Chapter 5

Data Analysis and Evaluation

Data analyses are presented in four parts. First part is the presentation of descriptive statistics. Second part concerns measures purification. Third part deals with the relationship among dependent variable and each independent variable. All hypotheses stated in Chapter 3 are tested. Fourth part is the framework estimation and testing.

Descriptive Findings

This part of the chapter presents the descriptive statistics of questionnaire responses. It includes demographic descriptions, measures of export performance, chance events, government administration, important opinion of export performance attributes, and actual condition of export performance attributes.

Demographic Description

Question 1 to Question 3 of the questionnaire are concerned with respondents' information. Table 5.1 describes respondents' profile.

Table 5.1 Respondents' Profile.

Characteristics	Responses	Number	Percentage
Current Position	M.D.	17	12.6%
	V.P. / Director	28	20.7%
	Senior Manager	24	17.8%
	General Manager	24	17.8%
	Exporting Manager	41	30.4%
	Others	1	0.7%
Years of Experience	1 – 5 years	5	3.7%
in Food Business	6 – 10 years	50	37.0%
	11 – 15 years	43	31.9%
	16 – 20 years	26	19.3%
	>= 21 years	11	8.1%
Years of Experience	1 – 5 years	4	3.0%
In Export Business	6 – 10 years	56	41.4%
	11 – 15 years	48	35.6%
	16 – 20 years	17	12.6%
	>= 21 years	10	7.4%

Note : n = 135

Respondents' current position are managing director, vice president, director, senior manager, general manager, exporting manager, and others. Of the 135 participators, 12.6% are managing directors, 20.7% are vice presidents or directors, 17.8% are senior managers, another 17.8% are general manager, and 30.4% are exporting managers. The mean years of respondents' experience in food business is 13.28 years. 68.9% of respondents have years of experience in food business between 6 and 15 years, 19.3% are between 16 and 20 years, 8.1% are 21 years and over, and the remaining 3.7% are between 1 to 5 years. The mean years of respondents' experience in export business is 12.96 years. 76% of respondents have years of experience in food business between 6 and 15 years, 12.6% are between 16 and 20 years, 7 4% are 21 years and over, and 3% are between 1 and 5 years.

Next series of questions in the questionnaire explains company's profile. Table 5.2 describes company's profile having interval level of measurements. Table 5.3 identifies product classification, owner type, and employees education level.

Table 5.2 Companies' Profile.

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Years of Establishment	14.48	7	48	6.66
Years of Experience in Food Business	14.30	7	46	6.35
Years of Experience in Exporting Business	13.33	2	46	6.10
Number of Employees	263	5	2,500	327.28
Paid up Capital (M Baht)	39.36	2	1,000	92.8
Sales Value (M Baht)	310.07	30	4,000	462.29
Percentage Export (%)	82.5	5	100	29.76

Note : n = 135

Minimum and maximum years of establishment are 7 and 48. The average years of establishment are 14.48. Minimum and maximum years of experience in food business are 7 and 46. The average years of experience in food business are 14.30. Minimum and maximum years of experience in export business are 2 and 46. The average years of experience in export business are 13.33. The number of employees is ranging from 5 to 2,500, and the mean number of employees is 263. Paid up capital is ranging from 2 to 1,00o million baht. Mean value of paid up capital is 39.36 million baht. Sales value is ranging from 30 to 4,000 million baht. Mean sales value is 310.07 million Baht. Percentage of export to total sales value ranging from 5 to 100. Mean export percentage is 82.5 percent of total sales value.

Table 5.3 Companies' Characteristics

Characteristics	Responses	Number	Percentage
Product	Unprocessed	30	22.2%
Classification	Processed	28	20.7%
	Ready-to-Serve	39	28.9%
	Mixed	38	28.1%
Type of Owner	Wholly Thai Owned	121	89.6%
	Joint Venture	14	10.4%
Employees	Primary or Lower	n.a.	56.5%
Education	Secondary or	n.a.	23.6%
Level	Vocational School		
	Bachelor Degree	n.a.	17.7%
	Master Degree or Higher	n.a.	2.2%

Note : n = 135 for Product Classification, and Type of Owner

All Employees Education Levels contribute to 100%

Companies are classified, by their exporting products, into 4 classes. These classes are unprocessed, processed, ready-to-serve, and mixed category. Unprocessed food is defined by food in its original form or with minimum processed such as fresh and frozen products, rice, and flour. Processed food is such products as canned food and frozen cooked shrimps. Ready-to-serve food is such products as frozen dinner, instant noodle, and canned soup. Mixed category is defined by company's exporting products with at least two of the above three categories. Of the 135 responses, 22.2 percent are classified by unprocessed, 20.7 percent are processed, 28.9 percent are ready-to-serve, and the remaining 28.1 percent are mixed category. Regarding type of owner, 89.6 percent of companies are wholly Thai owned and 10.4 percent are Thai-Foreign joint venture. Percentage proportion of employees' education levels are 56.5 percent for primary school or lower, 23.6 percent for secondary school or

vocational school, 17.7 percent for bachelor degree, and 2.2 percent for master degree or higher.

Export Performance Measures

Table 5.4 describes export performances in term of profit and sales growth. Questionnaire obtains yearly export profit and yearly export sales growth for year 1994 to 1998. The Thai financial crisis in 1997 is considered to be chance events that distort the actual export performance. To reduce the effect of the Thai financial crisis in 1997 on export performance, a five year average export percentage profit and five year average export sales growth are used as measures of export performance.

Table 5.4 Company's Export Performance Measures

Unit : %

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Profit for year 1994	10.84	0.00	25.00	4.62
Profit for year 1995	9.27	0.00	25.00	5.16
Profit for year 1996	3.90	-5.00	15.00	4.50
Profit for year 1997	7.23	-20.00	25.00	6.31
Profit for year 1998	13.83	-10.00	35.00	7.00
Five-year Average Profit for year 1994 - 1998	9.02	1.40	16.00	3.01
Sales Growth for year 1994	13.56	-10.00	40.00	7.05
Sales Growth for year 1995	11.04	-5.00	33.00	6.98
Sales Growth for year 1996	4.13	-10.00	42.00	8.07
Sales Growth for year 1997	7.56	-30.00	36.00	9.96
Sales Growth for year 1998	12.48	-29.00	50.00	12.95
Five-year Average Sales Growth for year 1994 – 1998	9.75	1.00	23.00	4.07

Note : n = 135

Average percentage profit for year 1994 to 1998 are 10.84, 9.27, 3.90, 7.23, and 13.83 respectively. The five-year average profit is 9.02 percent. Average percentage sales growth for year 1994 to 1998 are 13.56, 11.04, 4.13, 7.56, and 12.48 respectively. The five-year average sales growth is 9.75 percent.

Table 5.5 shows respondents' opinions on their measures of export performance.

Table 5.5 Measures of Export Performance

Measures	Count	Percentage
Export Profit	130	96.30%
Export Sales Value	99	73.33%
Export Sales Growth	45	33.33%
Management Satisfaction	29	21.48%
Growth in Customers Number/ Importing Countries	28	20.74%
Customer Satisfaction	18	13.33%

Note : n = 135

Most respondents, 96.30 percent, identify export profit as measure of export performance. Export sales value is ranked as the second important measure with percentage responses of 73.33. Other identified measures of are export sales growth, management satisfaction, growth in customer number or growth in number of importing countries, and customer satisfaction. Percentage responses of these measures are 33.33%, 21.48%, 20.74%, and 13.33% respectively. While export profit, export sales value, export sales growth, and number of customers and number of importing countries are objective measures, management satisfaction and customer satisfaction are subjective measures.

Chance Events Description

Of 135 usable responses, 18 do not provide opinion on effect of chance events. Most replied responses aware of the influences chance events have on export performance, but find it difficult to identify the effect numerically. Table 5.6 identifies opinion of respondents on effect of selected chance events occurred in Thailand on Thai food export performance. Table 5.7 identifies opinion of respondents on effect of selected chance events in importing countries on Thai food export performance. Table 5.8 identifies opinion of respondents on effect of selected chance events in competing countries on Thai food export performance.

Table 5.6 Effects of Chance Events Occurred in Thailand on Export Performance

Chance Events	Number of Responses			Percentage of Responses		
	Negative Effect	NO Effect	Positive Effect	Negative Effect	NO Effect	Positive Effect
Baht Devaluation	9	10	98	7.7	8.5	83.8
USA's G.S.P. cut	23	94	0	19.7	80.3	0
EU's G.S.P. cut	35	82	0	29.9	70.1	0
Standard Imposition	7	93	17	6.0	79.5	14.5
Invention / Innovation	2	87	28	1.7	74.4	23.9
Political Changes	6	111	0	5.1	94.9	0
War	3	114	0	2.6	97.4	0
Oil Crisis	70	47	0	59.8	40.2	0
Flood	66	50	1	56.4	42.7	0.9
Drought	66	50	1	56.4	42.7	0.9
Earthquake	4	113	0	3.4	96.6	0
Epidemic	23	94	0	19.7	80.3	0

Note : n = 117

The most obvious chance event occurred in Thailand with positive effect on export performance is Baht devaluation, with 83.8 percent of total responses. Other event with noticeable positive effects on export performance is product invention or product innovation with 23.9 percent of total responses. Product standard imposition is 2 directional. While 14.5 percent defines it as having positive effect, 6.0 percent acknowledges negative effect on export performance. Chance events with negative effect on export performance are oil crisis, flood, drought, EU's G.S.P. cut, US's G.S.P. cut, and epidemic with 59.8 percent, 56.4 percent, 56.4 percent, 29.9 percent, 19.7 percent, and 19.7 percent of total responses respectively. Most respondents consider war event, earthquake, and political changes as having no effect on export performance, with 97.4 percent, 96.6 percent, and 94.9 percent of total responses respectively.

Chance events occurred in importing countries can effect Thai food export performance. Table 5.7 presents effects of chance events occurred in importing countries.

Table 5.7 Effects of Chance Events Occurred in Importing Countries on Export Performance

Chance Events	Number of Responses			Percentage of Responses		
	Negative Effect	NO Effect	Positive Effect	Negative Effect	NO Effect	Positive Effect
Currency Devaluation	73	43	1	62.4	36.8	0.9
Importing Policy	14	98	5	12.0	83.8	4.3
Invention / Innovation	4	112	1	3.4	95.7	0.9
Political Changes	6	110	1	5.1	94.0	0.9
War	5	109	3	4.3	93.2	2.6
Flood	2	87	28	1.7	74.4	23.9
Earthquake	2	111	4	1.7	94.9	3.4
Epidemic	2	92	23	1.7	78.6	19.7

Note : n = 117

Events with noticeable positive effects are flood and epidemic, with 23.9 percent and 19.7 percent of total responses respectively. Events with negative effect are importer currency devaluation, and importing policy, with 62.4 percent and 12.0 percent of total responses respectively. Other selected events having no effect on Thai food export performance are importer's invention and innovation, earthquake, political changes, and war. The percentage responses are 95.7 percent, 94.9 percent, 94.0 percent, and 93.2 percent respectively.

Chance events occurred in competing countries can also effect Thai food export performance. Table 5.8 presents effects of chance events occurred in competing countries.

Table 5.8 Effects of Chance Events Occurred in Competing Countries on Export Performance

Chance Events	Number of Responses			Percentage of Responses		
	Negative Effect	NO Effect	Positive Effect	Negative Effect	NO Effect	Positive Effect
Currency Devaluation	36	81	0	30.8	69.2	0
Invention /Innovation	10	106	1	8.5	90.6	0.9
Political Changes	3	103	11	2.6	88.0	9.4
Flood	0	72	45	0	61.5	38.5
Earthquake	0	111	6	0	94.9	5.1
Epidemic	0	99	18	0	84.6	15.4

Note : n = 117

Events with positive effects are flooding, epidemic, political changes, and earthquake. The percentage responses are 38.5 percent, 15.4 percent, 9.4 percent, and 5.1 percent respectively. Events with negative effect are competitor currency devaluation, and invention or innovation, with 30.8 percent, and 8.5 percent of total responses respectively.

Government Administration

Respondents identify government administration as roles and policies having the most direct affect on export performance. Information obtained from interview, pre-test, and questionnaire response suggest that business sector do not regard present government Administration as providing support to export success. Private sector regards government administration as draw back to business. Table 5.9 describes the importance level of most relevance government administration on export performance.

Table 5.9 Opinion on Important Level of Government Administration on Export Performance

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Customs Department Administration	2.65	0	5	1.22
Tax exemption and tax return system	2.30	0	5	1.48
Export Promotion Policy	1.66	0	5	1.61

Note : n = 135

Government administrations are regarded as having low level of affect towards Thai food export performance. Mean score for important levels are 2.65 for customs department administration, 2.30 for tax exemption and tax return system, and 1.66 for export promotion policy.

To facilitate exporting process, exporters suggest that improvements are required from government administration. Table 5.10 represents respondents' view of most relevance Government administration.

Table 5.10 Present Government Administration Evaluation

Characteristics	Responses	Number	Percentage
Customs Department administration	Improvement required	124	91.9%
	Not concerned	1	0.7%
	Satisfactory	10	7.4%
Tax exemption and tax return system	Improvement required	111	82.2%
	Not concerned	22	16.3%
	Satisfactory	2	1.5%
Export promotion policy	Improvement required	58	43.0%
	Not concerned	66	48.9%
	Satisfactory	11	8.1%

, Note : n = 135

Most respondents agree that improvement is required on customs department administration, tax exemption and tax return system, with 91.9%, and 82.2% of total responses respectively. Regarding export promotion policy, 43.0% agree on improvement required. 48.9% views export promotion policy as irrelevance to export performance. Government administration should be more efficient, reduce export procedures, less export formalities, and more operational transparency.

While government roles and policies are viewed as having low level of direct affects on export performance, exporters suggest that government should concentrate more on supportive roles. The open-ended question identifies respondents' expectation on roles of government. Government is expected to provide strong foundation for the country's development. Distribution of government budget should be directed at providing support on human resources development and infrastructure improvement. Government should spend more budget on education, institutional R&D supports, semi-skilled and skilled labor training. Sufficient roads network, utilities, and low cost telecommunication can increase competitiveness of business operation at all level. Government should be sources of information for business sector. The private sector should

have easy and up-to-date access to information such as domestic and international supply situation, domestic and international production situation, international trade information. Other useful informations are information on new product invention, new technological break through, importers' policies and market condition, and competitors' production information.

Export Performance Attributes

For each measure of export performance attributes, respondents are asked to identify its level of important toward export success and its present condition. Important level of each measure is scored on a semantic six-point rating scale ranging from 0 to 5. The ranking scales of 0 to 5 represent present condition ranging from "Not Important" to "Most Important". The mid-point of 2.50 is used as the cutting point indicator. Measures with mean score of 2.50 and above are selected as important measures of export performance constructs. Measures with mean score lower than 2.50 are discarded from export performance constructs. For each measure of factor conditions, demand conditions, and company's structure and strategy, a semantic six-point rating scale level ranging from 0 to 5 is used to indicate its present condition. The ranking scales of 0 to 5 represent present condition ranging from "Not Agreed" to "Most Agreed". Measures of present condition of related and supporting industries are "Improvement Needed", "Not Concerned", and "Satisfactory".

Table 5.11 and table 5.12 represent opinion on important level and present condition of basic factors. Table 5.13 and table 5.14 state important level and present condition of advanced factors. Table 5.15 and table 5.16 report important level and present condition of domestic market conditions. Table 5.17 and table 5.18 describe important level and present condition of company's structure and strategy. Table 5.19 and table 5.20 identify important level and present condition of related and supporting industries.

Table 5.11 Important Level of Basic Factors

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Raw Material				
Availability of raw material	4.30	3	5	0.75
High quality raw material	4.09	3	5	0.73
Low cost raw material	3.91	1	5	0.81
Labor				
Availability of labor	3.54	2	5	0.82
High quality labor	3.53	2	5	0.74
Low cost labor	3.47	2	5	0.76

Note : n = 135

Raw material and labor identify basic factors. For raw material, measure of quantity available is the most important, follows by measure of quality, and measure of cost. They have mean scores of 4.30, 4.09, and 3.91 respectively. Regarding labor, measure of quantity available is the most important, follows by measure of quality, and measure of cost. They have mean scores of 3.54, 3.53, and 3.47 respectively.

Table 5.12 Present Condition of Basic Factors

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Raw Material				
High quality raw material	3.47	1	5	0.78
Availability of raw material	3.36	2	5	0.85
Low cost raw material	2.88	1	5	0.72
Labor				
Availability of labor	3.35	1	5	0.74
High quality labor	3.26	1	5	0.74
Low cost labor	2.93	1	5	0.81

Note : n = 135

The measures of present condition of raw material show highest mean score for quality, follows by quantity, and lowest mean score for cost. Their mean scores are 3.47, 3.36, and 2.88 respectively. The measures of present condition of labor indicate highest mean score for quantity, then quality, and lowest for cost. They have mean scores of 3.35, 3.26, and 2.93 respectively.

Both important level and present condition identify that improvements are mostly required in term of cost for raw material and labor. Improvements in quality and quantity availability would also increase level of export performance. The result shows that either productivity improvement or the reduction in cost of basic factor would improve export performance.

Table 5.13 Important Level of Advanced Factors

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Human Resources				
Competence employees	3.84	2	5	0.70
Human resources training	3.13	0	5	0.75
Qualified R&D personnel	2.89	1	5	0.79
Production & Technology				
Products standard	3.79	3	5	0.74
Production technology	3.27	0	5	1.04
Technology development	2.70	0	5	1.02
Product innovation	2.24	0	5	1.40

Note : n = 135

Advanced factors are identified by human resources, and production and technology. In term of human resources, respondents rank the importance of competence employees highest, follow by training, and qualified R&D personnel last. The mean scores are 3.84 for competence employees, 3.13 for training, and 2.89 for qualifies R&D personnel. Importance ranking for measures of production and technology are product standard, production

technology, technology development, and product innovation consecutively. Their scores are 3.79, 3.27, 2.70, and 2.24 respectively. Respondents' opinion on above measures shows that exporters identify long term strategic policies, R&D, technology development, and innovation as having less important toward export performance.

Table 5.14 Present Condition of Advanced Factors

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Human Resources				
Competence employees	3.56	2	5	0.84
Human resources training	2.73	0	4	0.77
Qualified R&D personnel	2.44	0	5	1.01
Production & Technology				
Products standard	3.86	2	5	0.86
Production technology	3.12	1	5	0.92
Technology development	2.20	0	4	0.94
Product innovation	1.28	0	4	0.89

Note : n = 135

The mean scores for human resources measures are 3.56 for competence employees, 2.73 for training, and qualified R&D personnel. The mean scores for production and technology measures are 3.86 for product standard, 3.12 for production technology, 2.20 for technology development, and 1.28 for product innovation. While improvement in competence employees, human resources training, products standard, and production technology improve short-term export performance, investment in R&D, technology development, and product innovation can improve long-term export performance.

Table 5.15 Important Level of Domestic Market Conditions

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Demand Condition				
Domestic market is large	1.18	0	5	1.42
Domestic demand is sophisticated	0.79	0	5	1.33
Domestic market has high growth rate	0.53	0	5	1.03
Competition				
Level of domestic competition	0.87	0	5	1.23

Note : n = 135

Domestic market conditions domestic demand conditions and domestic competitive condition. Mean scores for the importance level of all measures of domestic market conditions are low. Mean important score for size of domestic market is 1.18. Mean important score for demand sophistication is 0.79. Mean important score for growth rate of domestic market is 0.53. And mean score for level of domestic competition is 0.87.

Respondents report that domestic market conditions are not related to export market conditions. Characteristic of domestic market is different from those of international market. Domestic consumers and international consumers have different tastes. Because of the different nature of domestic and export demand, food operators are either concentrated on domestic market or export markets, but not both. Furthermore, exporters do not agree that high domestic competition drives companies to export. The reason for export is that export provides higher profit than profit gains from domestic market.

Table 5.16 Present Condition of Domestic Market Conditions

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Demand Condition				
Domestic market is large	2.16	0	5	1.23
Domestic demand is sophisticated	0.90	0	5	1.26
Domestic market has high growth rate	0.76	0	5	1.02
Competition				
Level of domestic competition	2.95	0	5	1.04

Note : n = 135

Mean scores for measures of domestic demand conditions are 2.16 for size of domestic market, 0.90 for demand sophistication, 0.76 for growth rate, and 2.95 for level of domestic competition.

Regarding domestic demand conditions, all measures of important level and all measures of present condition have low mean scores. They imply that domestic demand conditions are not related to export success. That is, domestic demand condition cannot improve export performance. While present condition of domestic competition is substantial, at mean score of 2.95, respondents report low level of its important toward export performance, with mean score of 0.87.

Table 5.17 Important Level of Company's Structure and Strategy

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Company's Structure				
Export department	3.97	2	5	0.95
Export commitment	3.94	3	5	0.89
Company's Strategy				
Export sales growth plan	4.16	3	5	0.77
Quality and quantity control	3.81	3	5	0.69
Low priced strategy	3.48	1	5	0.95
Prompt delivery	3.36	2	5	0.85
Differentiated strategy	3.24	1	5	0.88
Customers relationship	3.20	2	5	0.87
Customers growth plan	2.67	1	5	0.94
Company's brand name	2.36	0	5	1.35
"Made in Thailand / Thailand Best" identification	1.96	0	5	1.29

Note : n = 135

Regarding company's structure, both the existence of export department and management commitment shows high level of important towards export success. Their mean scores are 3.97, and 3.94 respectively. Export sales growth plan is identified as the most important strategy related to export performance. It has mean score of 4.16. Other important strategies, ranking by their importance level, are quality and quantity control, low priced strategy, prompt delivery, differentiated strategy, customers relationship, and customers growth plan. Their mean scores are 3.81, 3.48, 3.36, 3.24, 3.20, and 2.67 respectively. Company's brand name and "Made in Thailand / Thailand Best" identification are regarded as not important towards export success, with mean scores of 2.36, and 1.96 respectively.

Table 5.18 Present Condition of Company's Structure and Strategy

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Company's Structure				
Export department	4.71	0	5	0.72
Export commitment	4.49	2	5	0.78
Company's Strategy				
Export sales growth plan	3.74	2	5	0.89
Quality and quantity control	3.47	2	5	0.80
Prompt delivery	3.21	2	5	0.80
Differentiated strategy	3.13	1	5	1.07
Low priced strategy	2.99	1	5	0.94
Customers relationship	2.99	1	5	0.87
Company's brand name	2.40	0	5	1.37
Customers growth plan	2.29	1	5	0.86
"Made in Thailand / Thailand Best" identification	1.88	0	5	1.22

Note : n = 135

For measures of present condition of company's structure, both the existence of export department and management commitment have high mean scores of 4.71, and 4.49. For measures of present condition of company's strategy, export sales growth plan has highest mean score of 3.74. Other present conditions of company's strategy ranking by their scores are quality and quantity control, prompt delivery, differentiated strategy, low priced strategy, customers relationship, company's brand name, customers growth plan, and "Made in Thailand / Thailand Best" identification. Their mean scores are 3.47, 3.21, 3.13, 2.99, 2.99, 2.40, 2.29 and 1.88 respectively.

The scores of present conditions of company's structure are higher than the assigned important levels. Therefore, sufficient effort is put on this factor. There is no need for improvement on company's structure. The scores of

present conditions of important company's strategy are lower than the assigned important levels. Effort can be put to improve on company's strategy.

Table 5.19 Important Level of Related and Supporting Industries

Characteristics	Mean	Minimum	Maximum	Std.Dev.
Banking system	3.44	1	5	0.93
International transportation	3.05	2	5	0.93
Domestic transportation	2.88	1	5	0.95
Packaging industry	2.67	0	5	1.20
Utility system	2.39	1	5	0.84
Bio-technology industry	2.20	0	5	1.51
Machinery industry	2.12	0	5	1.33
Telecommunication system	1.96	0	5	1.28
Insurance system	1.67	0	5	1.07
Additive industry	0.90	0	5	1.23

Note : n = 135

There are 4 related and supporting industries with mean important scores higher than 2.50. Banking system scores highest with mean score of 3.44. International transportation is the next highest score at 3.05. Follows by domestic transportation with mean score of 2.88, and packaging industry with mean score of 2.67. Following 6 related and supporting industries have mean important scores lower than 2.50. They are utility system, bio-technology industry, machinery industry, telecommunication system, insurance system, and additive industry. Their mean important scores are 2.39, 2.20, 2.12, 1.96, 1.67, and 0.90.

Table 5.20 Present Condition of Related and Supporting Industries

Industries	Number of Responses			Percentage of Responses		
	-1	0	1	-1	0	1
Banking system	**81**	2	52	**60.0%**	1.5%	38.5%
International transportation	**63**	1	**71**	46.7%	0.7%	52.6%
Domestic transportation	**92**	1	42	**68.1%**	0.7%	31.1%
Packaging industry	15	11	**109**	11.1%	8.1%	**80.7%**
Utility system	54	2	79	**40.0%**	1.5%	**58.5%**
Bio-technology industry	82	35	18	**60.7%**	25.9%	13.3%
Machinery industry	37	24	**74**	27.4%	17.8%	**54.8%**
Telecommunication system	22	7	**106**	16.3%	5.2%	**78.5%**
Insurance system	14	11	**110**	10.4%	8.1%	**81.5%**
Additive industry	11	**82**	42	8.1%	**60.7%**	31.1%

Note : n = 135

Value : "-1" = "Improvement Needed",

"0" = "Not Concerned",

and "1" = "Satisfactory"

Table 5.20 identifies present conditions of related and supporting industries. The 4 industries identified as having important effect on export performance are banking system, international transportation, domestic transportation, and packaging industry. High percentage of responses report that improvements are needed for banking system, and domestic transportation, with percentage responses of 60, 68.1 respectively. International transportation shows 2 directional responses. While 46.7 percents agree on "Improvement Needed", 52.6 percents agree on "Satisfactory". 80.7 percents identify packaging industry as "Satisfactory". Reported present conditions for other related and supporting industries indicate that majority of responses view insurance system, telecommunication system, and machinery industry as "Satisfactory". Utility system receives differing views, 40 percents mark it as

"Improvement Needed", and 58.8 percents show "Satisfactory". Bio-technology industry is agreed on "Improvement Needed" at 60.7 percents. For additive industry, 31.1 percents display "Satisfactory", and 60.7 percents exhibit "Not Concerned".

Measures Purification

Measures purification is required on measures of export performance constructs. These constructs are basic factor condition, advanced factor condition, demand condition, company's structure, company's strategy, domestic rivalry, and related and supporting industries. Constructs are formed using composite scale of related measures. Related measures are selected from their mean important scores towards export performance. Measures with mean important scores of 2.50 and above are included in the construct. Measures with mean important scores lower than 2.50 are considered less important and are dropped from the construct.

Dropped items are product innovation from advanced factor, all domestic market factor, company's brand name and made in Thailand identification from strategy factor, and telecommunication system, utility system, insurance system, machinery industry, additive industry, and bio-technology industry from related and supporting industries factor. These items reflect respondent views on important factors toward export performance. Notes that innovation is not views as important factor toward export performance. According to Porter's development stages, Thai food industry has not reached the innovation driven stage.

Selected items are tested for internal consistency using Cronbach Alpha's reliability test. Dimensionality of each factor is tested using factor analysis. Dropped demand conditions construct is also tested for both internal consistency and dimensionality in order to test hypothesis.

Internal Consistency

After dropping items with low level of importance towards export performance. Cronbach alpha's reliability test is used to confirm internal consistency of each dimension of variable contributing to export performance. Table 5.21 presents Cronbach alpha's value of each dimension of each variable.

Table 5.21 Cronbach Alpha's Reliability Test

Variables	Dimensions / Items	Alpha if Item Deleted	Alpha
Basic Factor	All items		0.7565
	Raw material		0.8145
	Quantity availability	0.7269	
	Low cost	0.7785	
	High quality	0.7323	
	Labor		0.7653
	Quantity availability	0.6904	
	Low cost	0.6194	
	High quality	0.7386	
Advanced Factor	All items		0.7715
	Human Resources		0.6428
	Competence employees	0.6592	
	Qualified R&D personnel	0.4374	
	Human resources training	0.5089	
	Product & Technology		0.7826
	Production technology	0.6901	
	Technology development	0.6205	
	Products standard	0.7748	

(-continue next page-)

Table 5.21 Cronbach Alpha's Reliability Test (-continue-)

Variables	Dimensions / Items	Alpha if Item Deleted	Alpha
Demand Condition	All Items		0.7931
	Large domestic demand	0.5842	
	High growth domestic market	0.8194	
	Sophisticated demand	0.6956	
Company's Structure	All Items		0.7605
	Existence of export department	n.a.	
	Management commitment	n.a.	
Company's Strategy	Marketing plan, Q.C., and Service		0.7442
	Sales growth plan	0.6942	
	Customers growth plan	0.7053	
	Prompt delivery	0.6657	
	Quality and quantity control	0.6850	
	Customers relationship	0.7438	
	Price-Differentiated Strategy *		0.6764
	Price Strategy	n.a.	
	Differentiated Strategy	n.a.	
Related and Supporting Industries	Domestic transportation system	0.6685	0.7723
	International transportation system	0.6602	
	Banking System	0.6805	
	Packaging System	0.8542	

Note : n = 135

      * Due to opposing nature of price and differentiated strategy, directional conversion is performed before conducting the test.

Nunnally (1967) suggests minimum exceptable alpha is 0.5. Since Cronbach's alpha values of every dimension are in the range of 0.6428 and 0.8145, internal consistency is qualified on all constructs.

Dimensionality of Factors

Factor analysis is used as tool to confirm dimensionality of constructs. Hair Jr. et.al. (1995) suggest the test of fit on a single-factor solution using principal component analysis with varimax orthogonal rotation. The extraction analysis suggests two dimensions for basic factor, two dimensions for advanced factor, one dimension for company's structure, two dimensions for company's strategy, and one dimension for related and supporting industries. Table 5.22 shows the communality and eigenvalue of each dimension.

Table 5.22 Dimensionality of Factors

Dimension	Items	Commu-nality	Eigen-value
Raw material	Quantity availability	0.750	2.194
	Low cost	0.698	(73%)
	High quality	0.746	
Labor	Quantity availability	0.680	2.045
	Low cost	0.742	(68%)
	High quality	0.624	
Human	Competence employees	0.450	1.752
Resources	Qualified R&D personnel	0.678	(58%)
	Human resources training	0.623	
Product &	Production technology	0.707	2.112
Technology	Technology development	0.769	(70%)
	Products standard	0.637	
Demand	Large domestic demand	0.818	2.130
Condition	High growth domestic market	0.593	(71%)
	Sophisticated demand	0.719	
Company's	Existence of export department	0.899	1.615
Structure	Management commitment	0.899	(81%)
Marketing	Sales growth plan	0.500	2.527
Plan, Q.C., &	Customers growth plan	0.475	(51%)
Service	Prompt delivery	0.634	
	Quality and quantity control	0.590	
	Customers relationship	0.328	
Price-	Price Strategy	0.756	1.513
Differentiated	Differentiated Strategy	0.756	(76%)
Related and	Domestic transportation system	0.729	2.041
Supporting	International transportation	0.580	(51%)
Industries	system		
	Banking System	0.431	
	Packaging System	0.300	

Note : n = 135

Table 5.22 identifies 9 dimensions to 5 variables which respondents identify as having effect on export performance. These dimensions are raw material, labor, human resources, demand condition, product & technology, company's structure, planning, Q.C., and service strategy, price-differentiated strategy, and related & supporting industries.

The composite scores of these dimensions are defined by an average composite score of present conditions of each dimension. One item factor of domestic competition is included. Dimensions can be classified by its nature of internal to firm or external to firm. Internal to firm dimensions can be viewed as more readily altered or improved. External to firm dimensions are uncontrollable by firm. Table 5.23 summarizes average composite scores of the proposed dimensions. The table presents classification, mean value, minimum value, maximum value, standard deviation.

Table 5.23 Average Composite Scores of Proposed Export Performance
Dimensions

Dimensions	Cl.	Mean	Minimum	Maximum	Std.Dev.
Basic Factor					
Raw material	Ex.	3.235	1.67	4.67	0.606
Labor	Ex.	3.178	1.00	5.00	0.617
Advanced Factor					
Human resources	In.	2.909	1.33	4.67	0.687
Product & Technology	In.	3.059	1.00	4.67	0.685
Demand Condition	Ex.	1.272	0.00	5.00	0.924
Company's Structure and Strategy					
Company's structure	In.	4.600	2.50	5.00	0.585
Planning, Q.C., and service strategy	In.	3.139	2.00	4.80	0.576
Price-differentiated strategy	In	3.063	1.50	4.50	0.541
Domestic Competition	Ex.	2.950	0.00	5.00	1.040
Related & Supporting industries *	Ex.	2.607	0.00	5.00	1.599

Note : n = 135

    * In order to compare current condition of all dimensions, mean
composite score of related and supporting industries dimension is
converted to the same scale as other dimension.

For internal to firm dimensions, company's structure has the highest
average composite score, follow by planning, Q.C., and service strategy, price-
differentiated strategy, product & technology, and human resources. Their
mean scores are 4.600, 3.139, 3.063, 3.059, and 2.909 respectively. For
external to firm dimensions, raw material score highest, follow by labor,
domestic competition, related & supporting industries, and demand conditions.
Their scores are 3.235, 3.178, 2.950, 2.607, and 1.272 respectively.

The scores of present conditions identify weaknesses in companies' operations. Among internal to firm dimensions, Thai companies are most competence in company's structure dimension. This dimension is considered to require least effort when compare with other internal dimensions. The next highest scores are in the 2 dimensions of strategy. Effort should be put to improve on these dimensions. While dimensions critical to long term strength and success are human resources, and product and technology, their present conditions score lowest. Most effort should be put to improve and develop these two dimensions.

Improvements in dimensions external to firm, raw material, labor, and the related and supporting industries, can increase export performance. Companies, however, are not capable of improving these conditions directly. Government roles in assisting these external factors can lead to improvement in export performance.

Hypotheses Testing

Associations of Export Performance and Its Constructs

Kolmogorov-Smirnov test of normality is used to test export performance measures and its constructs. Both average export profit and average sales growth are normally distributed. For normally distributed export performance dimensions, Pearson's correlation coefficient is used to measure relationships of export performance and these dimensions. For export performance dimensions that are not normally distributed, Kendall's tau b correlation coefficient is used to measure the relationships. Table 5.24 presents bivariate correlation of each measures of export performance and the 10 dimensions being studied. Table 5.25 presents bivariate correlation of the export performance measures and their composite dimensions.

Table 5.24 Bivariate Correlation of Measures of Export Performance and Export Performance Dimensions

Constructs	Normally Distributed	Percentage Profit	Percentage Sales Growth
Raw material	No	.370**	.234**
Labor	No	.449**	.146*
Human resources	No	.444**	.215**
Production and technology	Yes	.537**	.160*
Demand conditions	No	-.135*	.014
Company's structure	No	.102	.191**
Planning, QC., service strategy	No	.425**	.242**
Price-differentiation strategy.	No	.276**	.081
Domestic competition	No	-.036	.075
Related and supporting industries	No	.340**	.101

Note : ** Correlation is significant at the 0.01 level (1-tail)

* Correlation is significant at the 0.05 level (1-tail)

Regarding percentage profit, correlation tests confirm a 1 percent significant level of correlation between percentage profit and raw material, labor, human resources, production and technology, planning, QC., and service strategy, price-differentiation strategy, and related and supporting industries. Demand conditions and percentage profit are significantly correlated at 5 percent significant level. Company's structure and domestic competition are not significantly correlated to percentage profit. For percentage sales growth, correlation tests confirm a 1 percent significant level of correlation between percentage sales growth and dimensions of raw material, human resources, company's structure, and planning, QC, and service strategy. The tests confirm

a 5 percent significant level of correlation between percentage sales growth and dimension of labor, and dimension of production and technology. Percentage sales growth and dimensions of demand condition, price-differentiation strategy, domestic competition, and related and supporting industries are not significantly correlated.

Table 5.25 Bivariate Correlation of Measures of Export Performance and Export Performance Constructs

Composite Dimensions	Normally Distributed	Percentage Profit	Percentage Sales Growth
Factor condition	Yes	.638**	.300**
Basic factor	Yes	.559**	.291**
Advanced factor	Yes	.616**	.263**
Demand conditions	No	-.135*	.014
Company's structure and strategy	Yes	.535**	.344**
Company's structure	No	.102	.191**
Company's strategy	Yes	.545**	.293**
Domestic competition	No	-.036	.075
Related and supporting industries	No	.340**	.101

Note : ** Correlation is significant at the 0.01 level (1-tail)

       * Correlation is significant at the 0.05 level (1-tail)

Basic factor is the composite mean score of raw material, and labor dimensions. Advanced factor is the composite mean score of human resources, and production and technology. Factor condition is the composite mean score of basic factor and advanced factor. Company's strategy is the composite mean score of planning, Q.C., service strategy, and price-differentiated strategy.

Company's structure and strategy is the composite mean score of company's strategy, planning, Q.C., service strategy, and price-differentiated strategy.

Table 5.24 and table 5.25 provide either Pearson's correlation coefficients or Kendall's tau b correlation coefficients of measures of export performance and its constructs. Identification of important measures, selected measures reliability test, dimensionality of factors, Pearson's correlation coefficients, and Kendall's tau b correlation coefficients are used to test hypotheses specified in Chapter 3.

Relationship between Export Percentage Profit and Its' Constructs

1. Relationship between factor conditions and export percentage profit

Basic factor identifies by raw material dimension is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.370.

Basic factor identifies by labor dimension is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.449.

Composite basic factor is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.559. The results reject hypothesis, Ho11, and accept the alternative hypothesis that basic factor condition is positively related to the Thai food export performance.

Advanced factor identifies by human resources dimension is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.444.

Advanced factor identifies by production and technology dimension is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.537.

Composite advanced factor is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.616. The results reject hypothesis, Ho12, and accept the alternative hypothesis that advanced factor condition is positively related to the Thai food export performance.

Composite factor condition is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.638.

2. Relationship between demand conditions and export percentage profit

Respondents identify domestic demand conditions as unimportant factor towards export success. Mean important level scores of 135 responses are 1.18, 0.53, and 0.79 for domestic market size, domestic market growth rate, and sophistication of domestic demand. The acceptable lower bound for the mean important score is at the mid-point score of 2.50. T-test mean comparison of each measure of domestic demand conditions and the mid-point score indicate significant difference in mean score at 1 percent significant level. These measures are, therefore, discarded as not related to export percentage profit.

Demand condition is negatively correlated to export percentage profit. They are significantly related at 5 percent level with the correlation coefficient of -0.135.

Thus, fail to reject the hypothesis, Ho2, that demand conditions are not positively related to the Thai food export performance.

3. Relationship between company's structure and strategy conditions and export percentage profit

Exploratory factor analysis identifies 3 dimensions to company's structure and strategy condition. These dimensions are company's structure, planning, Q.C., and service strategy, and price-differentiated strategy.

Company's structure is not significantly related to export percentage profit.

Planning, Q.C., and service strategy dimension is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.425.

Price-differentiated strategy dimension is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.276.

Composite strategy factor is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.545.

Composite structure and strategy factor is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.535. The results reject hypothesis, Ho3, and accept the alternative hypothesis that company's structure and strategy is positively related to the Thai food export performance.

4. Relationship between level of domestic competition and export percentage profit

Respondents identify level of domestic competition as unimportant factor towards export success. Respondents allocate a mean important score of 0.87. The acceptable lower bound for the mean important score is at the

mid-point score of 2.50. T-test mean comparison of the domestic competition important level and the mid-point score indicate significant difference in mean score at 1 percent significant level. Present condition of domestic competition is not correlated to export percentage profit. The test fails to reject the hypothesis, Ho4, that the level of domestic competition is not positively related to the Thai food export performance.

5. Relationship between related and supporting industries' competency and export percentage profit

Related and supporting industries competency is positively related to export percentage profit. They are significantly related at 1 percent level with the correlation coefficient of 0.340. The results reject hypothesis, Ho5, and accept the alternative hypothesis that related and supporting industries is positively related to the Thai food export performance.

<u>Relationship between Export Percentage Sales Growth and Its' Constructs</u>

1. Relationship between factor conditions and export percentage sales growth

Basic factor identifies by raw material dimension is positively related to export percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.234.

Basic factor identifies by labor dimension is positively related to export percentage sales growth. They are significantly related at 5 percent level with the correlation coefficient of 0.146.

Composite basic factor is positively related to percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.291. The results reject hypothesis, Ho11, and accept the alternative

hypothesis that basic factor condition is positively related to the Thai food export performance.

Advanced factor identifies by human resources dimension is positively related to export percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.215.

Advanced factor identifies by production and technology dimension is not related to export percentage sales growth. The correlation coefficient of 0.160 is significant at 5 percent level.

Composite advanced factor is positively related to percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.263. The results reject hypothesis, Ho12, and accept the alternative hypothesis that advanced factor condition is positively related to the Thai food export performance.

Composite factor condition is positively related to percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.300.

2. Relationship between demand conditions and export percentage sales growth

Respondents define domestic demand conditions as unimportant factor towards export success. They are discarded as not related to export percentage sales growth. Test of correlation shows that present condition of demand condition is not significantly correlated with export percentage sales growth. The result fails to reject the hypothesis, Ho2, that demand conditions are not positively related to the Thai food export performance.

3. Relationship between company's structure and strategy conditions and export percentage sales growth

Company's structure is positively related to export percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.191.

Planning, Q.C., and service strategy dimension is positively related to export percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.242.

Price-differentiated strategy dimension is not related to export percentage sales growth. The correlation coefficient of 0.081 is not significant at 5 percent level.

Composite strategy factor is positively related to percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.293.

Composite structure and strategy factor is positively related to percentage sales growth. They are significantly related at 1 percent level with the correlation coefficient of 0.344. The results reject hypothesis, Ho3, and accept the alternative hypothesis that company's structure and strategy condition is positively related to the Thai food export performance.

4. Relationship between level of domestic competition and export percentage sales growth

Respondents identify level of domestic competition as unimportant factor towards export success. Test of correlation shows that present condition of domestic competition is not significantly correlated with the export percentage sales growth. The result fails to reject the hypothesis hypothesis, Ho4, that the level of domestic competition is not positively related to the Thai food export performance.

5. Relationship between related and supporting industries' competency and export percentage sales growth

Related and supporting industries' competency is not related to export percentage sales growth. The correlation coefficient of 0.101 is not significant at 5 percent level. The result fails to reject the hypothesis, Ho5, that related and supporting industry condition is not positively related to the Thai food export performance.

The two measures of export performance are percentage profit and percentage sales growth. Even though the company's structure has high important level score of 3.96 and high present mean score of 4.60, it is not significantly correlation with the percentage profit, and has low level of correlation with the percentage sales growth. It can be explained that most respondents view company's structure as important factor towards export performance, and they arrange their company's structure accordingly. Therefore, the present condition of company's structure scores high regardless of their performance. Related and supporting industries condition has moderate important level score of 3.01, and low present mean score of 2.607. Related and supporting industries condition has significantly low correlation with export percentage profit, and is not significantly correlated with percentage sales growth. This suggests that related and supporting industries condition cannot be used as good indicator for export performance.

External Environment

Government policies and chance events are external environment effecting export performance. Respondents are aware of the influences of both environmental factors. They are able to identify the direction of influence in term of positive effect, no effect, or negative effect, but they cannot identify these influences numerically.

Relationship between government policies export performance

The study identifies present government policies as having no critical effect towards the export success. Respondents' opinion on government administration, especially in customs formalities, tax exemption, and tax return system, is that they pose a draw back to export operation. Government policies are accepted as environmental condition that companies modify or adjust their business operation accordingly. Respondents identify weaknesses in government policies as having unclear policies, lack of appropriate public relations, incompetence public officers, and high level of corruption. Suggestions for government policies are for long-term export promotion planning, supporting institutional research and development, human resources development and training, providing domestic production information, and providing international trade information. There are contradicting opinions on suggested policies between home market protection and market liberalization. There are 84 respondents participate in open-end question concerning suggestion on government policies. Using Chi-square test, hypothesis Ho6 is rejected, and concludes that government policies are related to the Thai food export performance.

Relationship between chance events and export performance

Of 135 responses, 117 respondents or 86.67 percent agree that chance events influence export performance. However, the level of influence is difficult to identify and impossible to control over. The study can only identify the direction of relationship but not the level of relationship. Regarding chance events occurred in Thailand, 83.8 percent of responses identify positive relationship between baht devaluation and Thai export performance, 59.8 percent, 56.4 percent, and 56.4 percent of responses identify negative relationship between oil crisis, flood, and drought and Thai export performance. With respect to chance events occurred in importing countries, 62.4 percent and 12 percent identify currency devaluation and importing policy as having negative relationship with Thai export performance, and 23.9 percent and 19.7 percent identify flood and epidemic as having positive relationship

with Thai export performance. For chance events occurred in competing countries, 30.8 percent identify currency devaluation as having negative relationship with export performance, and 38.5 percent and 15.4 percent identify flood and epidemic as having positive relationship with Thai export performance. All of 117 participating in answering question concerning chance events, every respondent identifies the existence of effect of chance events on export performance. Using Chi-square test, hypothesis Ho7 is rejected, and concludes that chance events are related to the Thai food export performance.

Relationships Among Constructs of Export Performance

Relationships among export performance constructs are identified. Pearson's product moment correlation coefficient is used to identify relationships among normally distributed constructs. When normality assumption is violated, Kendall's tau b is used to identify the relationships among constructs. The Komogorov-Smirnov test confirmed normality in export percentage profit, percentage sales growth, basic factor, advanced factor, and company's structure and strategy. Distribution of related and supporting industries is not normal. The correlation coefficients of these constructs are presented in table 5.26.

Table 5.26 Bivariate Correlation of Export Performance Constructs

Constructs	Percentage Profit	Percentage Sales gr.	Basic Factor	Adv. Factor	Factor Cond.	Structure & Strategy
Basic Factor	.559**	.291**				
Advanced Factor	.616**	.263**	.700**			
Factor Conditions	.638**	.300**	.915**	.928**		
Structure & Strategy	.535**	.344**	.542**	.582**	.611**	
Related & Supporting Ind.	.340**	.101	.420**	.342**	.396**	.288**

Note : ** Correlation is significant at the 0.01 level (1-tail)

* Correlation is significant at the 0.05 level (1-tail)

In general, the correlation coefficient between 0.200 and 0.400 is low level of correlation, between 0.400 and 0.600 is middle level of correlation, and over 0.600 is high level of correlation. All identified constructs of export performance are correlated among themselves at 1 percent significant level. Basic factor is highly correlated with advanced factor. Its correlation with structure and strategy, and related and supporting industries is at middle level. Advanced factor has middle level of correlation with structure and strategy, and low level of correlation with related and supporting industries. The composite score of basic factor and advanced factor is identified as the factor condition. Factor condition is highly correlated with structure and strategy, and has low correlation with related and supporting industries. Structure and strategy has low correlation with related and supporting industries.

Framework Estimation

Figure 5.1 Framework of Export Performance : Percentage Profit
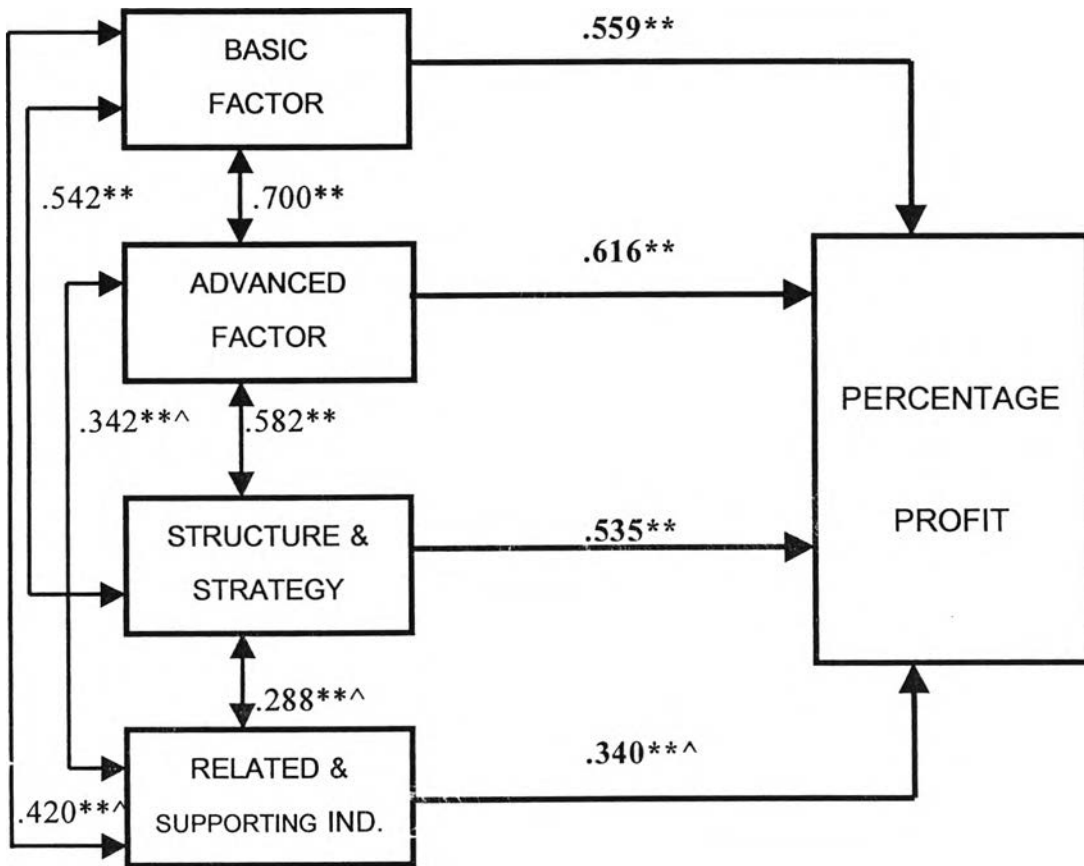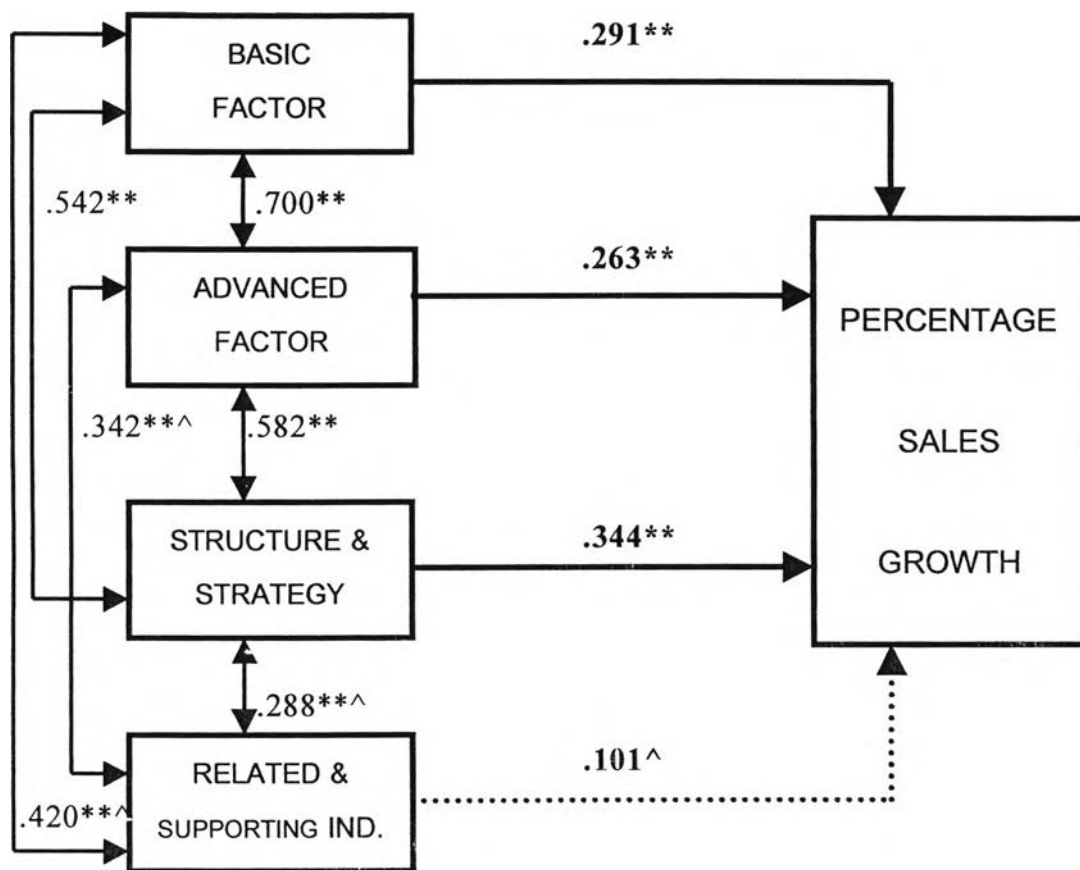

Note : ** Correlation is significant at the 0.01 level (2-tail)

         ^ Kendall's tau b correlation coefficient is applied

Figure 5.2 Framework of Export Performance : Percentage Sales
Growth

Note : ** Correlation is significant at the 0.01 level (2-tail)
^ Kendall's tau b correlation coefficient is applied

Of the proposed framework presented in figure 3.1, external
environment, the government policies and chance events, and a construct, the
demand condition are discarded. Respondents view external environment as
having influences on export performance but cannot measure their effect
numerically. Domestic market demand condition is viewed as unrelated to
export performance. Factor condition is split into basic factor and advanced
factor.

The remaining four constructs, basic factor, advanced factor, structure
and strategy, and related and supporting industries, are interdependently
correlated at 1 percent significant level. While advanced factor and structure

and strategy are constructs internal to firm, basic factor and related and supporting industries are constructs external to firm. All 4 constructs are correlated with percentage profit. Only 3 constructs, basic factor, advanced factor, and structure and strategy, are correlated with percentage sales growth. The level of correlation is mid level for percentage profit, and low level for sales growth.

Multiple Regression Functions of Export Performance

Stepwise multiple regression analysis is used to determine export performance framework, the percentage profit and the sales growth. Related and supporting industries condition violates normal distribution assumption. Lewis-Beck (1993) identifies that there are two extremes statistical literature concerning the violation of regression assumptions. One is that regression analysis is robust, and the parameter estimates are not meaningfully influenced by violations of the assumptions. The other views that violations of the assumptions can render the regression results almost useless. Table 5.27 provides the result of the multiple regression analysis.

Table 5.27 Multiple Regression Result

Variables	P1	P2	P3	P4	S1	S2
R^2	.454	.492	.444	.488	.119	.168
F value	36.26	31.51	34.80	31.00	17.90	13.37
Constant	-3.358	-2.744	-5.790	-4.900	-3.203	-3.122
Basic Factor	0	0	1.023	1.018	0	0
Advanced Factor	1.939	1.872	1.735	1.624	0	0
Structure & Strategy	1.819	1.794	1.763	1.708	3.598	3.737
R&S Industry	0.894	0.791	n.a.	n.a.	0	0
Unprocessed	n.a.	-1.438	n.a.	-1.540	n.a.	0
Processed	n.a.	0	n.a.	0	n.a.	0
Ready-to-Serve	n.a.	0	n.a.	0	n.a.	-2.000
Mixed	n.a.	0	n.a.	0	n.a.	0

The derived functions for percentage profit are functions, P1, P2, P3, and P4. All functions include basic factor, advanced factor, and structure and strategy constructs. P1 and P2 also include construct violating regression assumption, the related and supporting industries construct. P2 and P4 include additional control variables identify export product categories. The derived functions for percentage sales growth are functions, S1, and S2. Both functions include basic factor, advanced factor, structure and strategy, and related and supporting industries constructs. S2 includes control variables identify export product categories.

The resulting functions are

P1 : PP = -3.358 + 1.939 AF + 1.819 SS + 0.894 RS
  with R^2 = .454   and   F-value of 36.26

P2 : PP = -2.744 + 1.872 AF + 1.794 SS + 0.791 RS − 1.438 U
  with R^2 = .492   and   F-value of 31.51

P3 : PP = -5.790 + 1.023 BF + 1.735 AF + 1.763 SS
  with R^2 = .444   and   F-value of 34.80

P4 : PP = -4.900 + 1.018 BF + 1.624 AF + 1.708 SS − 1.540 U
  with R^2 = .488   and   F-value of 31.00

S1 : SG = -3.203 + 3.598 SS
  with R^2 = .119   and   F-value of 17.90

S2 : SG = -3.122 + 3.737 SS − 2.000 R
  with R^2 = .168   and   F-value of 13.37

  where
    PP = Percentage Profit
    SG = Percentage Sales Growth
    BF = Basic Factor

AF = Advanced Factor

SS = Structure and Strategy

RS = Related and Supporting Industries

U   = Unprocessed

P   = Processed

R   = Ready-to-Serve

M   = Mixed

Function P1 has coefficient of determination of .454. It implies that 45.4 percent of the variation in percentage profit is explained by advanced factor, structure and strategy, and related and supporting industries. Function P3 indicates that 44.4 percent of the variation in percentage profit is explained by basic factor, advanced factor, and structure and strategy. By including related and supporting industries in the regression analysis, there is a 1 percent improvement in the ability to explain percentage profit. Since only small improvement is gained, the study selects to confine with the regression assumptions, and drop related and supporting industries from the framework.

Function P4 includes control variables identifies classification of export products. Dummy variables, U, P, R, and M, are included in the framework to test whether there are differences in percentage profit among different export products categories. The result shows that there are no significant differences on percentage profit for exporters of processed, ready to serve, and mixed products categories. The result indicates that exporters of unprocessed products has 1.54 percent lower profit than the other 3 categories. Function P4 suggests that 48.8 percent variation in percentage profit is explained by basic factor, advanced factor, structure and strategy, and the controlled product categories.

Function S1 includes basic factor, advanced factor, and structure and strategy in the regression framework. The result indicates that only 11.9 percent of the variation in percentage sales growth is explained by structure and strategy. Function S2 includes control variables that identify classification of export products. Dummy variables, U, P, R, and M, are included in the framework to test whether there are differences in percentage sales growth

among different export products categories. The result shows that there are no significant differences on percentage profit for exporters of unprocessed, processed, and mixed products categories. The result indicates that exporters of ready to serve products has 2.00 percent lower sales growth than the other 3 categories. Function S2 suggests that 16.8 percent variation in percentage sales growth is explained by structure and strategy, and the controlled product categories.