and marketing system of oil palm in Surat Thani province. Prince of Songkla University, Surat Thani, Thailand.
- Chopra, S. and P. Meindl, 2007. *Supply Chain Management, Strategy, Planning and Operation*. 3rd Edn., Pearson Education, New Jersey, ISBN-13: 9780131730427, Pages: 536.
- Chopra, S. and P. Meindl, 2009. *Supply Chain Management: Strategy, Planning and Operation*. 4th Edn., Prentice Hall, New Jersey, ISBN: 9780136080404, Pages: 501.
- Diamantopoulos, A. and J.A. Siguaw, 2000. *Introducing LISREL: A Guide for the Uninitiated*. Sage Publications, London, ISBN: 9780761951711, Pages: 171.
- Dwyer, F.R., P.H. Schurr and S. Oh, 1987. Developing buyer-seller relationships. *J. Market.*, 51: 11-27.
- Essig, M. and M. Amann, 2009. Supplier satisfaction: Conceptual basics and explorative findings. *J. Purchas. Supply Manage.*, 15: 103-113.
- Fink, C.R., L.W. James, J.K. Hatten and L.H. Bakstran, 2008. Supplier strategies to increase customer purchases over the duration of customer-supplier relationships. *J. Bus. Ind. Market.*, 23: 529-543.
- Gardner, J.T., D.M. Lambert and M.A. Emmelhainz, 1999. *Partnership Facilitator's Guide: Developing and Implementing Successful Partnerships in the Supply Chain*. International Center for Competitive Excellence, College of Business, University of North Florida, USA., ISBN: 9780967618401, Pages: 228.
- Glass, G.V. and J.C. Stanley, 1970. *Statistical Methods in Education and Psychology*. Prentice-Hall, Englewood Cliffs, NJ., Pages: 596.

- Gyau, A., A. Spiller and C. Wocken, 2011. Price or relational behaviours?: Supplier relationship management in the German dairy industry. *Br. Food J.*, 113: 838-852.
- Hair, J.F., R.L. Tatham, R.E. Anderson and W.C. Black, 1998. *Multivariate Data Analysis*. 5th Edn., Prentice Hall, Upper Saddle River, NJ., USA., ISBN-13: 978-0138948580, Pages: 768.
- Hair, J.F., W.C. Black, B.J. Babin, R.E. Anderson and R.L. Tatham, 2006. *Multivariate Data Analysis*. 6th Edn., Prentice Hall, Upper Saddle River, NJ., USA., ISBN-13: 978-0130329295, Pages: 928.
- Hair, J.F., W.C. Black, B.J. Babin and R.E. Anderson, 2010. *Multivariate Data Analysis*. 7th Edn., Prentice-Hall, Upper Saddle River, NJ., USA., ISBN-13: 978-0138132637, Pages: 816.
- Heide, J.B. and G. John, 1992. Do norms matter in marketing relationships? *J. Market.*, 56: 32-44.
- Ivens, B.S., 2004. How relevant are different forms of relational behavior? An empirical test based on Macneil's exchange framework. *J. Bus. Ind. Market.*, 19: 300-309.
- Ivens, S.B. and C. Pardo, 2007. Are key account relationships different? Empirical results on supplier strategies and customer reactions. *Ind. Market. Manage.*, 36: 470-482.
- Jiang, Z., S.C. Henneberg and P. Naude, 2011. Supplier relationship management in the construction industry: The effects of trust and dependence. *J. Bus. Ind. Market.*, 27: 3-15.
- KRC, 2012. Oil palm after AEC. Kasikorn Research Center Co. Ltd. (KRC), Bangkok, Thailand.
- Kaufmann, P.J., 1987. Commercial exchange relationships and the negotiator's dilemma. *Negotiation J.*, 3: 73-80.
- Kaufmann, P.J. and L.W. Stern, 1988. Relational exchange norms, perceptions of unfairness and retained hostility in commercial litigation. *J. Conflict Resolution*, 32: 534-552.
- Kaufmann, P.J. and R.P. Dant, 1992. The dimensions of commercial exchange. *Market. Lett.*, 3: 171-185.
- Kline, R., 2005. *Principles and Practice of Structural Equation Modeling*. 2nd Edn., Guilford Press, New York, USA., ISBN-13: 9781593850753, Pages: 366.
- Lin, J.S.C. and C.Y. Wu, 2011. The role of expected future use in relationship-based service retention. *Managing Serv. Qual.*, 21: 535-551.
- Lu, H., S. Feng, J.H. Trienekens and S.W.F. (Onno) Omta, 2008. Performance in vegetable supply chains: The role of *Guanxi* networks and buyer-seller relationships. *Agribusiness*, 24: 253-274.
- Matzler, K., A. Wurtele and B. Renzl, 2006. Dimensions of price satisfaction: A study in the retail banking industry. *Int. J. Bank Market.*, 24: 216-231.
- Matzler, K., B. Renzl and R. Faullant, 2007. Dimensions of price satisfaction: A replication and extension. *Int. J. Bank Market.*, 25: 394-405.
- Meena, P.L. and S.P. Sarmah, 2012. Development of a supplier satisfaction index model. *Ind. Manage. Data Syst.*, 112: 1236-1254.
- Morgan, R.M. and S.D. Hunt, 1994. The commitment-trust theory of relationship marketing. *J. Market.*, 58: 20-38.
- Mysen, T., G. Svensson and J.M. Payan, 2011. The key role of opportunism in business relationships. *Market. Intell. Plann.*, 29: 436-449.
- Nath, P. and A. Mukherjee, 2012. Complementary effects of relational bonds in information asymmetry contexts. *J. Serv. Market.*, 26: 168-180.
- National Economic and Social Development Board, 2012. The eleventh national economic and social development plan (2012-2016). National Economic and Social Development Board, Office of the Prime Minister, Bangkok, Thailand.

- Ndubisi, N.O., C.K. Wah and G.C. Ndubisi, 2007. Supplier-customer relationship management and customer loyalty: The banking industry perspective. *J. Enterprise Inform. Manage.*, 20: 222-236.
- Noordewier, T.G., G. John and J.R. Nevin, 1990. Performance outcomes of purchasing arrangements in industrial buyer-vendor relationships. *J. Market.*, 54: 80-93.
- Nunnally, J. and I.H. Bernstein, 1994. *Psychometric Theory*. McGraw-Hall, New York.
- OAED, 2011. Oil palm and palm oil situation report. Office of Agricultural Extension and Development Region 5, Songkhla.
- Ou, W.M., C.M. Shih, C.Y. Chen and K.C. Wang, 2011. Relationships among customer loyalty programs, service quality, relationship quality and loyalty: An empirical study. *Chin. Manage. Stud.*, 5: 194-206.
- Pathumnakul, S., K. Philtongngam, S. Sutthachai and J. Suksawat, 2010. *Agricultural supply chain: Managing suppliers*. Khon Kean University.
- Rasila, H., 2010. Customer relationship quality in landlord-tenant relationship. *Property Manage.*, 28: 80-92.
- Rattanaprom, W., 2012. *Supply chain of oil palm in Surat Thani province*. Surattani Rajabhat University, Surat Thani.
- Rauyruen, P. and K.E. Miller, 2007. Relationship quality as a predictor of B2B customer loyalty. *J. Bus. Res.*, 60: 21-31.
- Ravinelli, R.J. and R.K. Hambleton, 1997. On the use content specialists in the assessment of criteria reference test Item validity. *J. Educ. Res.*, 2: 49-60.
- Redondo, P.Y. and C.J. Fierro, 2007. Importance of company size in long-term orientation of supply function: An empirical research. *J. Bus. Ind. Market.*, 22: 236-248.
- Reynolds, N., C. Fischer and M. Hartmann, 2009. Determinants of sustainable business relationships in selected German agri-food chains. *Br. Food J.*, 111: 776-793.
- Saura, I.G., M.F. Deltoro and A.C. Taulet, 2009. The value of B2B relationship. *Ind. Manage. Data Syst.*, 109: 593-609.
- Schulze, B., C. Wocken and A. Spiller, 2006. Relationship quality in agri-food chains: Supplier management in the German pork and dairy sector. *J. Chain Network Sci.*, 6: 55-68.
- Selnes, F., 1998. Antecedents and satisfactions of trust and satisfaction in buyer-seller relationship. *Eur. J. Market.*, 32: 305-322.
- Shevlin, M. and J.N.V. Miles, 1998. Effects of sample size, model specification and factor loadings on the GFI in confirmatory factor analysis. *Personality Individual Differences*, 25: 85-90.
- Somogyi, S., A. Gyau, E. Li and J. Bruwer, 2010. Enhancing long-term grape grower/winery relationships in the Australian wine industry. *Int. J. Wine Bus. Res.*, 22: 27-41.
- Tohidinia, Z. and M. Haghghi, 2011. Predictors and outcomes of relationship quality: A guide for customer-oriented strategies. *Bus. Strat. Ser.*, 12: 242-256.
- Univanich Co. 2011. Univanich annual report 2011. Univanich Palm Oil Public Company Ltd., Krabi, Thailand. <http://uvan.listedcompany.com/misc/ar/20120417-UVAN-AR2011.pdf>
- Venetis, K.A. and P.N. Ghauri, 2004. Service quality and customer retention: Building long-term relationships. *Eur. J. Market.*, 38: 1577-1598.
- Walter, A., T.A. Muller, G. Helfert and T. Ritter, 2003. Functions of industrial supplier relationships and their impact on relationship quality. *Ind. Market. Manage.*, 32: 159-169.
- Zhang, Z., A. Waszink and J. Wijngaard, 2000. An instrument for measuring TQM implementation for Chinese manufacturing companies. *Int. J. Qual. Reliab. Manage.*, 17: 730-755.