CHAPTER FIVE
Results and Discussion

Chapter 4 discussed the data base, the operationalization of the variables and the research design along with a general description of statistical procedures. The following chapter discusses in detail the statistical procedures to test the hypotheses that are stated in Chapter 3 and it also presents the discussion and interpretation of results from data analysis.

The model is a contingency model because the firm-specific resources (FSRs) concept is dynamic. The percentage of JV ownership structure can be changed from year to year. For example, a firm may increase or decrease the level of one's ownership for each year during JV ownership structure. The FSRs mainly include management, marketing and technological resource factors. The level of individual resources can vary year by year. Also, a firm may have different combinations of these resource factors. For example, a firm, at the same time when compared to others in a particular year, may obtain better management and marketing resources, but poorer technological resources.

This model also allows one to investigate data any year in order to find out the changing level of FSRs that a firm has for a particular year. The FSRs can vary and have a significant influence on firm performance according to the resource-based view of firms (Tallman and Fladmoe-Lindquist, 1994; Penrose, 1959). The resource-based view is a conceptualization of firms as unique bundles of accumulated tangible and intangible resource stocks. Resource stocks are defined as internal attributes, including assets, capabilities, process, routines, and knowledge, that are tied semipermanently to or controlled by a firm (Barney, 1991; Wernerfelt, 1984; Nelson and Winter, 1982). Most scholars just state the propositions when applying a resource-based view of firms to there research. Not many do empirical research with the resources-based view. For example, Roth (1995) applied a resource-based view of firms in the empirical study to test the strategic leadership- CEO characteristics on firm performance. Tallman et al. (1996) examined the relationships among product diversity, international diversity, and firm performance by applying the resource-based view.

Moreover, this contingency model can be tested in any environments. This study uses three-year-average financial data to examine the relationships between FSRs and firm performance under JV or NJV ownership structures due to economic crisis in 1997 or hostile environments, such as baht depreciation, closing of 56 finance companies and changing in the government. By doing this, the results will be more accurate and reliable instead of one year data.

Firms have resources which can be either tangible or intangible. Only FSRs are more valuable to the firm. Tangible resources can be measured by sending questionnaires to ask for the quantity of resources that each firm owns. This is an objective measurement. For example, how many plants or employees the firm has. But, intangible resources are difficult to be measured in an objective measurement.

Many scholars point out that these FSRs are difficult to be valued and codified (Hobday, 1994; Kogut and Zander, 1993; Krugmam, Tsiddon, and Brezis, 1993, Calvet, 1981) because these resources already include capabilities which are subjective and tactic. Hence, FSRs for each firm are difficult to be measured in an objective way. Also, data about FSRs is quite sensitive to each firm. Respondents will not reveal this information easily and try to keep it private and confidential. Therefore, objective and subjective questions of thirty-five questions are asked in order to identify the level of management, marketing, and technological resources as compared to the average level of the industry.

It is impossible to ask the amount of FSRs that a firm acquires, but it is possible to rate the level of them for each firm by using Guttman or likert scales when asking about these questions, compared to the average in the industry. This is the subjective measurement. From the findings of Geringer and Herbert (1991), correlations are generally positive and significant between subjective and objective measures of international joint venture performance. This implies that subjective measurement can be used in place of objective measurement when objective data is difficult to collect. As mentioned before, FSRs are difficult to be measured in an objective manner since they include characteristics of the learning process which are difficult to codify or price.

In order to investigate the level of FSRs that each firm has, managing directors were asked to rate the degree or level of know-how or FSRs that each firm obtained

instead as a proxy measurement of FSRs. Therefore, this study includes a measurement of a manager's perceptions of his company's resources.

Data Analysis

After data have been collected from questionnaires, the next step is to analyze the data so that the research hypotheses can be tested. Before we can do this, however, some preliminary steps need to be completed. These steps help prepare the data analysis, ensure that the data obtained are reasonably good, and allow the results to be meaningfully interpreted. There are five steps in data analysis as follows:

1). Getting data ready for analysis by editing data, handling blank response, and coding data

2). Feel for data by running descriptive statistics: mean, standard deviation, correlations, and frequency distribution (include histograms/bars charts)

3). Test of the mediator regression assumption

4). Goodness of data by testing for reliability and validity

5). Hypothesis testing by appropriate statistical manipulations in mediator regression

There are several ways to test the assumptions of multivariate analysis for normality of data. The simplest diagnostic test for normality is a visual check of the histrogram that compares the observed data values with a distribution approximating the normal distribution (Hair, Anderson, Tatham and Black , 1995). A more reliable approach is the normal probability plot, which compares the cumulative distribution of data values with the cumulative distribution of a normal distribution. It makes a straight diagonal line, and the plotted data values are compared with the diagonal. Furthermore, Kolmogorove-Smirnove test is used to test of normality for both studentized residuals and observed data values. To test the equal variance dispersion, the graphical test of equal variance and Box' M test are used. The graphical plot of residuals is used to reveal the presence of homoscedascity. Other important assumptions are linearity and no multicollinearity.

Analytic Techniques

The analysis utilizes statistical methods to reveal the relationships among ownership structures, FSRs and firm performance by using the Statistical Package for the Social Sciences (SPSS) for windows. The unit of analysis is the firm level. In order to group items into different factors, principal component factor analysis is used to check for construct validity. Furthermore, in order to assess the performance difference between joint venture and fully Thai owned firms, intervened by firm-specific resource factors, the mediator regression is used. Reliability coefficients will be calculated and should be at least above 0.70. Next, correlation coefficient matrix is used to check for the relationships between each pair of variables.

After creating the data files, principal component factor analysis with varimax rotations will be used to group all related items into satisfaction performance factors and to construct validity for subjective and financial performance. Nunnally (1978) develops a widely adopted method to evaluate the assignment of items to scales. The correlation of each item with each scale is considered. Specially, the item-score to score-score relations are used to determine if an item belongs to the scale as assigned, belongs to some other scale, or if it should be eliminated. If an item does not correlated highly with any of scales, it will be eliminated.

From the model in Chapter Three, there are 9 major hypotheses as shown below.

H_1: There is no difference in objective performance between joint venture and fully Thai owned firms due to the presence of management resource factors.

H_2: There is no difference in subjective performance between joint venture and fully Thai owned firms due to the presence of management resource factors.

H_3: There is no difference in export performance between joint venture and fully Thai owned firms due to the presence of management resource factors.

H_4: There is no difference in objective performance between joint venture and fully Thai owned firms due to the presence of marketing resource factors.

H_5: There is no difference in subjective performance between joint venture and fully Thai owned firms due to the presence of marketing resource factors.

H_6: There is no difference in export performance between joint venture and fully Thai owned firms due to the presence of marketing resource factors.

H_7: There is no difference in objective performance between joint venture and fully Thai owned firms due to the presence of technological resource factors

H_8: There is no difference in subjective performance between joint venture and fully Thai owned firms due to the presence of technological resource factors.

H_9: There is no difference in export performance between joint venture and fully Thai owned firms due to the presence of technological resource factors.

For H_{1-9}, mediator regression (Pedhazur and Kerlinger, 1973) is used to test and find the difference in firm performance under two types of ownership structures due to the presence of firm-specific resources. If there is a significant correlation between ownership structures and firm performance and, furthermore, if there is a significant correlation between firm-specific resources and firm performance and a nonsignificant correlation between ownership structures and firm performance, the firm-specific resource factors are the mediator variable between ownership structures and firm performance. In other words, firm-specific resources mediate the relationships between ownership structures (joint venture and 100% Thai ownership) and firm performance if the conditions mentioned above are satisfied.

Measurement Validity and Reliability

This research also uses the face validity by getting the comments from the senior officer of DEP and reviewing the literature from scholars besides the principal component factor analysis to construct validity. Furthermore, convergent validity is used to investigate different ways of measurement of the same construct.

From Part III of the questionnaires (Measurement of the Firm-Specific Resources of a Company), each type of resources is measured by either qualitative or quantitative questions. When a principal component factor analysis is used for grouping these three types of resources, it cannot represent well for each group of factors. This study tries to separate each resource factor into either objective or subjective measurement. The Cronbach alpha for subjective resource factors is above 0.70. This indicates that these subjective resource factors are reliable for further analysis (See Table 5.1: Reliability Analysis for FSRs).

It makes more senses to group variables as they are because these variables are from the literature review. Then the study will also test for the relationship between

either objective or subjective resource factors of management, marketing and technological resources and firm performance under two different ownership structures.

Table 5.1: Reliability Analysis for Firm-Specific Resources

Item	No. of Items	Items Deleted	Sample (n=140) Cronbach Alpha
Management Resource Factor (MG)	12	-	.8076
- Management Subjective MG5, MG6, MG7, MG8, MG9, MG10, MG11	7	-	.8362
Marketing Resource Factor (MK)	12	-	.7007
- Marketing Subjective MK9, MK11	2	-	.7200
Technological Resource Factor (TS)	11	-	.7969
- Technological Subjective T3, T6, T7, T8, T9, T10	6	-	.7607

Management resource factors consist either subjective management resource factor (MGsbj) or objective management resource factor (MGobj). Marketing resource factors are composed of either subjective marketing resource factor (MKsbj) or objective marketing resource factor (MKobj). Technological resource factors also can be separated into either subjective technological resource factor (Tsbj) or objective technological resource factor (Tobj). After separating each resource factor and checking for the Cronbach alpha for all items in each factor, it also makes senses to group these items into the following factors: Management Resource Factor (MG), Marketing Resource Factor (MK), Technological Resource Factor (TS) due to Cronbach alpha above 0.7 in the reliability test.

From Part V of the questionnaires (Financial and Perception about Subjective Performance), a principal component factor analysis is used to group these items into

5 major factors as follows: Financial Performance (FINperf), market performance (MKperf), differentiation performance (DIFperf), growth performance (GROperf), and logistics satisfaction performance (LOGperf). Table 5.2 shows the factor analysis results of both subjective and financial performance.

Factor solution adopted contains no split loading and account for a relatively high percentage of the total variance. Factor results in this study are acceptably robust. The analysis leads the extraction of 5 factors, together accounting for 64.2% of the total variance explain.

Table 5.2: Factor Analysis Results on the Subjective and Financial Performance

Item	No.	Financial Perf.	Market Perf.	Differentiation Perf.	Growth Perf.	Logistics Sat.
ROE	4	.89682				
RFIT (Profit after taxes)	5	.88608				
ROS	3	.87991				
ROA	2	.83712				
ROI	1	.81421				
Exploit Economy of Scales	S12		.67295			
Customer Services	S9		.63707			
Manufacturing/Quality Control	S13		.63183			
Product Design	S11		.60087			
Cost Control	S8		.59579			
Distribution System	S10		.44596			
Technology Development	S5			.80571		
Research & Development	S4			.78773		
Marketing Development	S6			.63383		
Management Development	S7			.52576		
Transfer of Knowledge & Skills	S3			.46593		
Increase in Market Shares	S2				.84864	
Sales Level	S1				.80009	
Near to Raw Material	S14					.76092
Near to Labor Force	S15					.74373
Near to Market	S16					.71358
Eigen value		6.01666	3.01932	1.65792	1.52885	1.26649
%Variance Accounted for		28.7	14.4	7.9	7.3	6.0
Cumulative Variance		28.7	43.0	50.9	58.2	64.2
Cronbach's Alpha		.9268	.7036	.8259	.8509	.7662

Results of Data Analysis

This study uses Cronbach alpha at 0.70 and above because it is an exploratory research. Kaiser-Meyer-Olkin Measure of Sampling adequacy is close to 1, which indicates that samples are high enough to make the result reliable or samples are large enough for using factor analysis. Significance in Bartlett Test of Sphericity is .00000, which means that factors are clustered or grouped in a logical way. In other words, each factor is extracted in a clear and reliable manner. When Eigenvalue is more than 1, it means that factor is significantly interpretable. All factors with Eigenvalue less than 1 are considered insignificant and are disregarded.

As exhibited in Table 5.2 (Construct Confirmation), these factors are labeled: financial performance, differentiation performance, market performance, growth performance, and logistics satisfaction factor. Composite indexes are then summing respective items with each factor.

Financial, market, differentiation, growth performance factors and logistics satisfaction factor can explain 28.7%, 14.4%, 7.9%, 7.3%, and 6.0% of variance of the underline construct respectively. These five factors have total variance explain of 64.2%.

When independent variables are correlated to each other, it cause the multicollinearity or variance inflation, which will explain more variance of the same thing than the actual one. This study takes the correlation into consideration and it is unnecessary to adjust down or deflate common variance explain due to not strong muticollinarity.

One method in the internal consistency is Cronbach's (1982) alpha test. This Cronbach's alpha estimate of reliability is easily calculated for the scores for variables in each group of factors. Therefore, it is possible to purify a scale by examining alternate groups on the basis of their reliability coefficients. The scale constructs from each group of factors with the highest alpha value is likely to be best with regarding to internal consistency.

From Table 5.3: Reliability Analysis for the Financial and Subjective Performance), only financial, marketing, differentiation, growth, and logistics satisfaction performance are reliable because the alpha is greater than the 0.70. Therefore, these performances are used to test for the hypotheses.

Table 5.3: Reliability Analysis for Financial and Subjective Performance

Item	No. of Items	Items Deleted	Sample (n=140) Cronbach Alpha
Differentiation Performance S5, S4, S7, S6, S3	5	-	.8259
Marketing Performance S13, S9, S12, S11, S8, S10	6	-	.7036
Growth Performance S1, S2	2	-	.8509
Logistics Satisfaction S14, S15, S16	3	-	.7662
Financial Performance ROI, ROA, ROS, ROE, Profit after Tax	5	-	.9268

Cronbach alpha commonly used to measure of reliability for a set of two or more construct indicators. Values range between 0 and 1.0, with higher values indicating higher reliability among the indicators.

Cronbach's alpha is assessed using as a measure of internal consistency. Following guideline proposed by Nunnally (1978), an internal consistency value of 0.7 or greater is reasonable for exploratory research. In the current study, the internal consistency values for both FSRs and performance constructs exceed the 0.7 guideline (See Table 5.1 and 5.3), indicating good internal consistency.

As indicated in both Tables, the maximized reliability coefficients are ranging from 0.7007 to 0.8076 for FSRs and from 0.7036 to 0.9268 for Financial and Subjective Performance.

Technology development, R&D, management development, marketing development, and transfer of knowledge & skill variables are consistent in what they are intended to measure at Cronbach alpha of 0.8259 for differentiation performance factor.

Manufacturing/quality control, customer services, exploit economy of scales, product design, cost control, and distribution system variables are consistent in what

they are intended to measure at Cronbach alpha of 0.7036 for market performance factor.

Increase in market shares and sales level variables are consistent in what they are intended to measure at Cronbach alpha of 0.8509 for growth performance factor.

Near to labor force, material or market variables are consistent in what they are intended to measure at Cronbach alpha of 0.7662 for logistic satisfaction factor.

Return on investment, assets, sales or equity and profit after tax variables are consistent in what they are intended to measure at Cronbach alpha of 0.9268 for financial performance factor.

All items have high correlation with the scales to which they are assigned so it can conclude that all items have been appropriated assigned to scales. Item to scale correlation matrix of Pearson correlation coefficients are summarized in Table 5.4 (Internal Validity). The reliability of the multi-item scales is assessed based on coefficient alpha and item-to-total correlations. The items with low item-total correlations or those below a sudden drop off in the item-to-total correlations are dropped.

Correlation matrix of Pearson correlation coefficients are summarized in Table 5.5: Pearson Correlation Matrix (Internal Validity). This table shows that there is not strong a correlation among FSRs, which implies no multicollinarity problem.

There is very low correlation between ownership structures and various types of performance. It can be explained that a reason for firms choosing joint venture is that they do not obtain FSRs and joint venture leads to better performance due to increased FSRs. Firms choose not to joint venture because they already have these firm-specific resources. This can be explained by the resource-based theory, which states that FSRs create competitive advantages to the firm and later contribute to better performance (Tallman and Fladmoe-Lindquist, 1994; Wenerfelt, 1984; Grant, 1991).

On the contrary the relationship between ownership structures and firm performance maybe inverse. The reason why firms choose joint venture because they do not perform well or do not have FSRs. If these firms have assets and capabilities, they will not choose joint venture. This is because they want to keep these resources by themselves or do not want to share the residual with others or be afraid of losing control and earning when choosing joint venture.

Table 5.4: Item to Scale Correlation Matrix for Critical Factors of the Subjective and Financial Performance

Factor	Item No.	Scale Factor 1	N=140 Factor 2	Factor 3	Factor 4	Factor 5
Financial Performance						
ROE	4	**.9048**	.1292	.3194	.2739	.1108
RFIT (Profit after taxes)	5	**.8957**	.1328	.3003	.2646	.1691
ROS	3	**.8994**	.0940	.3291	.2611	.2030
ROA	2	**.8526**	.1575	.3330	.2423	.1961
ROI	1	**.8448**	.0935	.3401	.1460	.1454
Marketing Performance						
Exploit Economy of Scales	S12	.1288	**.6839**	.3046	.2132	.2328
Customer Services	S9·	.0416	**.5961**	.2599	.2389	.1229
Manufacturing/Quality Control	S13	.0582	**.6550**	.3270	.0991	.2076
Product Design	S11	.1650	**.6557**	.4220	.2291	.1776
Cost Control	S8	.1173	**.6498**	.3905	.2173	.2378
Distribution System	S10	.0088	**.5625**	2812	.3144	.1634
Differentiation Performance						
Technology Development	S5	.3867	.3316	**.8080**	.2684	.1592
Research & Development	S4	.3422	.3479	**.8040**	.2365	.1526
Marketing Development	S6	.2593	.3421	**.7630**	.5298	.2393
Management Development	S7	.2265	.5086	**.7697**	.3560	.1677
Transfer of Knowledge & Skills	S3	.1991	.4952	**.6942**	.4395	.1221
Growth Performance						
Increase in Market Shares	S2	.2023	.2920	.4097	**.9289**	.2540
Sales Level	S1	.2977	.3476	.4763	**.9367**	.2044
Logistics Satisfaction						
Near to Raw Material	S14	.1074	.3212	.1754	.2406	**.8131**
Near to Labor Force	S15	.1944	.2110	.2005	.2776	**.7948**
Near to Market	S16	.1308	.1763	.1332	.0507	**.7153**

Also, firms increase risk of imitation from cheating partners who will steal and copy FSRs when selecting JV. Firms want to minimize the cost of contracting or cost of doing business activity. This can be explained by the transaction cost theory (Williamson, 1975). The reason for low correlation between ownership structures and performances is that it may be transaction cost argument not the resource-based view of the firm.

	Mean	S.D.	Ownership	MG	MK	TS	Firm Size	Industry	Trade B.	BOI Pri	GSP	Experf	Fnperf	SalesGw	Diffperf	Mkperf	Gwperf	Logsperf	Overperf	MGobj	Mysbj	Mkobj	Mksbj	Tobj	Tsbj	P2MG	P2MK	P2TS
Ownership	0.643	0.481	1																									
MG	4.133	0.662	-0.1092	1																								
MK	3.407	0.738	0.0326	0.5853	1																							
TS	3.287	0.762	-0.1324	0.447	0.5547	1																						
Firm Size	3.419	1.614	-0.2184	0.262	0.3288	0.4353	1																					
Industry	1.557	0.499	-0.1844	-0.1177	-0.1402	-0.0125	0.1660	1																				
Trade B.	0.557	0.499	0.0557	0.0658	0.0194	0.0495	-0.2094	-0.3317	1																			
BOI Pri	0.614	0.489	0.1750	-0.0883	-0.2496	-0.2892	-0.4183	-0.0566	0.0321	1																		
GSP	0.679	0.469	-0.2257	-0.0560	-0.1544	-0.0274	-0.0448	0.2485	0.0638	-0.0112	1																	
Experf	0.308	1.562	0.0250	-0.1709	-0.1519	-0.1246	-0.1319	-0.0369	-0.1383	0.0881	0.1004	1																
Fnperf	1.976	0.988	-0.0335	0.344	0.1896	0.2345	0.1618	-0.0308	-0.0072	-0.0375	-0.0576	-0.0256	1															
SalesGw	0.323	1.579	0.0256	-0.1667	-0.1487	-0.1182	-0.1301	-0.0382	-0.1392	0.0906	-0.0968	0.9992	-0.073	1														
Diffperf	2.99	0.746	-0.1785	0.4725	0.1455	0.3481	0.1482	0.1273	-0.0120	-0.0897	-0.0731	0.0083	0.3689	0.0094	1													
Mkperf	3.308	0.574	-0.1411	0.283	0.1130	0.2099	0.0323	0.0029	-0.0574	0.0936	-0.0724	-0.0433	0.1372	-0.0451	0.5264	1												
Gwperf	3.036	0.99	-0.2072	0.3521	0.1111	0.1077	0.2915	0.1488	-0.1062	0.1349	-0.0249	-0.0809	0.2694	-0.0748	0.4759	0.3400	1											
Logsperf	3.326	0.668	-0.0453	0.1923	0.2294	0.2349	0.0851	-0.0240	-0.0840	0.0966	-0.0303	-0.1594	0.1865	-0.1595	0.2192	0.0346	0.2449	1										
Overperf	3.293	0.971	-0.1442	0.2663	0.0867	0.1889	0.0479	-0.0274	-0.0023	0.1489	-0.2400	-0.0432	0.3001	-0.0377	0.4115	0.3509	0.3782	0.2841	1									
MGobj	3.249	0.687	-0.0342	0.7728	0.5429	0.4204	0.3522	-0.1132	-0.0040	-0.0967	-0.1031	-0.2180	0.3237	-0.2123	0.2245	0.0882	0.2174	0.1898	0.0756	1								
Mysbj	4.765	0.817	-0.1311	0.9246	0.4867	0.3683	0.1524	-0.0955	0.0937	-0.0044	-0.0159	-0.1065	0.2833	-0.1040	0.5213	0.3401	0.3584	0.1531	0.3244	0.4727	1							
Mkobj	3.213	0.785	0.0752	0.5000	0.9786	0.5213	0.2925	-0.1600	0.0367	-0.2234	-0.1373	-0.1702	0.1450	-0.1675	0.0568	0.0672	0.0207	0.2049	0.0347	0.5237	0.3798	1						
Mksbj	4.379	1.000	-0.1507	0.6307	0.5900	0.4120	0.3088	0.0068	-0.0582	-0.2292	-0.1453	-0.0049	0.2710	-0.0015	0.4220	0.2370	0.4113	0.2122	0.2482	0.3502	0.6656	0.4113	1					
Tobj	2.599	0.943	-0.0678	0.4168	0.5447	0.8965	0.4694	-0.0902	-0.0044	-0.3137	0.0890	-0.1183	0.1818	-0.1019	0.2239	0.1001	0.0625	0.1675	0.0995	0.4739	0.2942	0.5320	0.3258	1				
Tsbj	3.861	0.775	-0.1699	0.3831	0.4476	0.8935	0.3050	0.0889	0.0937	-0.2032	0.0409	-0.1148	0.2385	-0.1098	0.3969	0.2769	0.1308	0.2535	0.2396	0.2773	0.3655	0.4003	0.4122	0.6021	1			
P2MG	3.636	1.107	-0.1921	0.4258	0.3389	0.5367	0.4944	0.0054	-0.0467	-0.2483	0.0084	-0.1724	0.4103	-0.1670	0.4068	0.2458	0.2875	0.0084	0.0866	0.3885	0.358	0.2910	0.3594	0.4558	0.5051	1		
P2MK	3.829	1.240	-0.2843	0.5034	0.3084	0.4789	0.3839	0.0276	-0.0306	-0.2286	0.0407	-0.0973	0.2890	-0.0915	0.3979	0.2936	0.3974	0.1026	0.1854	0.3915	0.4639	0.2321	0.4559	0.3468	0.5115	0.7294	1	
P2TS	3.814	1.267	-0.2395	0.3757	0.3037	0.5971	0.4577	0.1308	-0.0440	-0.3374	0.0562	-0.1624	0.2792	-0.1574	0.3528	0.3850	0.1974	0.0777	0.0855	0.5427	0.3159	0.2491	0.3682	0.4937	0.5756	0.7052	0.6845	

Moreover, there are many purposes when choosing joint ventures. In theory, a firm decides to choose joint venture because of not obtaining these FSRs. In practice, many firms choose joint ventures because the firm just wants to share capital, risk, GSP benefits, BOI privileges or other reasons. The relationship is not so clear (choose JV will bring good performance, or want good performance then choose JV). Therefore, it is not surprising to find not strong correlation between ownership structures and various types of performance.

When there is low correlation between ownership structures and FSRs, it means that there is no multicollinearity problems among independent variables. Table 5.5 indicates that there is quite low correlation between ownership structures and each independent variable.

Table 5.5 also supports that this study can use management (MG), marketing (MK) and technological (TS) resources factors to find out the relationships between FSRs and performance instead of only objective or subjective resource factors as follows: the management objective (MGobj), subjective (MGsbj) resources, marketing objective (MKobj), subjective (MKsbj) resources, technological objective (Tobj) or subjective (Tsbj) resources. This is because, for example, there is a strong correlation of each pair between management resource factors and management objective or subjective resources.

The Difference between Joint Venture and Fully Thai Owned Firms

Table 5.6 compares means difference between joint venture and fully Thai owned firms. All types of firm performances are higher for JV firms. Only differentiation performance, growth performance, market performance and overall performance have the mean difference between joint venture and 100% Thai ownership structure at the significant level of 0.0175, 0.0050, 0.0480, and 0.0410 respectively.

Table 5.6 also shows that both subjective management and marketing resources have the mean difference between joint venture and 100% Thai ownership structures at the significant level of 0.0310 and 0.0380 respectively.

Table 5.6: Comparison of Means (T-test) between Joint Venture and Fully Thai Owned Firms

Type of Ownership	Joint Venture	100% Thai Ownership	Diff.	Sig.T
Performance	(Mean)	(Mean)	JV	
Differentiation Performance	3.17	2.89	+	.0175*
Export Performance	.9312	.9045	+	.1170
Financial Performance	2.02	1.95	+	.3470
Growth Performance	3.31	2.88	+	.0050*
Logistics Satisfaction	3.37	3.30	+	.2975
Market Performance	3.42	3.25	+	.0480*
Overall Performance	3.48	3.19	+	.0410*
Sales Growth	0.29	0.15	+	.1820
Firm-Specific Resources				
Management Resources	4.23	4.08	+	.0995+
MG objective resource	3.28	3.23	+	.3440
MG subjective resource	4.98	3.65	+	.0310*
Marketing Resources	3.48	3.42	+	.3410
MK objective resource	3.25	3.13	+	.1760
MK subjective resource	4.58	4.26	+	.0380*
Technological Resources	3.42	3.21	+	.119
TS objective resource	2.68	2.55	+	.213
TS subjective resource	4.03	3.76	+	.1175

* P-value < 0.05
\+ P-value < 0.10

Multi Discriminant Analysis (MDA)

There is a difference in selecting JV or NJV ownership structure because of the significance in canonical discriminant functions of the multi discriminant analysis. Ownership structure of JV or NJV can be discriminated by predictor variables or two groups are significantly different based on all predicted variables. In other words, difference between JV and NJV ownership structures is significantly different due to the effect of FSRs. Discriminant function is statistically significant at 0.047.

If the result is not significant, it indicates that no difference of ownership structures on the basis of firm-specific resource factor predictors. In this case, it is significant at 0.047. This means that there are the differences in the ownership structures between joint venture and 100% Thai ownership on the basis of firm-specific resource factor predictors.

Mediator Regression

There are various measures of performances. Performances can be measured by financial or non-financial determination. JV comes in various forms with different purpose in joint venture. The measurement of JV performance is not so good since same kinds of performance measurement may not be valid for measuring all or other JV performance. To measure in a common set of dependent variables is not going to work. This results weakness. One way is to avoid problems of JV firms with different purposes when choosing joint venture ownership structure by selecting manufacturing firms that export sales greater than 50% of total sales. In other words. this study will look at one type of firms that are broadly speaking in/at the same purpose and do joint venture. This is why the study selects export firms that do most export and uses these firms as a performance measurement.

Despite a great number of prior efforts to measure performance. in relation to various issues. no consensus on the appropriate definition and measure of the concept has yet emerged (Geringer and Herbert, 1991). Performance in financial respect. however, has been richly used in the measurement (Tomlinson 1970; Lecraw 1984). In the similar attempt, Olson and Singsuwan (1997) measured the performance of strategic alliances. Three financial measures were used: Sales Growth. ROS (Return on Sales), and ROI (Return on Investment). Also, performance can be measured by financial performance in three ways: ROE (Return on Equity, Return on Assets, and Sales Growth (Hamilton and Shergill. 1993).

Dependent variables are either objective or subjective performance. Subjective performances are financial Performance (FINperf). differentiation performance (DIFperf), growth performance (GROperf), market performance (MKperf), logistics satisfaction performance (LOGperf) and overall performance (OVRperf). Sales growth (SALperf) is used as objective performance. Sales growth is often used as a measure of the firm's ability (Slevin and Covin, 1997). There are two types of export performance. Export performance (Experf) is the average export performance of 3 years and export performance (Ex'98) for the year of 1998 only.

Independent variables in Block 1 are all the control variables: Firm sizes, Industry type, Years of operations, Trade barriers, BOI privileges, and GSP benefits. Independent variable in Block 2 is the ownership structures (0=JV, 1=NJV).

Independent variables in Block 3 include all types of FSRs in both objective and subjective. These variables are subjective management resource factors (MGsbj), objective management resource factors (MGobj), subjective marketing resource factors (MKsbj), objective marketing resource factors (MKobj), subjective technological resource factors (Tsbj), and objective technological resource factors (Tobj). Moreover, this study includes management resource factors (MG), marketing resource factors (MK), technological resource factors (TS) and combines these three resource factors into firm-specific resources (FSRs).

The Result of the Mediator Regression

This study uses the mediator regression to test whether the firm-specific resources mediate the relationship between the ownership structures and firm performances or not. There are two steps for mediator regression. First, this study tests whether there is the statistically significant relationship between the ownership structures and firm performances or not. Next, this study checks whether the firm-specific resources mediate the relationship between ownership structures and performance significantly or not. This implies that ownership structures operate through the firm-specific resource factors on firm performance.

From the result of the mediator regression in Table 5.7 and 5.8, the null hypothesis of H_1, H_3, H_4, H_7, H_8, and H_9 is accepted. On the contrary, the null hypothesis of H_2, H_5, and H_6 is rejected.

Table 5.7: Summary of the Mediator Regression shows the results whether there is the difference in performances between joint venture and fully Thai owned firms due to the presence of the firm-specific-resource factors or not.

Table 5.7 shows that in block 2 and 3 for the overall performance, there is the difference between joint venture and fully Thai owned firms due to the presence of the subjective management resource factors. The statistically significant level for the relationship between ownership structures and overall performance is at 0.010. Furthermore, the statistically significant level for these management resource factors is at 0.041 and the statistically significant level for mediator regression is at 0.000.

Table 5.7: Summary of the Mediator Regression

Independent Variables	Overall Perf	Export Perf Y'96-98	Export Perf Y'96	Financial Perf	Sales Growth	Growth Perf	Differentiation Perf	Logistics Perf	Market Perf
	β (T-value)	β (T-value)	β (T-value)	β (T-value)	β (T-value)	β (T-value)	β (T-value)	β (T-value)	β (T-value)
Block 2 Summary									
Ownership Str	-.199*.0267	-.0016**.007	-.0020*.0434	-.0008	-.0003+.098	-.1413*.045	-.132*.0224	-.0042	-.192*.048
Rsquare	.129	.122	.118	.0382	.071	.142	.061	.0240	.040
Sig F	.010 *	.014*	.018*	.590	.10+	.004**	.083*	.857	.081*
Block 3 Summary									
Year of Operation	-.00054	-.0002*.02	-.00020*.035	-.00029	-.00716	-.0013*.03	-.00047	-.000114	-.000082
Industry Type	-.286	-.00358	-.00394	-.121	-.472	.121	.135	.00.35	-.00101
No. of Emp.	.00407	.0010	.00122	.0037	.103	.147 *.013	.0083	.00157	.00366
Trade Barrier	-.156	-.0048*.048	-.0052*.045	-.00254	-.584 *.049	-.00773	-.00627	-.00982	-.00102
BOI privilege	.443 *.014	-.00344	.00388	.128	.197	.00739	.00959	.00260	.123
GSP removal	-.572 **.001	-.0038*.031	-.0036*.098	-.250	-.554 +.07	-.00370	-.00402	-.00206	-.00514
Owenership Str	-.00541	-.00175	-.0021	-.105	-.0065	-.003722	-.0028	-.00194	-.109
MGobj	.00342	.000676	.00117	.415	.381	.214	.006554	.125	.00213
MGsbj	.213 *.041	.00264	.00312	.00435	.235	.225	.406 **.0001	.00717	.188*.033
MKobj	.140	.00274	.00364	.162	.234	.284*.024	.281 **.002	.00586	.00469
MKsbj	.164	.0020+.061	.00195*.02	.168*.017	.386 *.045	.286 *.011	.00730	.00946	.00284
Tsobj	.00091	.00101	.00133	.00556	.168	.145	.00279	.00410	.000894
TSbj	.225	.00342	.00341	.205	.136	.00059	.258	.171	.176
R-Square	.257	.191	.195	.177	.133	.323	.407	.1151	.188
Sig F	.000**	.010*	.008*	.019 *	.131	.0000 **	.0000 **	.3859	.011 *

- ** P-value < 0.001
- * P-value < 0.05
- + P-value < 0.10

Table 5.7 shows that in block 2 and 3 for the 3-year average export performance, there is the difference between joint venture and fully Thai owned firms due to the presence of the subjective marketing resource factors. The statistically significant level for the relationship between ownership structures and export performance is at 0.014.

Moreover, the statistically significant level for these marketing resource factors is at 0.061 and the statistically significant level for mediator regression is at 0.010. However, when using the export performance for the year 1996 only, this performance generates the statistically significant results in the same pattern as the 3-year average export performance as shown in Table 5.7.

Table 5.7 shows that in block 2 and 3 for the financial performance, there is no difference between joint venture and fully Thai owned firms due to the presence of the subjective marketing resource factors. Although the statistically significant level for mediator regression is at 0.019 and the statistically significant level for the subjective marketing resource factors is at 0.017, the significant level for the relationship between ownership structures and financial performance is at 0.590.

Table 5.7 shows that in block 2 and 3 for the sales growth, there is no difference between joint venture and fully Thai owned firms due to the presence of the subjective marketing resource factors. Although the subjective marketing resource factors are statistically significant at 0.045, the significant level for mediator regression is at 0.131 and the significant level for the relationship between ownership structures and sales growth is at 0.10.

Table 5.7 shows that in block 2 and 3 for the growth performance, there is the difference between joint venture and fully Thai owned firms due to the presence of the subjective and objective marketing resource factors. The statistically significant level for these marketing resource factors is at 0.011 and 0.024 respectively. The statistically significant level for mediator regression is at 0.0000. The statistically significant level for the relationship between ownership structures and growth performance is at 0.004.

Table 5.7 shows that in block 2 and 3 for the differentiation performance, there is the difference between joint venture and fully Thai owned firms due to the presence of the subjective management or objective marketing resource factors. The statistically significant level for these management and marketing resource factors is at 0.0001 and 0.002 respectively. The statistically significant level for mediator regression is at 0.0000. The statistically significant level for the relationship between ownership structures and differentiation performance is at 0.083.

Table 5.7 shows that in block 2 and 3 for the logistics performance, there is no difference between joint venture and fully Thai owned firms due to the presence of the firm-specific resource factors. The significant level for mediator regression is at 0.3859. The significant level for the relationship between ownership structures and logistics performance is at 0.857.

Table 5.7 shows that in block 2 and 3 for the market performance, there is the difference between joint venture and fully Thai owned firms due to the presence of the subjective management resource factors. The statistically significant level for these management resource factors is at 0.033. The statistically significant level for mediator regression is at 0.011. The statistically significant level for the relationship between ownership structures and market performance is at 0.081.

Table 5.8: Summary of the Results shows that firm-specific resources are the mediator variable between the ownership structures and firm performance. There is the difference in performances between joint venture and fully Thai owned firms due to the presence of firm-specific resources. These performances are overall performance, export performance, growth performance, differentiation performance, and market performance. Marketing and management resource factors appear quite often for the difference in firm performances between joint venture and fully Thai owned firms. All measurements converge into the same result and conclusion. Therefore, these measurements imply convergent validity.

Table 5.8: Summary of the Results
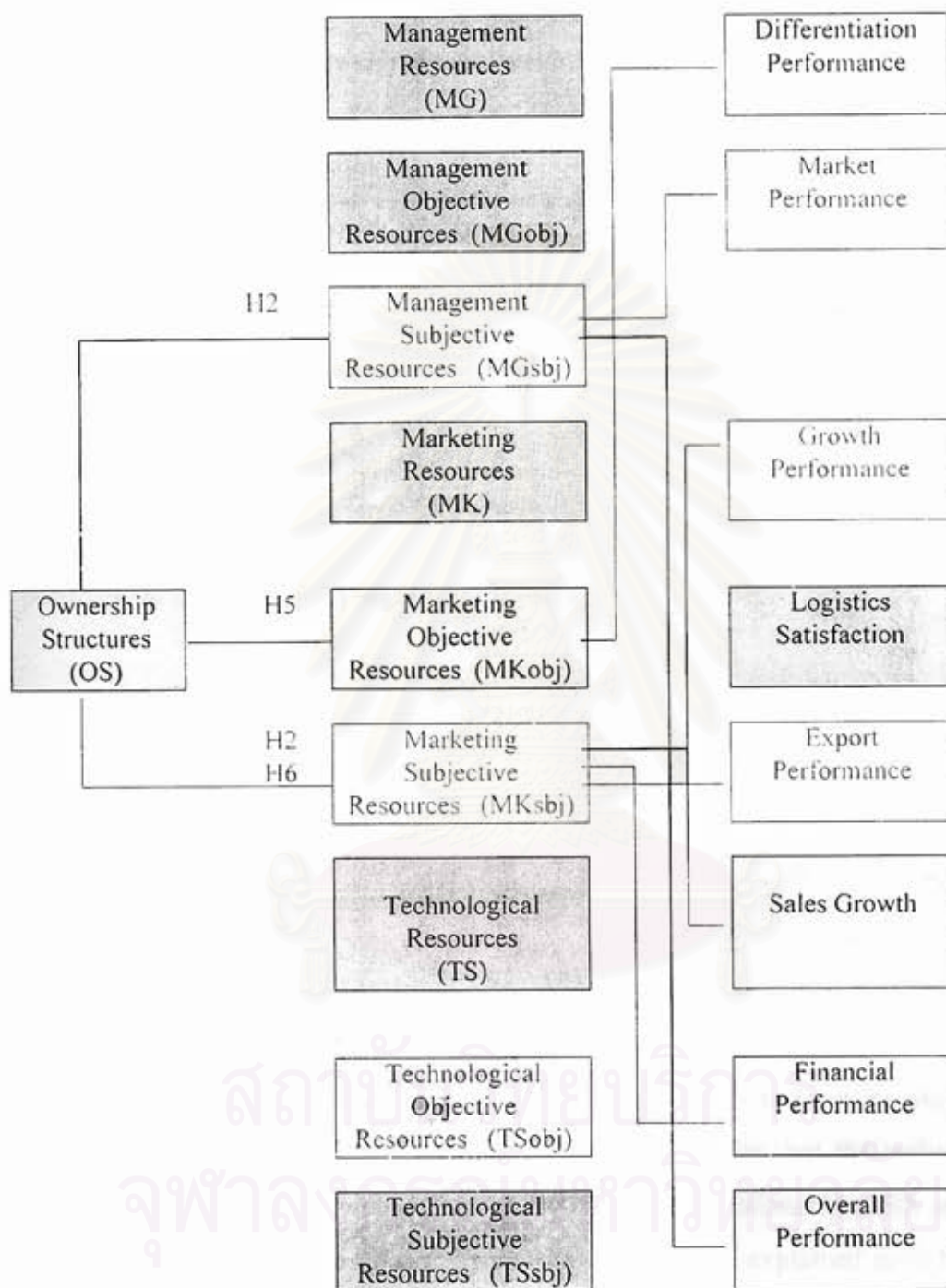
Industry Effect

From the mediator regression, the result shows that industry type is not statistically significant in all hypotheses when testing for firm performance differences between joint venture and fully Thai owned firms.

Firm Sizes

The firm sizes in the mediator regression affect only the growth performance positively at the statistically significant level of 0.013.

Trade Barriers

The trade barriers in the mediator regression affect export performance and sales growth negatively at the statistically significant level of 0.048 and 0.049 respectively.

BOI Privileges

The BOI privileges in the mediator regression affect only overall performance positively at the statistically significant level of 0.014.

GSP Removal Benefits

The GSP removal benefits in the mediator regression affect overall performance, export performance and sales growth negatively at the significant level of 0.001, 0.031, and 0.07 respectively.

Discussion

Management and marketing resource factors appears to have the statistically significant relationships with various types of performances, but the technological resource factors do not have any statistically significant relationships with any types of performance (See Table 5.7 and Table 5.8). This can be explained from the point of the resource-based view of the firm.

According to Barney (1986), resource characteristics that generate the source of competitive advantages for the firm are rare (unique), valuable, and imperfectly imitable. Furthermore, Grant (1991) also indicates four characteristics of resources and capabilities that make the firms become more competitive and these resources result in better performance. These characteristics are durable, difficult to identify

and understand, imperfectly transferable and not easily replicated. Therefore, the different characteristics among types of resources will make the firm performance differently.

Management or marketing resource factors tend to be cumulative (Dierick and Cool, 1989), appreciated over time, unique (difficult to copy/replicated), and value-added to the firm. On the other hand, technological resource factors tend to be depreciated over time and quickly, and easy to imitate. These resources lose value over time and change very fast. For example, management experiences are difficult to be copied and not every organization has the same and good management or marketing resources. These resources take time to be developed and accumulated over times (path dependency). not like the technological resources. The technology for both industries can be bought and imitated easily, such as machinery.

This study confirms the relationship between FSRs with performance according to the resource-based view of the firm. It indicates that FSRs lead to better performance (See Table 5.8). From the result of mediator regression, Table 5.7 shows that it does not confirm all hypotheses of the difference in performances between ownership structures and firm performance due to the presence of the firm-specific resources. This is because many firms with good performance can still choose either joint venture or non-joint venture for various reasons. Therefore, the relationships between FSRs and performance exist more than the relationships between ownership structures and performance (see Table 5.8).

Table 5.7 and 5.8 show that the null hypothesis of H_1, H_3, H_4, H_7. H_8, and H_9 is accepted. On the contrary, the null hypothesis of H_2, H_5, and H_6 is rejected. These can be explained as follows:

There is the difference in overall performance. export performance, market performance, growth performance and differentiation performance between the joint venture and fully Thai owned firms due to the presence of the management or marketing resource factors. Management resources have the statistically significant relationship with these performances. All of the relationships between management or marketing resource factors and performance are positive. This implies that these resources will increase the performance. The management or marketing resources can be obtained or gained from joint venture firms, for example, management or

marketing skills, overseas experiences, English language proficiency for managers, creating brand name, and good services. These resources are transferred through learning from practice and communicating with foreign partners while working together. The detail lists for both management or marketing resource factors are in the content analysis in Part V of the questionnaires.

There is the difference in export performance between joint venture and fully Thai owned firms due to the presence of the marketing resource factors. This is because most firms that choose joint venture in Thailand have the purpose for marketing. From the Table 4.2, it shows that marketing is one of the major reasons for selecting joint venture in Thailand. After joint venture, new markets in Thailand and neighboring countries can be penetrated. Managers can learn marketing skills from partners as you can see the result of the marketing resource factors from the content analysis in Part V. These resources are, for example, marketing policies/planning, overseas market knowledge, high quality and unique product, good customer services after sales, and fast delivery.

There is no statistically significant difference in sales growth between joint venture and fully Thai owned firms due to the presence of the marketing resource factors. The sales growth figures are self-reported. This may cause the bias and we can anticipate the window dressing from financial reports. Moreover, the financial and economic crisis has been occurred since 1997. This crisis causes the closures and bankruptcy of many firms. Also, sales growth figure is not so accurate due to the crisis from the baht currency devaluation and fluctuating exchange rates. Managers use the various exchange rates when responding to questionnaires. This study uses the rate at 25, 40, and 35 baht per US dollar for year 1996 to 1998 respectively. These may be the reasons that make the relationship does not exist. However, subjective marketing resources factors still affect the sales growth at the statistically significant level at 0.045.

The result shows that various types of FSRs have no impact on logistics satisfaction performance. This is because managers may consider that the logistics factors are not so important as compared to other factors. These logistics policies are near to raw material, labor force, and the market. Thailand is still rich with natural endowments, cheap labor cost and a lot of unemployment people. Thailand is also the

gateway for the ASEAN markets due to location specific advantages and recently, Thailand has been traded with neighboring countries more than before. Therefore, logistics satisfaction performance may be not so important for Thai managers.

Table 5.7 also shows that technological resource factors have no statistically significant relationships with firm performance in any hypotheses. This is because both industries are still using outdated technology which was imported along with their old machinery or both industries are in labor intensive. Domestic technology development is lacking, resulting in 1). low productivity and quality, 2). lack of product upgrading and product development, hence inability to increase value-added, and 3). lack of long-term plan for technology development. World Competitiveness Yearbook (1997) indicates that technology for Thailand is ranked at the 40th out of the 53 countries in the global competitiveness. This position is even lower that the Indonesian and Philippines.

According to the resource-based view, technology in both industries is not unique to the firm and easily to be copied or imitated. That is another reason why technology does not mediate the relationship between ownership structures and performance significantly.

Management Resource Factors

The null hypothesis of H_2 is rejected. It implies that there is the difference in subjective performance between joint venture and fully Thai owned firms due to the presence of management resource factors. These subjective performances are differentiation performance, overall performance, and market performance. Management resource factors appear quite often for the performance differences between joint venture and non-joint venture. Therefore, this measurement is convergent validity. There are many reasons to explain why management resources are important factors to performances under different ownership structures.

A company that clearly reinforces international activities in its human resource management practices (particularly for managerial and professional employees) is more likely to do better in its export attempts. Human resource management strategies have a significant effect on a firm's subsequent performance. Human

capital is important for each company. Most firms see the importance of the human resources by providing training. The number of days for management training is 1-10 days per year which is quite low. For example, Siam Cement Group Company has at least once a month for the management training. Each training is at least 2 days. Management needs training. Policies for well-known companies such as Shell or ESSO oil company indicate explicitly that training is required at least 10% of working days of 200. The more training managers have, the more opened mind they are. With more training, these managers will become more professional in management. They can see more importance of the total quality management, teamwork, communication skills, quality labor force, education, and etc. There are average of 12 persons in management team. The average managers for joint venture and fully Thai owned firms are 13 and 11 respectively.

A higher level of education in the population means that people can learn or have more knowledge. Education was surely a key ingredient in the success of four of the fastest growing East Asian economies, such as Hong Kong, the Republic of Korea, Singapore and Taiwan.

Most management education level in this study is bachelor degree level. Educated managers will see the importance of the education. Education is the key to creating, adapting, and spreading knowledge. Basic education increases people's capacity to learn and to interpret information. But that is just the start. Higher education and technical training are also needed, to build a labor force that can keep up with a constant stream of technological advances, which compress product cycles. And outside the classroom, people's working and living environments are the setting for still more learning, well beyond the ages associated with formal education. From 1980 to 1995, Thai government has increased public expenditure on education from 3.4% to 4.2% of GNP[3].

The management overseas experiences are quite high of 10 - less than 15 years. According to World Competitiveness Yearbook (1996), experiences of the upper management for Thailand in international business are ranked at the top 10 which was very high. Findings of Katsikeas (1994) and Erramilli (1991) also

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[3] World Development Report 1998/1999, Knowledge for Development, The World Bank

indicate that the scope of such experience plays an important role in export marketing behavior. It has been theorized that knowledge gained through experience from business operations in a specific overseas market generates business opportunities and is consequently a driving force in the internationalization of the firm (Johnson and Vahlne, 1990). Overseas experiences allow firms to gain more knowledge of the foreign markets and to improve their own capabilities. For example, the manufacturing process can be improved by cutting cycle time from 4-6 months to 30-33 days, reducing inventory from 5-6 months to 6-8 weeks and cutting down non-value-added products[4]. Hence, this can be done by overseas experienced management.

This survey shows that English language proficiency of the firm's managers or executives is somewhat above average. Language is used to communicate among people. English is an important international language and may in export situations be the basis for the majority of international communications. If managers can write and speak English effectively, the communication block between managers and overseas clients is reduced. This results less miscommunication. Also, customers are sure and satisfied with the terms or conditions of an agreement and not afraid of a problem of misunderstanding.

The key factor for success in exporting is frequent/consistent communication with foreign distributors, according to Alexander T. McMahon of Lukens Medical Corp. At the minimum, exporters should be in touch with their foreign distributors once a week. McMahon finds that the amount of return on Lukens' foreign sales efforts is in direct correlation to the time and effort put forth in getting to know the company's distributors.

The management attitude toward exporting to overseas markets appears quite good from the survey. The attitude of managers towards export is very important for gaining export success (Cavusgil, 1984a).

Gronhaug and Lorenzen (1982) find high positive correlation between management involvement and export performance among Norwegian exporters. Dominguez and Sequeira (1993) find that management commitment is affirmed as a

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[4] Harry Lee, managing director of Hong Kong-based TAL Apparel Co. Ltd. and William Fung, managing director of Group of Li and Fung Ltd., guest speakers of Thai Garment Manufacturers for a seminar

major determinant of success. This study indicates that management commitment to exporting/management involvement with export activities is somewhat above average.

Management of overseas channel relations, use of export market information and product-service quality appear to be the main determinants of export performance (Dominguez and Sequeira, 1993). Good personal contact with the market and close relationships with channel members enhance the firm's capability of careful planning and controlling of the export activity.

From the survey, the result shows that both the magnitude of personal contacts with foreign customers and the ability of managers to respond the changing markets are above average. Also, the flexibility of executives in decision making in the changing environments such as in technology or financial is above average. The management connection between the firm and outside parties, such as political groups, government officers, or other business groups is average. The company hire specialists, experts or consultants in management each year is one time on the average.

The management standard, such as ISO or HACCP is none for most companies in Thailand (See Table 4.2). Most firms are on the process of applying for standard management certificates. Acquiring these standard certificates requires management to have visions in competition in the changing global markets.

ISO is like a vaccine to protect and strengthen our manufacturing sector. It helps improve competitiveness, enhances productivity and cuts costs. ISO certification helps broaden market opportunities and reduce trade barriers. Tawee Butrsunthorn, chairman of the Federation of Thai Industries, said that ISO would improve management systems in the manufacturing sector and boost overall efficiency.

Thai exporters might find that achieving the ISO standard is just the beginning in their quest to make their goods more marketable abroad. Some companies will need integrated standards in line with their customers' real needs, rather than purchasing certification that is not relevant. It makes sense for customers to design quality management standards that are pertinent to their needs. For example, 14

on "How to stay competitive beyond the year 2000"

major UK retailers now have a consortium to issue technical standards for companies supplying food to British distributors.

ISO 9000 series is a group of international standards comprising both quality management and quality assurance. These standards can be applied to almost any size organization in virtually all industries. They based upon the principle of establishing a foundation for quality practices that is internationally accepted.

For example, Thai food exporters expecting to enter the UK market must understand the British retailer's standards, accreditation systems and industry players. Food products must be audited by the United Kingdom Accreditation Service. In addition, facilities are inspected by the European Food Safety Inspection Service (EFSIS) before products are allowed to be shipped to the UK. In Europe, food quality assurance systems have a tendency to move toward an integrated management system. The integrated standard removes redundancies and save costs incurred in being assessed by different inspectors for ISO 9001, ISO 14000 and other standards.

Moreover, manufacturers had to closely monitor the changes in the ISO 9000 series, which would take effect next year. In the past, the ISO system focused on meeting customer expectations. A company with a poorly documented management system and producing consistently bad products could still achieve certification. The new standard asks for business performance improvements. Companies must be able to formulate goals, measure them and improve the management system on a regular basis.

ISO 9002 indicates quality standards and enable the company to offer global standards of quality, reliability and efficiency. Each company implemented the ISO 9002 quality management system to assure their customers that the company's products are of the highest quality. In order to be competitive in the international business arena, it is important to offer efficient and effective services, as well as top quality products. The ISO 9002 certificate is the stamp of global approval, which assures customers around the globe that an ISO 9002 certified manufacture produces goods of high quality with advanced production technology.

In the food industry, the retailers expect exporters to have HACCP (Hazard Analysis Critical Control Point). It covers factory environment, product and process

control, and personnel. For quality management systems, suppliers must have a quality policy statement, manual, supplier performance monitoring and more.

The HACCP system will be used at farm gates. Farmers will also be required to control the amount of fertilizers and chemicals to reduce nitrate levels. HACCP focuses on identifying and preventing hazards from contaminating food. It places responsibilities for ensuring food safety appropriately on food manufacturers or distributors, and helps food companies compete more effectively in the world market.

Summary for Management Resource Factors

Most of items in the management resource factors for both food and garment & textile industry are above average (See Table 4.4). The result shows that the null hypothesis of H_2 is not accepted. Therefore, there is the difference in performance between joint venture and fully Thai owned firms in the presence of management resource factors

The management resource factors that affect the performance include all the following items: the management commitment, management involvement, management attitude toward exporting, the English language proficiency of the firm's managers or executives, the magnitude of personal contacts with foreign customers, the ability of managers to respond the changing markets, the flexibility of executives in decision making in the changing environments, the management connection between the firm and outside parties, management overseas experiences, management education, management training and ability to obtain management standards.

Marketing Resources Factors

The null hypothesis of H_5 and H_6 are rejected. It implies that there is the difference in subjective and export performance between joint venture and fully Thai owned firms due to the presence of marketing resource factors. These subjective performances are growth performance, export performance, and differentiation performance. Marketing resource factors appear quite often for the performance differences between joint venture and non-joint venture. Therefore, this measurement

is also convergent validity. There are many reasons to explain why marketing resources are important factors to performances under different ownership structures.

These marketing resource factors include both objective and subjective marketing resources. The result shows that the percentage of the expenses for research and development in marketing is less than 1% of total company sales while the percentage of the budget for advertising and sales promotion is 1-2% of total company sales per year. Kirpalani and MacIntosh (1980) find firms that believed promotion in export markets is an important activity achieve higher levels of export sales than those that emphasized promotion less.

On the average, in this study, the company hire specialists, experts or consultants in marketing once a year. The number of days for marketing training for sales personnel in a firm is 1-10 days per year. The training helps management teams gain more information on production, marketing and industry prospects to cope with intense competition in the future. There are average of 6 marketing personnel for each company. The average marketing personnel for joint venture and fully Thai owned firms is 7 and 5 respectively.

The overseas market coverage or the number of foreign markets for each company is 5 from this survey. To be in several markets with many products may reduce a firm's vulnerability. Gronhaug and Fredriksen (1988) find that besides having more resources, larger firms offer more products and operate in more markets than their smaller counterparts. In other words, due to greater resources and experiences with many products and markets, introduction of new products and entry into new markets will probably be easier for larger firms than for the smaller and inexperienced ones because these smaller firms have to limit their allocations of resources and activities to fewer products and markets.

The survey result shows that the number of unique product lines that a company has is 3. The number of rewards, certificates, or medals, such as Quality Certification, Prime Minister's Export Award that each company obtains is 1. The number of members of association or institutions, such as the Federation of Thai Industries, DEP, or Chamber of Commerce that each company obtains is 3. The more rewards each company has or the more members of associations each company are in, the more reputation these companies are. According to Exporters Review (1997),

reputation is measured from the numbers of awards, certificates, medals or the number of members of association or institutions that a company obtains.

The quality certification system benefits importers as the exported food products need not to be thoroughly examined by custom officials. For example, in Japan, under normal procedures, products must be kept at Japanese ports for seven days for laboratory testing before released to importers. However, products bearing certification are permitted into the country within one day of arrival. Importers can save time and money because they do not have to leave the food products in a cold storage warehouse at the port for a long time. Pre-certification is a quality certification system under which food exporters have to apply if they want to speed up delivery of their products to Japanese importers. To receive certification, the products need to be examined from the outset of the manufacturing process to ensure that quality is met under the Japanese food sanitation law.

The level of overseas market knowledge is above average. The percentage of customer complaints in after sales services for a company is less than 1% per year. The new market extension for a company in each year is 3. The marketing policies/planning for export is above average.

Summary for Marketing Resource Factor

The result shows that the null hypothesis of H_5 and H_6 are not accepted. Therefore, there is the difference in subjective and export performance between joint venture and fully Thai owned firms in the presence of marketing resource factors.

The marketing resource factors that affect the performance include all the following items: the budget for advertising and promotion, the number of times per year for a company that hires specialists, experts or consultants in marketing, the expenses for research and development in marketing, the overseas market coverage, the marketing training for sales personnel, the number of unique product lines, the numbers of rewards; certificates; medals; or the number of members of association or institutions that each company obtains, the level of market knowledge of overseas markets, the customer complaints in after sales services per year, the marketing policies/planning for export, and the number of new market extensions.

Technological Resource Factors

Technological change that is diffused can potentially improve or erode industry attractiveness. Changing technology rapidly will change the way of doing business. Moreover, technology also helps reducing the cost and time in doing business in order to remain competitive advantages. The Electronic fund transfer (EFT), electronic data interchange (EDI), teleconferencing and telecommunications, for example, have changes the way managers work and interact.

Thailand is currently undergoing a transition from low-end manufacturing to a mid-to-hitec-based structure. This is a major significance and continues the transition from agriculture to textile which began in the 1960s. Like any transition, there will be difficulties as older industries decline faster than new ones become fully established. Computer parts have replaced textiles as the largest export item and high levels of investment are flooding into new sectors of the economy, particularly electronics and automobiles. Thai government believes that implementing new manufacturing technology will help add value to the products. The world becomes an information-rich, computer-rich, and communication-rich. In addition, new technologies always bring about a lower cost of production and leaner organization.

People, firms, and countries use technical knowledge to improve their efficiency in the production of goods and services. There are a number of inherent weakness in Thailand's industrial sectors. The majority of enterprises are still using outdated technologies which were imported along with their old machinery. Domestic technology development is lacking, resulting in:- low productivity, low product quality, lack of product upgrading and product development, hence inability to increase value-added, lack of long-term plan for technology development.

Adoption of an innovation increases market power, via higher product differentiation. There is a tradeoff between the expected benefit and the direct cost from earlier adoption. A firm achieves a higher increase in its profit by adopting earlier. In contrast, the passage of time decreases direct cost of adoption (Unal, 1994). Creation and adoption of technological innovations can influence firm's performance, which may lead to changing industrial structure. Improved firm performance may lead to higher market shares and elimination of competitors.

The country with persistent technology has more competitive advantages than the others. In the textile sector, the Americans have continued to enjoy export success. Their productivity, based on relatively high technology and capital-intensity, sets world standard.

The result from this study shows that technological resource factors are not statistically significant to any types of firm performances. This can be explained that the selected industry for this study is labor intensive, not the technology intensive like electronic or automobile industry. Or, the sample firms from the responded group are too small since there is no firms that choose joint venture for the only purpose of technology as shown in Table 4.2. Reasons for joint venture vary. Most firms choose joint venture for various reasons at the same time, such as management, marketing, technology, and production.

On the average, these technological resource factor characteristics are shown below:

The frequency for a company to hire specialists, experts or consultants in technology is once a year. There is average of 5 technician or technological personnel. The average technician for joint venture and fully Thai owned firms are 7 and 5 respectively. The ability in innovation of the new product is below average. The number of product lines that a company export is 1-2. The number of days for technology training is 1-10 days per year. The percentage of reduction in operational costs is 1-2% per year. The level of technological advancement, the level of difficulty to imitate or copy the products by competitors, the degree of new product adaptation, the degree of product development, and the degree of product differentiation are average. The percentage of the budget for research and development is less than 1% of total company sales.

Summary for Technological Resource Factors

The null hypothesis of H_7, H_8, and H_9 are accepted. It can be concluded that there is no difference in objective, subjective and export performance between joint venture and fully Thai owned firms due to the presence of technological resource factors.

The result shows that these technological resource factors have no effect on firm performances in any hypotheses statistically. However, items in the technological resource factors are still higher for joint venture firms than fully Thai owned firms.

The technological resource factors are the budget for R&D expenditures, the degree of innovation, the number of technical staffs/technicians, the frequency of hire in technological experts (specialists) or consultants, the number of product lines, the number of technical personnel training days, the ability to reduce operational costs with technology, the technological advancement, the level of difficulty to imitate or copy the products by competitors, the degree of product adaptation, the ability of product development and the number of product differentiation.

In the food industry, technology is quite low and nothing is new in processing procedures. In the garment and textile industry, it is most likely a labor intensive one and technology is outdated. Most machine and equipment for this industry are quite old and average ages are more than 10 years. Also, 80% of equipment for textile industry still are shuttle loom. Shuttleless loom has speed three times faster than the shuttle loom. More than 90 % of the machines for printing and dyeing are old. They will consume water 5 times more than the machines being used in the developed countries (MOI, 1998). Most firms have employees more than 200. Both industries are still being use low technology or have mature technology. Moreover, they are labor intensive industries.

When foreign firms choose joint venture with local Thai firms, they intend to look for new markets, cheap raw material, low labor cost, or inexpensive production bases in the host country. They do joint venture with less or on intention of transferring marketing and management expertise or technology to local firms, but they just want to extend their market shares or find the cheap labor costs for manufacturing bases. Therefore, management, marketing, and technology are transferred mostly by practice, not by the intention as in theory.

Thai labor force has relatively little formal education of average 4 years in school. According to Ministry of Industry, approximately 3/4 are unskilled labor, posing an obstacle to the upgrading of product quality and productivity, as well as the assimilation of new production technologies and machinery. Enterprises will need to

update much more regularly the skills mix of their employees to respond to the opportunities or threat created by globalization and rapid technology change.

In general, firms that have specific technology tend to keep technology to themselves. Even though foreign firms would like to transfer technology, local people may have low abilities to learn or gain technology transfer from foreign partners.

Industry Effect

The result shows that industry type is not statistically significant in all hypotheses when testing for firm performance differences between joint venture and fully Thai owned firms. In other words, industry effect is not important in explaining JV-NJV performance difference. This JV-NJV performance difference may be generalized in these two industries or labor-intensive industries because the type of industry is not statistically significant in all cases to explain JV-NJV performance differences. This implies that there is no systematic industry effect in all cases. For other industries, generalizability of JV-NJV performance difference cannot be absolutely implied. This is because other industries, such as electronics or automobile industries may have different characteristics or emphasize in advance or high technology.

Environmental Factors

Environment factors include trade barriers, BOI privileges, and removal of Generalized System of Preferences (GSP). The result shows as following.

Tariff is a customs duty or a tax on products that move across borders. Tariff barriers include both import and export tariffs. Non-tariff barriers include many issues such as customs and entry procedures, product requirements, quotas, environment protection issues, etc. Laird and Yeats (1989) have documented the spread of non-tariff barriers from 1966 to 1988 that have been applied unevenly across countries and industries sectors. Tariffs, though generally undesirable, are at least straightforward and obvious and they decline in importance. Non-tariff barriers are more elusive or nontransparent and have become more prominent. Both barriers are

an obstacle for penetrating to overseas markets and have affected on the firm performance.

Trade barriers have affected the export performance and sales growth negatively. This is because when foreign governments use either tariff or non-tariff barriers, they will decrease export sales directly and negatively (See table 5.7).

For example, the United States bans on Thai shrimp exports by claiming that Thailand fails to use turtle exclusion devices (TED) in fishing operations. Environmentalists have been behind the USA bans on shrimp imports and have been claiming that failure to equip shrimp nets with TEDs results in the death of 150,000 endangered turtles a year. In fact, Thai fishing operations do not endanger sea turtles and most shrimps are raised in farms and up to 80% of Thai shrimp exports is cultivated in farm and only the less 20% is caught from sea.

Another example is the recent imposition by the European Union (EU) of an international agreement on dolphin preservation. The Thai tuna industry is among those certain to feel the impact soon, probably including having to meet a requirement for "dolphin safe" labels on every can of tuna exported to the EU.

Moreover, Australia has also applied non-tariff barriers on Thai exports, including a several years long ban on Thai cooked chicken which cites sanitary reasons. The Australian Animal Quarantine Policy Branch duly declared that de-boned chicken must be cooked at 74-80 degrees Celsius for 125-165 minutes[5]

The BOI privileges have affected overall performance positively. This can be explained why overall performance is better under the BOI privileges. When the government offers tax incentive to foreign firms, these firms are persuaded to invest in Thailand. Then management or marketing resources are transferred from joint venture. These resources will make overall performance better. For example, Just-In-Time (JIT) management from Japanese partners will help reduce costs of inventories and make the firm have more productivity in using resources.

The GSP removal benefits have affected overall performance, export performance and sales growth negatively.

GSP or privilege tax system, provided by developed countries for developing countries, is applied when exporting from developing countries into for developed

countries. GSP is generalized, non-reciprocal and non-discriminatory. GSP benefits Thailand as follow: GSP helps Thailand in exporting and allows new Thai products to penetrate in those developed countries. GSP also promotes the manufacturing, especially industrial products. This will induce the investment, job creation, and increase the economic growth. Moreover, GSP supports the use of the domestic raw material and local value-added according to the criteria of rules of origin.

The removal of GSP will affect Thailand. Frozen shrimp is the semi-sensitive product which gets the most effect from GSP removal since it used to be applied the tax reduction of 65% from the normal rate. The normal tax rate is 13.2%, but under GSP system, the tax rate is 4.5%. GSP for canned fruit to the European Union (EU), such as pineapple has been removed since January, 1999. Thailand has been facing a non-competitive price and a declining market. However, it is coincident that Thailand has been facing a short supply of fresh pineapple.

Frozen shrimp exports to EU are expected to fall as a result of the abolition of tax privileges under the Generalized System of Preferences (GSP). Thai frozen shrimp exports is now in a very critical condition. Exporters are now subject to EU import tariffs of between 15 to 20 % since the GSP cut was made at the beginning of this year according to Somsak Paneethayasai, vice president of Thai Frozen Foods Association, comparing to about half of such rates earlier. The EU market has started to turn to cheaper frozen shrimp from Malaysia, Indonesia, Vietnam and India, which still enjoy GSP privileges. It is difficult to find new markets at present as Thai exporters have already penetrated most of those in the world. Apart from shrimps, the EU also cut GSP privileges on several other export items, including crab, squid, flowers, corn, beans, and vegetables. This situation will severely affect the country's agricultural sector.

The GSP was created to help developing countries. If the EU considers the issue fairly, it will find that tariffs on products from Thailand are higher than on those from South Korea, Malaysia, Philippines, and China. The economies in those countries are similar or even better than Thailand's, so there is no reason Thai products have to face higher tariffs. The tariff on fruit cocktail from Thailand had risen to 29.3% from 19.8%, while the foreign competitors' product is being taxed at

⁵ Suvicha Pouaree. "Trade rules for the rich?." Bangkok Post Perspective. Sunday, August. 1, 1999. pp. 1.

only 10%. Thai black tiger prawns to EU is now being taxed at 14.4% compared with 4.6% for prawns from some other developing countries.

Philippines and Malaysia do not produce shrimp at lower costs but the lower tariff is a major factor that has caused the relocation of shrimp farming. Thailand is expected to export fewer shrimp this year partly because there has been a disease problem that results in a declining production and export. Therefore, the prices of Thai shrimps are quite high in the EU because of those coincidence, production reduction and higher tariffs. Removal of GSP benefits takes much effects on farmers because processing factories had lowered their buying prices for fresh products.

Firm Sizes

Firm sizes have affected the growth performance positively. When there are more employees for a firm, the growth performance is better due to the increased sales and market shares. Employees are the resource of the firms. For joint venture firms have more employees in management team, marketing personnel, R&D personnel and technician than the fully Thai owned firms. These skilled personnel can help reduce production costs and set good strategies/plans to work more efficiently.

Furthermore, there is consensus that larger firms posses more managerial and financial resources, have greater production capability, attain higher levels of economies of scales, and tend to be associated with lower levels of perceived risks in export operation (Bonaccorsi, 1992). Also, Gatignon & Xuereb (1997) and Narver & Slater (1990) indicated firm sizes are the resource advantage that can use to compete and affect strongly to performance.

Therefore, it is reasonable to expect the larger firms are likely to enjoy more competitive advantages in export markets as contrasted with smaller firms.

Year of Operation

The number of years of operation negatively impacts export performance and growth performance at the statistically significant level of 0.02 and 0.03 respectively. Joint venture firms and fully Thai owned firms have average years of operation of 12 and 17 years old respectively. The joint venture firms that are younger than fully

Thai owned firms perform better because joint venture firms have more skilled employees in management, marketing and technology. The result also shows that the number of skilled employees in joint venture firms is statistically significant difference from fully Thai owned firms. These skilled employees can adjust themselves to the fast changing environment, acquire new technology to improve the production efficiency and reduce the production costs, and can contribute to better performance. Therefore, the joint venture younger firms can reduce the production costs that result in price competitiveness. Therefore, this results in better export and growth performance.

Summary of the Discussion

This chapter discusses the result of data analysis of all hypotheses. Only management and marketing resource factors are the mediator variables between the ownership structures and firm performance. The mediator regression result shows that technological resource factors do not have any statistically significant relationship with firm performance. Environmental factors, years of operation and firm sizes also have affected the firm performance statistically. Next chapter includes implications of the findings, limitation of this study, directions for future research, recommendations and conclusion of the study.