

## **CHAPTER 4**

### **THE RESULTS OF DATA ANALYSIS**

The results of the analysis of the quantitative data of this research are reported using descriptive statistics and using multivariate statistics in the data analysis. In this respect the analysis of the data must be consistent with the primary agreement. The results of the data analysis are presented in 6 parts respectively as follows:

Part 1: The general data of the sampling group responding to the questionnaire.

Part 2: The level of opinion in factors of the generation of competitiveness in the future food export industry.

Part 3: The examination of the primary statistical agreement of the data comprising the quality examination of the data according to the primary statistical agreement of data including examination of data according to the primary agreement on the analysis of the constructed equation with the LISREL Program. These primary agreements are composed of the characteristics of normal scattering of data or normality, the verification of constant variance, and homoscedasticity of scattering and examination of the linear relation between horizontal and linearity variables.

Part 4: The confirmatory factor analysis of measurement models of each latent variable by convergent validity and discriminant validity.

Part 5: The analysis of the correlation path and hypotheses test by analyzing the causal model with the LISREL Version 8.52 Program. The author made an analysis of the influence of the advantage generation variable of the food export industry in the future and finally the conclusion of the hypotheses test results.

Part 6: The result of the hypothesis test of the model of generation of competitive advantage of food export industry in the future.

## The Results of the Analysis of General Data

### *Part 1: General Data of the Sampling Group Responding to the Questionnaire*

The results are shown in Table 12.

**Table 12**

*General Data of the Sampling Group Responding to the Questionnaire*

*Sample Descriptive Statistics* (n = 350)

| Variable/Indicator         | Number | Percent |
|----------------------------|--------|---------|
| Size of Business           |        |         |
| Less than 50 million baht  | 193    | 55.14   |
| 51-200 million baht        | 92     | 26.28   |
| 201-500 million baht       | 32     | 9.14    |
| More than 501 million baht | 62     | 17.71   |

**Table 12** (continued)

| Variable/Indicator  | Number | Percent |
|---|--------|---------|
| Registered Capital  |        |         |
| Less than 50 million baht   | 172    | 49.14   |
| 51-200 million baht   | 155    | 44.28   |
| 201-500 million baht  | 17     | 4.86    |
| More than 501 million baht  | 6      | 1.71    |
| Type of Business  |        |         |
| Single owner  | 59     | 16.85   |
| Limited Partnerships  | 24     | 6.86    |
| Limited company   | 257    | 73.42   |
| Others (please specify)   | 10     | 2.85    |
| Are there any foreign partnerships?   |        |         |
| 100% Thai   | 289    | 82.57   |
| Foreign company   | 28     | 8.00    |
| Foreign partnership.....%   | 23     | 6.57    |
| Others (Please specify)   | 10     | 2.86    |
| In which parts of the world are your customers? (You can choose more than one answer) |        |         |
| Asia  | 271    | 77.42   |
| Europe  | 135    | 37.14   |
| America   | 5      | 1.42    |
| Middle East   | 1      | 0.05    |

**Table 12** (continued)

| Variable/Indicator                    | Number | Percent |
|---------------------------------------|--------|---------|
| The world of your customers           |        |         |
| (You can choose more than one answer) |        |         |
| Asia                                  | 271    | 77.42   |
| Europe                                | 130    | 37.14   |
| America                               | 95     | 27.14   |
| Middle East                           | 44     | 12.57   |
| Others (Please specify)               | 5      | 1.42    |
| Income                                |        |         |
| Net profit more than 50 million baht  | 80     | 22.86   |
| Net profit less than 50 million baht  | 224    | 64.00   |
| No gain, No loss                      | 33     | 9.43    |
| Loss                                  | 13     | 3.71    |
| Year of business                      |        |         |
| Less than 5 year                      | 95     | 27.14   |
| 6 -10 years                           | 102    | 29.14   |
| 11-15 years                           | 48     | 13.71   |
| 16-20 years                           | 46     | 13.14   |
| More than 21 years                    | 59     | 16.86   |
| Total amount of exporting of the firm |        |         |
| Less than 10 percent                  | 79     | 22.57   |
| 11-20 percent                         | 135    | 38.57   |
| 21-25 percent                         | 81     | 23.14   |
| More than 25 percent                  | 55     | 15.71   |

This study gathered data from food export industry executives carrying out business operations in Thailand. There were a total of 350 persons. The results of the analysis found that 193 respondents (or 55.14%) were

entrepreneurs with business size (as of Fiscal year 2008 business operation) and assets of less than 50 million baht computed as 55.14%. 92 respondents (or 27.71%) were entrepreneurs with business size and assets between 51-200 million baht, and 32 respondents (or 12.00%) were entrepreneurs with business size and assets between 201-500 million baht.

The results of the analysis also found that 172 respondents (or 49.14%) were entrepreneurs with registered capital of less than 50 million baht, 155 respondents (or 44.28%) were entrepreneurs with registered capital between 51-200 million baht, and 6 respondents (or 1.71%) were entrepreneurs with registered capital of more than 501 million baht.

In terms of type of business operations, the results showed that 257 respondents (or 73.42%) were in the form of a company limited, 59 respondents (or 16.85%) were single owner firms, and 24 respondents (or 6.86%) were in the form of company partnerships.

The results of the analysis showed that 289 respondents (or 82.57%) were 100% Thai companies where 28 respondents (or 8%) were Western companies, and 10 respondents (or 2.85%) were African-based companies.

For market regions of the customers, there were 271 respondents or (77.42%) with Asian countries as their main territory, 135 respondents (or 77.42%) were from European countries, 5 respondents (or 1.42%) were from Africa, and 5 respondents (or 1.42%) were from various other regions.

Business operation results showed that 224 respondents (or 64%) had a net profit of less than 50 million baht, 80 respondents (or 22.86%) had a net

profit of more than 50 million baht, and 13 respondents (or 3.71%) recorded a business operation loss.

The results of the duration of most business operations show that 102 respondents (or 29.14%) had been in operation between 4 to 6 years, 95 respondents (or 27.14%) had operated their business between 1 to 3 years, and 46 respondents or (13.14%) had operated their business between 10 to 15 years.

The results on the gross export showed that 160 respondents (or 22%) had gross exports between 21 to 30%, 100 respondents (or 19%) had their gross between 10 to 20%, and 95 respondents (or 0.69%) had the gross between 40 to 50%.

### ***Part 2: The Level of Opinion on Factors Relating to the Generation of Advantage in the Competition of Food Export industry in the Future***

The level of opinion of the sampling group in respect of factors relating to generation of advantages on competition of food export industry manufacturers in Thailand are separated into 6 main parts which are:

1. The level of opinions on organizational effectiveness with factors comprising 4 dimensions including the attitudes regarding the business operation of management, satisfaction towards business operation results, organizational determination, and technology and research.

2. The level of opinions concerning marketing mix factors comprised 4 dimensions including food product, product pricing, scattering channels and marketing promotion.

3. The level of opinions concerning readiness of resource variables comprised 4 dimensions including financial readiness, personnel readiness, business physical readiness and relation with business partners.

4. The level of opinions concerning business allies network connection variables comprised 3 dimensions including governmental support, food industry group, and food industrial chains.

5. The level of opinion concerning organizational export strategy comprised 3 dimensions including different product strategies, low cost strategies, and business trade strategies.

6. Level of opinion concerning the ability to generate advantages in the competition e.g. market share, export value and export success. See Table 13.

**Table 13**

*The Level of Opinions of Respondents on Generation Competition Advantages*

| Variable/Indicator                  | Mean  | Standard<br>Deviation | Interpretation |
|-------------------------------------|-------|-----------------------|----------------|
| Firm Competencies Factor            | 3.218 | .325                  | Medium Level   |
| Attitudes in Running the Management | 3.098 | .324                  | Medium Level   |
| Satisfaction TW Work Operation      | 3.452 | .641                  | Medium Level   |
| Organization Commitment             | 3.104 | .327                  | Medium Level   |
| Technology and Research             | 3.102 | .321                  | Medium Level   |
| Marketing Mix Factor                | 3.597 | .661                  | High Level     |
| Food Products                       | 3.602 | .652                  | High Level     |
| Product Price                       | 3.500 | .552                  | High Level     |
| Scattering Channels                 | 3.610 | .654                  | High Level     |

**Table 13** (continued)

| Variable/Indicator                                       | Mean  | Standard<br>Deviation | Interpretation |
|--|-------|-----------------------|----------------|
| Marketing Promotion                                      | 3.676 | .663                  | High Level     |
| Resources Readiness                                      | 3.676 | .654                  | High Level     |
| Financial Readiness                                      | 3.885 | .550                  | High Level     |
| Personnel Readiness                                      | 4.104 | .650                  | High Level     |
| Physical Readiness                                       | 3.558 | .717                  | High Level     |
| Relations with Business Partners                         | 3.636 | .632                  | High Level     |
| Linking of Allied Business Network                       | 3.672 | .667                  | High Level     |
| Governmental Support                                     | 3.363 | .665                  | High Level     |
| Food Industry Group                                      | 3.541 | .816                  | High Level     |
| Supply Chain Network                                     | 3.532 | .635                  | High Level     |
| Organizational Export Strategy                           | 3.414 | .853                  | Medium Level   |
| Different Products Strategy                              | 3.340 | .654                  | Medium Level   |
| Low Cost Strategy  | 3.365 | .653                  | Medium Level   |
| Business Trade Strategy                                  | 3.420 | .645                  | Medium Level   |
| Generation of Competition Advantages<br>in Food Industry | 3.670 | .665                  | High Level     |
| Market Sharing   | 3.885 | .560                  | High Level     |
| Export Value   | 3.752 | .665                  | High Level     |
| The Success of the Export                                | 3.850 | .653                  | High Level     |

The results of the analysis showed a mean value of 3.218 with the management administration attitude in the medium level, satisfaction dimension of work operation was in the medium level, organization determination dimension in the medium level and technology and research dimension in the medium level.

The results of this analysis were in the high level with an average of 3.597. Food product dimension (PRO) was in the high level with a mean of 3.500. Scattering channel dimension (PLA) was in the high level with a mean of 3.610. The marketing promotion dimension (PRO) was in the high level with a mean of 3.676.

For the results of the analysis of the level of opinions of the generation of competition advantages in food industry in the future overall for resources readiness (RESO), the opinion of producers in the food export industry was in the high level with a mean of 3.676 with the Financial Readiness dimension at the high level with an average of 3.885. Personnel Readiness dimension was in the high level with mean of 4.104. In respect of the Physical Readiness dimension, there was a high average of 3.558, while the relations with business partners index (REL) was in the high level with a mean of 3.636.

For the results of the analysis of the level of opinions of the generation of competition advantage in the food industry in the future overall for business allies network connection (NETW), the opinions of producers of the food export industry were in the high level with a mean of 3.672 with the governmental support dimension (COR) in the high level with a mean of 3.363; the food industry group dimension was in the high level with a mean of 3.541, and the supply chain network dimension was in the high level with a mean of 3.532.

The results of the analysis of the level of opinions of the generation of competition advantages in the food industry in the future overall for organizational export strategy (STRA) was in the medium level with a mean

of 3.414. The different products strategy dimension (DIF) was in the medium level with a mean of 3.340, the low cost strategy dimension (COS) was in the medium level with a mean of 3.365, and the business trade strategy dimension (BUS) was in the medium level with a mean of 3.420.

The results of the analysis of the level of opinions of the generation of competition advantages in the food industry in the future overall for ability in generation of advantages in the competition (COMP) show that the opinions of producers of the food export industry for export landed in the high level with a mean of 3.885, the export value dimension (EXP) in the high level with a mean of 3.752, and the export success dimension in the high level with a mean of 3.85.

### ***Part 3: The Examination of the Primary Statistical Agreement***

The examination of the quality of the data is consistent with the primary agreement of the application of the multivariate analysis for construct equation model including (1) the characteristics of normal scattering of data or normality, (2) the examination of constant variance and homoscedasticity of scattering, and (3) the examination of linear relations between horizontal and linearity variables. Additionally, the confirmatory factor analysis of the measurement model of each latent variable by convergent validity and discriminant validity was also conducted by the author.

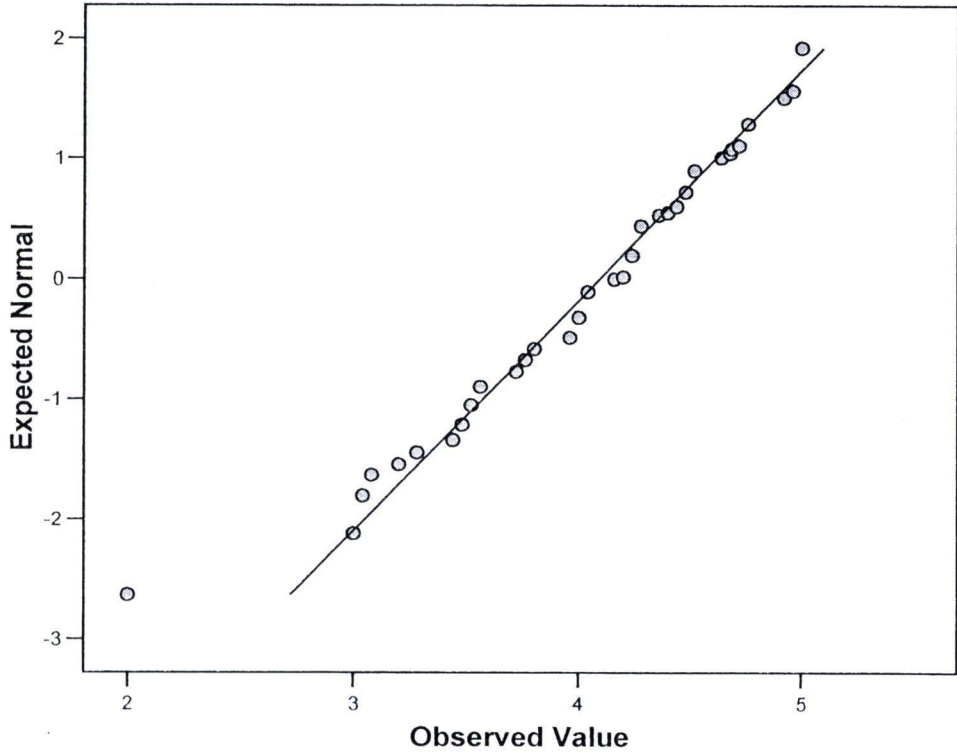
The data analysis with multivariate statistics and the examination of the agreement of data with the statistic primary agreement are considered essential. This is because in the data analysis with multi variables, if any

variables have properties which are not in accordance with the primary data, there may be an odd result with hidden characteristics. This would make it inconsistent with the primary agreement thereby deviating from the data, which is not in accordance with the primary agreement. Therefore the primary agreement of multivariate analysis for the constructed equation model statistical analysis would require data points to be examined whether they meet the following primary agreement or not.

***Examination of the characteristics of normal scattering of data or normality***

The examination of characteristics of normal scattering or data normality to determine the effectiveness of the estimation of the variables or robustness of the estimation requires that the analytic statistics used in the  $t$  Test and  $F$  test were with primary agreement that the variables must be distributed in a normal form (Hofmann, 2006). The examination of the data normality scattering may be made by the scatter plot examination. The results of the scatter plot examination of each variable found that diagonal linearity was derived. It can be concluded that each variable was with the scattering character of a normal curve (Hofmann, 2006). The results are shown as per Figures 8 to 36.

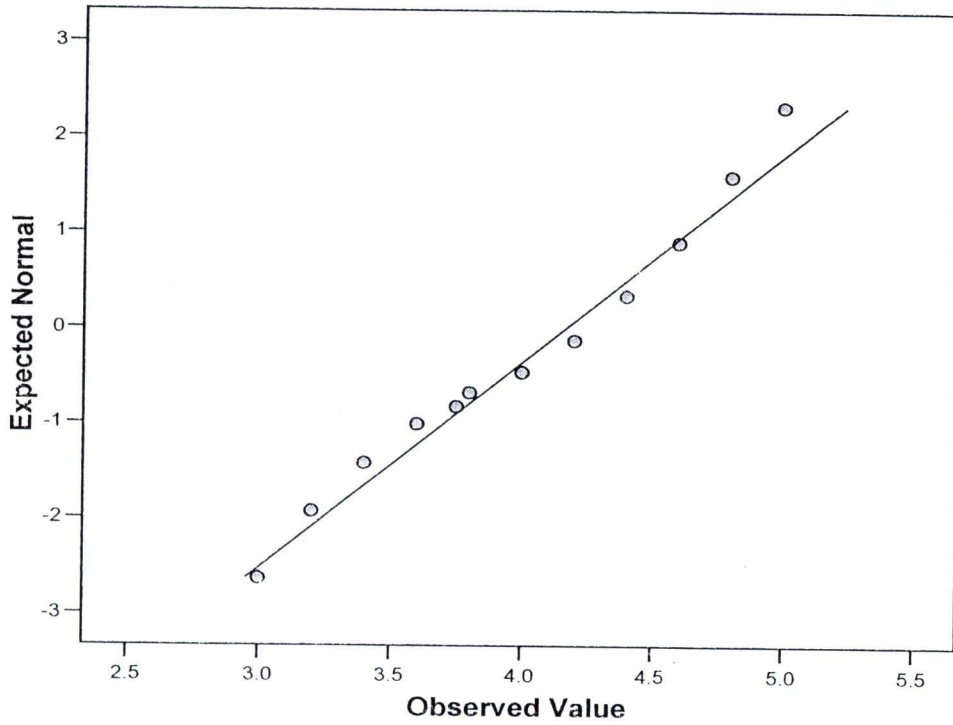
Normal Q-Q Plot of att



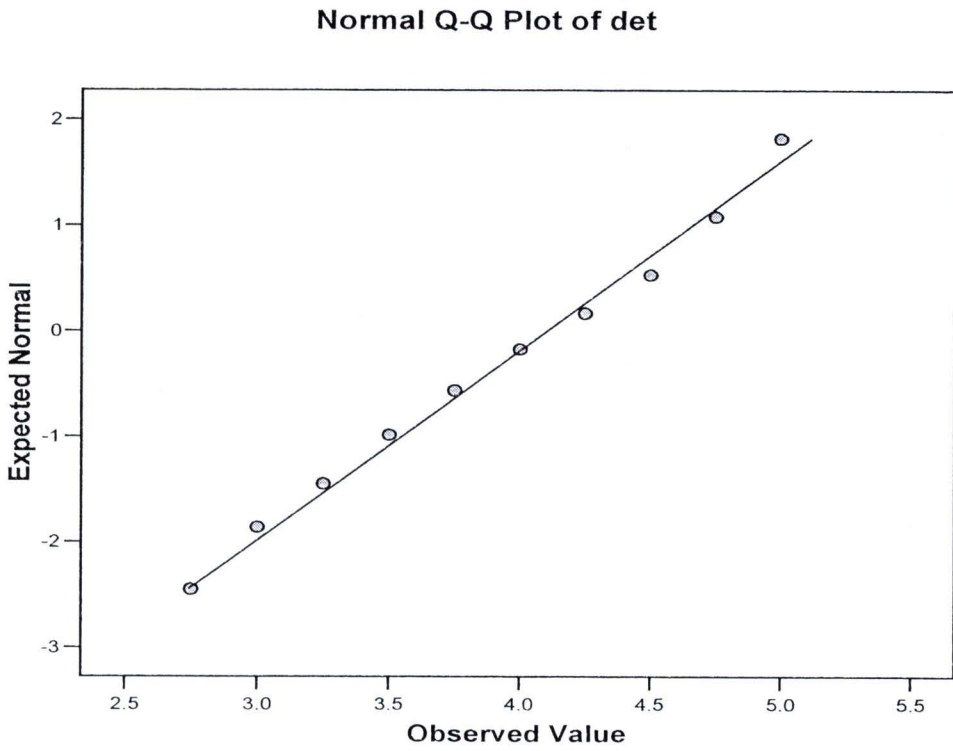
*Figure 8* Scattering of attitudinal data variable of the operation management (ATT).



### Normal Q-Q Plot of sat

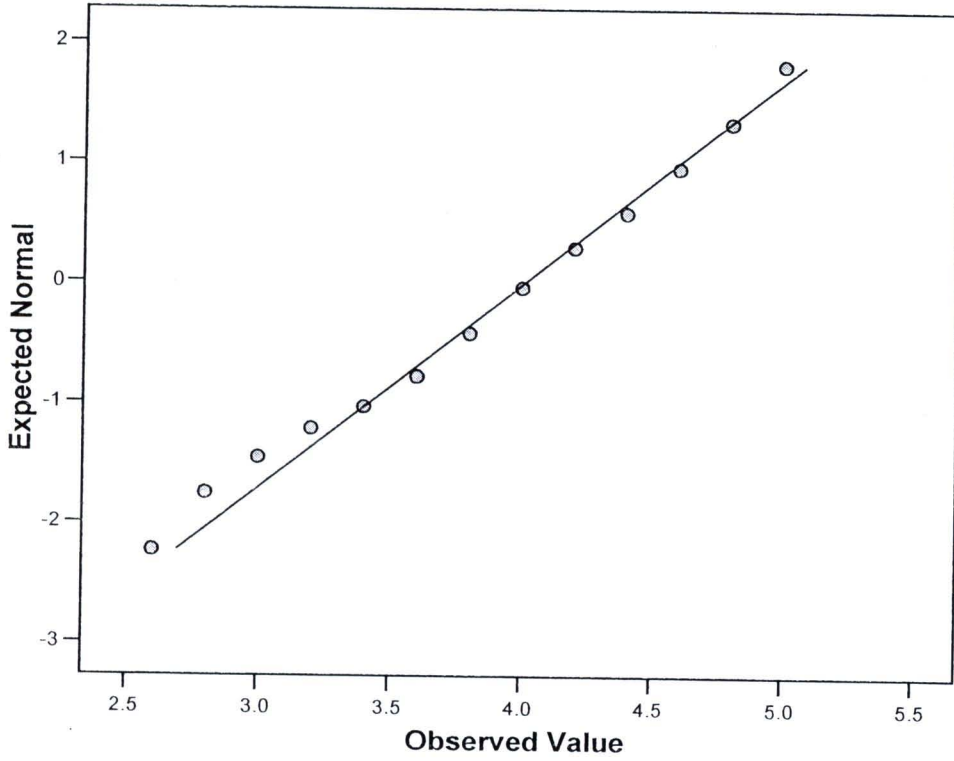


*Figure 9* Scattering of attitudinal data variable in the organization management (SAT).



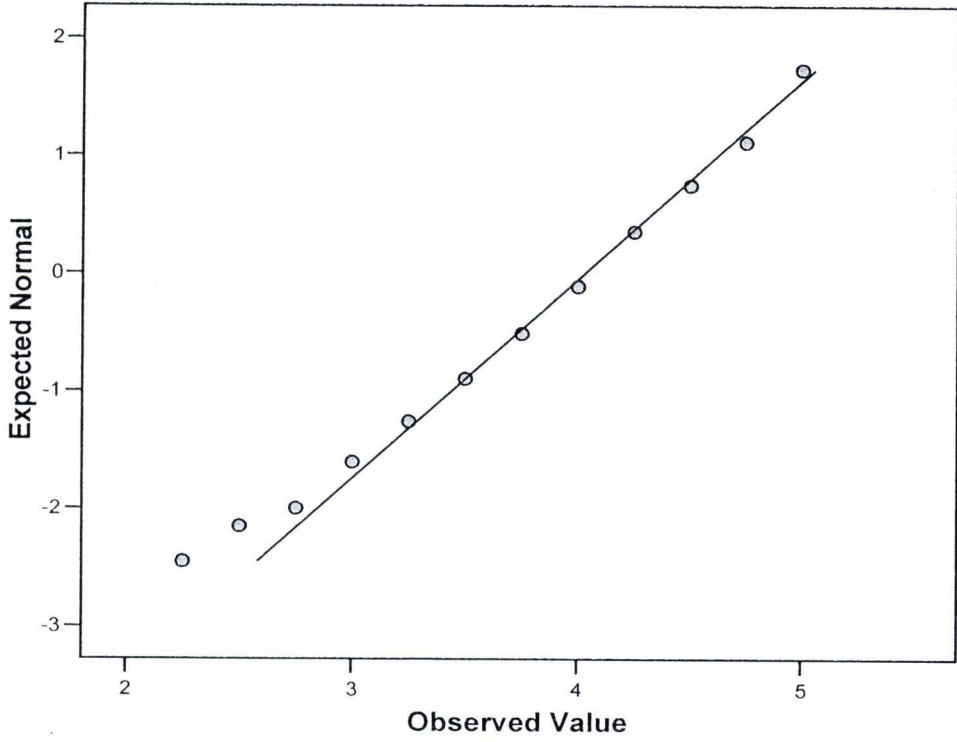
*Figure 10* Scattering of organizational determination data variable (DET).

Normal Q-Q Plot of tec



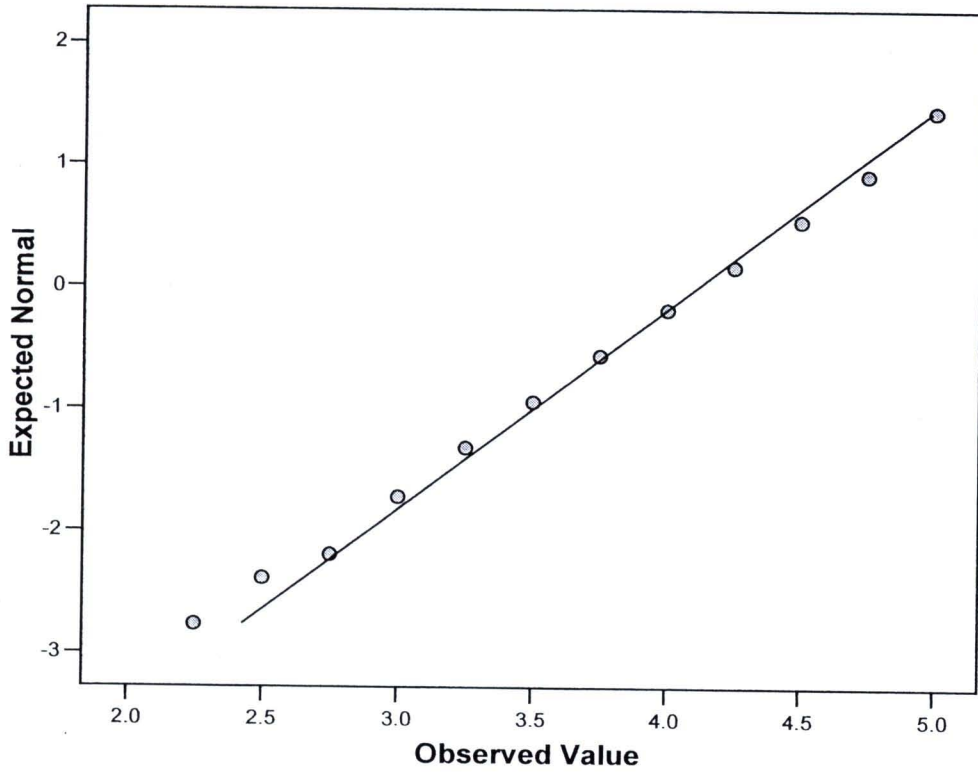
*Figure 11* Scattering of technology and research data variable (TEC).

Normal Q-Q Plot of pro



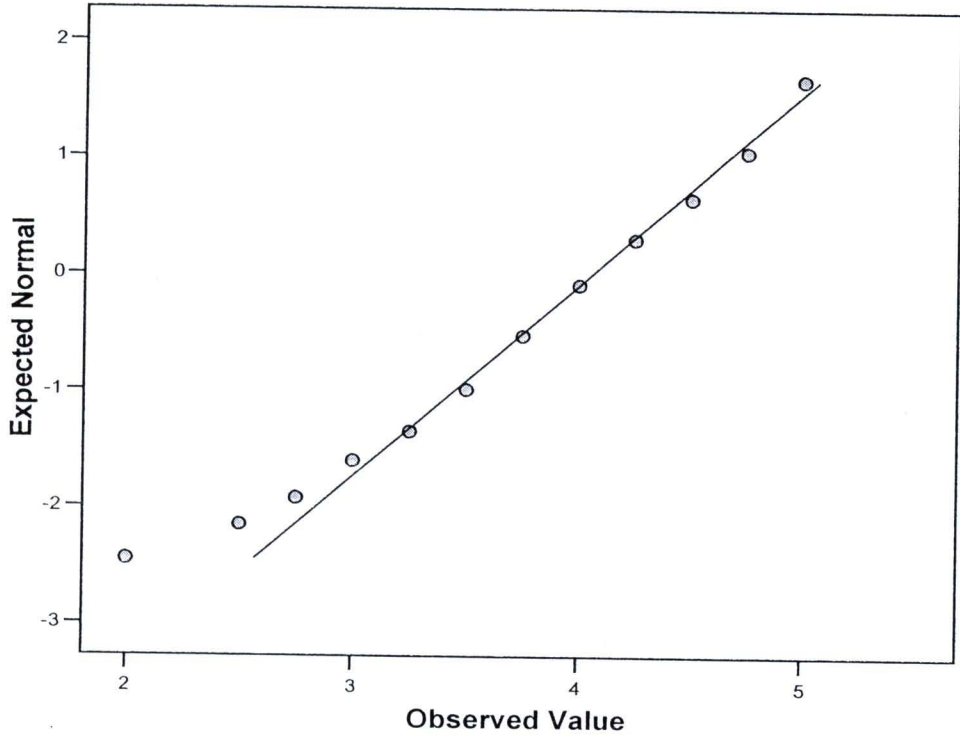
*Figure 12* Scattering of product data variable (PRO).

Normal Q-Q Plot of pri



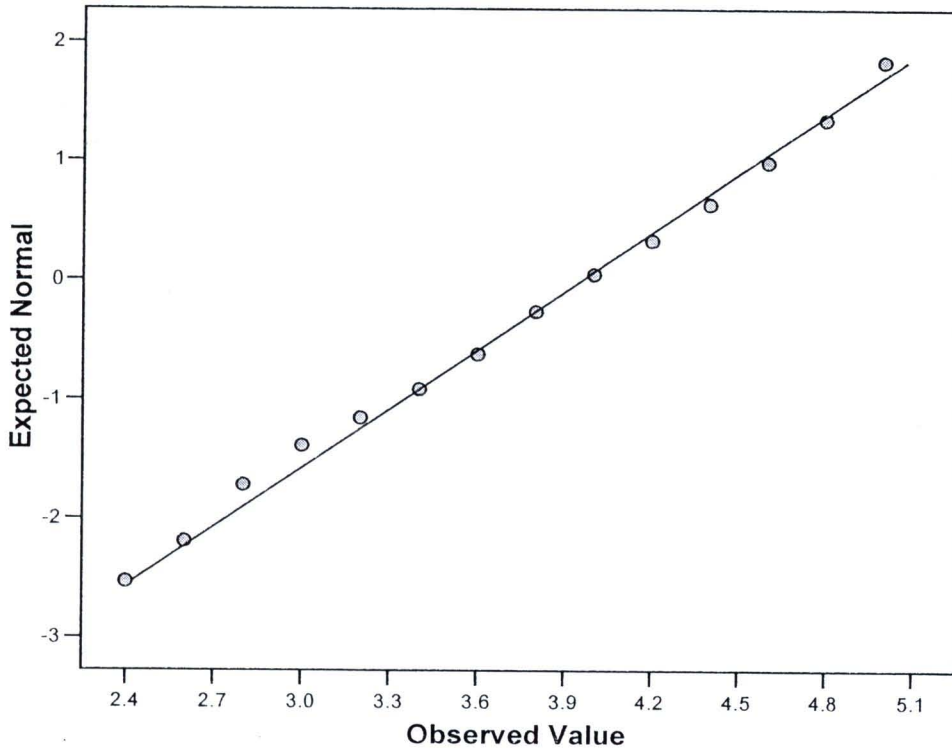
*Figure 13* Scattering of product pricing data variable (PRI).

Normal Q-Q Plot of pla



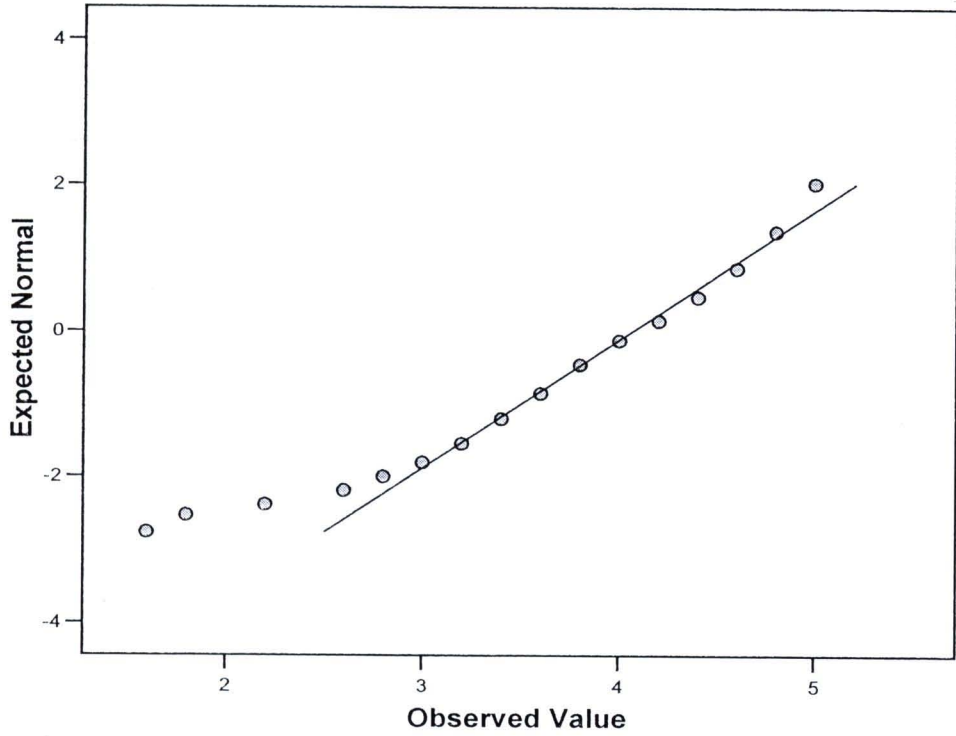
*Figure 14* Scattering of market scattering channel data variable (PLA).

Normal Q-Q Plot of pom

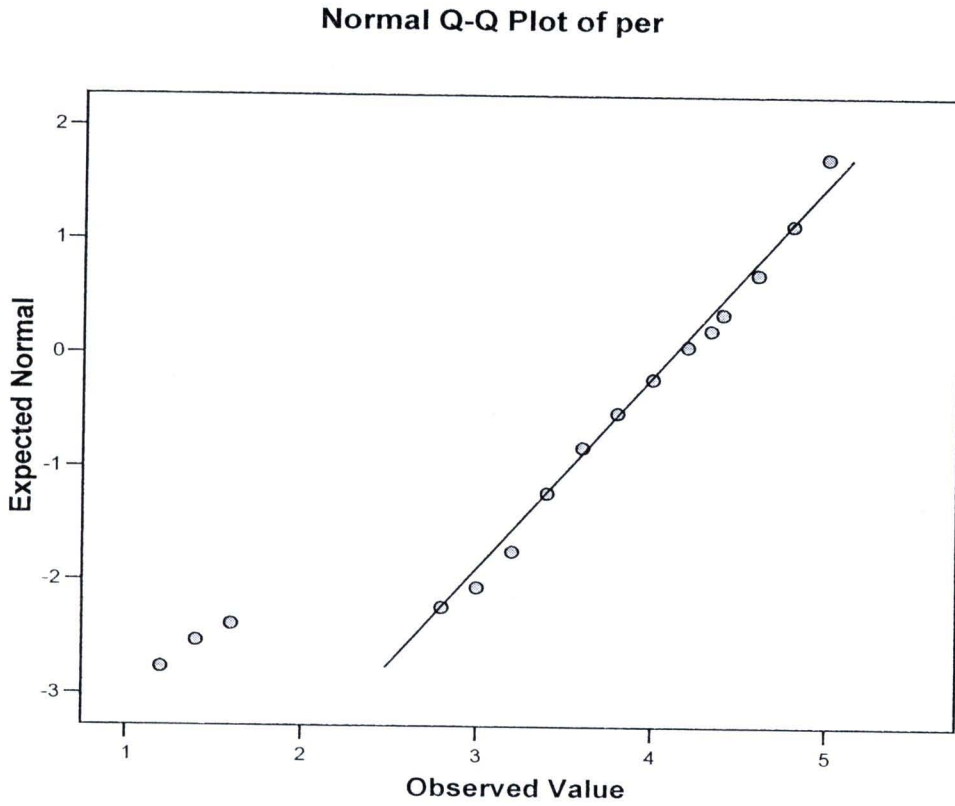


*Figure 15* Scattering of market promotion data variable (POM).

Normal Q-Q Plot of fin

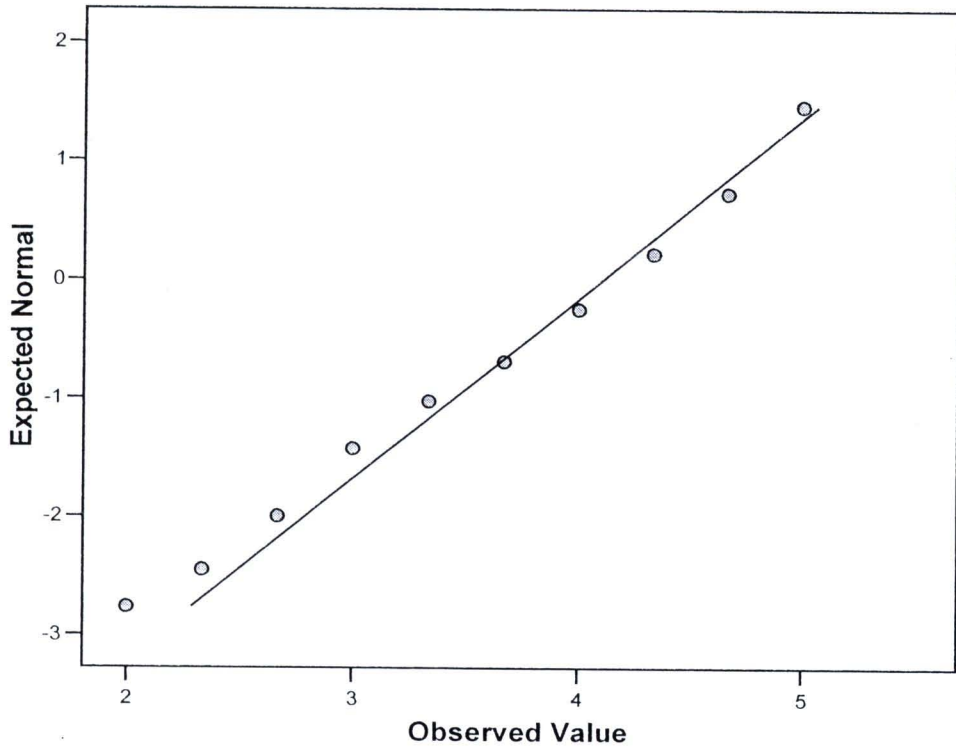


*Figure 16* Scattering of financial readiness data variable (FIN).

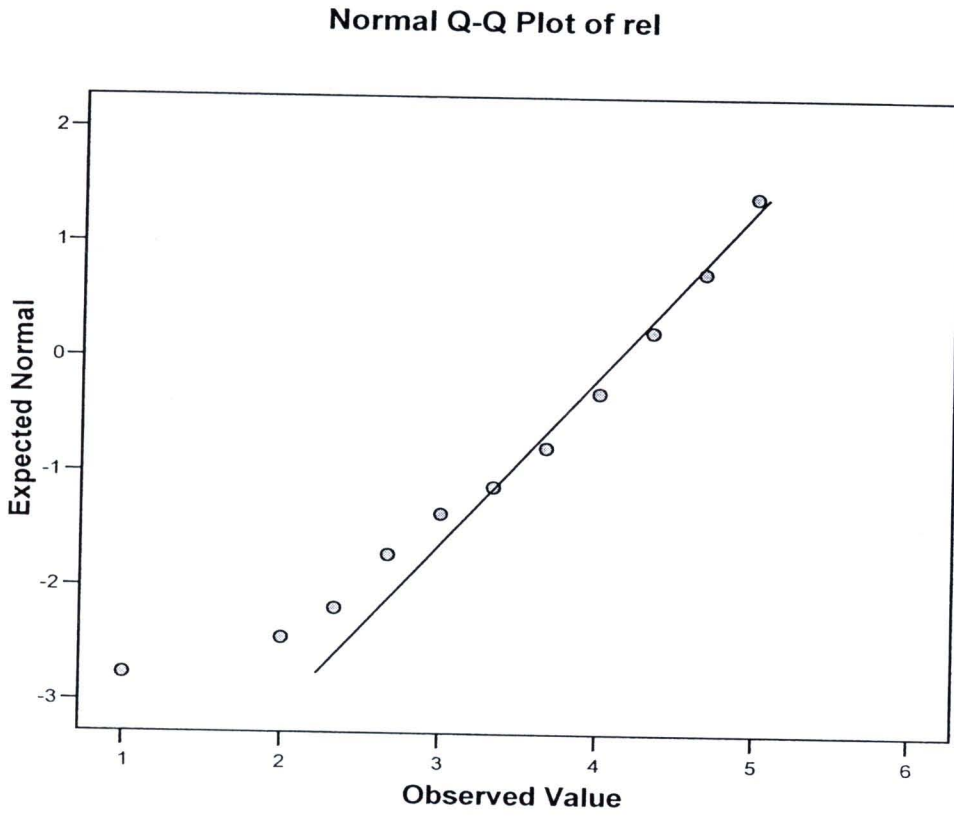


*Figure 17* Scattering of personnel readiness data variable (PER).

Normal Q-Q Plot of phi

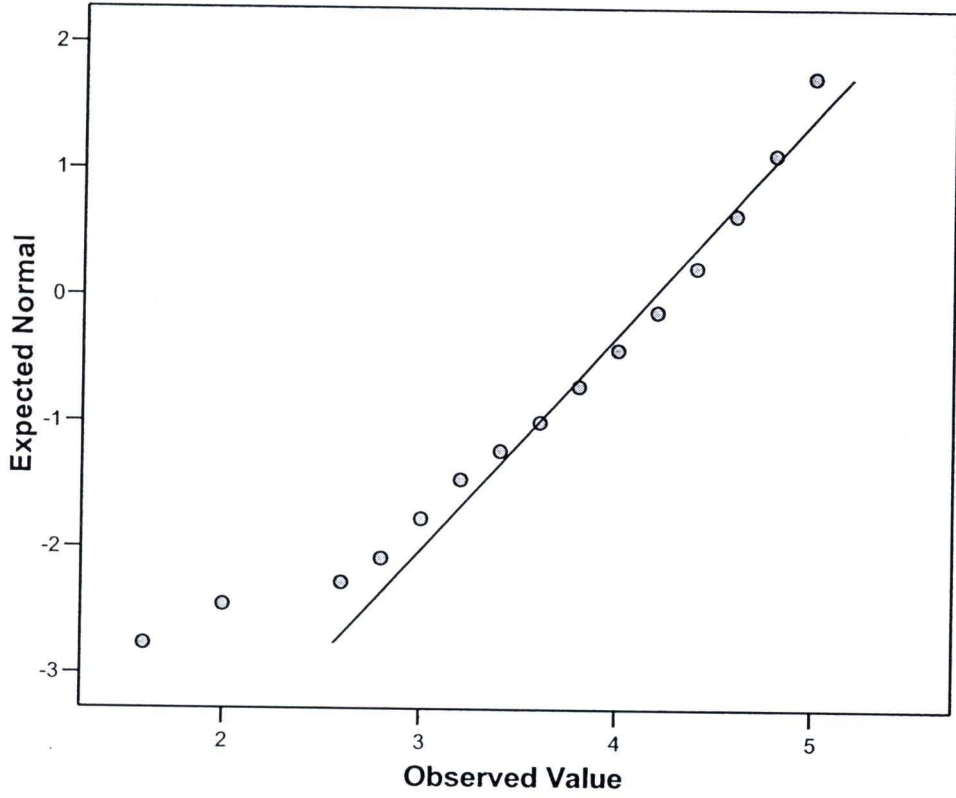


*Figure 18* Scattering of Physical Readiness Data Variable (PHI).

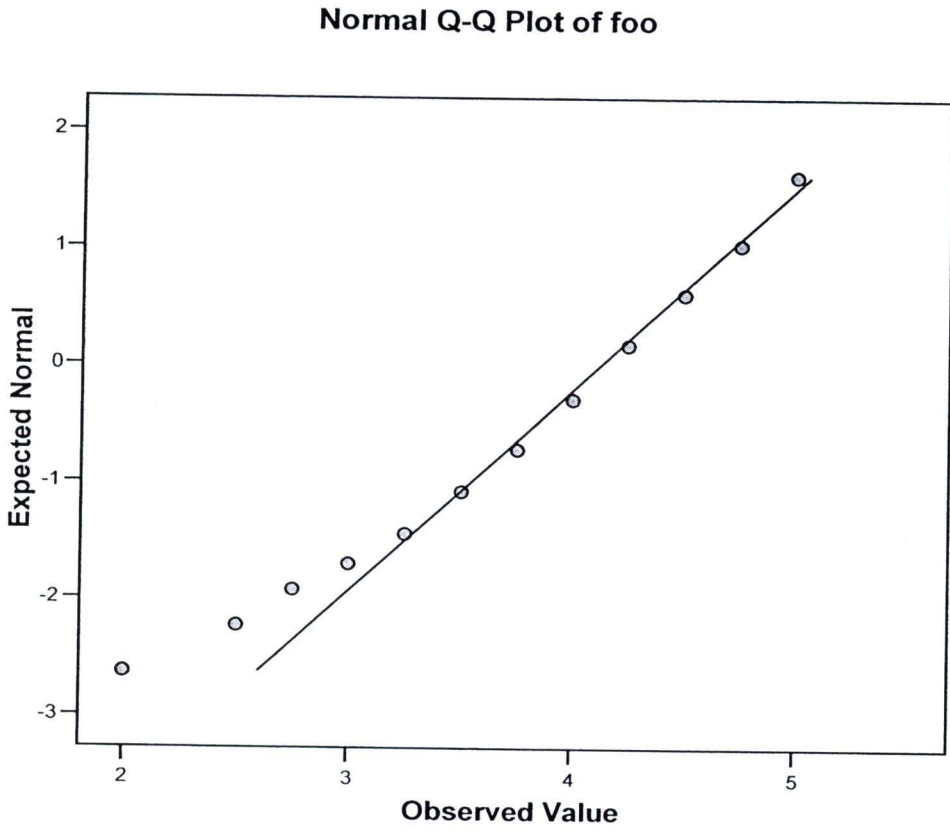


*Figure 19* Scattering of business partners relations data variable (REL).

Normal Q-Q Plot of gov

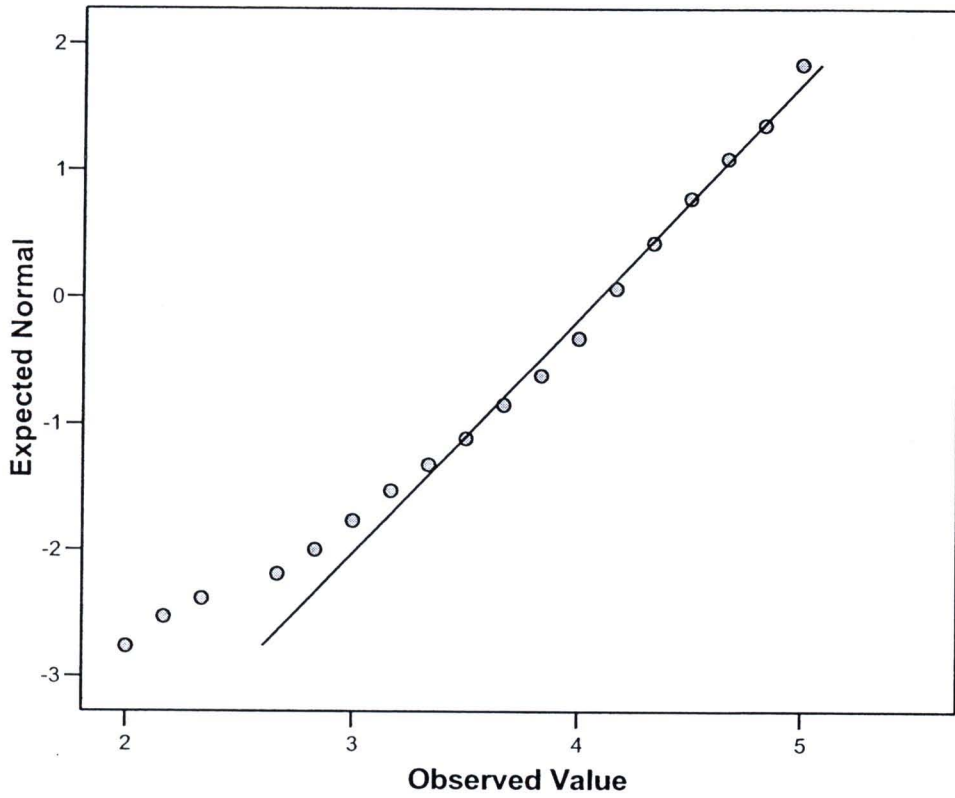


*Figure 20* Scattering of governmental support data variable (GOV).



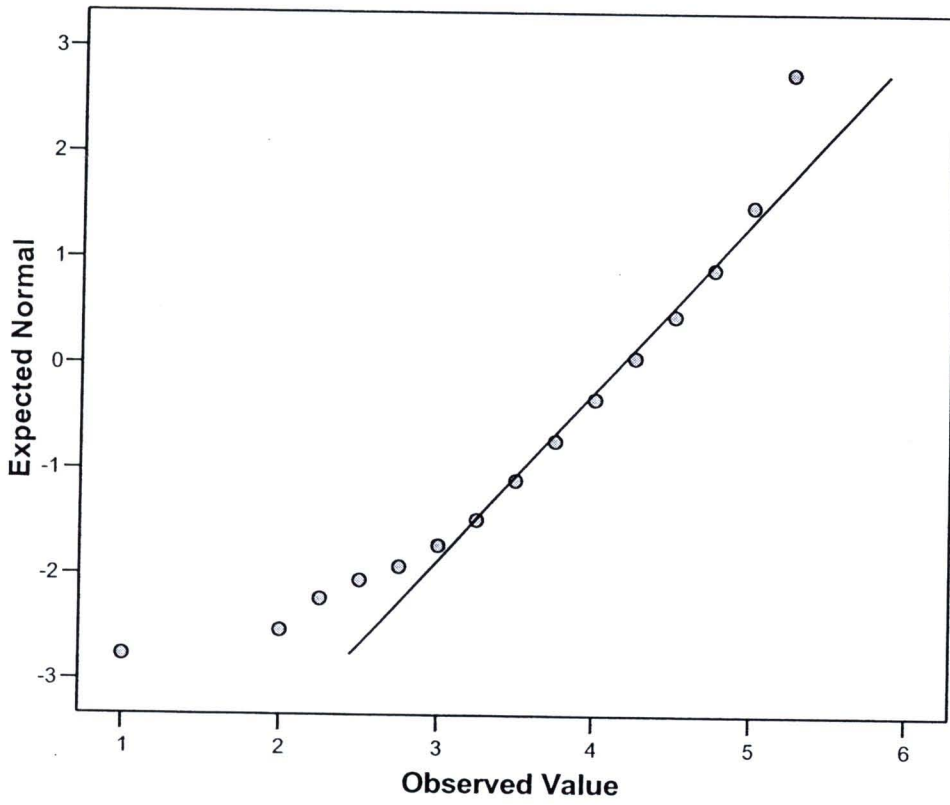
*Figure 21* Scattering of food industrial group data variable (FOO).

Normal Q-Q Plot of cha



*Figure 22* Scattering of supply chain network data variable (SUP).

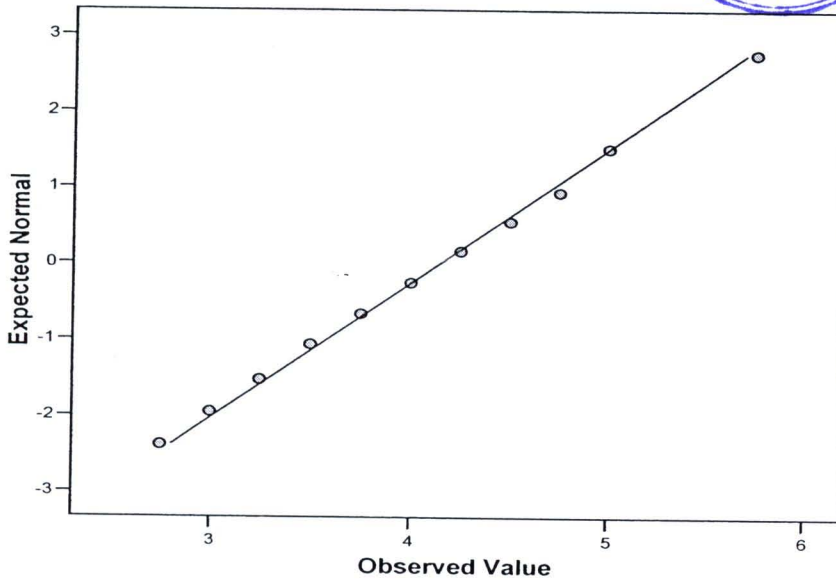
Normal Q-Q Plot of dif



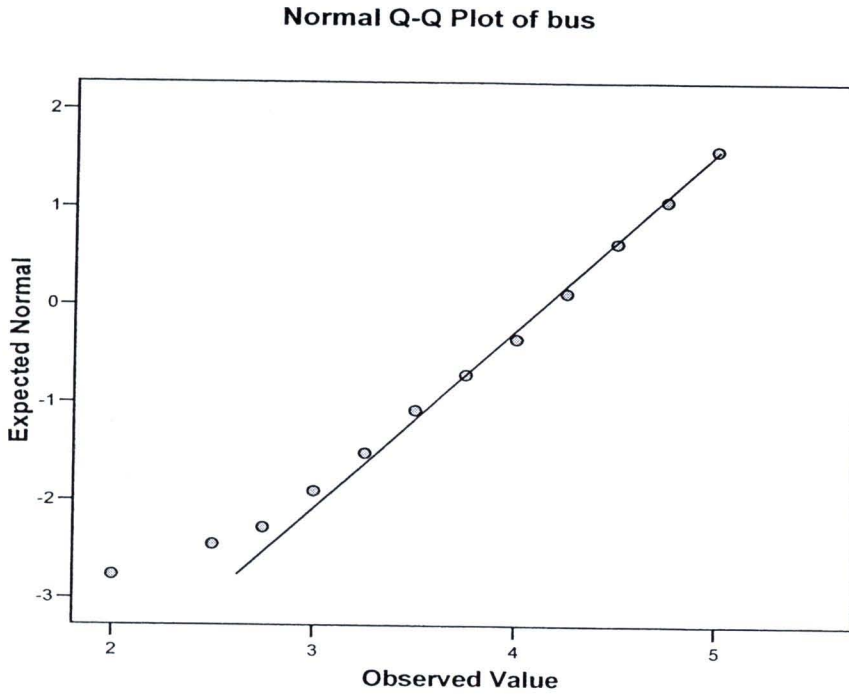
*Figure 23* Scattering of product differential strategy data variable (DIF).



Normal Q-Q Plot of cos

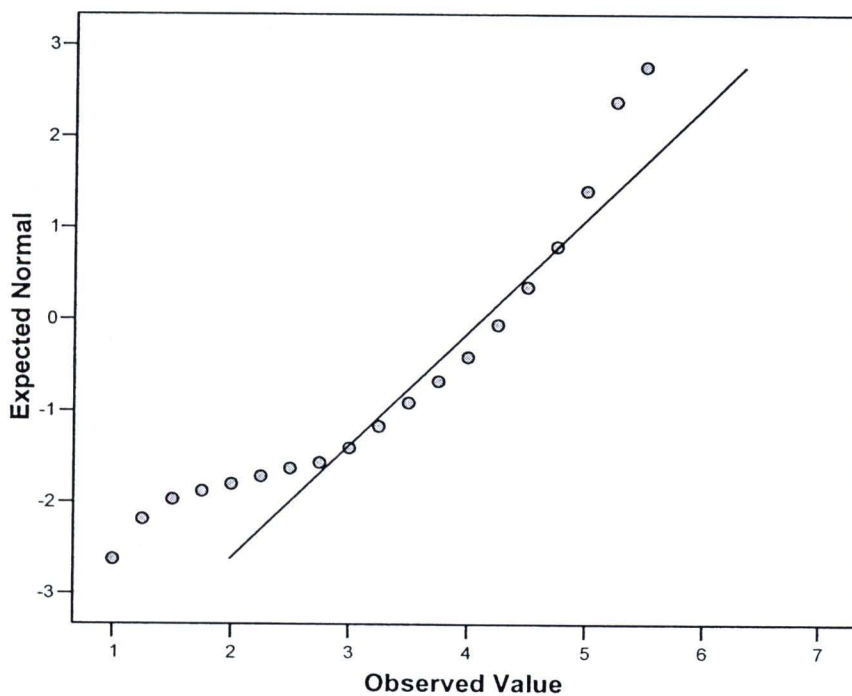


*Figure 24* Scattering of low cost strategy data variable (COS).

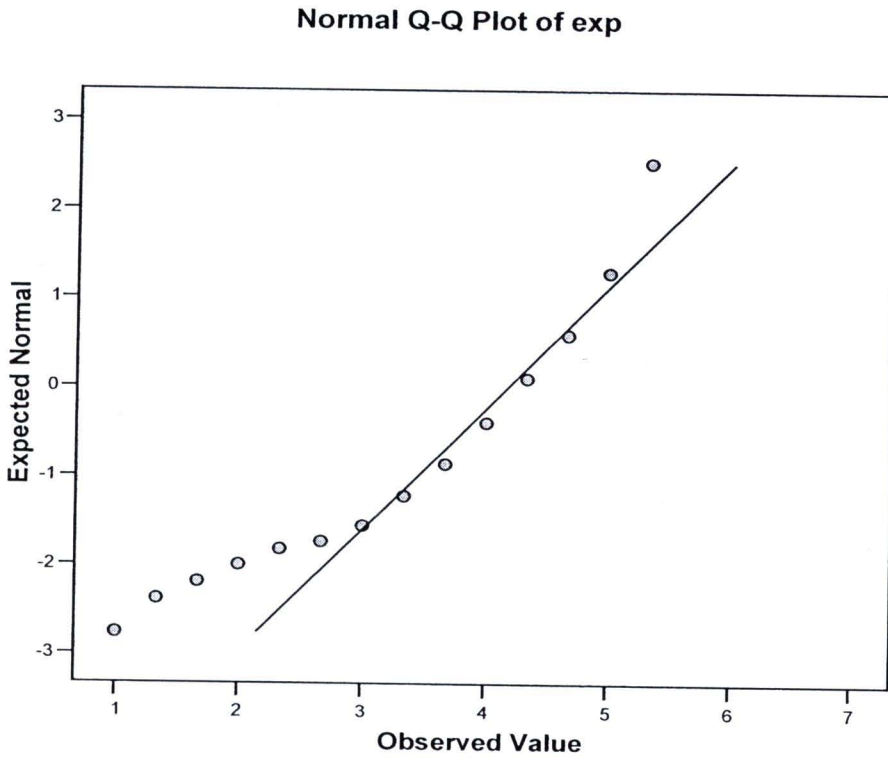


*Figure 25* Scattering of trade business strategy data variable (BUS).

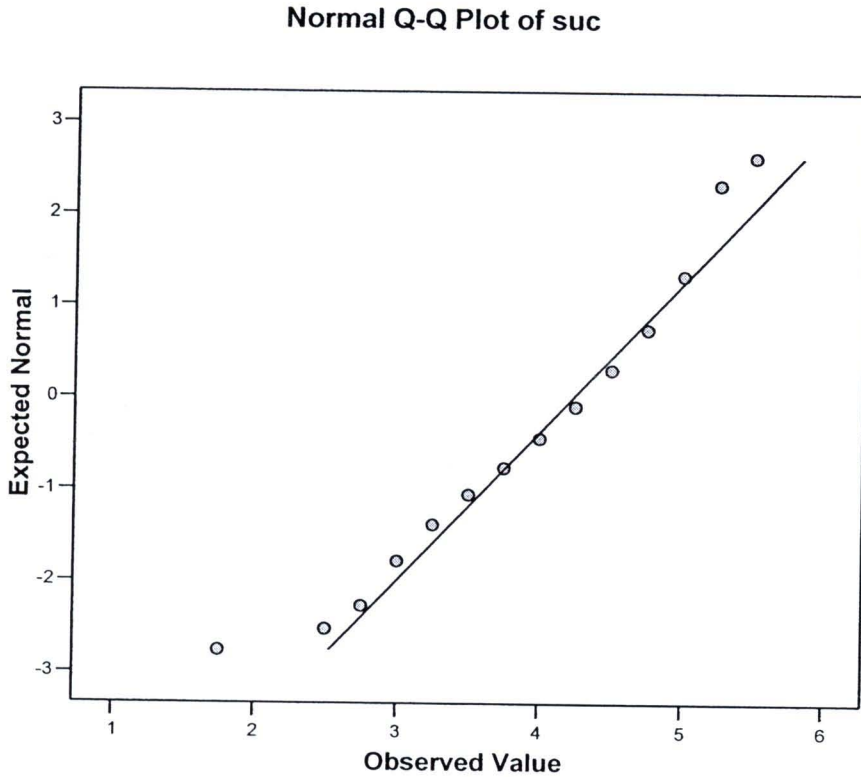
Normal Q-Q Plot of mar



*Figure 26* Scattering of market sharing data variable (MAR).



*Figure 27* Scattering of export value data variable (EXP).



**Figure 28** Scatting of low cost strategy data variable (SUC).

**Table 14**

*Normality Scattering*

( $n = 350$ )

| Variables                    | Mean | SD   | Skewness | Surkosis |
|------------------------------|------|------|----------|----------|
| Organizational Effectiveness | 4.44 | 1.43 | -0.22    | -0.49    |
| Management Attitudes         | 4.40 | 1.32 | -0.19    | -0.38    |
| Satisfaction                 | 3.82 | 1.33 | -0.11    | -0.21    |
| Organizational Determination | 4.40 | 1.33 | -0.17    | -0.20    |
| Technology and Research      | 3.80 | 1.30 | -0.15    | -0.23    |

**Table 14** (continued)

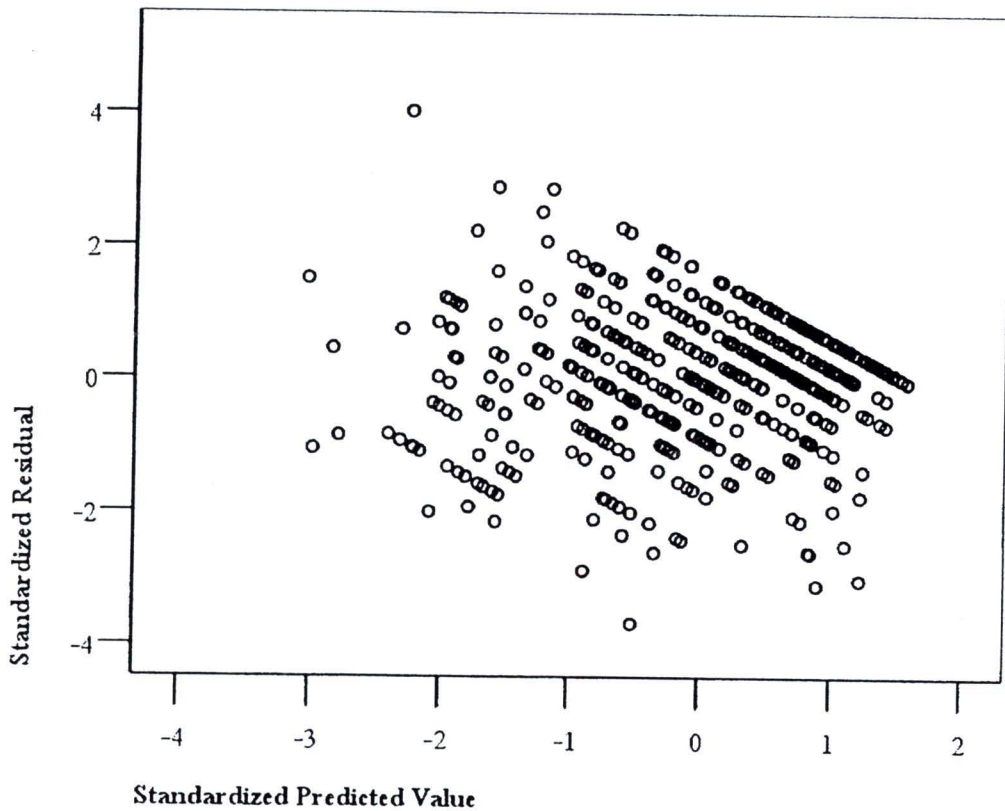
| Variables                      | Mean | <i>SD</i> | Skewness | Surkosis |
|--------------------------------|------|-----------|----------|----------|
| Marketing mix                  | 4.10 | 1.31      | -0.02    | -0.50    |
| Food Products                  | 4.04 | 1.36      | 0.13     | -0.54    |
| Product Pricing                | 4.10 | 1.52      | 0.09     | -0.68    |
| Scattering Channel             | 3.69 | 1.50      | 0.10     | -0.63    |
| Marketing Promotion            | 3.62 | 1.45      | 0.09     | -0.62    |
| Resources Readiness            | 3.18 | 1.50      | 0.17     | -0.47    |
| Financial Readiness            | 3.66 | 1.58      | 0.15     | -0.72    |
| Personnel Readiness            | 4.16 | 1.67      | -0.33    | -0.82    |
| Physical Readiness             | 4.94 | 1.23      | -0.66    | 0.02     |
| Allied Network Connection      | 4.93 | 1.22      | -0.65    | 0.03     |
| Trade Cooperation              | 5.90 | 1.13      | -1.11    | 1.20     |
| Food Industry Group            | 4.66 | 1.12      | -0.31    | -0.20    |
| Supply Chain Network           | 3.77 | 1.33      | 0.35     | -0.21    |
| Organizational Export Strategy | 4.04 | 1.36      | 0.13     | -0.54    |
| Differential Strategy          | 3.53 | 1.52      | 0.09     | -0.68    |
| Low Cost Strategy              | 3.12 | 1.47      | 0.33     | -0.77    |
| Business Trade Strategy        | 3.64 | 1.44      | 0.14     | -0.48    |
| Competition Advantages         | 4.65 | 1.08      | -0.23    | -0.29    |
| Market Sharing                 | 3.03 | 1.09      | -0.35    | -0.70    |
| Export Value                   | 3.53 | 1.52      | 0.09     | -0.68    |
| Export Potentiality            | 3.51 | 1.18      | 0.41     | -0.54    |

In the results of the correlation matrix analysis according to Table 16 it can be seen that there is no noticeable relation of any pair being with a correlation higher than 0.80 showing that the variables used for this analysis had no multi-collinearity problem in the analysis in any way.

### *Examination of Constant Variance and Homoscedasticity*

The homoscedasticity test is an application to regress analysis in which independent variables and dependent variables are metric variables. Homoscedasticity characteristics mean the properties of the dependent variable which are distributed indifferently in all values of the independent variable (Hofmann, 2006). The method of examination is possible by generation of a scatter plot showing the correlation between the standardized residual with the standardized predicted values to examine the smooth variable and homoscedasticity (Hofmann, 2006) by considering the value showing the standardized residual. If there is random scattering without a uniform increase or decrease, then it could be concluded that there is homoscedasticity and a smooth variation.

Figure 28 shows non-uniform standardized residual scattering without knowing the standardized residual with the form tending to be relatively uniformly incremented or decremented. It can be concluded that the data points are in accordance with the primary agreement of homoscedasticity of existence of scattering, and there is an even variation as shown in Figures 29 to 52.



**Figure 29** The correlation between standardized residual with standardized predicted value.

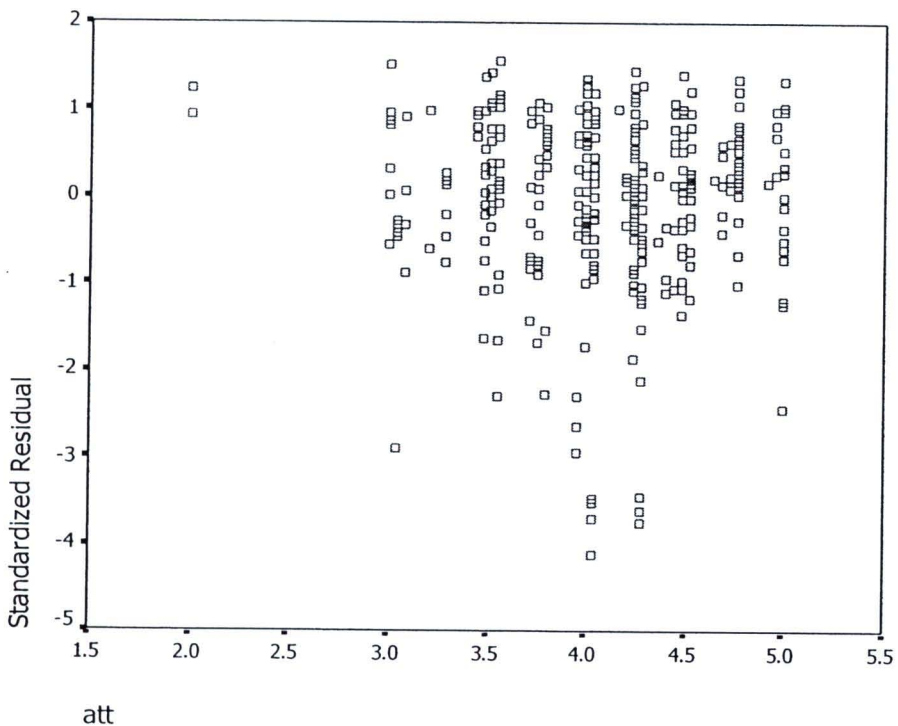
The results of the correlation matrix analysis according to Table 16 show that there was no noticeable relation of any pair with correlation higher than 0.80, showing that the variables used for this analysis had no multicollinearity problem in the analysis in any way.

### ***Examination of Linear Correlation***

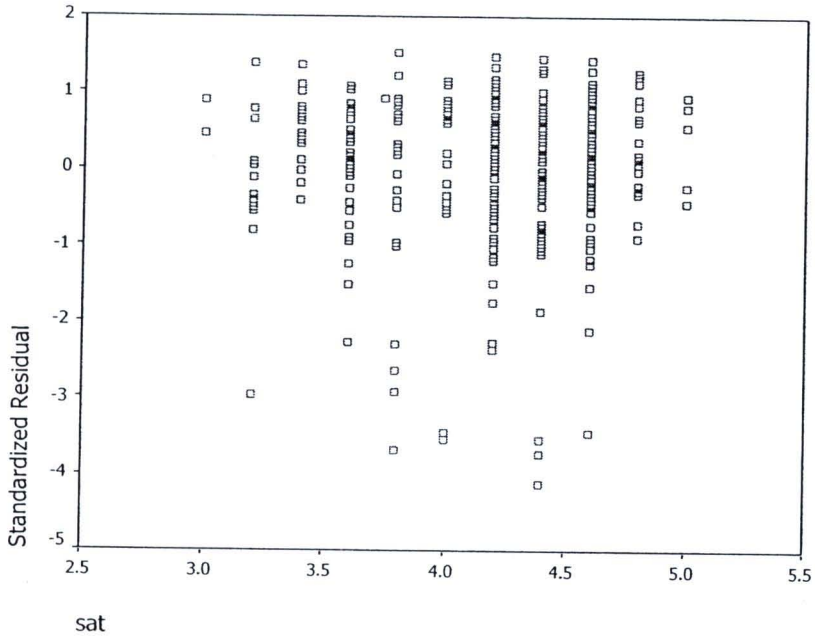
All types of analytical statistics with the basis of Pearson's correlation coefficient analysis must be in line with the primary agreement that the relation between each pair of variables is of a linear form. The examination

method can be observed through the scatter plot which shows the relation between the standardized residual with each independent variable for examination of the linearity relation between the variables (Hunt, 2010).

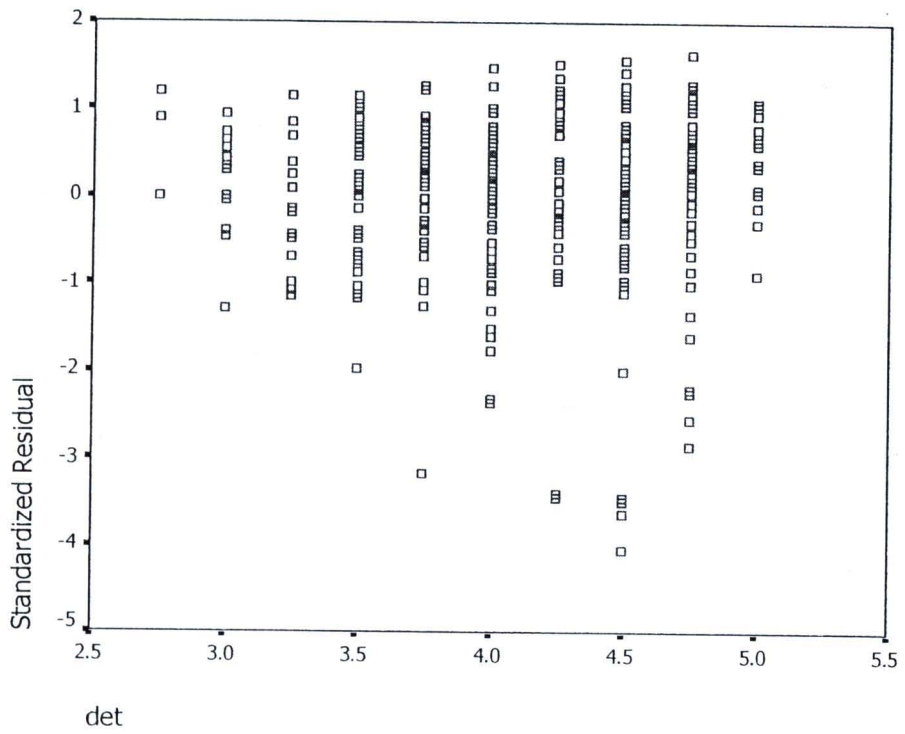
From the scatter plot, it can be seen that the standardized residual was scattered non-uniformly without knowing the standardized residual tending to increment or decrement relatively uniformly. It can therefore be concluded that the data points are in accordance with the primary agreement of the linearity correlation as shown here.



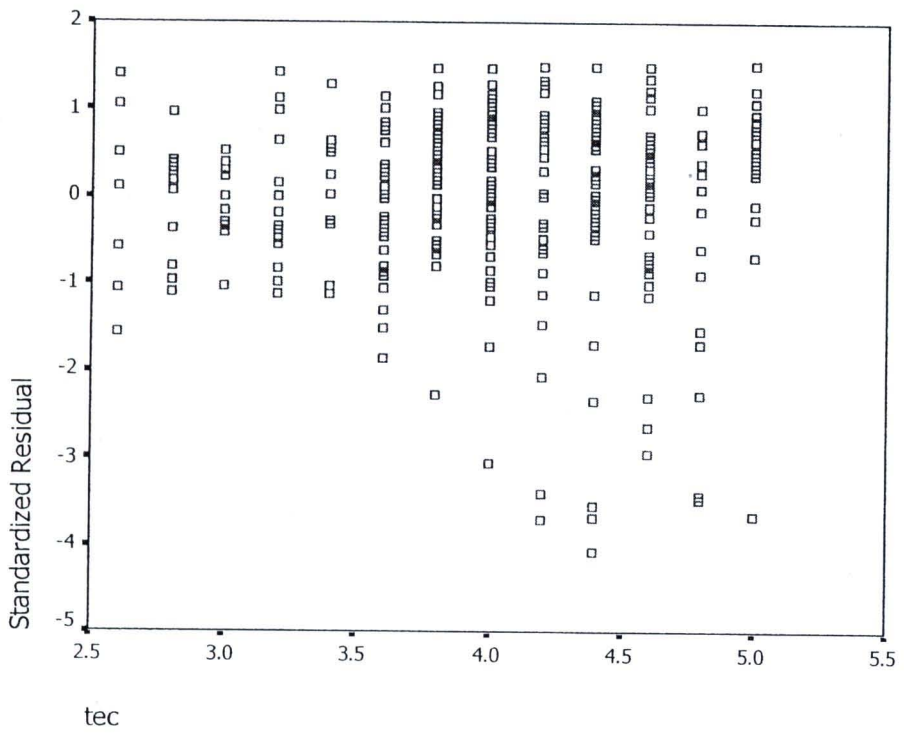
**Figure 30** The Correlation between the standardized residual with the independent variable attitudes in running the work operation (ATT).



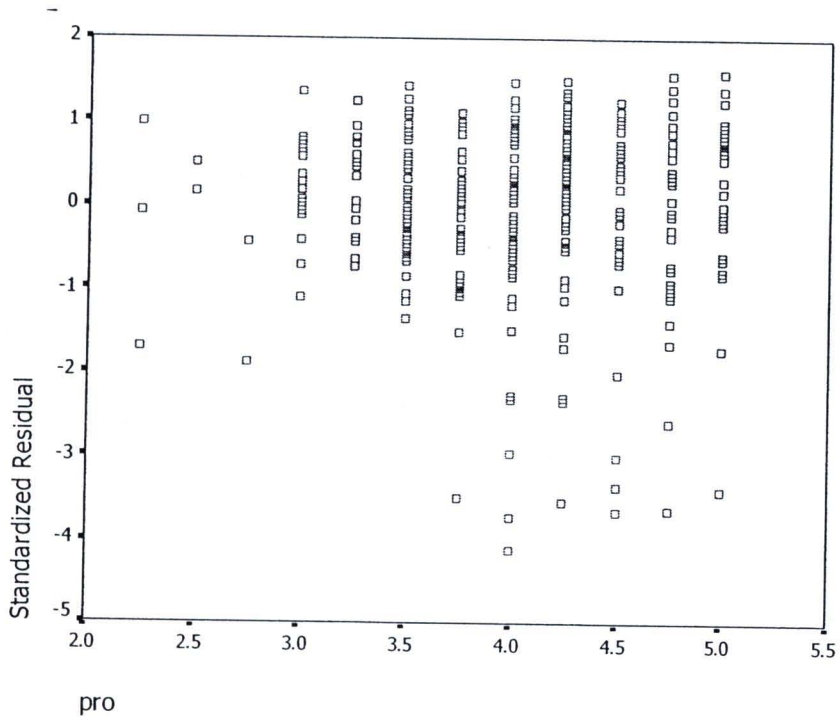
*Figure 31* The correlation between the standardized residual with the independent variable the satisfaction in the work operation results (SAT).



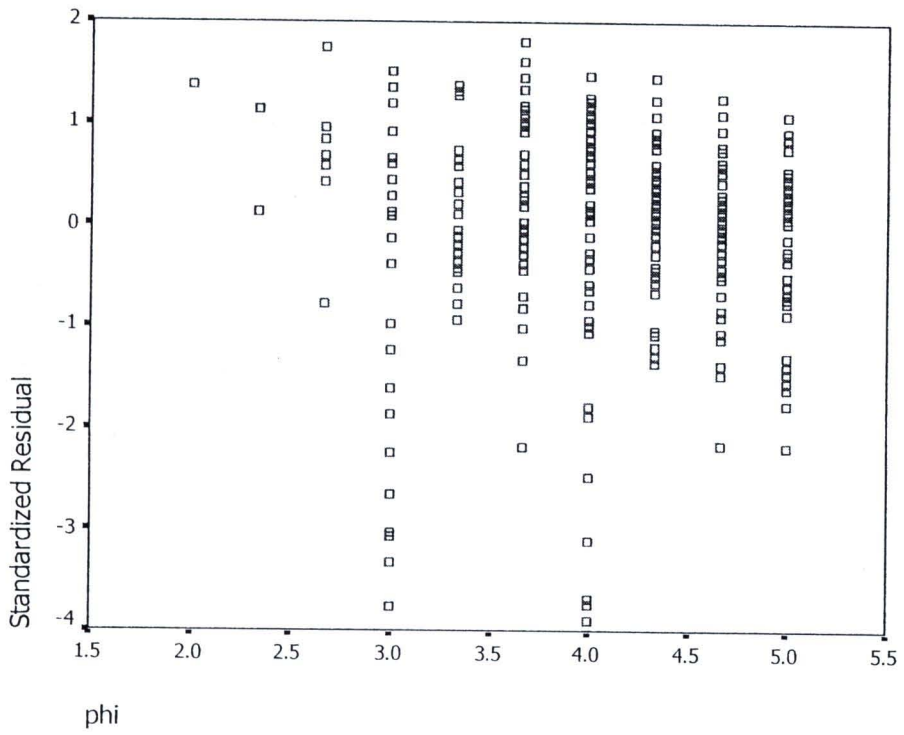
*Figure 32* The correlation between the standardized residual with the independent variable the organizational determination (DET).

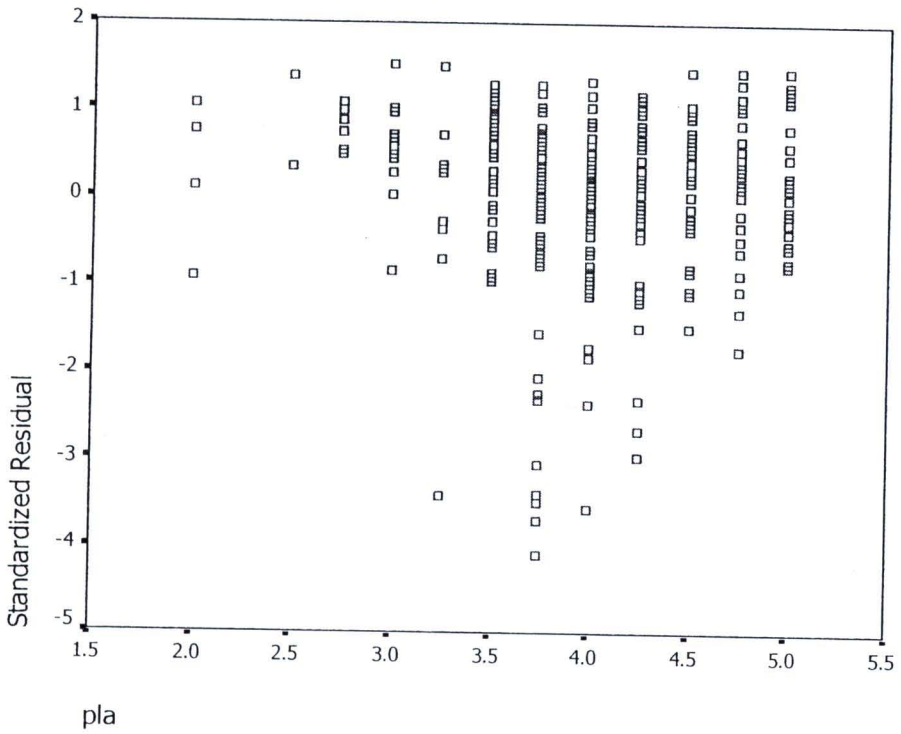


**Figure 33** The Correlation between the standardized residual with the independent variable technology and research (TEC).

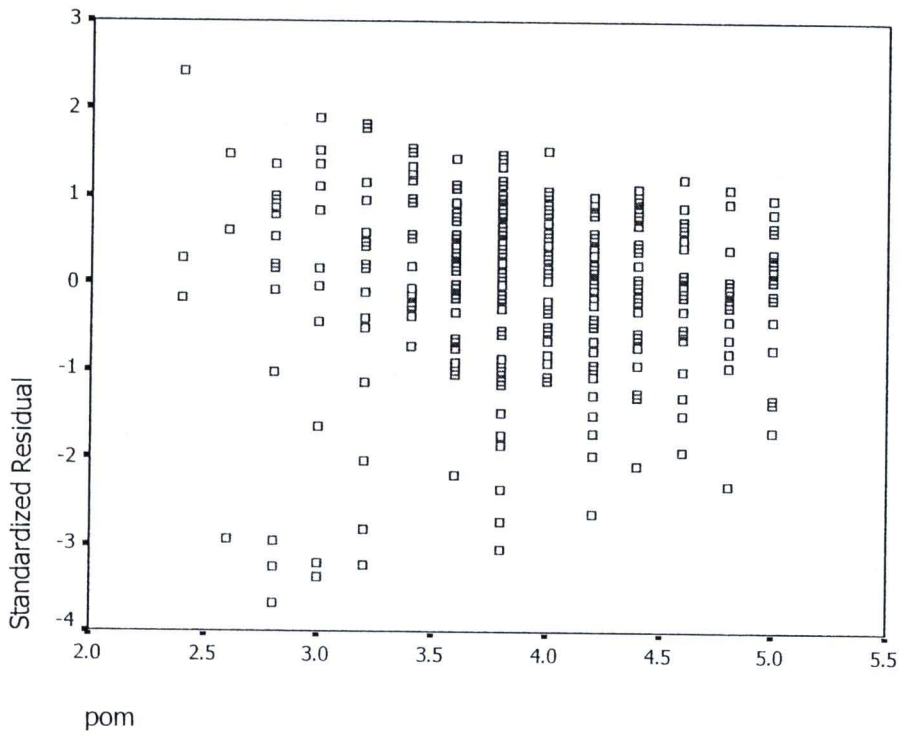


*Figure 34* The correlation between the standardized residual with the independent variable food products (PRO).

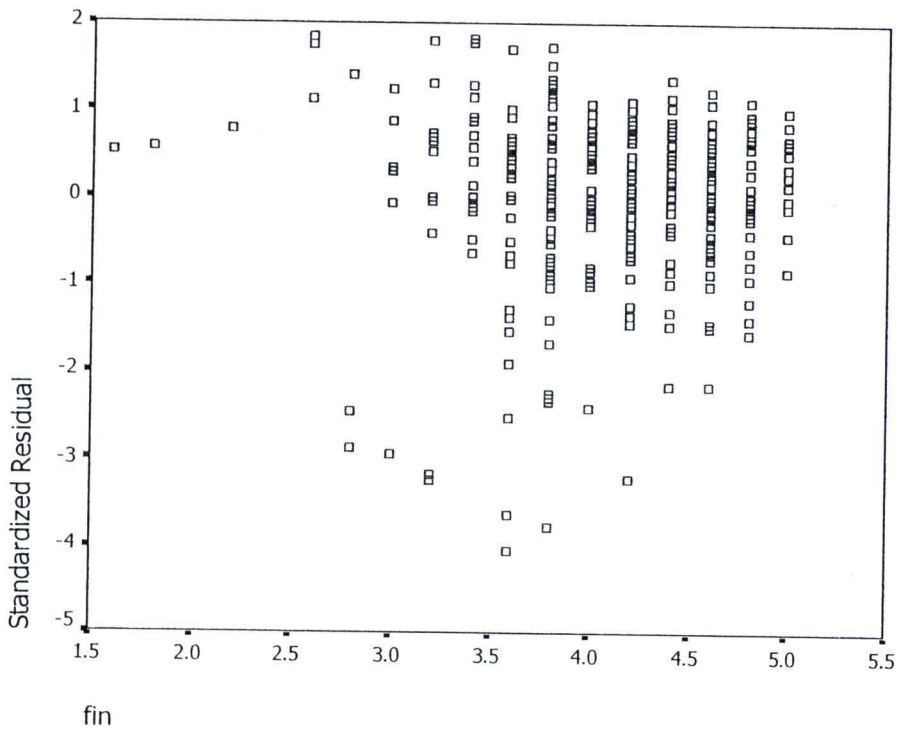




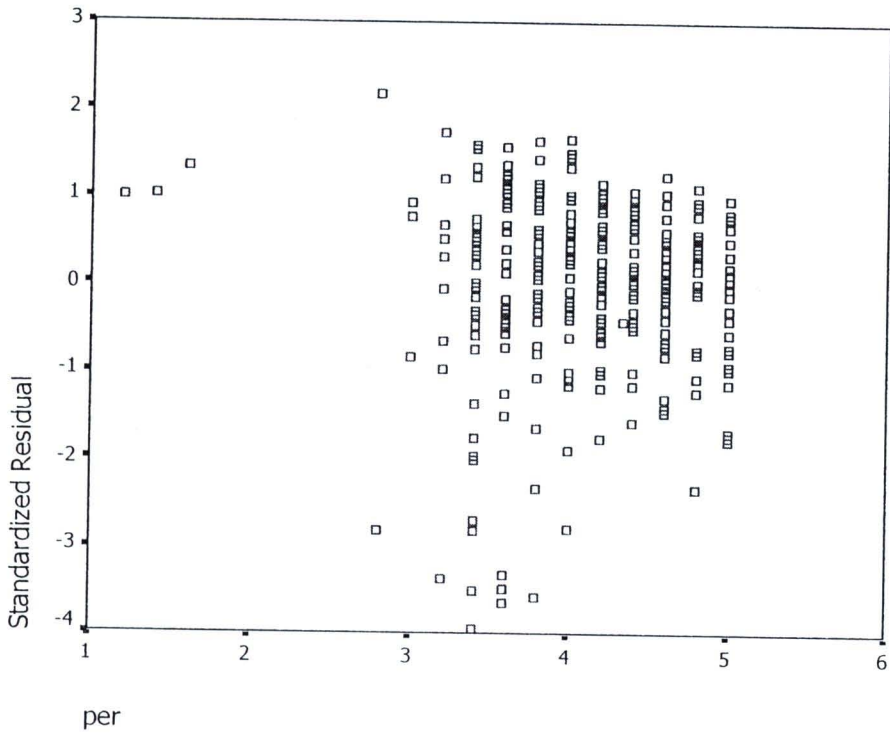
*Figure 36* The Correlation between the standardized residual with the independent variable product channel (PLA).



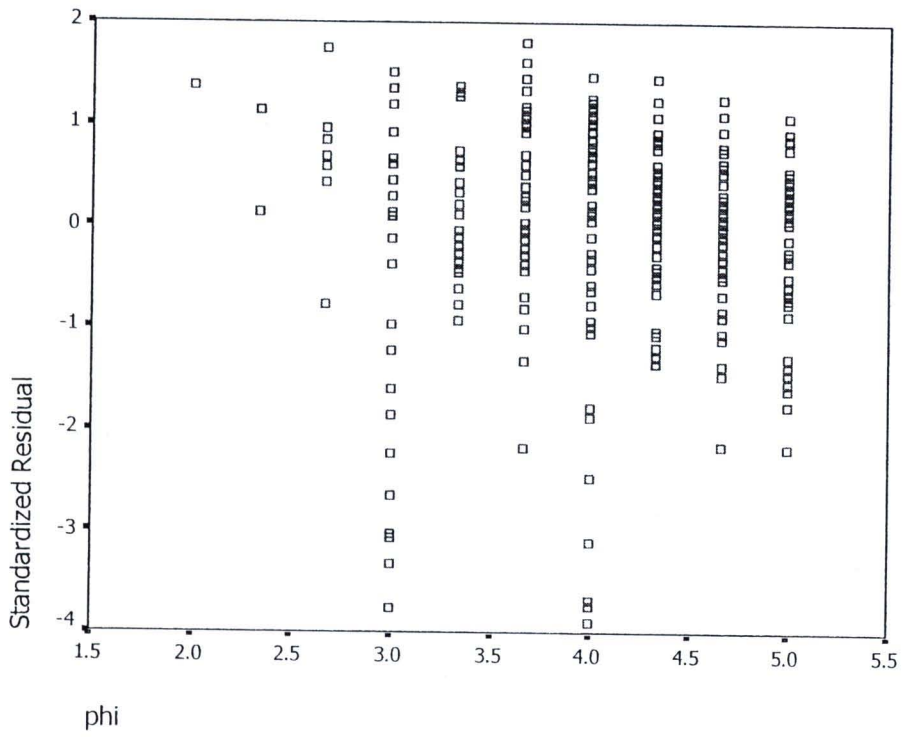
*Figure 37* The correlation between the standardized residual with independent Variable market promotion (POM).



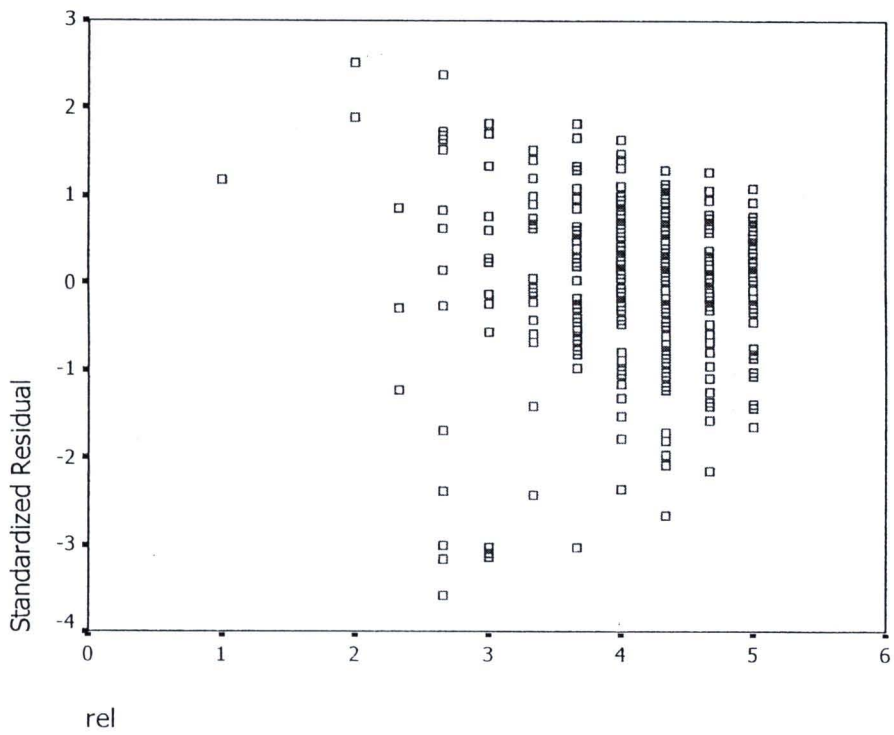
*Figure 38* The correlation between the standardized residual with independent variable financial readiness (FIN).



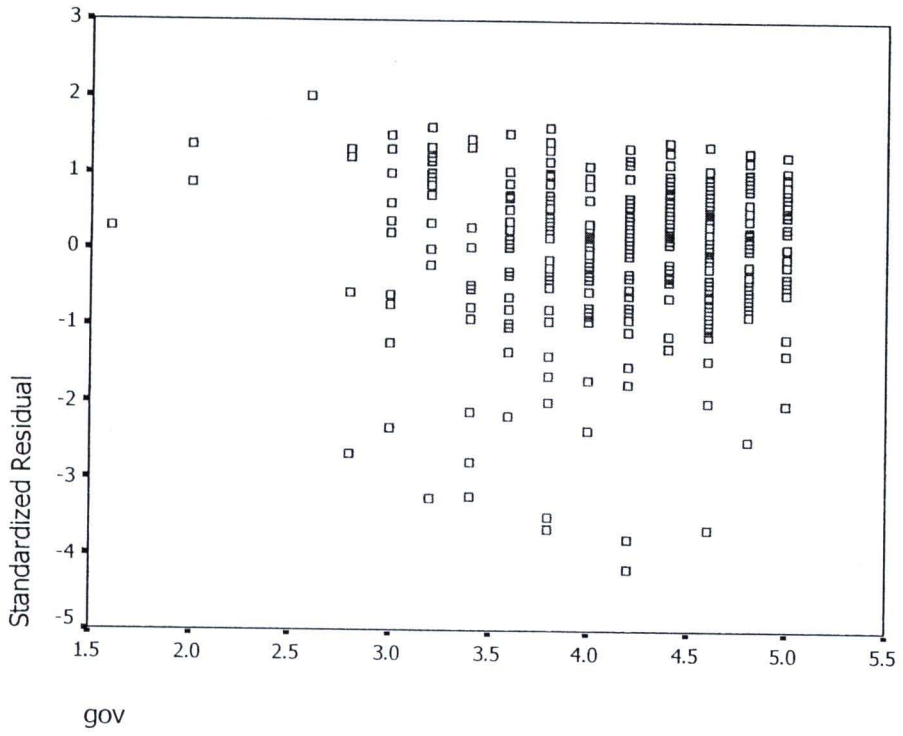
*Figure 39*. The correlation between the standardized residual with independent variable readiness in human resource (PER).



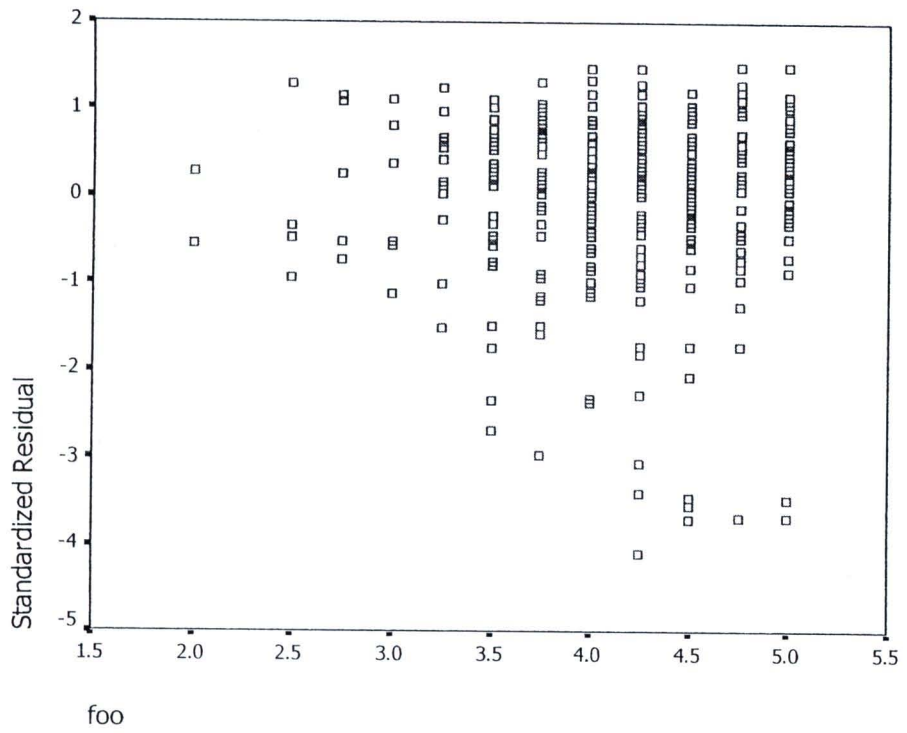
*Figure 40* The correlation between the standardized residual with independent variable physical readiness (PHI).



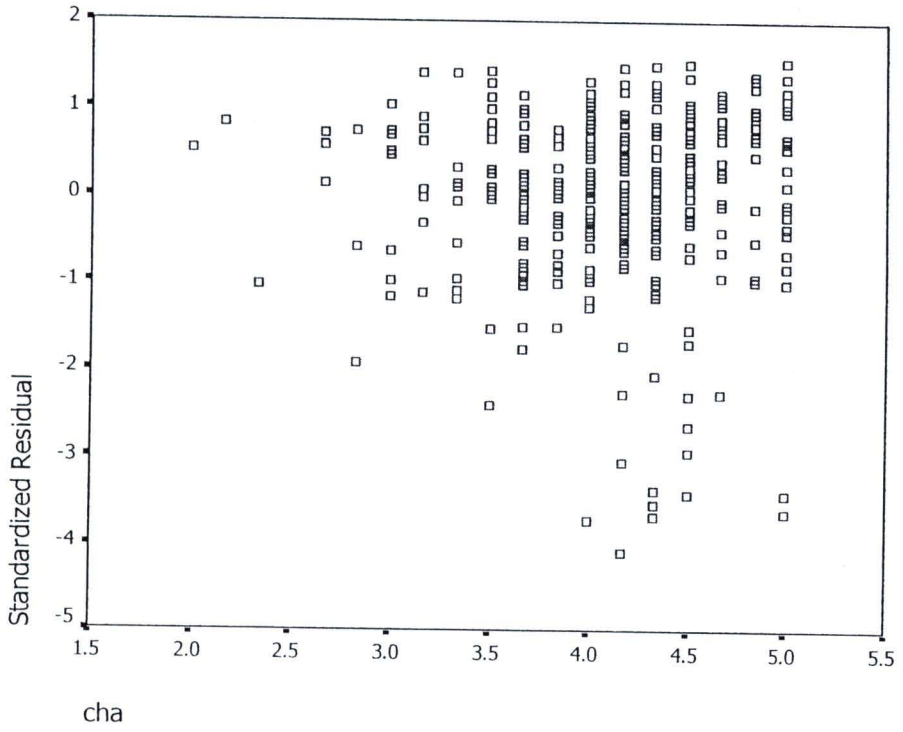
*Figure 41.* The Correlation between the standardized residual with independent variable readiness in relationship (REL).



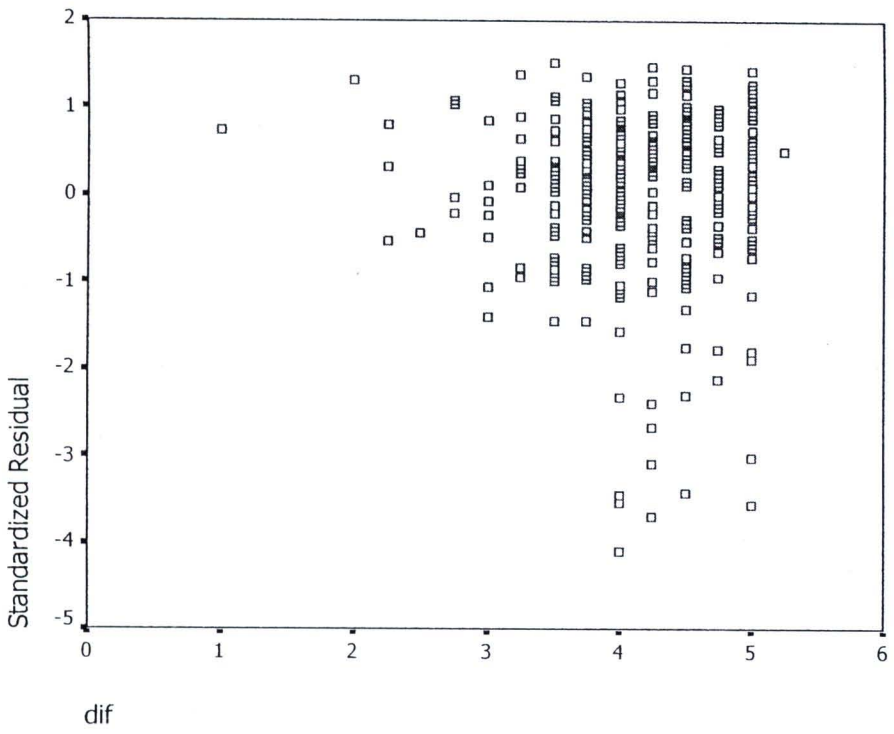
*Figure 42* The correlation between the standardized residual with independent Variable governmental readiness (GOV).

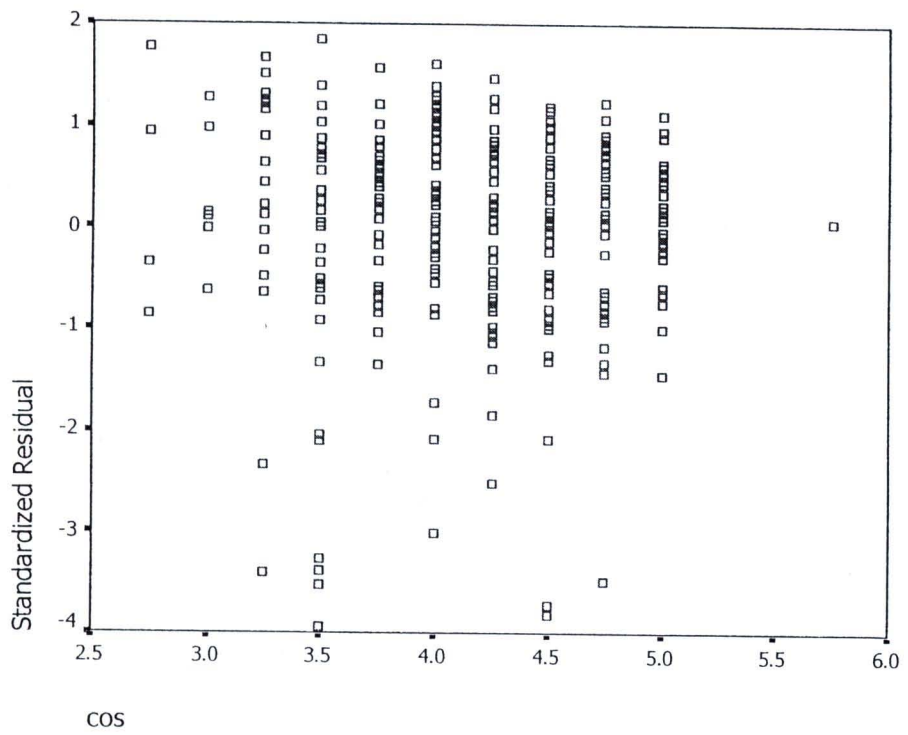


*Figure 43* The correlation between the standardized residual with independent variable food industrial group (FOO).

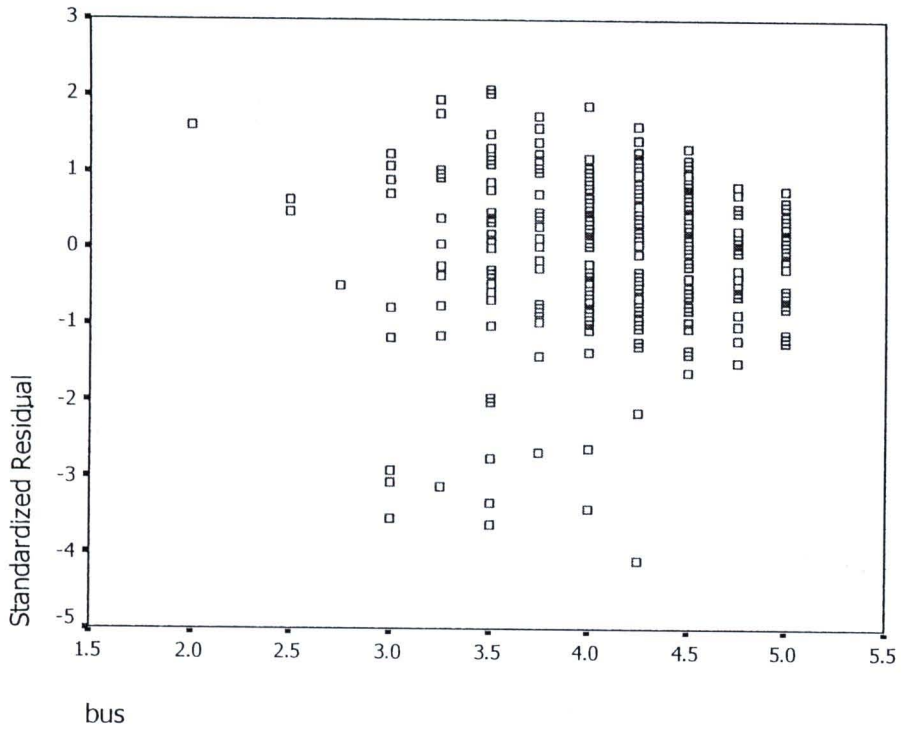


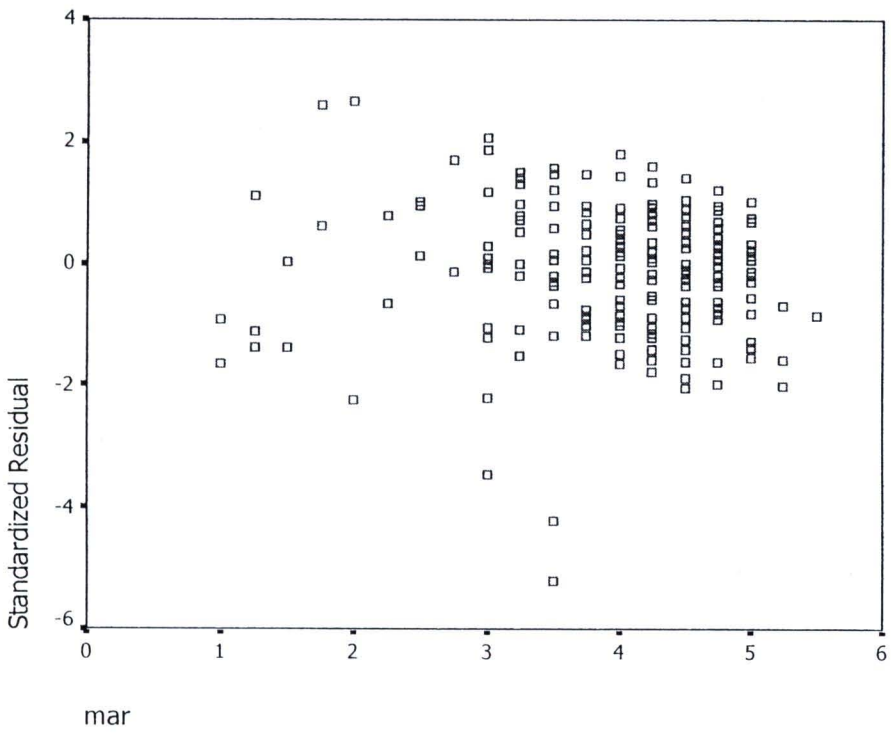
*Figure 44* The correlation between the standardized residual with independent variable supply chain network (SUP).



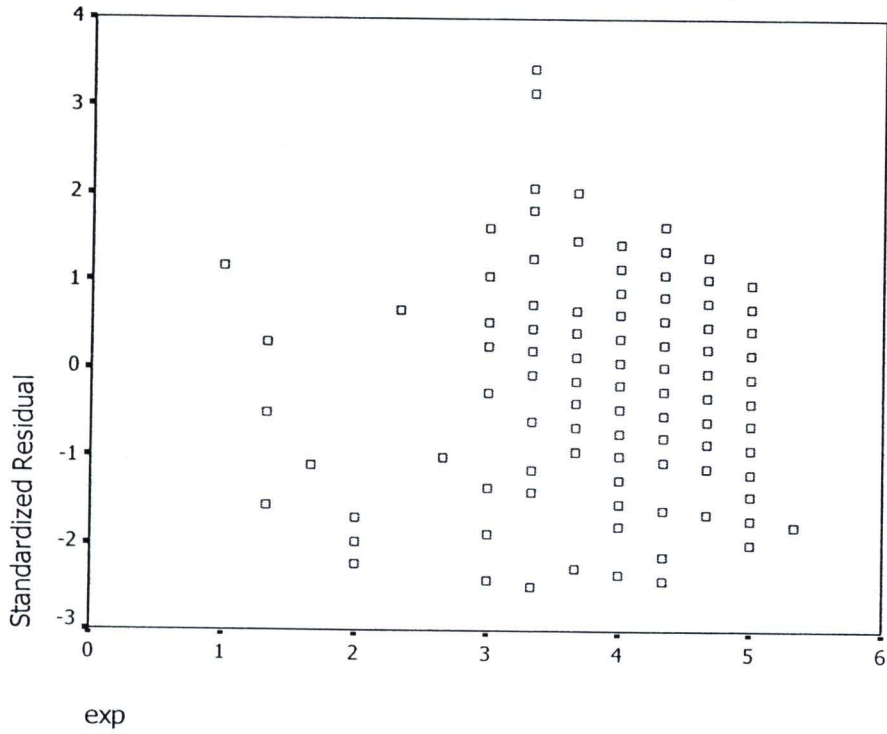


**Figure 46** The correlation between the standardized residual with independent variable low cost strategy (COS).

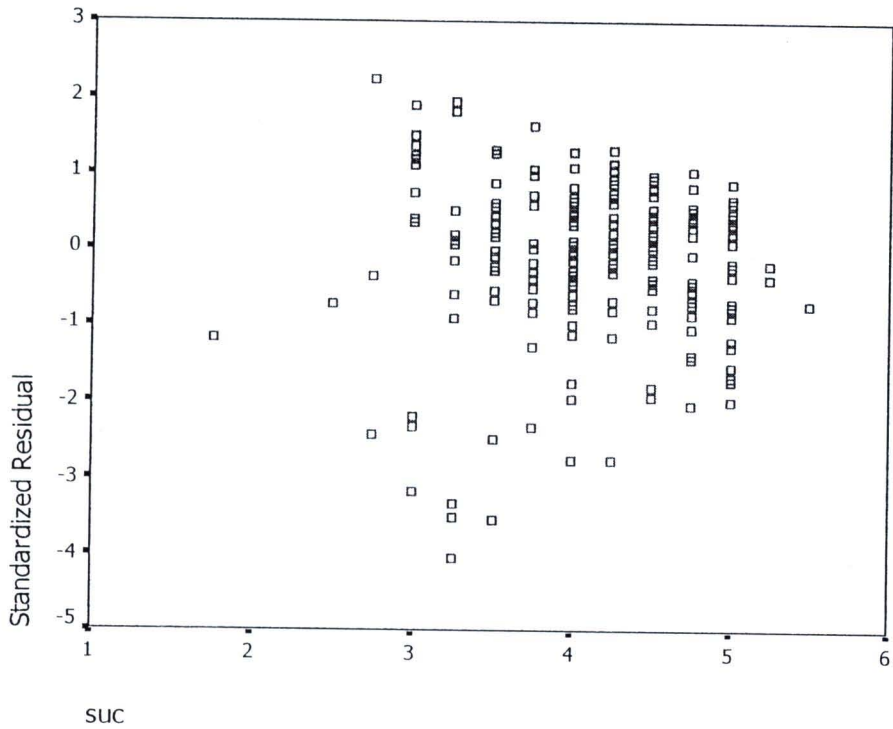




*Figure 48* The correlation between the standardized residual with independent variable market sharing (MAR).



*Figure 49* The correlation between the standardized residual with independent variable export Value (EXP).



**Figure 50** The correlation between the standardized residual with independent variable export success (SUC).

***Part 4: The Confirmatory Factor Analysis of the Measurement Model of Each Latent Variable***

The purpose of a confirmatory factor analysis is to analyze the measurement model of latent variables derived from the constructed variable measure in accordance with the measurement theory fixed from the literature survey and the relevant research studies. This is necessary to find out whether they are consistent with the empirical data. Then they are used to examine the convergent validity and discriminant linearity.

The author studied the attitudes and behavior of food export industry producers in Thailand which are latent variables with abstract characteristics which cannot be measured, directly comprised of the following:

1. organizational effectiveness variable
2. marketing mix variable
3. resources readiness variable
4. business allies network variable
5. business export strategy
6. ability to generate competitive advantages.



The data points were collected from the 97-item questionnaire survey conducted on a sampling group of 350. The results of the confirmatory factor analysis demonstrated in the measurement model are consistent with external measurement models such as the Organizational Effectiveness Factor Measurement (FIRM). In respect to internal measurement models like the Marketing Mix Factor Variable (MARK), Resources Readiness Factor Variables (RESO), Business Allies Network Connections (NETW), Export Strategy Factor Variable (STRA), and the Ability of General Competition Advantages (COMP) using the second order CFA, results are shown in Figure 51 and Tables 10 to 15 respectively. The results of the examination of the construct reliability are shown in Table 24 and discriminant validity is shown in Table 10.

*The Result of the Second Order CFA of the Organizational Effectiveness Factor Variables (FIRM) for Construct Linearity Examination Derived from the Confirmatory Factor Analysis Against Empirical Data*

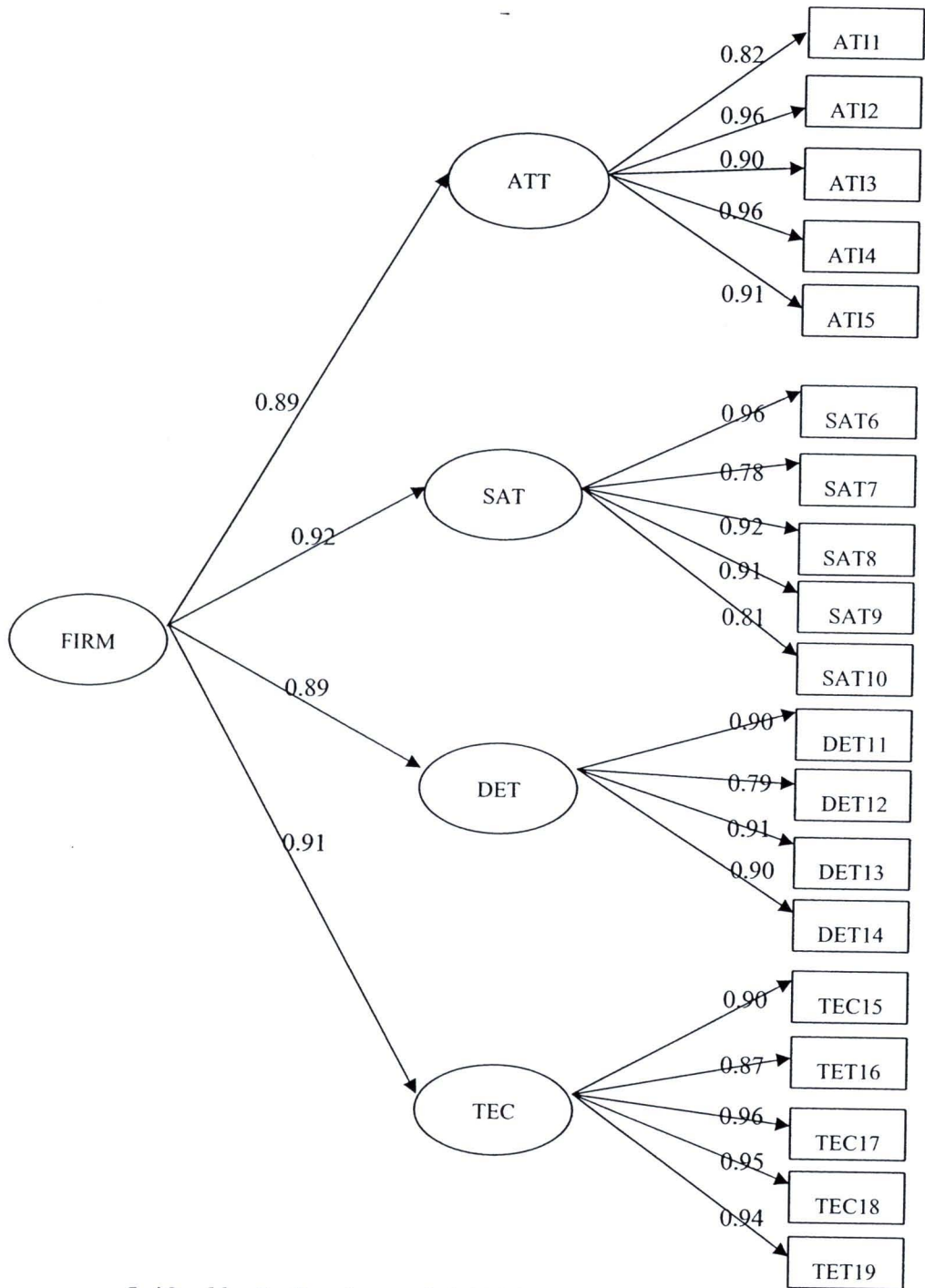
The Organizational Effectiveness Factor Measurement model analysis (FIRM) used second order CFA with the LISREL program examining 4 variable dimensions including Business Operation Attitudes (ATT) comprising noticeable variables from 5 questions including ATT1, ATT2, ATT3, ATT4, and ATT5. Business operation satisfaction dimensions included noticeable variables from 5 questions including SAT6, SAT7, SAT8, SAT9 and SAT10, Organizational Determination (DET) comprising noticeable variables from 4 question including DET11, DET12, DET13, and DET14 and Technology and Research Dimension (TEC) comprising noticeable variables derived from 5 questions including TEC15, TEC16, TEC17, TEC18 and TEC19.

In the construction of an equation model analysis, especially in the measurement model, there is agreement that allows deviation to be correlative which is identical to real conditions. After making an adjustment to the model, it was found that the measurement model was consistent with the empirical data with a chi-square ( $\chi^2$ ) value equal to 5.40 and a degree of freedom ( $df$ ) equal to 3, thereby making a relative chi-square which can be determined from the following equation:

$$\chi^2/df = 1.80$$

This is considered as passing the fixed criterion of not exceeding 2 (Millmore, 2007). The RMSEA equal to 0.040 is considered as having passed the criterion, being less than 0.05 (Millmore, 2007). The consistency from Goodness of Fit (GFI) being equal to 0.997 should be considered as passing the criterion, since it must be more than 0.9. The Adjusted Goodness of Fit (AGFI) being equivalent to 0.976 is considered to have passed the fixed criterion, as it must be more than 0.9 (Millmore, 2007). The factor loading found that all values pass the fixed criteria, which must be valued at more than 0.5 (Millmore, 2007). Considering the variable construct reliability (or CR), it was found that all values pass the criterion according to the specification that the variable construct reliability not be less than 0.6 (Millmore, 2007) with the value of the Work Management Attitudes Variable (ATT) being equivalent to 0.89, the Work Operation Satisfaction Variable (SAT) being equivalent to 0.92, the Organizational Determination Variable (DET) being equivalent to 0.89, and the Technology and Research Variable being equivalent to 0.91.

In considering the level of latent variability on the organizational effectiveness factor, it was found that the factor loading passed the criterion with a construct reliability value being 0.92 and a variance extracted (VE) value being equivalent to 0.85. These must be more than 0.5 (Millmore, 2007). The details of this can be viewed in Table 10. The Second Order CFA analysis of the Organizational Effectiveness Measurement Model is shown in Figure 50, with the number 0.92 with VE 0.85 values.



**Figure 51** The result of second order CFA analysis of firm competencies measurement model (FIRM).

The results of the second order CFA of the organizational effectiveness factor variables (FIRM) for construct linearity examination were derived from the confirmatory factor analysis against empirical data.

**Table 15**

*The Result of the Confirmatory Factor Analysis of Organizational Effectiveness with LISTEL Program*

| Variables/Noticeable Variable           | Factor  |      |         | Validity                 |
|---|---------|------|---------|--------------------------|
|   | Loading | SE   | T value | Coefficient<br>( $R^2$ ) |
| Work Operation Attitudes (ATT)          | 0.89    |      |         | 0.83                     |
| ATT1                                    | 0.82    | -    | -       | 0.67                     |
| ATT2                                    | 0.96    | 0.04 | 26.11   | 0.91                     |
| ATT3                                    | 0.90    | 0.04 | 24.96   | 0.81                     |
| ATT4                                    | 0.96    | 0.04 | 26.11   | 0.91                     |
| ATT5                                    | 0.91    | 0.04 | 25.23   | 0.85                     |
| Work Operation Result Satisfaction(SAT) | 0.92    |      |         | 0.85                     |
| SAT6                                    | 0.96    | -    | -       | 0.92                     |
| SAT7                                    | 0.78    | 0.04 | 18.14   | 0.60                     |
| SAT8                                    | 0.92    | 0.04 | 21.12   | 0.85                     |
| SAT9                                    | 0.91    | 0.04 | 19.10   | 0.78                     |
| SAT10                                   | 0.81    | 0.04 | 18.56   | 0.75                     |
| Organizational Determination (DET)      | 0.89    |      |         | 0.84                     |
| DET11                                   | 0.90    | -    | -       | 0.82                     |
| DET12                                   | 0.79    | 0.04 | 18.13   | 0.60                     |
| DET13                                   | 0.91    | 0.04 | 21.10   | 0.84                     |
| DET14                                   | 0.91    | 0.03 | 20.10   | 0.78                     |

**Table 15** (continued)

| Variables/Noticeable Variable | Factor  |      |                | Validity                 |
|-------------------------------|---------|------|----------------|--------------------------|
|                               | Loading | SE   | <i>T</i> value | Coefficient<br>( $R^2$ ) |
| Technology and Research (TEC) | 0.91    |      |                | 0.83                     |
| TEC15                         | 0.87    | -    | -              | 0.69                     |
| TEC16                         | 0.96    | 0.04 | 24.23          | 0.89                     |
| TEC17                         | 0.90    | 0.03 | 23.66          | 0.80                     |
| TEC18                         | 0.95    | 0.04 | 21.22          | 0.89                     |

From Figure 50 and Table 15, the Organizational Effectiveness Measurement model can be seen as a model indicating the factor loading of the work operation satisfaction variable with the maximum factor loading (SAT) equal to 0.92, the technology and research variable (TEC) being with factor loading value equal to 0.91, and the organizational determination variable being with factor loading of 0.89. On considering the Standard Error (SE) and statistical *t* value, it was found that each factor loading value was different from 0 statistically significant at the level of 0.001. In respect to the reliability validity ( $R^2$ ) which is the value indicating the ratio of variation between noticeable variables with the communalities, it was found that the work operation satisfaction (SAT) was the maximum  $R^2$  equal of 0.85 and the organizational determination variable (DET) was equal to 0.84.

The conclusion of the measurement model analysis by the confirmatory factor analysis for the organizational effectiveness variables is that the model was consistent with the empirical evidence after adjusting the model without omitting any questions from the measurement model.

Furthermore, all factor loading values passed the criteria, having a value more than 0.5. All variable construct reliability values passed the criteria with a value more than 0.6 and variance extracted value of all variables passed the criteria having a value of more than 0.5.

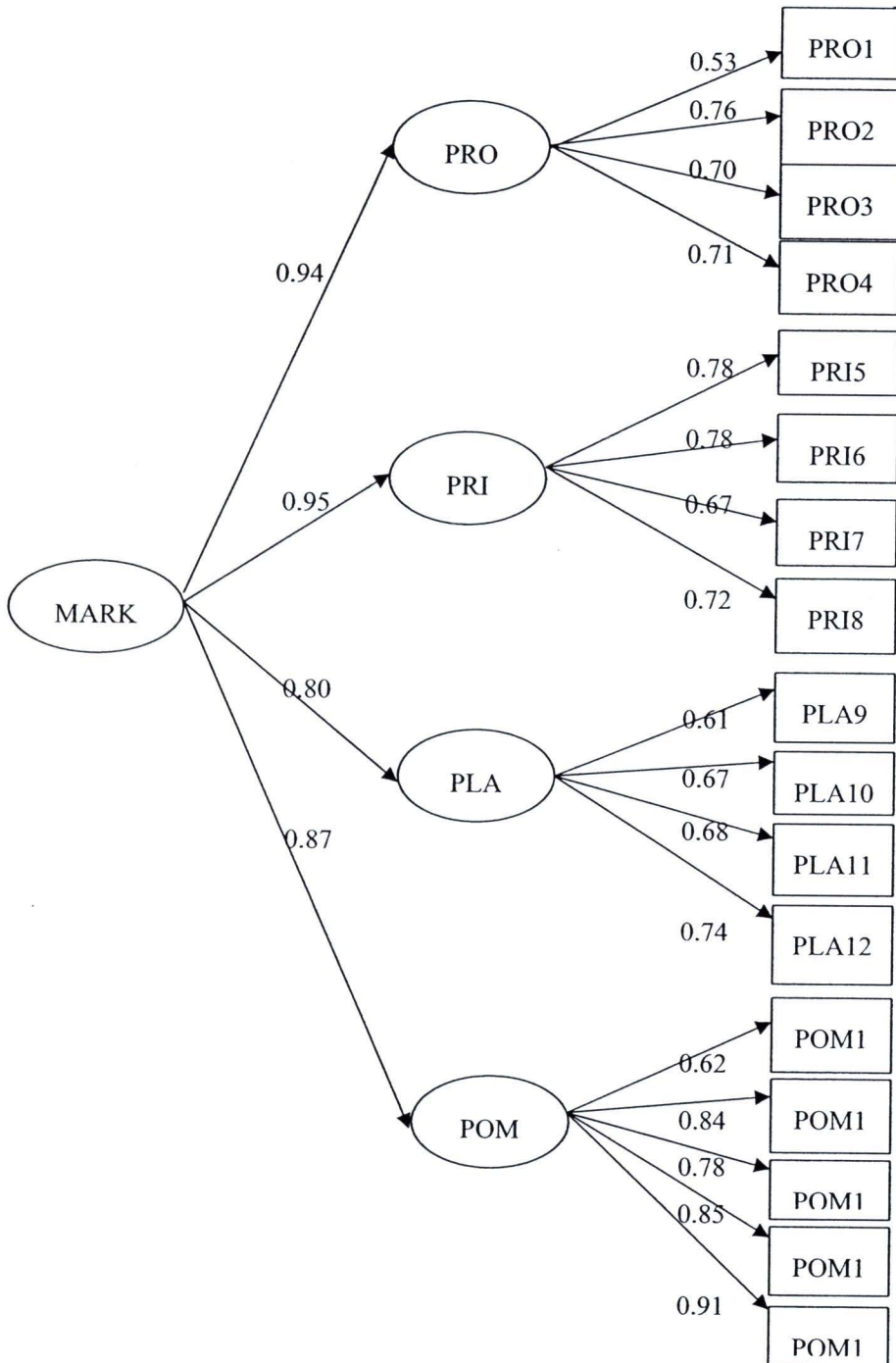
The analysis of the measurement model of the Marketing Mix Factor Variable (MARK) using second order CFA methods with the LISREL Program was done by examining the variable factors of 4 dimensions comprising Food Products (PROP) consisting of noticeable variables from question items POL1, POL2, POL3, and PL4; Product Price Dimension (PRI) comprised of noticeable variables from question items PRI5, PRI6, PR7, and PRI8, and the Distribution Channel Dimension (DIS) comprised of noticeable variables from question items DIS9, DIS10, DIS 11, MET11 and DIS12. The marketing promotion (SAL) is comprised of variables from marketing Promotion Variable question Items SAL13, SAL14, SAL15, SAL16 and SAL17.

The results of the analysis revealed that the measurement model was consistent with the empirical data after adjusting the model with a chi-square ( $\chi^2$ ) value equal to 113.46 and a degree of freedom (*df*) of 85, thereby making relative chi-square derived from the equation  $\chi^2/df$  equal to 1.33 with RMSEA equal to 0.26. The consideration of Goodness of Fit (GFI) was equal to 0.976 and the Adjusted Goodness of Fit (AGFI) was equal to 0.947.

Considering the factor loading value, it was found that marketing mix question items (MARK) of all items passed the criteria having values more than 0.05. When considering the variable construct reliability, it was found

that all values passed the criteria. The Food Product Variable construct reliability (PRO) had a value of 0.77, the Produce Pricing Variable (PRI) had a value of 0.58, the distribution channel variable (DIS) had a value of 0.68, and the marketing promotion variable (SAL) had a value of 0.83. When considering the level of the variable latent marketing mix factor variable, it was found that factor loading values passed the criteria of all values with the calculation results showing that construct reliability had the value equal to 0.95, thus passing the criterion. The variance extracted value (VE) was equal to 0.81, also passing the criterion. See the details in Table 24.

The second order CFA of Full Measurement Model of Marketing Mix factor consisted of the food product sub-variable (PRO), product pricing (PRI), market distribution channel (DIS) and market promotion (SIL) as shown in Figure 52.



chi-square = 113.46,  $df = 85$ ,  $P$  value=0.21300, RMSEA = 0.026

*Figure 52* The results of second order CFA of measurement model of market mix factor variable (MARK).

The results of the confirmatory factor analysis of the market mix factor with the LISREL Program consisted of the analysis in each dimension construed as market mix factors and question items factoring into each dimension. The results of the analysis are shown as per Table 16.

**Table 16**

*The Results of the Confirmatory Factor Analysis of Market Mix Factor with LISREL Program*

| Variables/Noticeable Variable | Factor  |      |         | Validity                         |
|-------------------------------|---------|------|---------|----------------------------------|
|                               | Loading | SE   | T value | Coefficient<br>(R <sup>2</sup> ) |
| Food Product (PRO)            | 0.94    | 0.06 | 11.32   | 0.89                             |
| PRO1                          | 0.53    | -    | -       | 0.28                             |
| PRO2                          | 0.76    | 0.07 | 12.59   | 0.58                             |
| PRO3                          | 0.70    | 0.07 | 10.32   | 0.48                             |
| PRO4                          | 0.71    | 0.06 | 11.23   | 0.58                             |
| Product Pricing (PRI)         | 0.95    | 0.04 | 18.34   | 0.91                             |
| PRI15                         | 0.78    | -    | -       | 0.61                             |
| PRI16                         | 0.78    | 0.04 | 20.23   | 0.60                             |
| PRI17                         | 0.67    | 0.05 | 14.36   | 0.45                             |
| PRI18                         | 0.72    | 0.05 | 14.98   | 0.52                             |
| Distribution Place (PLA)      | 0.80    | 0.04 | 12.09   | 0.64                             |
| PLA9                          | 0.61    | -    | -       | 0.38                             |
| PLA10                         | 0.67    | 0.07 | 13.13   | 0.45                             |
| PLA11                         | 0.68    | 0.11 | 11.81   | 0.46                             |
| PLA12                         | 0.74    | 0.10 | 12.61   | 0.55                             |

**Table 16** (continued)

| Variables/Noticeable Variable | Factor  |      |                | Validity                 |
|-------------------------------|---------|------|----------------|--------------------------|
|                               | Loading | SE   | <i>T</i> value | Coefficient<br>( $R^2$ ) |
| Marketing Promotion (POM)     | 0.87    | 0.06 | 11.30          | 0.89                     |
| POM13                         | -       | -    | -              | -                        |
| POM14                         | 0.78    | 0.05 | 18.48          | 0.61                     |
| POM15                         | 0.85    | 0.04 | 20.87          | 0.71                     |
| POM16                         | 0.84    | 0.09 | 13.51          | 0.70                     |
| POM17                         | 0.75    | 0.03 | 20.00          | 0.72                     |

As seen in Figure 51 and Table 16, domestic and international factor modeling provides a specific factor loading of the food product variable with the maximum factor loading (PRO) equal to 0.83. The next variable was market promotion (SAL) with a value equal to 0.77, the market distribution channel variable (DIS) was 0.76, and product price (PRI) was equal to 0.58. Considering the Standard Error (SE) and nature of statistics it was found that each factor loading was different from 0 statistically significant at the level of 0.001. In respect to reliability ( $R^2$ ), which is the value telling the ratio of variance between noticeable variables with the communalities, it was found that the marketing promotion variable (SAL) had a maximum  $R^2$  of 0.91. The Marketing distribution channel variable had a value of 0.89, the food products variable (PRO) had a value of 0.76, and the products pricing variable (PRI) had a value of 0.64.

The conclusion of the analysis of the measurement model by the confirmatory factor analysis of the market mix factor with the LISREL

Program is that the model was consistent with the empirical data. The full measurement model of the market mix has factor loading of all values passing the criteria, placing it higher than 0.5. The values of construct reliability of all values passed the criteria of being more than 0.6, and the variance extracted values of all variables passed the criteria of being higher than 0.5.

*The Result of the Second Order Confirmatory Factor Analysis (CFA) of the Resources Readiness Factor Variable (RESO) for Construct Linearity Derived from the Confirmatory Factor Analysis Against Empirical Data*

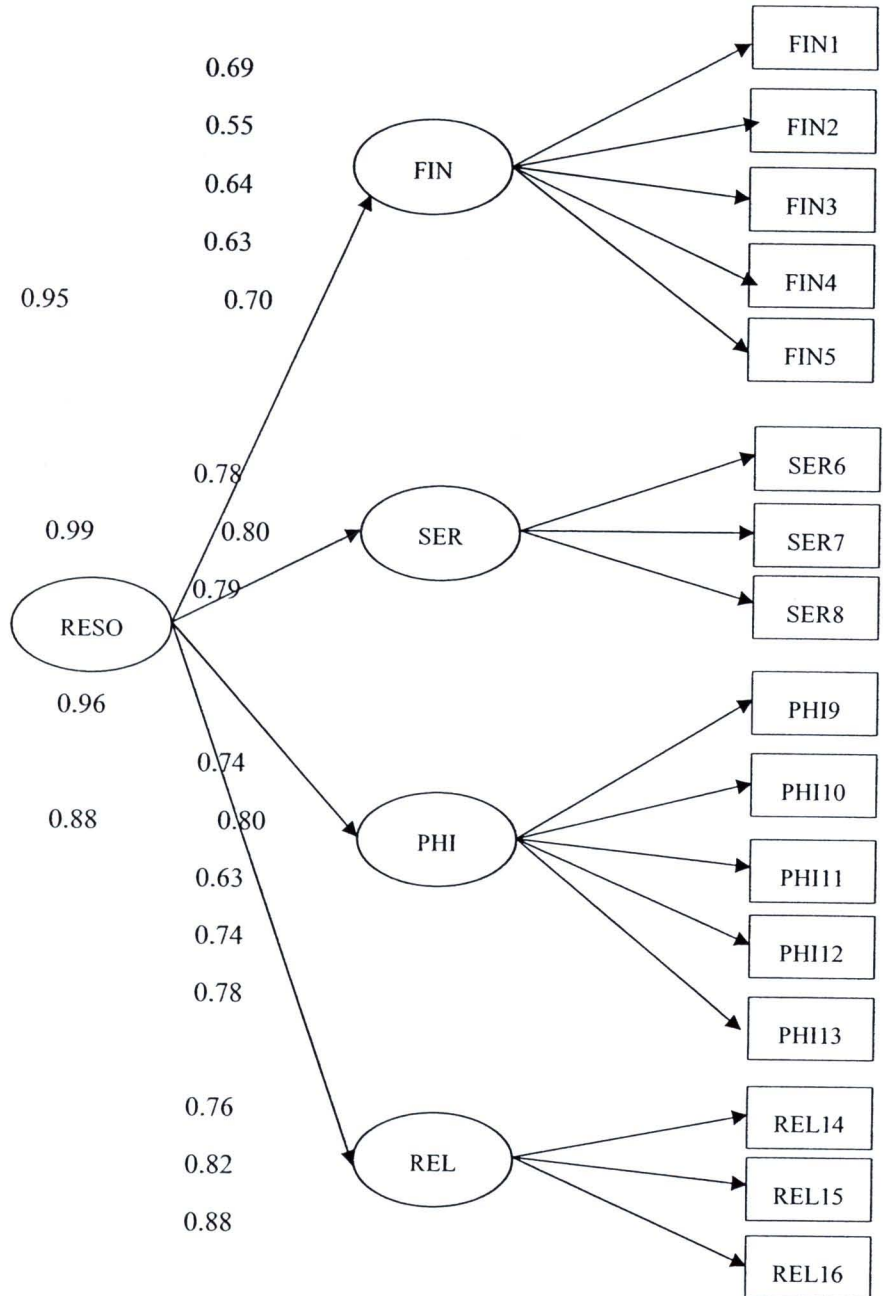
The measurement model analysis of the Resources Readiness Factor (RESO) used the second order CFA method with the LISREL program examining the dimensions of variables of 4 dimensions. The overall Financial Readiness (FIN) factor was composed of noticeable variables derived from question items FIN1, FIN2, FIN3, and FIN4; Personnel Readiness Dimension (PER) factors comprised noticeable variables derived from question items Person Readiness Dimension PER5, PER6, PER7 and PER8. Physical Readiness Dimension (PHI) comprised noticeable variables of PHI9, PHI10, PHI11, PHI12 and PHI13). The Relations with Business Partner Dimensions factor (REL) comprised noticeable variables of REL14, REL15 and REL16.

The results of the analysis revealed that the measurement model was consistent with the empirical data after adjusting the model with a chi-square ( $\chi^2$ ) value equal to 113.46 and a degree of freedom ( $df$ ) value of 85, thereby making the relative chi-square derived from the equation  $\chi^2/df$  equal to 1.33 with an RMSEA equal to 0.26. The factor of Consideration of Goodness of Fit

(GFI) was equal to 0.976, and the Adjusted Goodness of Fit (AGFI) factor was equal to 0.947.

Considering the factor loading value, it was found that the Marketing Mix question items (MARK) passed the criteria, possessing values more than 0.05. When considering variable construct reliability, it was found that all values passed the criteria with Food Product Variable construct reliability (PRO) having a value of 0.77. The Produce Pricing Variable (PRI) was 0.58, the distribution channel variable (DIS) was 0.68, and the marketing promotion variable (SAL) was 0.83. The level of variable latent of market mix factor loading values passed the criteria of all values. The calculation results show that construct reliability had a value equal to 0.95, thus passing the criterion. The variance extracted value (VE) was equal to 0.81, thus also passing the criterion. See the details in Table 24 for further data.

The results of the second order Confirmatory Factor Analysis (CFA) of the Resources Readiness Factor variable include the Financial Readiness Variable (FIN), the Personnel Readiness Variable (PER), the Physical Readiness Variable (PHI), and Relation with Business Partners Variable (REL) as shown in Figure 53.



chi-square = 203.78,  $df = 197$ ,  $P$  value = 0.35521, RMSEA = 0.008

**Figure 53** The results of second order CFA of measurement model of resources readiness factors variable (RESO).

**Table 17**

*The Results of the Confirmatory Factor Analysis of Resources Readiness with LISREL Program*

| Observe variable                       | Factor loading | SE   | T value | Validity Coefficient ( $R^2$ ) |
|--|----------------|------|---------|--------------------------------|
| The readiness in finance (FIN)         | 0.95           | 0.06 | 16.21   | 0.91                           |
| FIN1                                   | 0.69           | -    | -       | 0.48                           |
| FIN2                                   | 0.55           | 0.03 | 14.81   | 0.30                           |
| FIN3                                   | 0.64           | 0.04 | 13.03   | 0.41                           |
| FIN4                                   | 0.63           | 0.07 | 12.05   | 0.50                           |
| FIN5                                   | 0.70           | 0.10 | 11.07   | 0.69                           |
| The readiness in human resources (SER) | 0.99           | 0.05 | 20.04   | 0.99                           |
| SER6                                   | 0.78           | -    | -       | 0.61                           |
| SER7                                   | 0.80           | 0.03 | 23.05   | 0.60                           |
| SER8                                   | 0.79           | 0.03 | 21.75   | 0.63                           |
| The readiness in the physical (PHI)    | 0.96           | 0.05 | 17.77   | 0.91                           |
| PHI9                                   | 0.74           | -    | -       | 0.55                           |
| PHI10                                  | 0.80           | 0.04 | 19.70   | 0.63                           |
| PHI11                                  | 0.63           | 0.04 | 14.23   | 0.40                           |
| PHI12                                  | 0.74           | 0.04 | 16.02   | 0.55                           |
| PHI13                                  | 0.78           | 0.04 | 16.91   | 0.61                           |
| The readiness in relationship (REL)    | 0.88           | 0.05 | 17.01   | 0.78                           |
| REL14                                  | 0.76           | -    | -       | 0.57                           |
| REL15                                  | 0.82           | 0.03 | 18.44   | 0.68                           |
| REL16                                  | 0.88           | 0.04 | 19.98   | 0.78                           |

As shown in Figure 53 and Table 17, the Resources Readiness Measuring Factor Model is a model identifying the factor loading precisely. In respect to the factor loading, it was found that the Personnel Readiness dimension (PER) had a maximum factor loading equal to 0.99. The next variable was the Physical Readiness (PHI) factor which had a value equal to 0.96. The Financial Readiness (FIN) factor was 0.95, and the factor with the smallest value was the Business Partner Dimension (REL), being equal to 0.88. Considering the Standard Error (SE) and statistics, it was found that each factor loading was different from 0 statistically significant at the level of 0.001. In respect to the reliability ( $R^2$ ) which is the value showing the ratio of variance between noticeable variables with the communalities, it was found that the Personnel Readiness Variable (SAL) had a maximum  $R^2$  of 0.99, with the next closest being the Physical Readiness and Financial Readiness dimensions with values of 0.91. The final variable is the Relations with Business Partners Variable, with a value of 0.78.

The conclusion of the analysis of the measurement model by the confirmatory factor analysis of resources readiness factor is that the model was consistent with the empirical data after adjusting the model. The Financial Readiness Factors measurement (FIN4) and the Personnel Readiness (PER5) factor on both question items were less than 0.5. The rest were with factor loading values passing the criterion at more than 0.5. The values of construct reliability of all values passed the criteria at more than 0.6, and the variance extracted values of all variables passed the criteria at more than 0.5.

*The Result of the Second Order Confirmatory Factor Analysis (CFA) of the Business Allies Network Connection Factor variable (NETW) for Examining Construct Linearity Derived from the Confirmatory Factor Analysis Against Empirical Data*

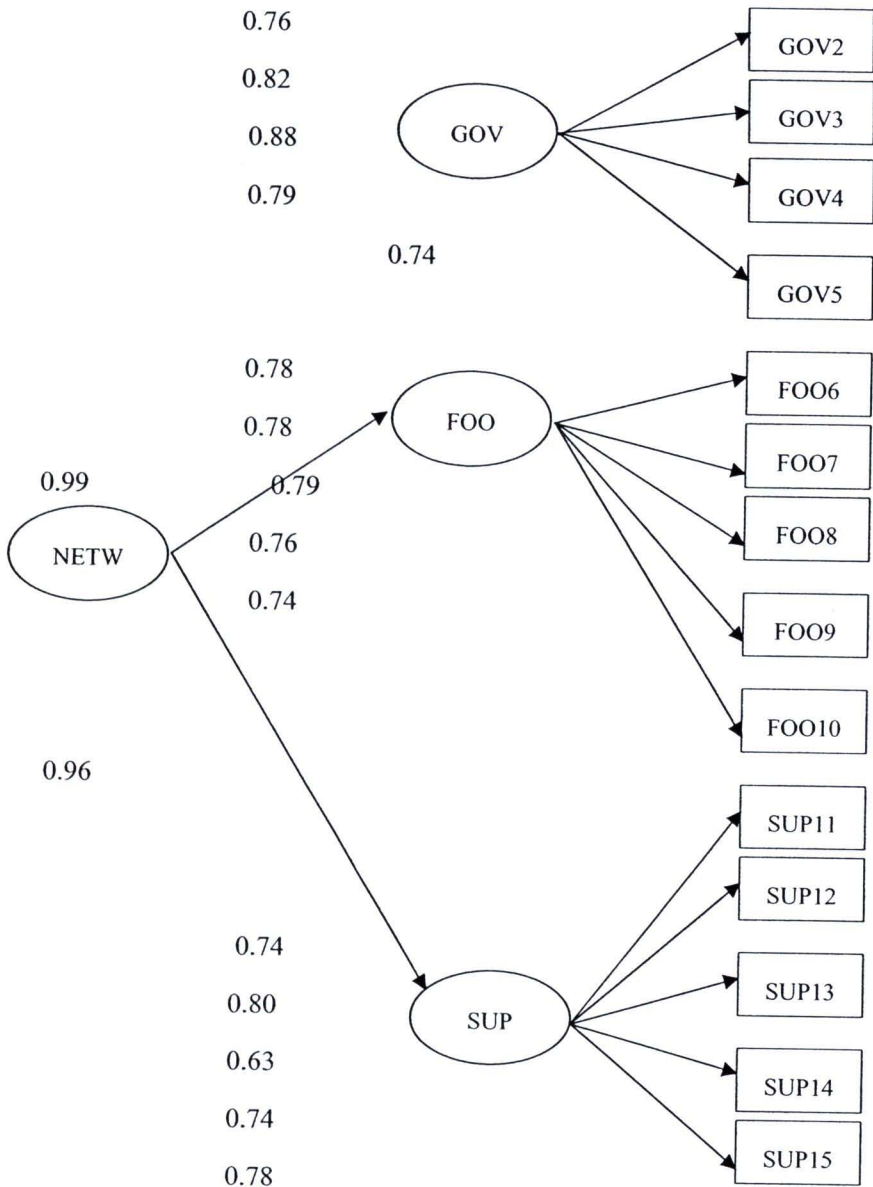
The measurement model analysis of the Satisfaction Factor (SAT1) using the second order CFA method with the LISREL program examining the dimensions of variables of the 5 dimensions (COR1, COR2, COR3, COR4 and COR5), food industrial group dimension (FOO) composed of noticeable variables such as SUP10, SUP11, SUP12, SUP13, SUP14 and SUP15).

The results of the analysis revealed that the measurement model was consistent with the empirical data after adjusting the model with a chi-square ( $\chi^2$ ) value equal to 203.78 and a degree of freedom ( $df$ ) of 195, thereby making the relative chi-square derived from the equation  $\chi^2/df$  equal to 1.03 with an RMSEA equal to 0.08. The consideration of Goodness of Fit (GFI) was equal to 0.97, and the Adjusted Goodness of Fit (AGFI) was equal to 0.95.

Considering the factor loading value, it was found that all items passed the criteria, having values of more than 0.05. Variable construct reliability showed that the trade cooperation question items (COR1), food industrial group (FOO9) and supply network chain (SUP10) had factor loading values lower than the criteria, being less than 0.5; therefore, the author has omitted the three question items concerning business allies network connections (NETW). Variable construct reliability also shows that all variables passed the criteria, with the variable construct reliability of food industrial group being

equal to 0.95, the trade cooperation variable (COR) having a value of 0.80, and the supply chain connection variable (SUP) also having a sufficient level of latent variable. It was found that factor loading values passed the criteria of all values with the calculation results having a value equal to 0.94, passing the criterion. The variance extracted value (VE) was equal to 0.83, also passing the criterion. Please see details from Table 13.

The second order CFA of Full Measurement Model of Business Allies network connection factor consists of the trade cooperation sub-variable (COR), product pricing (PRI), food industrial group (FOO) and the supply chain network (SUP) as shown in Figure 54.



chi-square = 34.00,  $df = 35$ ,  $P$  value = 0.51624, RMSEA = 0.000

**Figure 54** The results of second order CFA of measurement model of business allies network connection factor variable (NETW).

The results of the confirmatory factor analysis of the Business Allies Network Connection factor with the LISREL Program consist of the analysis

of each dimension of the Business Allies Network Connection and the question items of each dimension. The results of the analysis are shown in Table 18.

**Table 18**

*The Results of the Confirmatory Factor Analysis of Business Allies Network Connection with LISREL Program*

| Observe variable              | Factor loading | SE   | t value | Validity ( $R^2$ ) |
|-------------------------------|----------------|------|---------|--------------------|
| Support from government (GOV) | 0.88           | 0.05 | 17.10   | 0.78               |
| GOV1                          | 0.86           | -    | -       | 0.67               |
| GOV2                          | 0.76           | 0.06 | 18.60   | 0.57               |
| GOV3                          | 0.82           | 0.03 | 18.44   | 0.68               |
| GOV4                          | 0.88           | 0.03 | 19.98   | 0.78               |
| GOV5                          | 0.79           | 0.04 | 18.14   | 0.63               |
| Food industrial groups (FOO)  | 0.99           | 0.05 | 20.04   | 0.99               |
| FOO6                          | 0.78           | -    | -       | .61                |
| FOO7                          | 0.80           | 0.03 | 23.05   | 0.60               |
| FOO8                          | 0.79           | 0.04 | 22.75   | .66                |
| FOO9                          | 0.75           | 0.05 | 21.65   | 0.89               |
| FOO10                         | 0.76           | 0.06 | 20.00   | 0.69               |
| Food industrial chains (CHA)  | 0.96           | 0.05 | 17.77   | 0.91               |
| CHA11                         | 0.74           | -    | -       | 0.55               |
| CHA12                         | 0.80           | 0.04 | 19.70   | 0.63               |
| CHA13                         | 0.73           | 0.04 | 12.23   | 0.30               |
| CHA14                         | 0.74           | 0.04 | 16.02   | 0.55               |
| CHA15                         | 0.80           | 0.04 | 16.91   | 0.61               |

As seen in Figure 54 and Table 18, the Business Allies Network Connection Factor Measurement Model indicated a precise specific factor loading. In respect to the factor loading, it was found that the food industrial

group dimension (SER) had the maximum factor loading equal to 0.99. The next variable was the supply chain network (NETW) with a value equal to 0.96, and the lowest was trade operation dimension (COR) with a value of 0.88. Considering the standard error (SE) and statistical t value, it was found that each factor loading value was different from 0, statistically significant at the level of 0.001. In respect to the reliability validity ( $R^2$ ), which is the value telling the ratio of variation between noticeable variables with the communalities, it was found that the food industrial dimension (FOO) had a maximum  $R^2$  equal of 0.99, with the next closest one being the supply chain network (SUP) with a value of 0.91 and the trade cooperation dimension (COR) having a value of 0.78.

The conclusion of the analysis of measurement model by the confirmatory factor analysis of Business Allies Network Connection Factors is that the model was consistent with the empirical data after adjusting the model whereby certain items were omitted - trade cooperation question item 1, Item 9, the food industrial group variable, and item 10, the supply chain network variable, due to the fact that the factor loading values were less than 0.5. The rest were with factor loading values passing the criterion by having values of more than 0.5. The values of construct reliability of all values passed the criteria, being more than 0.6, and the variance extracted values of all variables passed the criteria, having values larger than 0.5.

The result of the second order confirmatory factor analysis of the Organizational Export Strategy Factor variables (STRA) for construct

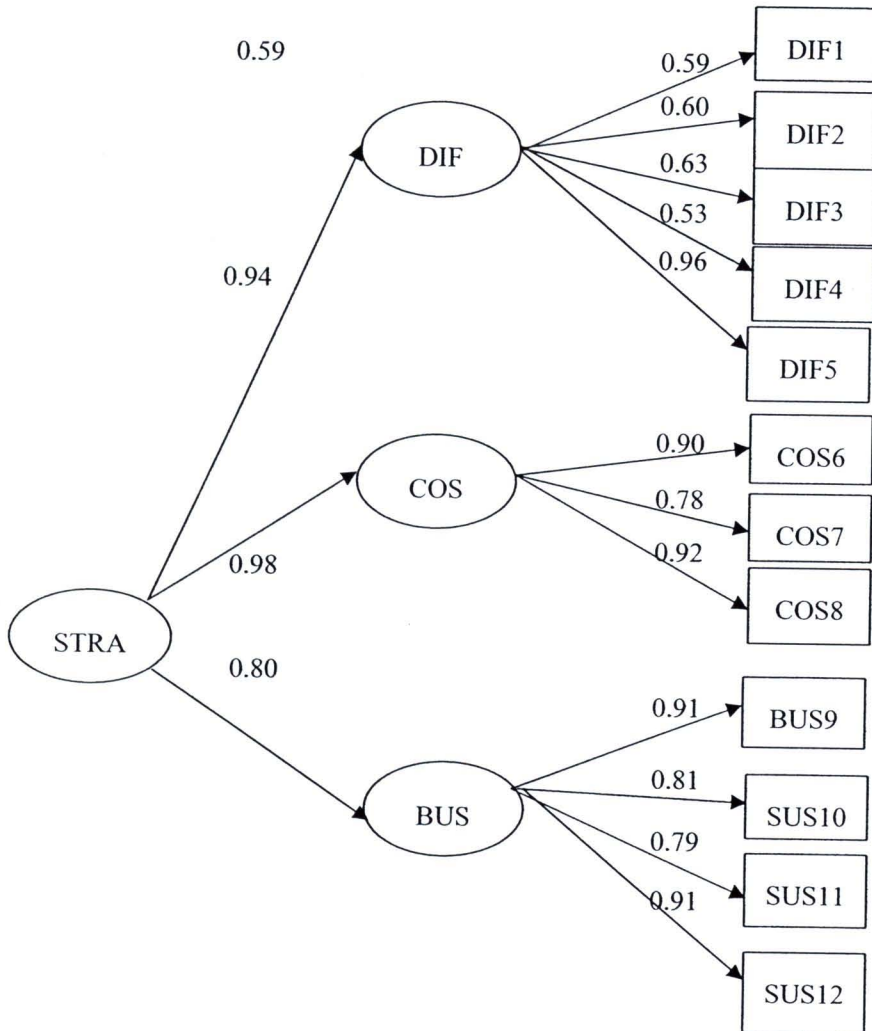
linearity examination was derived from the confirmatory factor analysis against empirical data.

The organizational export strategy factor measurement model analysis used second order CFA with the LISREL program examining 3 variable dimensions such as Different Products Strategy (DIF) comprising noticeable variables from question items including DIF1, DIF2, DIF3, DIF4 and DIF5. There is also a low cost strategy (COS) comprising noticeable variables from question items COST6, COS7 and COS8, and Trade Business Strategy Dimension (BUS) comprising noticeable variables from question items BUS9, BUS10, BUS11, and BUS12.

The results of the analysis revealed that the measurement model was consistent with the empirical data after adjusting the model with a chi-square ( $\chi^2$ ) value equal to 6.98 and a degree of freedom (*df*) of 7, thereby making relative chi-square derived from the equation  $\chi^2/df$  equal to 0.997 with RMSEA equal to 0.000. The consideration of Goodness of Fit (GFI) was equal to 0.983, and the Adjusted Goodness of Fit (AGFI) was equal to 0.996.

Considering the factor loading value, it was found that all items passed the criteria of having a value more than 0.05, with construct reliability of Different Products Strategy (DIF) equal to 0.90, Low Cost Strategy (COS) equal to 0.89, and Business Trade Strategy (BUS) equal to 0.83. The level of latent variables of the Organizational Export Strategy factor variable showed that factor loading values passed the criteria of all values with the calculation having a value equal to 0.97. There was also a variance extracted value (VE) equal to 0.83, which also was sufficient for the criterion. See details in Table 13.

The second order CFA of the Full Measurement Model of Organizational Export Strategy factor is composed of the Different Products Strategy Variable (DIF), the Low Cost Strategy Variable (COS), and the Business Trade Strategy (BUS) variable as shown in Figure 55.



chi-square = 6.98,  $df = 7$ ,  $P$  value = 0.43124, RMSEA = 0.000

**Figure 55** The result of the confirmatory factor Analysis-CFA of the variable measurement model on organizational export strategy (STRA).

*The Result of the Second Order Confirmatory Factor Analysis of the Generation of Advantages in the Competition of Export Industry Factor Variables (COMP) for Construct Linearity Examination Derived from the Confirmatory Factor Analysis Against Empirical Data*

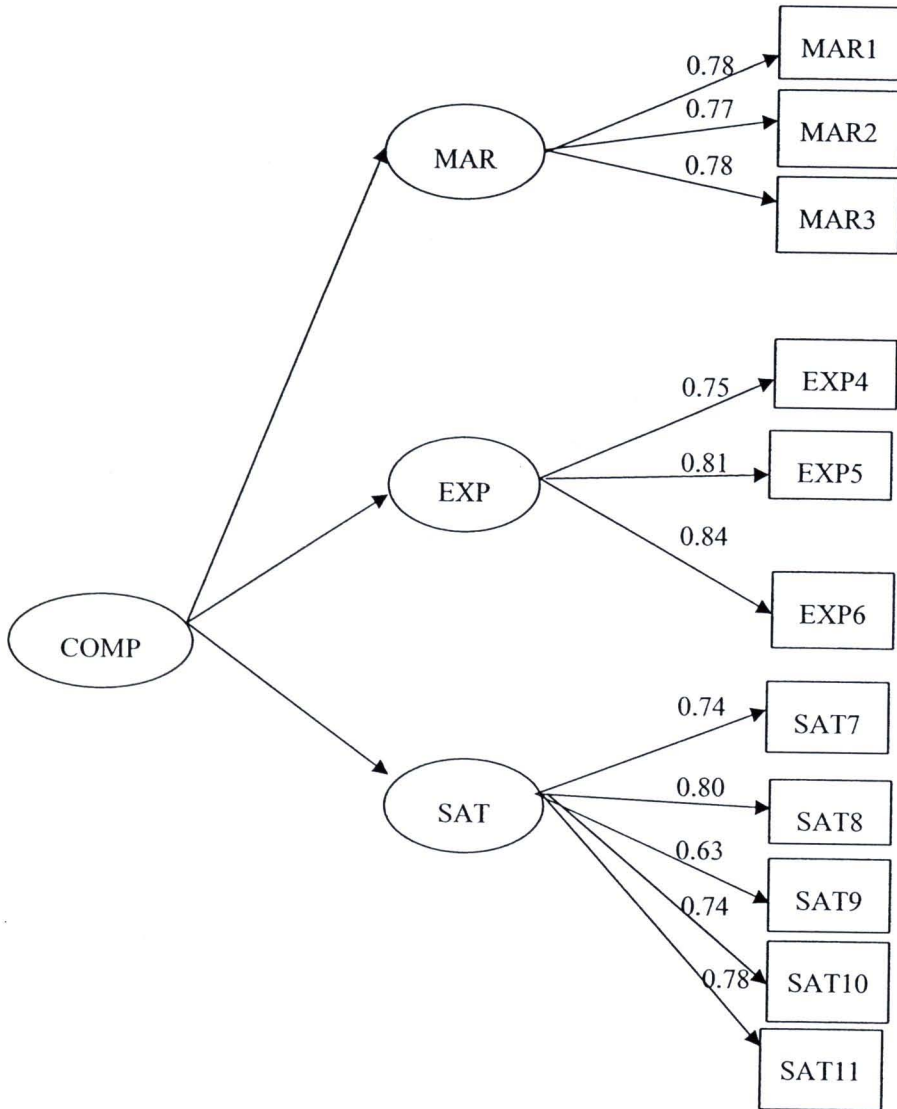
The Generation of Advantages in the Competition of Export Industry factor variable measurement model analysis used second order CFA with the LISREL program examining 3 variable dimensions such as the Different Products Strategy (DIF) comprising noticeable variables from question items including Market Sharing Dimension (MAR) comprising noticeable variables such as MAR1, MAR2, and MAR3, Export Values Dimension (EXP) comprising noticeable variables such as EXP4, EXP5, and EXP6, and Export Potentiality Dimension (SAT) comprising noticeable variables such as SAT7, SAT8, SAT9, SAT10 and SAT11.

The results of the analysis revealed that the measurement model was consistent with the empirical data after adjusting the model with a chi-square ( $\chi^2$ ) value equal to 203.78 and a degree of freedom ( $df$ ) of 197, thereby making relative chi-square derived from the equation  $\chi^2/df$  equal to 0.008 with RMSEA equal to 0.000. The consideration of Goodness of Fit (GFI) was equal to 0.97, and the Adjusted Goodness of Fit (AGFI) was equal to 0.95.

Considering the factor loading value, it was found that all items passed the criteria with values of more than 0.05, and with construct reliability of Market Sharing Variable (MAR) values equal to 0.80. The Export Value Variable (EXP) was equal to 0.95, and the Export Potentiality Variable (SAT) was equal to 0.86. It was found that factor loading values passed the criteria of

all values with the calculation results having a reliability of the Overall Satisfaction (SAT1) of 0.97. The variance extracted value (VE) was equal to 0.93, also passing the criterion. Please see details in Table 15.

The second order CFA of the Full Measurement Model of Generation of Advantages in the Export Industry factor consists of the Generation of Advantages in the Export Industry in the future including the Market Sharing Variable (MAR), the Export Value Variable (EXP), and the Export Potentiality Variable (SAT) as shown in Figure 56.



chi-square = 203.78,  $df = 197$ ,  $P$  value = 0.35521, PRSEA = 0.008

**Figure 56** The Correlation between the standardized residual with the independent variable (COMP).

The result of the confirmatory factor analysis of the Generation of Advantages in the Export Industry with the LISREL Program comprises the analysis of each dimension regarding organizational effectiveness, with the analytical results being shown in Table 19.

**Table 19**

*The Results of the Confirmatory Factor Analysis of Generation of Advantages in the Export Industry with LISREL Program*

| Variables/Noticeable Variable | Factor  |      |                | Validity              |
|-------------------------------|---------|------|----------------|-----------------------|
|                               | loading | SE   | <i>t</i> value | Coefficient ( $R^2$ ) |
| Market Sharing (MAR)          | 0.97    | 0.05 | 20.04          | 0.98                  |
| MAR2                          | 0.77    | 0.03 | 23.03          | 0.59                  |
| MAR3                          | 0.78    | 0.03 | 21.74          | 0.61                  |
| Export Value (EXP)            | 0.87    | 0.05 | 16.09          | 0.75                  |
| EXP4                          | 0.75    | -    | -              | 0.56                  |
| EXP5                          | 0.81    | 0.03 | 18.44          | 0.68                  |
| EXP6                          | 0.84    | 0.03 | 19.96          | 0.76                  |
| Export Potentiality (SAT)     | 0.80    | 0.04 | 17.72          | 0.89                  |
| SAT7                          | 0.74    | -    | -              | 0.55                  |
| SAT8                          | 0.80    | 0.04 | 19.69          | 0.61                  |
| SAT9                          | 0.63    | 0.04 | 14.22          | 0.40                  |
| SAT10                         | 0.74    | 0.04 | 15.96          | 0.53                  |
| SAT11                         | 0.78    | 0.04 | 15.97          | 0.60                  |

As shown in Figure 56 and Table 19, the Organizational Generation of Advantages in the Food Industrial Competition factor measurement model identifies the factor loading precisely. It was found that the Marketing Sharing dimension (MAR) had the maximum factor loading equal to 0.97. The next is the Export Potentiality Dimension (SAT), having a value equal to 0.95. The lowest variable was the Export Value Dimension (EXP) with a value of 0.87. Considering the Standard Error (SE) and statistical *t* value, it was found that each factor loading value is different from 0, statistically significant at the level of 0.001. In respect to the reliability validity ( $R^2$ ), which is the value

indicating the ratio of variation between noticeable variables with the communalities, it was found that the Market Sharing Dimension (MAR) had a maximum  $R^2$  value equal to 0.98. The next subsequent variables are the Export Potentiality Dimension (SAT) and the Export Value Dimension (EXP), with value of 0.75.

The conclusion of the analysis of the measurement model by the confirmatory factor analysis of Generation of Advantages in the Competition Factor is that the model is consistent with the empirical data after adjusting the model without omitting any questions from the measurement model. All factor loading values passed the criteria, having a value more than 0.5. All variable construct reliability values also passed the criteria having values of more than 0.6. Finally, the variance extracted value of all the variables passed the criteria having a value more than 0.5.

### **Examination of Convergent Validity**

Convergent validity examination is an item or indicator with common variation to examine whether certain indicators measure the same variables. The convergent validity examination method has 3 stipulations as follows (Newbert, 2007).

**Factor Loading.** If the factor loading value is high, it means that the common convergent point is high. Factor loading values should be more than 0.5. The value can be viewed from lambda-X or lambda-Y from LISREL's issue completely standardized solution in the output file.

Variance Extracted (VE). Admissible value should be more than 0.5.

The calculation of the equation is shown below:

$$VE = \frac{\sum_{i=1}^n \lambda_i^2}{n}$$

VE = Variance Extracted of each variable

$\lambda_i$  = Standardized Factor Loading such as lambda-X or lambda-Y

from LISREL's issue of completely standardized solution of the output file

$n$  = Number of questions measuring the variables

**The Construct Reliability.** Admissible values shall have a value of more than 0.6.

The calculation of the equation is shown below:

$$CR = \frac{\left( \sum_{i=1}^n \lambda_i \right)^2}{\left( \sum_{i=1}^n \lambda_i \right)^2 + \left( \sum_{i=1}^n \delta_i \right)}$$

CR = Construct Reliability

$\delta_i$  = Standardized Factor Loading such as lambda-X or lambda-Y

from LISREL's issue of completely standardized solution of the output file

$n$  = Number of questions measuring the variables

$\lambda_i$  = Error Variant such as theta-delta or theta-EPS from

LISREL's issue of completely standardized solution of the output file

The examination of convergent validity should pass all three criteria, and the factor loading value must be more than 0.5. The variance extracted value must be more than 0.5, and the construct reliability value must be more than 0.6 (Newbert, 2007). The necessary detail of factor loading values, the

Variance Extracted (VE), and the construct reliability values are shown in Table 20.

**Table 20**

*The Results of Convergent Validity Analysis*

| Variable | Index | Lambda-X<br>( $\delta_i$ ) | Theta-delta<br>( $\chi_i$ ) | Variance<br>Extracted | Construct<br>Reliability |
|----------|-------|----------------------------|-----------------------------|-----------------------|--------------------------|
| FIRM     | ATT   | 0.16                       | 0.16                        | 0.85                  | 0.92                     |
|          | SAT   | 0.15                       | 0.15                        |                       |                          |
|          | DET   | 0.14                       | 0.12                        |                       |                          |
|          | TEC   | 0.12                       | 0.10                        |                       |                          |
| ATT      | ATT1  | 0.33                       | 0.33                        | 0.81                  | 0.92                     |
|          | ATT2  | 0.09                       | 0.09                        |                       |                          |
|          | ATT3  | 0.32                       | 0.08                        |                       |                          |
|          | ATT4  | 0.31                       | 0.10                        |                       |                          |
|          | EXC5  | 0.32                       | 0.09                        |                       |                          |
| SAT      | SAT6  | 0.08                       | 0.08                        | 0.80                  | 0.92                     |
|          | SAT7  | 0.40                       | 0.40                        |                       |                          |
|          | SAT8  | 0.39                       | 0.39                        |                       |                          |
|          | SAT9  | 0.38                       | 0.34                        |                       |                          |
|          | SAT10 | 0.40                       | 0.40                        |                       |                          |
| DET      | DET11 | 0.40                       | 0.41                        | 0.79                  | 0.95                     |
|          | DET12 | 0.36                       | 0.19                        |                       |                          |
|          | DET13 | 0.40                       | 0.24                        |                       |                          |
|          | DET14 | 0.38                       | 0.20                        |                       |                          |

**Table 20** (continued)

| Variable | Index | Lambda-X<br>( $\delta_i$ ) | Theta-delta<br>( $\chi_i$ ) | Variance<br>Extracted | Construct<br>Reliability |
|----------|-------|----------------------------|-----------------------------|-----------------------|--------------------------|
| TEC      | TEC15 | 0.42                       | 0.39                        |                       |                          |
|          | TEC16 | 0.46                       | 0.40                        |                       |                          |
|          | TEC17 | 0.50                       | 0.41                        |                       |                          |
|          | TEC18 | 0.50                       | 0.41                        |                       |                          |
|          | TEC19 | 0.42                       | 0.36                        |                       |                          |
| MAKE     | PRO   | 0.94                       | 0.11                        |                       |                          |
|          | PRI   | 0.95                       | 0.09                        |                       |                          |
|          | PLA   | 0.92                       | 0.16                        |                       |                          |
|          | POM   | 0.53                       | 0.72                        | 0.81                  | 0.95                     |
| PRO      | PRO1  | 0.76                       | 0.42                        |                       |                          |
|          | PRO2  | 0.71                       | 0.50                        |                       |                          |
|          | PRO3  | 0.78                       | 0.39                        |                       |                          |
|          | PRO4  | 0.79                       | 0.40                        |                       | 0.77                     |
| PRI      | PRI5  | 0.78                       | 0.41                        |                       |                          |
|          | PRI6  | 0.76                       | 0.39                        |                       |                          |
|          | PRI7  | 0.81                       | 0.36                        |                       |                          |
|          | PRI8  | 0.80                       | 0.37                        |                       | 0.73                     |
| PLA      | PLA9  | 0.76                       | 0.42                        |                       |                          |
|          | PLA10 | 0.78                       | 0.40                        |                       |                          |
|          | PLA11 | 0.67                       | 0.40                        |                       |                          |
|          | PLA12 | 0.71                       | 0.50                        |                       | 0.86                     |
| POM      | POM13 | 0.86                       | 0.26                        |                       |                          |
|          | POM14 | 0.78                       | 0.40                        |                       |                          |
|          | POM15 | 0.61                       | 0.63                        |                       |                          |
|          | POM16 | 0.67                       | 0.55                        |                       |                          |
|          | POM17 | 0.68                       | 0.54                        |                       | 0.90                     |

**Table 20** (continued)

| Variable | Index | Lambda-X<br>( $\delta_i$ ) | Theta-delta<br>( $\chi_i$ ) | Variance<br>Extracted | Construct<br>Reliability |
|----------|-------|----------------------------|-----------------------------|-----------------------|--------------------------|
| DIF      | DIF1  | 0.61                       | 0.63                        |                       |                          |
|          | DIF2  | 0.67                       | 0.55                        |                       |                          |
|          | DIF3  | 0.68                       | 0.54                        |                       |                          |
|          | DIF5  | 0.84                       | 0.30                        |                       | 0.83                     |
| COS      | COS6  | 0.58                       | 0.66                        |                       |                          |
|          | COS7  | 0.57                       | 0.65                        |                       |                          |
|          | COS8  | 0.69                       | 0.53                        |                       | 0.58                     |
| BUS      | BUS9  | 0.78                       | 0.40                        |                       |                          |
|          | BUS10 | 0.67                       | 0.40                        |                       |                          |
|          | BUS11 | 0.72                       | 0.48                        |                       |                          |
|          | BUS12 | 0.71                       | 0.50                        |                       | 0.86                     |
| RESO     | FIN   | 0.97                       | 0.05                        |                       |                          |
|          | PER   | 0.98                       | 0.45                        |                       |                          |
|          | PHI   | 0.97                       | 0.50                        |                       |                          |
|          | REL   | 0.98                       | 0.05                        | 0.95                  | 0.97                     |
| FIN      | FIN1  | 0.90                       | 0.20                        |                       |                          |
|          | FIN2  | 0.89                       | 0.19                        |                       |                          |
|          | FIN3  | 0.91                       | 0.17                        |                       | 0.90                     |
| PER      | PER6  | 0.58                       | 0.66                        |                       |                          |
|          | PER7  | 0.59                       | 0.65                        |                       |                          |
|          | PER8  | 0.73                       | 0.47                        |                       | 0.83                     |
| PHI      | PHI9  | 0.95                       | 0.09                        |                       |                          |
|          | PHI10 | 0.99                       | 0.02                        |                       |                          |
|          | PHI11 | 0.96                       | 0.09                        |                       |                          |
|          | PHI12 | 0.95                       | 0.08                        |                       |                          |
|          | PHI13 | 0.88                       | 0.22                        | 0.90                  | 0.97                     |

**Table 20** (continued)

| Variable | Index | Lambda-X<br>( $\delta_i$ ) | Theta-delta<br>( $\chi_i$ ) | Variance<br>Extracted | Construct<br>Reliability |
|----------|-------|----------------------------|-----------------------------|-----------------------|--------------------------|
| REL      | REL14 | 0.69                       | 0.52                        |                       |                          |
|          | REL15 | 0.67                       | 0.55                        |                       |                          |
|          | SAT9  | 0.76                       | 0.43                        |                       | 0.80                     |
| HALA     | STA   | 0.84                       | 0.30                        |                       |                          |
|          | QUL   | 0.80                       | 0.36                        |                       |                          |
|          | GOV   | 0.82                       | 0.33                        |                       | 0.87                     |
| STA      | STA1  | 0.78                       | 0.39                        |                       |                          |
|          | STA2  | 0.78                       | 0.40                        |                       |                          |
|          | STA3  | 0.79                       | 0.37                        |                       |                          |
|          | STA4  | 0.79                       | 0.38                        |                       | 0.95                     |
| QUL      | QUL5  | 0.80                       | 0.36                        |                       |                          |
|          | QUL6  | 0.75                       | 0.43                        |                       |                          |
|          | QUL7  | 0.73                       | 0.43                        |                       | 0.95                     |
| GOV      | GOV8  | 0.74                       | 0.45                        |                       |                          |
|          | GOV9  | 0.80                       | 0.37                        |                       |                          |
|          | GOV11 | 0.78                       | 0.39                        |                       | 0.86                     |
| NETW     | COR   | 0.76                       |                             |                       |                          |
|          | FOO   | 0.82                       |                             |                       |                          |
|          | SUP   | 0.88                       |                             | 0.90                  | 0.89                     |
| COR      | COR2  | 0.59                       |                             |                       |                          |
|          | COR3  | 0.58                       |                             |                       |                          |
|          | COR4  | 0.64                       |                             |                       |                          |
|          | COR5  | 0.51                       |                             |                       | 0.83                     |
| FOO      | FOO6  | 0.95                       |                             |                       |                          |
|          | FOO7  | 0.99                       |                             |                       |                          |
|          | FOO8  | 0.96                       |                             |                       |                          |

**Table 20** (continued)

| Variable | Index | Lambda-X<br>( $\delta_i$ ) | Theta-delta<br>( $\chi_i$ ) | Variance<br>Extracted | Construct<br>Reliability |
|----------|-------|----------------------------|-----------------------------|-----------------------|--------------------------|
| SUP      | SUP10 | 0.88                       |                             |                       | 0.97                     |
|          | SUP11 | 0.78                       |                             |                       |                          |
|          | SUP12 | 0.78                       |                             |                       |                          |
|          | SUP13 | 0.79                       |                             |                       |                          |
|          | SUP14 | 0.79                       |                             |                       |                          |
|          | SUP15 | 0.81                       |                             |                       |                          |
| COMP     | MAR   | 0.95                       | 0.08                        |                       |                          |
|          | EXP   | 0.98                       | 0.04                        |                       |                          |
|          | RIP   | 0.89                       | 0.18                        |                       |                          |
|          | SAT   | 0.81                       | 0.31                        | 0.81                  | 0.96                     |
| MAR      | MAR1  | 0.84                       | 0.30                        |                       |                          |
|          | MAR2  | 0.83                       | 0.31                        |                       |                          |
|          | MAR3  | 0.72                       | 0.49                        |                       | 0.91                     |
| EXP      | EXP4  | 0.83                       | 0.32                        |                       |                          |
|          | EXP5  | 0.76                       | 0.42                        |                       |                          |
|          | EXP6  | 0.80                       | 0.36                        |                       | 0.87                     |
| SAT      | SAT7  | 0.77                       | 0.40                        |                       |                          |
|          | SAT8  | 0.67                       | 0.55                        |                       |                          |
|          | SAT9  | 0.61                       | 0.63                        |                       |                          |
|          | SAT10 | 0.60                       | 0.62                        |                       |                          |
|          | SAT11 | 0.72                       | 0.49                        |                       | 0.79                     |
| DECT     | GRO   | 0.77                       | 0.05                        |                       |                          |
|          | NEW   | 0.87                       | 0.05                        | 0.95                  | 0.97                     |

**Table 20** (continued)

| Variable | Index | Lambda-X<br>( $\delta_i$ ) | Theta-delta<br>( $\chi_i$ ) | Variance<br>Extracted | Construct<br>Reliability |
|----------|-------|----------------------------|-----------------------------|-----------------------|--------------------------|
| GRO      | GRO2  | 0.56                       | 0.68                        |                       |                          |
|          | GRO3  | 0.59                       | 0.66                        |                       |                          |
|          | GRO4  | 0.78                       | 0.39                        |                       |                          |
|          | GRO5  | 0.77                       | 0.41                        | 0.58                  | 0.83                     |
| NEW      | NEW6  | 0.76                       | 0.43                        |                       |                          |
|          | NEW11 | 0.80                       | 0.45                        |                       |                          |
|          | NEW13 | 0.82                       | 0.68                        |                       |                          |
|          | NEW14 | 0.72                       | 0.66                        |                       |                          |
|          | NEW15 | 0.58                       | 0.67                        | 0.58                  | 0.83                     |

### The Discriminant Validity Examination

The Discriminant Validity Examination checks to see that all the variables are different. That is, each variable has an identity and is not identical to other variables (Nothnagel, 2007). The Discriminant Validity Examination can be made by comparing the variance extracted (VE) value with the correlation coefficient squared ( $r^2$ ). If VE is more than  $r^2$ , it means that that pair of variables has discriminant validity value. Both convergent and discriminant validity examinations should be used when checking new tests (Nothnagel, 2007).

The results of the Discriminant Validity Examination found that the variance extracted (VE) of each latent variable has more value than the correlation coefficient squared of each pair of latent variables with other latent

variables. Therefore, it can be concluded that all the variables have been checked using discriminant validity values.

**Table 21**

*The Results of the Correlation Coefficient Analysis for Discriminant Validity Examination*

|      | Correlation Coefficient ® Square of Correlation Coefficient ( $r^2$ ) |      |      |      |      |      |      |      |      |
|------|---|------|------|------|------|------|------|------|------|
|      | VE  | ENGA | OUTS | STRA | RESO | HALA | NETW | COMP | DECT |
| FIRM | 0.85  | 1.00 | 0.40 | 0.28 | 0.26 | 0.28 | 0.34 | 0.32 | 0.25 |
| MARK | 0.80  | 0.63 | 1.00 | 0.46 | 0.55 | 0.56 | 0.54 | 0.56 | 0.31 |
| RESO | 0.82  | 0.53 | 0.68 | 1.00 | 0.44 | 0.44 | 0.45 | 0.55 | 0.31 |
| NETW | 0.95  | 0.51 | 0.74 | 0.65 | 1.00 | 0.61 | 0.46 | 0.64 | 0.42 |
| STRA | 0.88  | 0.58 | 0.75 | 0.68 | 0.66 | 1.00 | 0.65 | 0.64 | 0.45 |
| COMP | 0.83  | 0.58 | 0.75 | 0.66 | 0.74 | 0.61 | 1.00 | 0.62 | 0.32 |

According to Table 21, the triangle value on the bottom left is the correlation coefficient, and the value in the upper right is the correlation coefficient squared used for comparison with the Variance Extracted (VE) in the consideration for the Discriminant Validity Examination.

*Part 5: The Analytic Results of the Causal Correlation Path of the Linearity Construct Equation Model Shows the Influence of the Factors on the Generation of Advantages in the Competition of the Food Export Industry in the Future*

The analysis of the path of factors influential to the general advantages in the future competition of the producers of food was separated into two parts. The first part is the presentation of the equation model analytic results which was developed from the relating concept based on the theory and research work to be integrated, compared to the generation of the study model. Although the generation of this conceptual model is based on the relating theoretic and research literature studies, the author was afraid that there might be some drawbacks to this approach. As mentioned above, the author has proceeded to present the two types of models, which are the hypothesized model and the modified model.

*The analytic results of the correlation path of the linearity construct equation model built following the hypothesis showing the influence of the factors on the generation of advantages in the competition of food export industry producers in the future.*

The analytic results of the correlation path of the linearity construct equation model built according to the hypothesis shows the influence of the factors towards the generation of advantages in the competition of food export industry producers in the future. It comprises the external latent variable of the Organizational Effectiveness Factor and the internal latent variables such as the marketing mix factor, resources readiness factor, business allied networks factor, organizational export strategy factor and the generation of advantages in the competition of food export industry in the future factor. Necessary details of the analysis are shown in Table 22.

**Table 22**

*Path Coefficients, Standard Errors, T values of Parameter Estimations of the Hypothesized Structural Equation Model* (n = 350)

| Path Diagram | Path Coefficients | Standard Errors | T values |
|--------------|-------------------|-----------------|----------|
| LAMBDA-Y     |                   |                 |          |
| MARK → PRO   | 0.781             | -               | -        |
| MARK → PRI   | 0.820             | 0.023           | 17.312   |
| LAMBDA-Y     |                   |                 |          |
| MARK → PRA   | 0.782             | 0.021           | 19.415   |
| MARK → POM   | 0.775             | 0.021           | 18.210   |
| STAR → DIF   | 0.745             | -               | -        |
| STAR → COS   | 0.850             | 0.020           | 27.251   |
| STAR → BUS   | 0.750             | 0.023           | 21.252   |
| NETW → GOV   | 0.752             | -               | -        |
| NETW → FOO   | 0.520             | 0.020           | 12.120   |
| NETW → SUP   | 0.547             | 0.021           | 12.330   |
| COMP → MAR   | 0.562             | -               | -        |
| COMP → EXP   | 0.528             | 0.032           | 11.110   |
| COMP → STA   | 0.562             | 0.020           | 11.200   |
| LAMBDA-X     |                   |                 |          |
| FIRM → ATT   | 0.807             | 0.026           | 19.734   |
| FIRM → SAT   | 0.839             | 0.029           | 20.665   |
| FIRM → DET   | 0.806             | 0.025           | 18.732   |
| FIRM → TEC   | 0.835             | 0.021           | 19.000   |
| RESO → FIN   | 0.792             | 0.069           | 12.440   |
| RESO → PER   | 0.907             | 0.084           | 12.755   |
| LAMBDA-X     |                   |                 |          |
| RESO → PHI   | 0.615             | 0.143           | 4.51     |
| RESO → REL   | -0.755            | 0.394           | -2.34    |

**Table 22** (continued)

| Path Diagram | Path Coefficients | Standard Errors | <i>T</i> values |
|--------------|-------------------|-----------------|-----------------|
| BETA         |                   |                 |                 |
| MARK → STRA  | 0.814             | 0.069           | 11.806          |
| MARK → COMP  | 0.428             | 0.080           | 5.376           |
| RESO → COMP  | 0.562             | 0.087           | 11.985          |
| NEWT → COMP  | 0.970             | 0.842           | 9.325           |
| STAR → COMP  | 0.678             | 11.253          | 11.245          |
| NEWT → STAR  | 0.280             | 0.105           | 0.254           |
| GAMA         |                   |                 |                 |
| FIRM → MARK  | 0.770             | 0.051           | 15.019          |
| FIRM → STAR  | 0.043             | 0.066           | 0.653           |
| FIRM → COMP  | 0.078             | 0.055           | 1.408           |
| RESO → MARK  | 0.825             | 0.062           | 0.651           |
| RESO → STAR  | 0.827             | 0.072           | 0.524           |

Path Diagram = Path Coefficients

**Table 23**

*Path Coefficients, Standard Errors, T-values of Parameter Estimations of the Hypothesized Structural Equation Model* (n = 350)

| Path Diagram | Path Coefficients | Standard Errors | T values |
|--------------|-------------------|-----------------|----------|
| LAMBDA-Y     |                   |                 |          |
| MARK → PRO   | 0.791             | -               | -        |
| MARK → PRE   | 0.821             | 0.026           | 20.312** |
| MARK → PLA   | 0.796             | 0.028           | 19.517** |
| MARK → POM   | 0.786             | 0.025           | 18.325** |
| STAR → DIF   | 0.854             | -               | -        |
| STAR → COS   | 0.931             | 0.021           | 29.085** |
| STAR → BUS   | 0.888             | 0.023           | 26.664** |
| NETW → GOV   | 0.928             | -               | -        |
| NETW → FOO   | 0.682             | 0.032           | 15.902** |
| NETW → SUP   | 0.681             | 0.030           | 15.900** |
| COMP → MAR   | 0.636             | -               | -        |
| COMP → EXP   | 0.675             | 0.038           | 12.526** |
| COMP → SUC   | 0.742             | 0.040           | 13.457** |
| LAMBDA-X     |                   |                 |          |
| FIRM → ATT   | 0.807             | 0.026           | 19.734** |
| FIRM → SAT   | 0.839             | 0.029           | 20.665** |
| FIRM → DET   | 0.806             | 0.025           | 18.732** |
| FIRM → TECH  | 0.835             | 0.021           | 19.000** |
| RESO → FIN   | 0.792             | 0.069           | 12.440** |
| RESO → PER   | 0.907             | 0.084           | 12.750** |
| RESO → PHI   | 0.615             | 0.143           | 4.510**  |
| RESO → REL   | -0.755            | 0.394           | -2.340** |

**Table 23** (continued)

| Path Diagram | Path Coefficients | Standard Errors | T values |
|--------------|-------------------|-----------------|----------|
| BETA         |                   |                 |          |
| MARK → STAR  | 0.814             | 0.069           | 11.806** |
| MARK → COMP  | 0.886             | 0.075           | 11.882** |
| RESO → COMP  | 0.428             | 0.080           | 5.376**  |
| NETW → COMP  | 0.245             | 0.095           | 2.582**  |
| STAR → COMP  | 0.425             | 0.987           | 2.582**  |
| NETW → STAR  | 0.854             | 0.879           | 10.235** |
| GAMA         |                   |                 |          |
| FIRM → MARK  | 0.770             | 0.051           | 15.019** |
| FIRM → STAR  | 0.043             | 0.066           | 0.653**  |
| FIRM → COMP  | 0.078             | 0.055           | 1.408**  |
| RESO → MARK  | 0.125             | 0.085           | 2.578**  |
| RESO → STAR  | 0.693             | 0.058           | 10.910** |

Path diagram = path coefficients

\*Significance 0.05 ( $1.960 \leq t \text{ value} < 2.576$ )

\*\*Significance 0.1 ( $t \text{ value} \geq 2.576$ )

According to Table 22 and Figure 56, the results of the data analysis show that the hypothesized conceptual model was inconsistent with the empirical data showing negative. The main hypothesis of the theoretic model is consistent and in harmony with the empirical data. This was considered using the chi-square ( $\chi^2$ ) value which was equal to 1120.59 and the degree of freedom ( $df$ ) equal to 239, differing from 0, statistically significant ( $p\text{-value} = 0.00$ ). Also, the relative chi-square ( $\chi^2/df$ ) was equal to 4.69 (according to the standard not to exceed 2). The Goodness of Fit value (GFI) was equal to 0.800

(following the standard that this value should be more than 0.9). The Adjusted Goodness of Fit (AGFI) is equivalent to 0.800 (following the standard that this value should be more than 0.9), and the RMSEA value is equal to 0.86 (following the standard that the value should be less than 0.05).

In conclusion, the analytical result of the conceptual model built according to the hypothesized model must be adjusted by allowing the errors to be correlated, being identical to the actual state. The author, therefore, has adjusted the model for hypothesized modeling to be consistent with the empirical data.

In Table 19 and Figure 56, the analytical data results show that the modified model was consistent with the empirical data showing that the acceptance of the main hypothesis of the theoretic model is consistent and in harmony with the empirical data. This was determined based on a chi-square ( $\chi^2$ ) value equal to 196.04, a degree of freedom (*df*) of 177, and a p-value equal to 0.143, thereby making the relative chi-square ( $\chi^2/df$ ) equal to 1.11 (per standard this should not exceed 2). The consideration of Goodness of Fit (GFI) is equal to 0.968 (per standard this should be more than 0.9), and the Adjusted Goodness of Fit Index Value (AGFI) equal to 0.012 (per standard the value should be less than 0.05).

The analytical results of the linearity construct modified model show the influence of the factors towards the advantages in the competition of the food export industry in the future, observed in two parts as follows:

1. The factor part comprising:

1.1 The correlation path between noticeable external variables with latent external variables LAMBDA-X

1.2 The correlation path between noticeable internal variables with internal latent variables (LAMBDA-Y)

2. The construct part comprising the correlation path between internal latent variables with the internal latent variables (BETA). The analytical results are shown in Table 23 and Figure 56.

The results of the analytical factor show that the adjusted linearity equation model is an influential factor towards the generation of advantages in the competition of the food export industry in the future.

### ***The Analytical Results of the Correlation Path between Noticeable Variables with External Latent Variables***

This section presents the detailed analytical data results considering the important factor variables of the external latent variables. These are the organization effectiveness factor (ENGA) with sub-variables of factor dimensions of the management ability (ATI) and organizational effectiveness. It was found that the most important factor variable that can explain the organizational environment condition was the organizational effectiveness variable with the path coefficient of 0.83. Management ability has a path coefficient equal to 0.82; the details of this are set forth in Table 27 and Figure 56.

*The Analytical Results of the Correlation Path between Noticeable Internal Variables with Latent Internal Variables*

Considering the path coefficient of the noticeable internal variable with the internal latent variable in the factor of organizational export strategy (STRA), it was found that the factor variables which can explain the organizational export strategy factor the best are as follows:

1. Different Products Strategy (DIF) with path coefficient of 0.74
2. Low Cost Strategy (COS) and Trade Business Strategy (BUS) with equal path coefficients with values of 0.72 and 0.71 respectively.

Regarding the path coefficient of the noticeable internal variable with the internal latent variable in the factor of Resources Readiness (RESO), it was found that the factor variables which can explain the factor of resources readiness strategy the best are as follows:

1. Financial Readiness (FIN) with path coefficient of 0.92
2. Personnel Readiness (PER) with path coefficient of 0.88
3. Physical Readiness with path coefficient of 0.86
4. Business Partner Relations (REL) with path coefficient value of at least 0.77.

The factor variables which can explain the path coefficient of the noticeable internal variable with the internal latent variable in the factor Business Allies Network Connection (NETW) most adequately are as follows:

1. Food Industrial Group (FOO) with path coefficient of 0.95
2. Supply Chain Network with path coefficient of 0.87

3. Trade Cooperation (COR) with path coefficient value of 0.86.

Considering the path coefficient of the noticeable internal variable with the internal latent variable in the generation of advantages in the competition factor (COMP), it was found that the factor variable which can explain the generation of advantages in the competition factor the best was the export value factor (EXP) with a path coefficient of 0.89. The next closest was the export potentiality (SAT) with a path coefficient of 0.85 and market sharing (MAR) with a path coefficient value of 0.75.

***The Analytical Results of the Correlation Path between the Endogenous Latent Variable with the Endogenous Variables***

The analytical data results present the details of the important factor variables of the endogenous latent variables. This is the Competitive Advantages in the Thai food industry (COMP) with sub-variables of the factor dimensions of the Success of Export (SUC), Export Value (EXP) and Market Share (MAR). It was found that the most important factor variable that can explain the Competitive Advantages in the Thai food industry (COMP) condition is the Export Value, with the path coefficient of 0.80. The details of this variable are set forth as per Table 27 and Figure 56.

***The Analytical Results of the Correlation Path between the Endogenous Latent Variables with the Endogenous Latent Variables***

The path coefficient of the noticeable internal variable with the internal latent variable in the factor of the Marketing Mix Factor (MARK) was found

to have a Product Food variable (PRO) with a path coefficient of 0.74 and the Price (PRI) variable with equal path coefficients equal to 0.73.

Considering the path coefficient of the noticeable endogenous variable with the endogenous latent variable in the factor of Organizational Export Strategy (STRA), it was found that the factor variables with the best data were the Different Products Strategy (DIF) variable with a path coefficient of 0.73, the Low Cost Strategy (COS) variable with a path coefficient of 0.71, and a Trade Business Strategy (BUS) variable with a path coefficient of 0.70.

The path coefficient of the noticeable endogenous variable with the endogenous latent variable in the factor business allies network connection (NETW) was found to have a favorable factor variable set in the Food Industrial Group (FOO) variable, having a path coefficient of 0.75, the Supply Chain Network (SUP) variable with a path coefficient of 0.84, and the Trade Cooperation (COR) variable with a path coefficient value of 0.85.

The path coefficient of the noticeable endogenous variable with the endogenous latent variable in the generation of advantages in the Competition Factor (COMP) was found to be best explained by the Export Value Factor (EXP) variable with a path coefficient of 0.87, the Export Potentiality (SAT) variable with a path coefficient of 0.84, and the Market Sharing (MAR) variable with a path coefficient value of 0.73.

***Comparison of Model Statistic Validity with Empirical Data between the Hypothesized Model and the Modified Model***

According to the analytical results of the comparison of the two models, after the modification of the primary agreement of the statistical analysis with the LISTEL program allowing error variance to be correlative (Newbert, 2007), the modified model was validly consistent with the empirical data in relation to the necessary details as seen in Table 24.

**Table 24**

***Comparison of Model Statistical Consistency Values Between Hypothesized Model and Modified Model***

| Test statistics         | Hypothesized model | Modified model |
|-------------------------|--------------------|----------------|
| chi-square ( $\chi^2$ ) | 1120.590           | 196.04         |
| <i>df</i>               | 239.000            | 176.000        |
| $\chi^2, df$            | 0.000              | 0.143          |
| <i>P</i> value          | 4.690              | 1.110          |
| GFI                     | 0.841              | 0.968          |
| AGFI                    | 0.800              | 0.945          |
| RMSEA                   | 0.086              | 0.015          |

*Note.* From Goodness of Fit Index-GFI, adjusted Goodness of Fit Index-AGFI, Root Means Square Error of Approximation

Table 24 compares the analytical results of the hypothesized model with the modified model demonstrating the success of modified model and showing factors influencing the generation of advantages in the competition of the food export industry in the future. It also shows the changes of the

consistency statistics values of the model with empirical data in an improved way with statistical values of 2 groups. The first group of the decreased statistical values was composed of the chi-square ( $\chi^2$ ), degree of freedom ( $df$ ), relative chi-square ( $\chi^2/df$ ), and RMSEA. The second group consisted of the increased statistical values such as the Goodness of Fit Index (GFI) and the Adjusted Goodness of Fit Index (AGFI).

The results of the comparison of statistical values in the first group reduced  $\chi^2$  prior to model modification having a value of 1120.59. After modification, the value changed to 196.04. In turn, the  $df$  value prior to model modification was 239, and after model modification had a decreased value of 176.  $\chi^2/df$  prior to model modification had a value of 4.69, and after modification it decreased to 1.11. The RMSEA value prior to model modification was 0.086 and after modification it had a decreased value of 0.015.

Of the values that increased, there was the p-value which prior to modification was 0.000. After being modified, it increased to 0.143. GFI values showed a variance quantity, and the common variances were explained by the model. Prior to modification, the GFI value was 0.84, and after modification the value increased to 0.97. Furthermore, the AGFI is the value showing the variance quantity and the common variances explained by modifying the degree of freedom ( $df$ ). The GFI value prior to modification was 0.80, and after modification it increased to 0.95. In conclusion, the model after modification was more consistent with the empirical data and passed the standard criteria stipulated. Therefore, in this study a modified model in

explaining the factors influential to the generation of advantages in the competition of the food export industry producers in the future was used.

The results of the hypothesis test from the modified model by the analysis of direct influence, indirect influential and total influences between various latent variables with the exogenous latent variables of competitive advantages in Thai food industry are shown in Table 25-26.

**Table 25**

*Direct Influences, Indirect Influences and Total Influences of the Model*

| Dependent Value | $R^2$ | Influence | FIRM   | MARK   | RESO | STRA | NETW  | COMP |
|-----------------|-------|-----------|--------|--------|------|------|-------|------|
| MARK            | 0.48  | DE        | 0.69** | -      | -    | -    | -     | -    |
|                 |       | IE        | -      | -      | -    | -    | -     | -    |
|                 |       | TE        | 0.69** | -      | -    | -    | -     | -    |
| RESO            | 0.81  | DE        | 0.14*  | 0.79** | -    | -    | -     | -    |
|                 |       | IE        | 0.55** | -      | -    | -    | -     | -    |
|                 |       | TE        | 0.69** | 0.79** | -    | -    | -     | -    |
| STRA            | 0.82  | DE        | 0.01   | 0.91*  | -    | -    | -     | -    |
|                 |       | IE        | 0.63** | -      | -    | -    | -     | -    |
|                 |       | TE        | 0.64** | 0.91** | -    | -    | -     | -    |
| NETW            | 0.85  | DE        | 0.06   | 0.62** | -    | -    | 0.28* | -    |
|                 |       | IE        | 0.61** | 0.23*  | -    | -    | -     | -    |
|                 |       | TE        | 0.67** | 0.87** | -    | -    | 0.28* | -    |
| COMP            | 0.83  | DE        | 0.05   | 0.61** | -    | -    | 0.26  | -    |
|                 |       | IE        | 0.60** | 0.22** | -    | -    | -     | -    |
|                 |       | TE        | 0.66** | 0.85** | -    | -    | 0.26* | -    |

DE-Direct Effect, IE-Indirect Effect, TE-Total Effect

\*Statistical significance at the level 0. 0.5 ( $1.960 \leq t \text{ value} < 2.576$ ),

\*\*Statistical significance at the level of .01 ( $t \text{ value} \geq 2.576$ )

**Table 26**

*Direct Influences, Indirect Influences and Total Influences of the Model (with modified figures)*

| Dependent Value | R <sup>2</sup> | Influence | FIRM   | MARK   | RESO | STRA   | NETW  | COMP |
|-----------------|----------------|-----------|--------|--------|------|--------|-------|------|
| MARK            | 0.48           | DE        | 0.68** | -      | -    | -      | -     | -    |
|                 |                | IE        | -      | -      | -    | -      | -     | -    |
|                 |                | TE        | 0.68** | -      | -    | -      | -     | -    |
| RESO            | 0.81           | DE        | 0.13*  | 0.77** | -    | -      | -     | -    |
|                 |                | IE        | 0.52** | -      | -    | -      | -     | -    |
|                 |                | TE        | 0.67** | 0.76** | -    | -      | -     | -    |
| STRA            | 0.82           | DE        | 0.01   | 0.81*  | -    | -      | -     | -    |
|                 |                | IE        | 0.62** | -      | -    | -      | -     | -    |
|                 |                | TE        | 0.62** | 0.90** | -    | -      | -     | -    |
| NETW            | 0.85           | DE        | 0.05   | 0.60** | -    | -      | 0.27* | -    |
|                 |                | IE        | 0.59** | 0.21*  | -    | -      | -     | -    |
|                 |                | TE        | 0.65** | 0.85** | -    | -      | 0.27* | -    |
| COMP            | 0.83           | DE        | 0.05   | 0.60** | -    | -      | 0.25* | -    |
|                 |                | IE        | 0.60** | 0.21** | -    | -      | -     | -    |
|                 |                | TE        | 0.65** | 0.84** | -    | 0.84** | 0.25* | -    |

DE-Direct Effect, IE-Indirect Effect, TE-Total Effect

\*Statistical significance at the level 0. 0.5 ( $1.960 \leq t \text{ value} < 2.574$ ),

\*\*Statistical significance at the level of .01 ( $t \text{ value} \geq 2.574$ )

### ***Part 6: The Results of the Hypothesis Tests***

Table 22 and Figure 56 demonstrate direct influence, indirect influence and total influences of the path correlation factor influential to the generation of advantages in the competition of food export industry in the future. The analytical result details are presented by the author in the

correlation values between the causal variables in each path responding to each hypothesis item accordingly as follows:

Hypothesis 1: The Organizational Effectiveness Factor directly and positively influences the Marketing Mix Factor.

The analytical results in Table 19 and Figure 56 show that Organizational Effectiveness was directly and positively influential on the Marketing Mix Factor with statistical significance at the level of 0.1 and with the path coefficient of 0.69. This can explain the market mix variance of 48% ( $R^2 = 0.48$ ); therefore, the analytical result was consistent with the hypothesis set forth.

Hypothesis 2: The Resources Readiness Factor directly and positively influences the Marketing Mix Factor.

The analytical results from Table 19 and Figure 56 show that the Organizational Effectiveness is directly and positively influential on the Marketing Mix Factor with statistical significance at the level of 0.05 and with a path coefficient of 0.58. This can explain the Market Mix Variance Factor of 85% ( $R^2 = 0.58$ ); therefore, the analytical result was consistent with the hypothesis set forth.

Hypothesis 3: The Resources Readiness Factor directly and positively influences the Organizational Export Strategy Factor.

The analytical results from Table 19 and Figure 56 show that the Organizational Readiness Factor was directly and positively influential on the Organizational Export Strategy Factor with statistical significance at the level of 0.1 and with a path coefficient of 0.57. This can explain the Export

Decision Variance of the Industrial Food Production in Thailand of 85% ( $R^2 = 0.85$ ); therefore, the analytical result was consistent with the hypothesis set forth.

Hypothesis 4: The Market Mix Factor directly and positively influences the Organizational Export Strategy Factor.

The analytical results from Table 19 and Figure 56 show that the Marketing Mix Factor was directly and positively influential on the Organizational Export Strategy Factor with statistical significance at the level of 0.1 and with a path coefficient of 0.79. This can explain the Organizational Export Strategy variance of 81% ( $R^2 = 0.81$ ); therefore, the analytical result was consistent with the hypothesis set forth. The domestic and international environmental conditions are directly and positively influential on an Organizational Export Strategy with a part coefficient value of 0.91, which can explain the variance factor of the generation of advantages in the competition of 82% ( $R^2 = 0.82$ ). Therefore, the research result was consistent with past research stating that it is an important factor of an export. For long-term success, the business must make an adjustment to the products to be consistent with the market demand. Furthermore, the production strategy for application appropriate with the circumstance will be influential directly and indirectly on the business operation results and able to generate advantages in the business competition.

Hypothesis 5: The Resources Readiness Factor directly and positively influences the Organizational Export Strategy Factor.

The analytical results from Table 19 and Figure 56 show that the Resources Readiness Factor was directly and positively influential on the Organizational Export Strategy Factor with statistical significance at the level of 0.01 and with a negative path coefficient value of  $-0.76$ . There was an Organizational Export Strategy Variance Factor of 82% ( $R^2 = 0.82$ ); therefore, the analytical result was inconsistent with the hypothesis set forth.

Hypothesis 6: The Business Allies Network Connection Factor directly and positively influences the Organizational Export Strategy Factor.

The analytical results from Table 19 and Figure 56 show that the Business Allies Network Connection Factor was directly and positively influential on the Export Strategy Factor with statistical significance at the level of 0.1 and with a path coefficient of 0.62. This can explain the Organizational Export Strategy variance factor of 85% ( $R^2 = 0.85$ ); therefore, the analytical result was consistent with the hypothesis set forth.

Hypothesis 7: The Organizational Effectiveness Factor directly and positively influences the Generation of Advantages in the Competition Factor.

The analytical results from Table 19 and Figure 56 show that the Organizational Effectiveness Factor directly and negatively influences the Generation of Advantages on the Competition Factor with statistical significance at the level of 0.1 and with a path coefficient of 0.57. This can explain the Generation of Advantages in the Competition Variance of 75% ( $R^2 = 0.75$ ); therefore, the analytical result was consistent with the hypothesis set forth.

Hypothesis 8: The Marketing Mix Factor directly and positively influences the Generation of Advantages in the Competition Factor.

The analytical results from Table 19 and Figure 56 show that the Marketing Mix Factor was directly and positively influential on the Generation of Advantages in the Competition of the Food Export industry in the Future with a statistical significance at the level of 0.01. The Generation of Advantages in the Competition of the Food Export industry Variance Factor was 78% ( $R^2 = 0.78$ ); therefore, the analytical result was inconsistent with the hypothesis set forth.

Hypothesis 9: The Resources Readiness Factor directly and positively influences the Generation of Advantages in the Competition of the Food Export industry in the Future.

The analytical results from Table 20 and Figure 56 show that the Resources Readiness Factor was directly and positively influential on the Generation of Advantages in the Competition, with statistical significance at the level of 0.1. There was an observed negative path coefficient of  $-0.76$ , and the Generation of Advantages in the Competition Factor Variance was 75% ( $R^2 = 0.75$ ). Therefore, the analytical result was inconsistent with the hypothesis set forth.

Hypothesis 10: The Business Allies Network Connection Factor directly and positively influences the Generation of Advantages in the Food Export industry Factor in the Future.

The analytical results from Table 21 and Figure 56 show that the Business Allies Network Connection Factor was directly and positively

influential on the Generation of Advantages, with a statistical significance at the level of 0.5 and a path coefficient of 0.28. The market mix variance was 85% ( $R^2 = 0.85$ ); therefore, the analytical result was consistent with the hypothesis set forth.

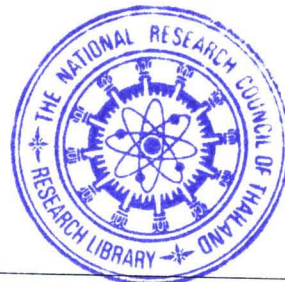
Hypothesis 11: The Organizational Export Strategy Factor directly and positively influences the Generation of Advantages in the Competition of the Food Export industry in the Future Factor.

The analytical results from Table 32 and Figure 59 show that the Organizational Export Strategy Factor was directly and positively influential on the Generation of Advantages in the Competition of the Food Export industry in the Future Factor with statistical significance at the level of 0.05 and a path coefficient of 0.57. Accordingly, the Generation of Advantages in the Competition of Food Export industry in the Future Factor was 75% ( $R^2 = 0.75$ ); therefore, the analytical result was consistent with the hypothesis set forth.

**Table 27**

*Conclusion of the Hypothesis Tests*

|    | Hypothesis  | Result of Hypothesis Test               |
|----|---|---|
| H1 | The Organizational Effectiveness directly positively influences the Marketing Mix Factor. | Consistent with hypothesis set forth.   |
| H2 | The Resources Readiness directly positively influences the Market Mix Factor.             | Inconsistent with hypothesis set forth. |

**Table 27 (continued)**

|            | Hypothesis  | Result of Hypothesis Test               |
|------------|---|---|
| <i>H3</i>  | The Resources Readiness directly positively influences the Organizational Export Strategy Factor.                             | Inconsistent with hypothesis set forth. |
| <i>H4</i>  | The Market Mix Factor directly positively influences the Organizational Export Factor.  | Consistent with hypothesis set forth.   |
| <i>H5</i>  | The Resources Readiness directly positively influences the Organizational Export Strategy Factor.                             | Consistent with hypothesis set forth.   |
| <i>H6</i>  | The Business Allies Network Connection Factor directly positively influences the Organizational Export Strategy Factor.       | Consistent with hypothesis set forth.   |
| <i>H7</i>  | The Organizational Effectiveness Factor directly positively influences the Generation of Advantages in the Competition.       | Consistent with hypothesis set forth.   |
| <i>H8</i>  | The Market Mix Factor directly positively influences the Generation of Advantages in the Competition.                         | Consistent with hypothesis set forth.   |
| <i>H9</i>  | The Resources Readiness Factor directly positively influences the Generation of Advantages in the Competition.                | Inconsistent with hypothesis set forth. |
| <i>H10</i> | The Business Allies Network Connection Factor directly positively influences the Generation of Advantages in the Competition. | Consistent with hypothesis set forth.   |

**Table 27** (continued)

|            | Hypothesis  | Result of Hypothesis Test             |
|------------|---|---------------------------------------|
| <i>H11</i> | The Organizational Export Strategy Factor directly positively influences the Generation of Advantages in the Competition. | Consistent with hypothesis set forth. |

### Conclusion

The contents in this chapter conclude the results of the study from the quantitative analytical data including the general data of the sampling group, the opinion of the sampling group concerning the generation of advantages in the competition of the food export industry in Thailand, the primary examination of the data for multivariate statistics leading to the confirmatory factor analysis, and the analysis of the correlation of the independent variable influential to the dependent variables linearity construction equation with LISREL's program and the results of the hypothesis tests.