

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

This chapter presents the research methodology used in this research study. Quantitative research is the main method used in the surveying and collecting of data from the sample groups who are the executives of the food exporting businesses in Thailand.

The researcher has done the literature review studying the concepts, the theories and the relevant research studies concerning the field of food manufacturing and food exporting including the collecting of statistical figures from the food exporting units in order to bring them into use as the supporting data for the data which are collected from the field surveys. The details of the field surveys are as follows:

#### **The Population and the Sample Groups**

##### ***The Population***

The population used in this study is food exporting industrial groups who do business in exporting food products out of Thailand. The researcher has collected data from the list of Thai food exporters whose names are classified according to the types of food as shown below:

1. Canned food
2. Seafood

3. Processed fruit and vegetables
4. Instant food
5. Food ingredients
6. Other types of food promoted by the Department of Export

#### Promotion

The population frame used in this research study consists of 1,732 individuals who were still in the export business as of December 31<sup>st</sup> 2009.

#### *Sample Groups*

The sample groups were randomly selected from the population frame chosen on the basis of probability sampling by using a simple random sampling method. Proportional stratified sampling was used to calculate the size of the sample groups using one observation variable for one sample. There are twenty-one observable variables in this analysis. Therefore, it is estimated that there are 210 sample groups (210\*10) all together.

As with past studies which used questionnaires in collecting data, the questionnaire was sent by mail and it was found that the rate of reply was low, approximately 26 per cent (Styles et al., 2008). Therefore, in order to get enough data for the analysis, the researcher limited the size of the samples, taking into consideration the number of replies. The size of the sample groups was calculated to be 808 answered copies ( $210 * 100 / 26 = 808$ ). Consequently, the researcher sent out 808 copies of the questionnaire.

From the literature review and the research study papers involved, the researcher was able to limit the variables for the study and divide them into six variable groups (six dimensions), consisting of the following:

1. Firm competencies
2. Marketing mix
3. Readiness of resources
4. Linking of allied business networks
5. Exporting strategies
6. Creative competitive advantages

In summary, the indicators of variables and the definitions of performance are firm competencies, marketing mix, readiness of resources, linking of allied business networks, and the export strategies of the firm.

### **Firm Competencies**

According to Aaby and Slater (1989), Chetty and Hamilton (1993), Dunning (2008), Enders (2004), and Green (2005), firm competencies are defined as the executives' vision for the firm through the setting of objectives for the management and the workforce to achieve together. The objectives consist of four dimensions as follows:

1. The attitudes in the administration of the executives
2. The satisfaction in the results of the performance
3. The determination of the firm
4. Technology and research

The attitudes in the administration of the executives. These are the concepts which the executives use in managing the firm according to the objectives set and the success achieved in exporting food products to the world markets.

There are five indicators in this dimension. The satisfaction in the results of the performance. Business performers are satisfied with the results of the past exporting business. There are four indicators in this dimension.

The determination of the firm. The firm has business administration and source management that support the exporting business to a proper level of business performance. There are five indicators in this dimension.

Technology and research. The firm utilizes the technology and the research development that enable the firm to produce better quality and nutritionally superior products which finally gives the exporting business a competitive edge. There are five indicators in this dimension.

All the indicators are shown in Table 6.

**Table 6**

*The Indicators of the Variables in the Firm Competencies*

Code	Questionnaire
FIR 1	The executives think that the success of the firm must result from the long-term advantages and profits.
FIR 2	The executives believe that exporting will create the chance to make greater profits than doing domestic business.
FIR 3	The executives have set good plans and strategies for exporting.
FIR 4	The executives utilize modern technologies and facilities in making plans. They stress the importance of data system in the administration.

**Table 6 (continued)**

Code	Questionnaire
FIR 5	The firm is able to prevent any problems from happening in the future.
FIR 6	The firm is satisfied with the exporting sales.
FIR 7	The firm is satisfied with the profits in the exporting business.
FIR 8	The firm has a continuous increase in exporting market share.
FIR 9	The executive are capable of analyzing the existing problems reasonably.
FIR 10	The firm manufactures standard products according to the standardization of the food industry.
FIR 11	The firm utilizes modern facilities for the communication within the company.
FIR 12	The executives have always cooperated with each other in making important decisions.
FIR 13	There are brainstorming sessions to get opinions and performance trends in solving the existing problems from all the members of the working team.
FIR 14	The firm is always seeking new opportunities in the new exporting markets.
FIR 15	The firm has continually improved and developed its manufacturing technology.
FIR 16	The firm has a competent research working team and personnel in developing products which are as good as or better than those of the competitors.
FIR 17	The firm has manufacturing technology as good as or better than that of the competitors.
FIR 18	The firm has continually invested in technology.
FIR 19	The research and product development personnel have higher knowledge and capability than that of the competitors.

## Marketing Mix

The factors of marketing mix are defined as the performing of business through marketing mix to create product acceptability by manufacturing internationally standardized quality products, using pricing as the tool in marketing, and distributing products widely to the customers (Makadok, 2001). There are four dimensions as follows:

1. Products
2. Price

### 3. Distribution channels

### 4. Sales promotions

Products. The manufacturing of internationally standardized food products is important to ensure the products are safe from non-toxic chemical compounds. The products are manufactured according to the standards set in different markets using modern manufacturing processes and are quality controlled in every step. There are five indicators used in this dimension.

Price. The cost of products set from the capital cost of every type of product according to industrial standards. There are four indicators in this dimension.

Distribution channel. Global distribution of products to the consumers. There are three indicators in this dimension.

Sales promotion. Increase in sales volume by promoting market sales to stimulate the demand of customers using different methods such as price discounting, and giving out free gifts. There are four indicators in this dimension.

All the indicators are shown in Table 7

**Table 7***The Indicators of the Variable Factors of Marketing Mix*

Code	Questionnaire
PRO 1	Your products are highly accepted by the customers.
PRO 2	Your firm has manufacturing standards according to the demands of the customers.
PRO 3	The firm has a quality control system according to that of the international standards.
PRO 4	The firm has continually improved and developed new products to meet the needs of the market demands.
PRO 5	The firm thinks of capital costs before setting the price of the products.
PRO 6	At present, the prices of the products of your firm are lower than those of the same products of your competitors.
PRO 7	The rate of the cost of products for exportation is low.
PRO 8	The firm emphasizes the importance of delivering products in accordance with the quantity and quality stated in the contract.
PRO 9	The firm sets marketing plans to increase the exporting value.
PRO 10	The firm has a good relationship with the distributors and cooperates with others in distributing products more effectively.
PRO 11	The firm participates in the food trade exhibitions in foreign countries supported by the government in seeking new exporting markets.
PRO 12	The firm has developed the ways of distribution to the greatest advantage of the consumers.
PRO 13	The firm is capable of conducting advertising campaigns and doing marketing promotions.
PRO 14	There are price reductions for the customers who continuously buy a large number of products from the firm.
PRO 15	The firm abides by the standards of environmental rules for exporting.
PRO 16	The firm uses Thailand brand as the selling point.
PRO 17	The firm uses the Halal trademark for exporting to export products to Muslim Countries.

## **Readiness of Resources**

Readiness of resources means the business management of the firm is adept in doing every business activity. Readiness in finance can help in seeking investment capital and managing it effectively. Readiness in human resources provides qualified personnel. Having skillful workmanship and readiness in having a good working environment suitable for the management in the firm are important. Readiness in the relationship with business partners and having close cooperation with each other all the time is essential.

In summary, readiness which enables the creating of competitiveness internationally consists of readiness in finance, readiness in human resources, readiness in physical properties and readiness in the relationship with customers (Barney, 2001; Makhija, 2003).

**Readiness in finance.** The business management should have a good financial situation capable of seeking investment capital funds. The business funds must be enough to enable a feasible financial situation for any situation that would require high trade-credit worthiness. There are four indicators in this dimension.

**Readiness in human resources.** Business management provides continual training courses and seminars to personnel. The personnel have knowledge and ability appropriate for their responsible tasks and duties. The workforce is more skillful, more knowledgeable and more competent than that of the competitors. There are four indicators in this dimension.

Readiness in the physical properties of the business. The business firm invests in machinery and facilities capable of manufacturing modern products in order to gain a competitive advantage over rival firms (on the same industrial products.) There are five indicators in this dimension.

Readiness in relationships with business partners. The business firm is capable of creating friendliness among the related business firms, enabling negotiations with fellow businesses. There are four indicators in this dimension.

The total of 16 indicators for the four dimensions described above is shown in Table 8.

**Table 8**

*The Indicators of the Variable Factors for the Readiness of Resources*

Code	Questionnaire
FRI 1	The firm has a feasible financial situation.
FRI 2	The trade credit-worthiness of the firm is high.
FRI 3	The firm has high competency in seeking investment capital funds.
FRI 4	The firm has skillful, knowledgeable, and capable workforce.
FRI 5	The firm utilizes financial resources in the exporting activities more than in the domestic market business.
FRI 6	The firm has competent, knowledgeable personnel/executives who have equal or more experience than those of the competitors.
FRI 7	The research and product development personnel have more knowledge and competency than those of the competitors.
FRI 8	The firm has designer experts who are more knowledgeable and more qualified than those of the competitors.

**Table 8 (continued)**

Code	Questionnaire
FRI 9	The firm has enough quantity of good-quality raw materials to manufacture food products.
FRI 10	The firm has low-price raw materials to manufacture food products.
FRI 11	The efficiency and quality of the machinery are better than those of the competitors.
FRI 12	The firm has continually developed the process of quality-testing system.
FRI 13	The executives are competent of negotiating with the customer countries effectively.
FRI 14	The firm is efficient in delivering products punctually.
FRI 15	The firm participates in the marketing strategies of the customers abroad.
FRI 16	The firm has a standardized system of measuring the satisfaction of its customers.

### **Linking of Allied Business Networks**

Linking of allied business networks means the business has a cooperative network in the government sector, the private sector, and the food industrial groups. This is necessary so that they can cooperate in the development of the export process, the international standards of manufacturing, and a transportation system within the network which permits mutual benefit. There are three dimensions involved as follows:

1. The government sector
2. The food industrial groups
3. The food industrial chains

The support from the government sector. Government promotion agencies in international exportation create international level strategies to help the exporters complete business deals with customers in foreign countries

and are therefore able to open new markets abroad, for example organizing food exhibitions in foreign countries. There are five indicators in this dimension.

Food industrial groups. The gathering of food industries to cooperate in sharing manufacturing factors as well as technology to develop the manufacturing of Thai food products to compete in the world markets. There are four indicators in this dimension.

Food industrial chains. Grouping to deliver and distribute food products to create negotiation power in transporting both domestically and internationally. There are five indicators in this dimension.

There is the total of 15 indicators in these three dimensions as shown in Table 9.

**Table 9**

*The Indicators of Variable Factors for Linking of the Allied Business Network*

Code	Questionnaire
NET 1	The stability of politics has an impact on the decision of exporting.
NET 2	The announcement of the government policy in free trade has an impact on the exportation.
NET 3	Trade deals help maintain the status and potentiality of Thailand's exportation.
NET 4	Trade grouping can reduce taxes among the trade partners.
NET 5	The government's promotion in exportation investment is advantageous to the firm.
NET 6	The firm has continual cooperation in the exchange of ideas and technologies within the industrial groups.
NET 7	The firm cooperates with the food industrial groups in the development of food products.

**Table 9 (continued)**

Code	Questionnaire
NET 8	The firm cooperates with the network groups in the development of water sources.
NET 9	The firm has continually cooperated with food institutions in doing research studies.
NET 10	The firm can reduce the delivery time of goods after receiving orders, using the least amount of time as possible.
NET 11	The firm has effective domestic and international transportation systems.
NET 12	The firm has developed competence by combining the working force with the members of the chains of supply.
NET 13	The firm is flexible in performance through the cooperation within the chains of supply.
NET 14	The firm shares in the decisions about the resources of raw materials of the firms which are suppliers.
NET 15	The firm has developed or set up the methods of evaluating the operations of business which can be used in all the chains of supply.

### **Exporting Strategies of the Firm**

Exporting strategies of the firm are defined as the ways of seeking business materials which provide advantages for business performance by applying different business strategies to create advantages in every market channel. There are three dimensions:

1. Product differentiation strategy
2. Low investment cost strategy and
3. Trade business strategy.

The details of exporting strategies are as follows:

1. Product differentiation strategy means that the business has its own methods of manufacturing products. It has developed and improved the quality of products to meet the needs of the consumers in each region, making use of the advantages of manufacturing Thai food to satisfy the tastes of both Thai and foreign consumers. There are five indicators in this dimension.

2. Low investment cost strategy means that the company's planning of guidelines and methods for creating advantages over the competitors is based on using a low investment cost in manufacturing. There are three indicators in this dimension.

3. Trade business strategy refers to the methods of marketing such as creating trust in trademarks and manufacturing good quality products for sale in foreign countries. There are four indicators in this dimension.

There is the total of 13 indicators as shown in Table 10.

**Table 10**

*The Indicators of Variable Factors of the Exporting Business*

Code	Questionnaire
STR 1	The food products of your firm have a uniqueness that cannot be imitated by competitors.
STR 2	The expansion of the cooperation between the government sector and the private sector has an impact on the exportation of goods to many countries of the world.
STR 3	Your firm's products are considered to be modern and well-developed in every aspect compared to those of your competitors.
STR 4	Your firm's products are value-added (for example, essential food substances are added or good quality sugar is used to enhance better health.)
STR 5	Your firm utilizes a high quality product manufacturing strategy.

**Table 10** (continued)

Code	Questionnaire
STR 6	Your firm utilizes a low price strategy.
STR 7	Your firm utilizes the firm's brand name as a selling point.
STR 8	Your firm utilizes the good reputation of the industrial groups for the selling point.
STR 9	Your firm has continually invested in doing research studies and developing methods of manufacturing products.
STR 10	Your firm conducts surveys on the demands of the markets in order to adapt and improve the products to meet the needs of the consumer markets.
STR 11	Your firm improves and updates the standards of the products to meet the needs of the targeting markets.
STR 12	Your firm has continually designed and manufactured new products for the market.
STR 13	Creating competitive advantages in the future of food industry.

### **Creating Competitive Advantages**

The final variable group is the ultimate result of the first five variable groups. This variable group is called creative competitive advantages. The goal of much business theory is to create competitive advantages that are not temporary, but sustainable. The large investment of resources up-front should bring about great rewards for the company for considerably longer than the set-up period.

Food exporting businesses of Thailand can maintain or increase the market share and the growth of the exportation value under the present highly competitive situation. There are three indicators in this dimension as follows:

1. Market share
2. Value of the exportation

### 3. Success in exportation

The details of creating competitive advantages are as follows:

1. Market share. The firm has to seek new markets and new customer groups to help expand the business. There are five indicators in this dimension.

2. Value of the exportation. These are the profits from the total sales of food products in foreign countries. There are four indicators in this dimension.

3. Success in exportation. The firm has continually had an increase in the market share and in the customer groups in foreign countries. There are five indicators in this dimension.

There is a total of 14 indicators in these three dimensions which are shown in Table 11.

**Table 11**

*The Indicators of the Variable Factors in Creating Competitive Advantages*

Code	Questionnaire
COMP 1	Your firm has high market share.
COMP 2	The value of exporting of your firm increases every year.
COMP 3	Your firm has a greater market share for the same product than your competitors.
COMP 4	The profits in export sales are higher than those in domestic sales.
COMP 5	The total sales in the past five years has increased. (in baht)
COMP 6	The profits in the past five years increased.
COMP 7	The high competitiveness in domestic trade forces the firm to turn to doing exporting.
COMP 8	Your firm has a working unit which has direct responsibility for exporting.
COMP 9	Your firm has created its own trademark.

**Table 11** (continued)

Code	Questionnaire
COMP 10	The government's policy can increase potentiality of the manufacturers greatly.
COMP 11	The firm emphasizes the increase in customers in every country.

## **The Research Tools**

This research study utilizes a questionnaire as the research tool to collect data about the factors which influence high competitiveness in the future of the food exportation industry of Thailand. The data points are about the competency of the firms, the marketing mix, the readiness of resources, the linking of allied business networks, and the export strategies of the firms. The structure of the questionnaire consists of three parts as follows:

Part 1 The questions about the general characteristics of business. It consists of 8 items.

Part 2 The questions about the factors which influence the creating of competitiveness in food exportation for Thailand. There are 6 groups as follows:

2.1 The competency of the firm in the business administration. This consists of the attitudes in business management of the executives, the satisfaction of the results of the management, the strong determination of the firms and the technology and research. There are 19 questions in a rating scale format. The scale is from 1 to 5, where 1 indicates total disagreement and 5 indicates total agreement.

2.2 The factors of the marketing mix which the firm uses in the marketing management. This part consists of the products, the price, the locations and the sales support. There are 16 rating questions. The scale is from 1 to 5. A score of 1 indicates total disagreement, and a score of 5 indicates total agreement.

2.3 The readiness of resources which the firm uses in management. This consists of the readiness in finance, in human resources, in physical properties, and in the relationship with customers. There are 17 rating scale questions. The scale is from 1 to 5. A score of 1 indicates total disagreement, and a score of 5 indicates total agreement.

2.4 The linking of allied food business networks which the firm uses in its management. This part consists of questions on the government's policies, the food industrial groups, and the food industrial chains. There are 15 rating scale questions. The scale is from 1 to 5. A score of 1 indicates total disagreement, and a score of 5 indicates total agreement.

2.5 The exporting strategies of the firm. This part consists of strategy of differences, the strategy of low investment cost, and the strategy of trade business. There are 12 rating scale questions. The scale is from 1 to 5. A score of 1 means totally disagree and a score of 5 means totally agree.

2.6 The concepts of creating the competitiveness advantages in order to increase and develop market share. This consists of the market share, the exporting value, and the success in exportation. There are 11 rating scale questions. The scale is from 1 to 5. A score of 1 means totally disagree and a score of 5 means totally agree.

Part 3 The questionnaire discusses the opinions of other factors which the firms presume to have an effect on, creating competitiveness in the future of food industry. There are two questions in this part.

### *The Checking of the Validity of the Research Tools*

The questionnaire written to be used in this research study was submitted to experts and the advisory committee to study and check for the correctness of the content validity. The question analysis method was used in considering and estimating the rating scale in order to check the item's Objective Congruence Index of the questionnaire and the objective of the research study. Five experts considered and provided a rating scale of the properness of the questionnaire. The rating scale is as follows:

+1 means it is certain that the questionnaire can be effectively used in getting information relevant to the objectives set.

0 means it is not certain that the questionnaire can be effectively used in getting information relevant to the objectives set.

-1 means it is certain that the questionnaire cannot be effectively used to get information relevant to the objectives set.

After receiving the questionnaire which was studied and evaluated from the experts and advisory committee, the researcher improved the content of the questionnaire according to the advice and suggestions given. The questionnaire was then calculated to find the Item Objective Congruence Index. A questionnaire that has 0.7 IOC or above is considered to have

content validity and is suitable to be used as the indicator of the variables (Makhija, 2003).

After the content validity of the research tools had been checked, the corrected and improved questionnaire was pre-tested with the samples that had the same characteristics and qualities as the samples that were to be used in this research study. The thirty samples to be used were members of the food industrial association. The researcher wanted to check the correctness of the variable scale; therefore the data points were analyzed using factor analysis technique to classify variables as follows:

1. Checking the proper use of the factor analysis technique with the Kaiser Meyer Olkin statistics (KMO); the KMO should not be lower than 0.50.
2. The Principal Component Analysis technique was used.

The factor analysis aims to clarify and reduce variables, and to examine the correctness of the scale by calculating the factor loading using individual factor. The factor has at least a 0.60 eigen value, which is more than 1 KMO but not less than 0.50 (Hunt, 2010).

The reliability analysis of the questionnaire was done by measuring the internal consistency using Cronbach's alpha coefficient technique which examines the quality of tools by individual item and as a whole. The quality of the individual item is considered from the value of Item Total Correlation which should not be less than 0.30. The total quality as a whole is considered from the value of Cronbach's alpha coefficient which should not be less than 0.70 (Hunt, 2010).

The results of the factor analysis and the reliability analysis ( $n = 30$ ) shows that the dimensions of variables KMO Eigen % Cronbach's values variance alpha explain the coefficient efficiency of the firms marketing mix readiness of the four resources linking of the allied network business management strategies.

### ***Creating Competitiveness in Food Industry***

The results of the thirty preliminary data analysis using factor analysis F and Varimax Rotation technique show that the six groups of variable factors are suitable for and capable of doing the analysis. The values of KMO are between 0.50 and 0.82, with the Eigen value of each factor being between 1.86 and 6.49. Each factor has the variance explained between 51-90 and 93.22 per cent. The reliability analysis has the Cronbach's alpha coefficient values between 0.82 and 0.92.

## **The Data Collection**

1. The researcher sent a letter in advance to invite the target group to cooperate in providing data. The reasons, objectives, and the importance of the research study were also included in the letter.
2. The researcher posted letters asking for cooperation in filling out the questionnaire. Enclosed in the letters were addressed envelopes with the fixed duration of time for returning the questionnaire. The researcher used the

Thailand Post Ramkhamhaeng office in sending and receiving the questionnaires.

If any firm failed to return the questionnaire by the due date, the researcher would call them asking for cooperation so that enough data was provided for the analysis.

The collection of data was done between March and April 2010. The sending of the questionnaire was done in two steps. The first step was done in March 2010, and at the due date it was found that there were only 150 replies. Therefore, the researcher called to ask for cooperation once again. The second step was done in April 2010. The questionnaire was sent again along with phone calls. The results of the data collection of both steps were that there were 356 answered questionnaires returned, and there were 87 unanswered questionnaires returned because they had not been received. Then, the data received were checked for correctness and accuracy. Code books were carried out to prepare for the data analysis which was performed using specific computer programs.

### **Data Analysis**

The researcher first analyzed the collected data from the completed questionnaires. It was found that from the 870 questionnaires sent by mail, 87 questionnaires were returned unanswered because they were unable to reach the receivers due to changes in address. There were then 356 questionnaires which had been completely filled out and 6 questionnaires which had not been

completely filled out. Therefore, there were 350 questionnaires which could be used in the analysis. In summary, the rate of answered questionnaires was 32.25 percent.

After the accuracy of the questionnaires was checked, the preliminary data points were analyzed to describe the general characteristics of the sample groups and to clarify them by descriptive analysis method, by percentage, mean, standard deviation, minimum and maximum values.

### ***The Preliminary Data Analysis***

First, the analysis began with the rate of the answered questionnaires, using descriptive analysis methods to explain the nominal and category variables, to calculate the percentage values, and to calculate the frequency of the variables, including the correlation variables. The value of each pair of correlation variables must not exceed 0.80.

Factor analysis using software for social studies was conducted to check the accuracy and the overall theoretical content of the variable groups being studied. Reliability analysis was also completed to check the clarification of data by considering the mean, the standard deviation, the distortion and the maximum of the variables before the data points were analyzed to address the objectives of the research study and also to test the hypotheses of the study.

### ***The Data Analysis***

The objectives of this research study are to study the factors which influence the competency of creating competitiveness in food industry of the future food manufacturers; to test the structural relationship of the factors which influence the competitive advantages in the future food industry; and finally to study the direct, indirect and the aggregated influences of the factors which influence the competitive advantages in the future of the food industry in Thailand. The abstract variables are in the form of latent variables, which cannot be valued directly. Thus, in order to be able to measure the value, the researcher utilized Confirmatory Factor Analysis (CFA) to test the capability of the indicators used in measuring the abstract variables for the accuracy and the directness of the structure of the scale. The analysis of the Structural Equation Model (SEM) and the path analysis of variables were done using the LISREL Prelis 8.52 program.

### ***The LISREL Analysis Program***

The LISREL program is the data analysis for causal model research with latent variables and numerous indicators. The program provides an estimation of inaccuracy and the relationship between the fractions to alleviate the initial agreement of the original causal model analysis. The results of the analysis are accurate and the LISREL model also has the general characteristics covering almost every advanced statistical data analysis including the analysis of variance or ANOVA, multiple regression analysis, the analysis of covariance ANCOVA, multi-sample analysis of multi group

analysis, factor analysis, path analysis, and several other types of analysis (Enders, 2004).

The LISREL analysis helps analyze all the data from the study of the relationship between several variables, whether it is multiple correlation analysis, commonality analysis or canonical correlation analysis. The confirmation or the support in the form of cause and effect shows which free variables cause instabilities or differences to the follow-up variables. It also shows whether such causes from those free variables together with other variables are the causes of instabilities in the follow-up variables. They may be directly or indirectly (or possibly both) related to the analysis by the LISREL program. The data analysis uses the causal model. The variables used in the model consist of two categories:

1. Exogenous variables, which are the variables in which the researcher is not interested in the cause. Thus, these variables do not appear in the model.
2. Endogenous variables, which means the variables which the researcher is interested in studying to find out which are influenced by other variables. The causes of endogenous variables are clearly shown in the model.

In addition, the clarification of variable types in the research model according to the characteristics of variable scale can be grouped into two types as follows:

1. Latent Variables

These are hypothetic variables which cannot be directly measured but have a theoretical framework and an outcome in the form of noticeable

behavior. Latent variables are free from inaccurate measurement. The researcher studies latent variables by measuring the noticeable behavioral variables and estimating the latent variable scales by applying the noticeable variables which are the indicators of the latent variables to the factor analysis. In the analysis model, a circle or an oval pattern is used to represent a latent variable.

## 2. Observed Variables or the Indicators

These are the variables which are measurable or observable by using a made-up instrument. In the analysis model, a square is used to represent an observed variable.

## **Conclusion**

This research study uses a quantitative research method to survey and collect data from 350 samples who are the executives of food exporting industry in Thailand. A questionnaire was used as the research tool in collecting data. The questionnaire was formed from the review of the literature and the content validity was examined for accuracy by the experts and the five members of the advisory committee.

The collecting of data was done by mailing the questionnaire to the food exporters of Thailand. To sum up the results, the rating of the answered questionnaires was 32.23 percent.

The variables used in this study consist of:

### 1. Competency of the firms

2. Marketing mix
3. Readiness of the four resources
4. Linking of the allied networks
5. Business management strategies
6. Creating competitiveness in the future

The researcher analyzed the data by utilizing the “Preliis 2.52 program in social studies” and the “Structural Equation Model (SEM) (LISREL 8.52) Descriptive Analysis” was used to explain the variables. Factor analysis and Confirmatory Factor Analysis (CFA) were used to check and estimate the tools. The analysis of the objectives of the research and the testing of the hypothesis of the research were done by Structural Equation Model (SEM).