Chapter 4

Data Analysis and Discussion of Findings

This chapter describes usable data, the evaluation of the measures, and data analysis technique.

1. Usable Data

390 questionnaires were sent. The questionnaires for 27 firms were returned as undeliverable. There was a total of 109 returned questionnaires, for a response rate of 30.0%. However, of these, 6 questionnaires were not usable because there were either too many missing values or the respondent firms were not under the scope of study. Thus, a total of 103 questionnaires were completed and resulted in 28.4%. Of 103 questionnaires, 10 returned questionnaires from the pretest mentioned in Chapter 3 were redone by respondents in order to keep an enough number for analysis. 20 non-returned questionnaires from pretest mentioned in Chapter 3 were sent again. Therefore, a total 390 questionnaires were conducted. (See Table 4.1).

Table 4.1 Usable data

Questionnaires sent	390
Deduct the undeliverable questionnaires	*27
Mail reached	363
Mail replied	109
Unusable questionnaires	**6
Usable questionnaires	103
Population response rate	30.0%
Usable response rate	28.4%

Note: * Mail returned due to business quit, changing address, or unclear address.
** Unusable questionnaires due to non-international companies or too many missing values.

Bourque and Clark (1991) note that researchers should attempt to evaluate how non-response subjects compare with subjects for whom data exists if there is appreciable non-response. One common check is to compare the demographic characteristics of the sample with those of the population from which it came. Data received from companies which respond only after repeated contacts resembles non-respondents (Armstrong and Overton, 1977). Therefore, the potential non-response bias is assessed by comparing early respondents (n=70 before January 30, 2000) with late respondents (n=33 after January 30, 2000 until February 29, 2000) The demographic characteristics of years in business is used to test non-response bias. Years in business can imply development of international strategy and human resource management practices of companies (Heenan and Perlmutter, 1979). A Levene test for homogeneity of variance and a t-test for equality of means of the two groups are performed by using SPSS 7.5. No significant difference in either variances (observed significance levels at 0.57) or mean scores (observed significance level at 0.76). are found between early response and late response. This can indicate that there is no non-response bias. The usable questionnaires appear to be representative of the population.

Table 4.2 shows the frequency counts between nationality of shareholders and percentage of foreign shareholders. Most foreign shareholders hold 100% of shareholders. The characteristics of respondents are summarized in Table 4.3. The nationalities of major shareholders are Japan and Thai which take 31.07% and 30.10% respectively. The US invest in the companies in the Thai electronics industry approximately the same number as European and Australia have approximately the same amount of investment as the European and Australian. About half of the respondents have 100% foreign shareholders. The majority (69.90%) of the respondents have established business in Thailand from 6 to 15 years. The number of foreign executives is in a range from 1- 3 persons accounted for 56.31% of the respondents.

Table 4.2: Frequency Counts between Nationality of Shareholders and Percentage of Foreign Shareholders

Nationality of Major Shareholders	Percentage of Foreign Shareholders			Total
	0-49	50-99	100	
Asian excluding Japanese and Thai		7	12	19
European and Australian	1	3	7	11
Japanese		9	23	32
Thai	29			29
USA		3	9	12
Total	30	22	51	103

Table 4.3 Characteristics of Respondents

Characteristics of respondent	Frequency	Percent
Nationality of major shareholders		
Asian excluding Japanese and Thai	19	18.40%
European and Australian	11	29.10%
Japanese	32	60.20%
Thai	29	88.30%
USA	12	11.70%
Total	103	100.00%
Percentage of foreign shareholders		
0-49	30	29.13%
50-99	22	21.36%
100	51	49.51%
Total	103	100.00%
Range of year established		
Missing value	3	2.91%
0-5	14	13.59%
6-10	37	35.92%
11-15	35	33.98%
16-20	5	4.85%
>20	9	8.74%
Total	103	100.00%
No. of foreign executives		
Missing value	8	7.77%
0	3	2.91%
1-3	58	56.31%
4-6	18	17.48%
>=7	16	15.53%
Total	103	100.00%

2. Evaluation of the Measures

The survey instrument is developed by using multiple-item measures to reduce the possibility that a single item might be misinterpreted (Tallman et al., 1997). Churchill (1995) notes that every multiple-item measure is subject to a purification process. The purification involves eliminating items that seemed to create confusion among respondents and items that do not discriminate between subject with fundamentally different position on the construct. Thus, to confirm the measures applicable to this study, it is essential to examine their reliability, and validity. The following section explains reliability and validity.

Reliability

The reliability of the multiple-item scales is assessed by its internal consistency and unidimensionality. The internal consistency of the multiple-item scales is assessed based on coefficient alpha and item-to-total statistics. Next, according to the recommendation of Gerbing and Anderson (1988), a factor analysis is used to assess the unidimensionality of each set of items. This purification process of unidimensionality also entailed a series of validity checks of concurrent validity and discriminant validity (Heide and Weiss, 1995; Peter and Churchill, 1986).

1. Internal consistency

The internal consistency method assesses the homogeneity of a set of items. The basic rationale for the assessments rests in the fact that items in a scale should behave similarly (Davis and Cosenza, 1993; Churchill, 1995). The internal consistency of the multiple-item scales is assessed by coefficient alpha and item-to-total statistics. Coefficient alpha, so called Cronbach alpha, provides a summary measure of the inter-correlation that exists among a set of items. This examination offers some initial information on behavior of measurement and helps to point to problems, prone constructs, and questionable measures. A high value of alpha

supports high reliability (maximum value being 1) and a low value indicates low reliability (minimum value being 0.0). Nunnally (1967) notes that reliability measures should exceed 0.50 for a minimum degree of internal consistency. If alpha is low, items with correlation near zero or items that produce a substantial or sudden drop in the item-to-total correlation would be deleted (Churchill, 1995). It is because those items might not share equally in the common core. Thus, they should be eliminated.

2. Unidimensionality

Unidimensionality is an assumption underlying the calculation of reliability and is demonstrated when the items of a construct have acceptable fit on a single-factor solution (Hair et al., 1995). The unidimensionality of each multiple-item scale is assessed by using the principal component analysis and extracting factors with eigenvalues greater than one, with the varimax rotation, and with the examination of the factor loadings for each scale (Rindfleisch, 1997). If there is no correlation between any variables, there is no principal component because every component is as good or bad as the other; each is account for only a unit variance (Kim and Mueller, 1990). The eigenvalues are used both as a criterion of determining the number of factors and a measure of variance accounted for by a given dimension (Kim and Mueller, 1990). Only the factors having eigenvalues greater than 1 are considered significant. All factors with eigenvalues less than 1 are considered insignificant and are disregarded. The rationale for the eigenvalues criterion is that any individual factor should account for the variance of at least a single variable if it is to be retained for interpretation (Hair et al., 1995). The cumulative percentage of the variance are also inspected to ensure practical significance for the derived factors (Hair et al., 1995). The cumulative percentage of the variance indicates the linear combination formed by the factor.

Factor loadings are the correlation between the original variables and the factors, and the key to understand the nature of a particular factor (Hair et al., 1995). Factor loadings that are .50 or greater are considered practically significant, loadings greater than .3 are considered to

meet the minimum level (Hair et al., 1995). Factor loadings that are less than .3 are considered as not substantial and are eliminated (Kim and Mueller, 1990). The item-to-item correlation between items in each of the proposed scale are also examined. If the correlations between variables are small, it is unlikely that they share common factors. Items with low correlation are eliminated. The communalities - the amount of variance that an original variable shares with all other variables included in the analysis - are also investigated (Hair et al., 1995). Variables with communalities less than .50 are identified as not having sufficient level of explanation (Hair et al., 1995) and are disregarded.

The degree of empirical reliability is also assessed by using the Kaiser –Meyer-Olkin (KMO) measure to determine whether the given data are adequate for factor analyses. The index ranges between 0 and 1 where the value 1 implies that every variable can be predicted without error from other variables in the set (Kim and Mueller, 1990). Values above .50 indicate appropriateness (Hair et al. 1995). The Bartlett test of sphericity which is a statistical test for the overall significance of all correlations within a correlation matrix is also examined (Hair et al., 1995). In this study, all constructs of human resource management practices have values of KMO more than 0.5 which means that the given data are adequate.

Validity

Validity addresses the issue of what researchers attempt to measure is actually measured (McDaniel and Roger, 1999). This study investigates content validity, construct validity, and nomological validity.

1. Content Validity

Content validity or face validity focuses on the adequacy with which the domain of the concept under study is captured by the measure (Churchill, 1995). The key to content validity lies in the procedures that are used to develop the instrument. These procedures include examining the literature and testing the internal consistency. In this study, careful scrutiny of the literature

and measures used in previous research, expert interviews with executives and human resource management managers, and pretests is conducted to help ensure that only relevant items are included in the final instrument.

2. Construct validity

Construct validity deals with the degree to which the scale represents and acts like the concept being measured. A statistical approach to evaluate construct validity is discriminant validity and convergent validity (Davis and Cosenza, 1993). Discirminant validity is the degree to which the measurement scale may be differentiated from other scales purporting to measure different concepts (Davis and Cosenza, 1993; Zikmund, 1996). It is required that a measure does not correlate too highly with measures from which it is supposed to differ (Churchill, 1995). Discriminant validity is explained later.

Convergent validity typically pertains to correlation between different measures purporting to measures the same construct. Convergent validity estimates depends heavily on the amount of systematic variance and can be influenced by use of very similar method (Peter and Churchill, 1986). Thus, convergent validity in this study is also investigated by unidimensionality method.

3. Nomological validity

Nomological validity addresses the issue of whether the measure behaves as expected with respect to other constructs that it is theoretically related to (Churchill, 1995; Westbrook, 1980; Peter and Churchill, 1986). In this study, nomological validity is assessed through hypothesis testings (Peter and Churchill, 1986).

Independent variable

1. International strategy

Internal consistency method finds that the items of *incentive policy* and *production planning* to measure type of international strategy are inconsistent with other items. Deletion of these two items can improve the scale alpha from 0.6723 to 0.8536. The construct of international strategy is for formative and involves a checking approach. With a formative measure, traditional association validation procedures do not apply (Bollen and Lennox, 1991). To make a composite scale, the respective items are summed and averaged. To classify data into type of strategy, the average technique is employed with the composite scale. The composite scale between 1.0-1.66 is classified as standardization strategy; 1.66-2.33 as national responsiveness strategy; and 2.33-3.0 as global strategy with local responsiveness strategy.

2. Human resource management practices

2.1 Employee participation Internal consistency method finds that the items of *Questions 1* and *8* are inconsistent with other items. Item-total correlation of *Question 1* is 0.4179; while that of *Question 8* is 0.5302. This can reflect that both questions have low correlation with other questions. Deletion of these two items can improve scale alpha from 0.9284 to 0.9483. A single factor solution is shown with eigenvalues greater than one and total variance explained at 73.869%. Communalities of the left measure questions are greater than 0.5. (See Table 1 in Appendix B on Page 141). To make a composite scale, the respective items are summed and averaged.

2.2 Clarity of work direction Internal consistency method finds that the item of *Question 1* has low correlation with other items. Item-total correlation of *Question 1* is 0.3323. *Question 1*

has to be deleted from construct of clarity of work direction. Deletion of this item can improve scale alpha from 0.90 to 0.9238. In addition, *Question 8* falls into factor 2 after testing unidimensionality. Therefore, *Question 8* is also deleted. Then, this study retests unidimensionality. A single factor solution is shown with eigenvalues greater than one and total variance explained at 71.636%. Communalities of the left measure questions are greater than 0.5. (See Table 2 in Appendix B on Page 141). To make a composite scale, the respective items are summed and averaged.

2.3 Employee contribution Internal consistency finds scale alpha is 0.9128. However, unidimensionality technique finds that there are two factors from this construct. After rotated, *Questions 1, 2, 3, 4, 8,* and *9* fall in the same factor; whereas, *Questions 5, 6,* and *7* fall in the other factor. This enable to explain that these two factors are explaining the same construct but different dimensions. However, after investigating characteristics of questions, this study finds that content of two sets of measure questions do not reflect 2 dimensions. Thus, one dimension must be selected. The criteria to choose the dimension is that internal consistency method is used to compare scale alpha between two sets of measure questions. This study finds that the set of *Questions 1, 2, 3, 4, 8,* and *9* has scale alpha 0.9207, while the set of *Questions 5, 6,* and *7* has scale alpha 0.8717. Thus, *Questions 5, 6,* and *7* are deleted from the study. After the deletion, a single factor solution is shown with eigenvalues greater than one and total variance explained at 71.874%. Communalities of the left measure questions are greater than 0.5. (See Table 3 in Appendix B on Page 141). To make a composite scale, the respective items are summed and averaged.

2.4 Reward system at management level Internal consistency method finds that item *Question 9* is inconsistent with other items. Item-total correlation of *Question 9* is 0.4485. This can reflect that *Question 9* has low correlation with other questions. Deletion of this item can

improve scale alpha from 0.9121 to 0.9198. A single factor solution is shown with eigenvalues greater than one and total variance explained at 65.24%. Communalities of the left measure questions are greater than 0.5. (See Table 4 in Appendix B on Page 141). To make a composite scale, the respective items are summed and averaged.

2.5 Employment security Internal consistency method finds that deletion of item *Question 1* can improve scale alpha from 0.9302 to 0.9346. A single factor solution is shown with eigenvalues greater than one and total variance explained at 76.424%. Communalities of the left measure questions are greater than 0.5. (See Table 5 in Appendix B on Page 142). To make a composite scale, the respective items are summed and averaged.

2.6 Selection by job competence Internal consistency method finds that item *Question 1* is inconsistent with other items. Item-total correlation of *Question 1* is 0.2061. This can reflect that *Question 1* has low correlation with other questions. Deletion of this item can improve scale alpha from 0.8623 to 0.8931. Then this study runs unidimensionality test. The test shows that there 2 factors in this set of measures. *Questions 1* and *8* are in one factor, while the rest is in the other. This reflects that *Questions 1* and *8* are highly correlated. Thus, *Questions 1* and *8* are deleted. Then, the unidimensionality is retested. It appears that *Question 7* has communality lower than 0.5. Thus, the remained measures are *Questions 2, 3, 4, 5,* and *6.* A single factor solution is shown with eigenvalues greater than one and total variance explained at 71.22%. (See Table 6 in Appendix B on Page 142). To make a composite scale, the respective items are summed and averaged.

2.7 Control Internal consistency method finds that deletion of item *Question 2* can improve scale alpha from 0.8684 to 0.8715. Then, the unidimensionality is tested to check unidimension of measures. The tests shows 2 factors in this set of measures. In addition, the

test shows that Question 1 has communality lower than 0.5 and Question 3 is falling into both 2 factors with rotated component 0.47 and 0.56. Thus, *Questions 1, 2,* and *3* are deleted. Then unidimensionality is retested. The test finds that a single factor solution is shown with eigenvalues greater than one and total variance explained at 57.371%. (See Table 7 in Appendix B on Page 142). To make a composite scale, the respective items are summed and averaged.

Then, this study checks discriminant validity by factor analysis . To assess the discriminant validity of measures, all remained multiple-item measures of human resource management practices are forced into a single principal component factor analysis with varimax rotation, and then, the factor component and individual item loadings are inspected. The result shows that there are 7 factors of human resource management practices as expected. The factor analysis shows that the 7 factor solution is shown with eigenvalue higher than 1 and total variance explained at 75.072% in total. (See Table 8 in Appendix B on Page 143).

3.Competitive advantage

3.1 Innovation Because both product innovation and process innovation are measured by managerial accounting ratios based on literature review. Measures of both innovations are usable measures. Therefore, reliability and validity do not apply. *Questions 1, 2,* and *3* are to measure *product innovation*; however, measure for *Question 3 - time response to market* - is recoded because the ranges of the answer are not ranking order. To make a composite scale of product innovation, the measure *Questions 1, 2,* and recoded *Question 3* are summed and weight average. *Questions 4* and *5* are to measure *process innovation*; they are recoded. To make a composite, recoded *Questions 4* and *5* are summed and averaged.

3.2 Productivity Because productivity is measured by managerial accounting ratios based on literature review. Measures of productivity are usable measures. Therefore, reliability and validity do not apply. In this study, *Questions 6, 7,* and *8* are used to measure productivity. *Questions 6* and *7*, *percentage of defective products* and *on time shipment* respectively, are recoded. To make a composite scale of process innovation, *Questions 8* and recoded *Questions 6* and *7* are summed and averaged.

3. Data Analysis

Data analysis of this study is composed of five steps as follows:

1. Descriptive statistics

First, frequency tables of all variables are computed to check errors in keying data and report some variables descriptively. Second, descriptive statistics of all composite variables including means, standard error of mean, median, mode, standard deviation, variance, minimum, maximum are computed. Table 4.4 shows that, on the average, international company in the Thai electronics industry has frequency degree of human resource management practices of employee participation, clarity of work direction, employee contribution, reward system at management level, employment security, selection by job competence, and control with the mean values of 2.945, 3.06, 2.794, 3.080, 3.175, 2.841, and 3.086, respectively. In addition, the standard deviations for all variables indicate a fair amount of variance in the responses.

Table 4.4 Descriptive Statistics of Variables

Variables	N	Minimum	Maximum	Sum	Mean	Std. error	Std. Deviation	Variance
Clarity of work direction	103.000	1.000	4.000	315.200	3.060	0.073	0.746	0.556
Selection by job competence	103.000	0.600	4.000	292.600	2.841	0.076	0.771	0.594
Employee contribution	103.000	1.000	4.000	287.800	2.794	0.086	0.875	0.766
Control	103.000	1.333	4.000	317.833	3.086	0.054	0.551	0.303
Employee participation	103.000	1.250	4.000	303.375	2.945	0.082	0.828	0.686
Process innovation	103.000	1.500	5.500	457.000	4.437	0.112	1.137	1.293
Product innovation	103.000	0.822	4.000	276.378	2.683	0.082	0.830	0.689
Productivity	103.000	0.670	3.000	217.330	2.110	0.054	0.511	0.304
Reward system at management level	103.000	1.750	4.000	317.250	3.080	0.060	0.607	0.369
Employment security	103.000	0.833	4.000	327.000	3.175	0.082	0.829	0.687
type of strategy	103.000	1.000	3.000	213.000	2.068	0.062	0.630	0.397
Valid N (listwise)	103.000							

This study finds that the percentages of standardization strategy, national responsiveness strategy, and global integration with local responsiveness strategy are 16.605%, 60.194%, and 23.301% respectively. (See Table 4.5).

Table 4.5: Percentage of Company's International Strategy

International strategy	Frequency	Percent	Valid Percent	Cumulative Percent
Standardization	17.000	16.505	16.505	16.505
National responsiveness	62.000	60.194	60.194	76.699
Global integration with local responsiveness	24.000	23.301	23.301	100.000
Total	103.000	100.000	100.000	

2. Bivariate analysis

The one-tailed Kendall's tau-b correlation is used to determine the strength of the relationship of variables. The correlation matrix suggests that a moderate level of collinearity exists among international strategy, human resource management practices, and competitive advantage. However, in general, the absolute values of the correlation among independent variables range from 0.539 to 0.075 indicate that multicollinearity is not a problematic in subsequent analysis (Hair et al. 1995). The impact of multicollinearity is to reduce the predictive power of any independent variable by the extent to which it is associated with the other

independent variables. (See Table 4.6). Table 4.7 shows that there are significant correlation relationships between human resource management practices and competitive advantage (product innovation, process innovation, and productivity) except that there is no significant correlation between employment security and product innovation. Table 4.8 shows that there are significant correlation between 3 types of international strategy and competitive advantage (product innovation, process innovation, and productivity) except that there are no significant correlation between national responsiveness and product innovation; and between global integration with local responsiveness and process innovation. Even though there are some pairs of insignificant correlation of independent variables and dependent variables, this study does not delete insignificant correlation from the multiple regression analysis of the proposed model. The reason is that this research mainly attempts to investigate the proposed model shown in Chapter 2. Thus, next step investigates their relationships.

Table 4.6: Bivariate Analysis among Independent Variables (International Strategy and Human Resource Management Practices) by Kendall's Tau b Correlation Coefficient

	Clarity of work direction	Selection by job competence	Employee contribution	Control	Employee participation	Reward system at management level	Employment security	Standardization	National responsiveness	Global integration with local responsiveness
Clarity of work direction	1.000									
Selection by job competence	0.400	1.000								
Employee contribution	0.539	0.432	1.000							
Control	0.452	0.196	0.268	1.000						
Employee participation	0.525	0.447	0.583	0.184	1.000					
Reward system at management level	0.506	0.567	0.422	0.315	0.449	1.000				
Employment security	0.407	0.407	0.329	0.213	0.395	0.360	1.000			
Standardization	-0.509	-0.408	-0.428	-0.173	-0.439	-0.406	-0.364	1.000		
National responsiveness	0.239	0.139	0.163	0.075 (a)	0.176	0.075 (a)	0.271	-0.547	1.000	
Global integration with local responsiveness	0.170	0.197	0.187	0.066 (a)	0.182	0.270	0.006 (a)	-0.245	-0.678	1.000

Note: a) There is no significance at 0.05 level.

Table 4.7: Bivariate Analysis of Human Resource Management Practices and Competitive Advantage by Kendall's Tau b Correlation Coefficient

	Clarity of work direction	Selection by job compe-tence	Employee contribution	Control	Employee participa-tion	Reward system at manage-ment level	Employ ment security	Process innova-tion	Product innova-tion	Produc-tivity
Clarity of work direction	1									
Selection by job competence	0.400	1								
Employee contribution	0.539	0.432	1							
Control	0.452	0.196	0.268	1						
Employee participa-tion	0.525	0.447	0.583	0.184	1					
Reward system at manage-ment level	0.506	0.567	0.422	0.315	0.449	1				
Employ ment security	0.407	0.407	0.329	0.213	0.395	0.360	1			
Process innova-tion	0.176	0.132	0.268	0.088	0.122	0.089	0.138	1		
Product innova-tion	0.241	0.327	0.214	0.033	0.309	0.206	0.093 (a)	0.230	1	
Produc-tivity	0.307	0.280	0.234	0.169	0.278	0.311	0.247	0.377	0.301	1

Note: a) There is no significance at 0.05 level. However, there is significance at 0.1 level.

Table 4.8: Bivariate Analysis of International Strategy and Competitive Advantage by Kendall's Tau b Correlation Coefficient

	Process innovation	Product innovation	Productivity	Standardi zation	National responsiveness	Global integration with local responsiveness
Process innovation	1					
Product innovation	0.230	1				
Productivity	0.377	0.300	1			
Standardization	-0.388	-0.409	-0.393	1		
National responsiveness	0.307	0.054 (a)	0.131 (b)	-0.546	1	
Global integration with local responsiveness	-0.015 (a)	0.297	0.193	-0.245	-0.678	1

Note: a) There is no significance at 0.1 level.
b) There is no significance at 0.05 level. However, there is significance at 0.1 level.

3. Cross-tabulation between characteristics of respondents and variables

The association between characteristics of respondents and variables of this study are explored. For Cross-tabulation, a value of the two variables are display in a cell in the table, together with various percentages. These cells in the table provide information about the relationships between the variables. Chi-square statistics are used and reported in Table 4.9. The variables of human resource management practices are recoded back to category 0, 1, 2, 3, and 4. The variables of international strategy are not recoded because they are already in category. Product innovation is recoded into category of 1, 2, 3, and 4 because values of product innovation is ranged from 0.82-4.0. Process innovation is recoded into category of 1, 2, 3, 4, 5, and 6 because it is ranged from 1.50-5.50. Productivity is recoded into category of 1, 2, and 3 because it is ranged from 0.67-3.0.

To explored the association of characteristics of respondents and international strategy, the results show that there are no significant association between characteristics of respondents

and international strategy. It indicates that *nationality of major shareholders, percentage of foreign shareholders, year established, and the number of foreign executives* are not associated with international strategy. Even though Heenan and Perlmutter (1979) note that years established or the length of time in business enables to influence the shape of international strategy, the results of this study conclusively finds that years in business is not associated with international strategy. The strong reasons possibly come from that the majority of respondents in the Thai electronics industry counted by 69.9% is in business approximately for the same length of years ranged from 6-15 years. (See Table 4.3 on Page 60). However, Chakravarthy and Perlmutter (1992) later note that the style of leadership and nationality of home office also play the influential role to shape international strategy. As such, both factors enable to lessen to impact of years in business on international strategy.

Table 4.9: Relationship between Characteristics of Respondents and Variables in This Study: International Strategy, Human Resource Management Practices, and Competitive Advantage.
(Pearson Chi-Square)

Variables	Nationality of major shareholders	Percentage of foreign shareholders	Range of year established	No. of foreign executives
International strategy				
1) *Standardization strategy*	3.200	0.180	5.3373	3.035
2) *National responsiveness strategy*	2.834	1.229	6.180	2.268
3) *Global integration with local responsiveness strategy*	6.213	1.234	1.266	2.227
Human resource management practices:				
1) *Clarity of work direction*	8.683	12.259	14.502	10.508
2) *Selection by job competence*	15.172	11.111	18.731	12.103
3) *Employee contribution*	8.595	10.496	24.269	9.489
4) *Control*	15.262	8.523	6.090	6.043
5) *Employee participation*	14.178	8.078	15.650	12.009
6) *Reward system at management level*	7.762	3.917	3.283	5.089
7) *Employment security*	5.639	3.685	14.247	16.203
Competitive advantage				
1) *Process innovation*	11.571	5.886	30.340	16.629
2) *Product innovation*	11.747	6.151	14.819	10.213
3) *Productivity*	2.403	3.553	13.371	3.783

As expected, the results show that there are no associations between characteristics of respondents and human resource management practices. In addition, the results show that there are no associations between characteristics of respondents and competitive advantage.

4. Multiple regression analysis

Multiple regression analysis is employed to investigate the relationship of 3 types of international strategy and 7 human resource management practices with competitive advantage. Even though there are some statistical techniques that can also be employed to investigate relationship between independent variable and dependent variable, multiple regression analysis is more suitable for descriptive research to predict relationship between independent variables and a dependent variable (Watson et al., 1990; Sudman and Blair, 1998). Descriptive research is undertaken in order to ascertain and describe the independent variables and a dependent variable. Sekaran (1984) notes that multiple regression analysis helps to predict the variance in the dependent variable taking into account of the joint linear influences of the several independent variables. Thus, this study employs multiple regression analysis to investigate relationships. In this study, three dependent variables of competitive advantage are investigated into three equations of multiple regression analysis. Next section explains steps of multiple regression analysis.

Variables examination

Before running the multiple regression, the distribution of all variables is examined. Normal P-P Plots is employed to check normal distribution.

Dummy variables include standardization strategy, national responsiveness strategy, and global integration with local responsiveness strategy. They do not have to have normal distribution in order to plug in regression analysis.

There are three equations for the analysis. Separate equations are estimated by Ordinary Least Squares (OLS) multiple regression analysis available in SPSS 7.5. The

regression is run on all of the hypothesized independent variables by the stepwise method. Process innovation, which is the composite of *the percentage of returned product* and *the number of customer complaints*, is the dependent variable in Equation 1. Product innovation, which is the composite variable of *new model, new product,* and *time response to market*, is the dependent variable in Equation 2. Productivity, which is the composite variables of *percentage of defective products, on time shipment,* and *return on investment*, is the dependent variable in Equation 3.

Multicollinearity among variables is examined by using the variance inflation factor (VIF). The VIF is the method of detecting the severity of multicollinearity by looking at the extent to which a given explanatory variable can be explained by all the other explanatory variables in the equation (Studenmund, 1992). A high VIF indicates that multicollinearity has increased the estimated variance of the estimated coefficient, yielding a decreased t-score. The higher the VIF, the more severe the effects of multicollinearity. Nevertheless, it is possible to have multicollinear effects in an equation that has no large VIFs. Even so, Studenmund (1992) suggests a common rule of thumb that if VIF > 5, the multicollinearity is severe. Likewise, Hair et al. (1995) suggest the cutoff threshold of VIF values above 10. The analysis of the three equations reveals that the VIF for every variable in no case exceeded 5. The VIF values are reported in Tables 9, 10, 11 in Appendix B.

Evaluation for the Assumptions in Multiple Regression Analysis

The assumptions underlying multiple regression analysis, about the linearity of the phenomenon measured, the homoscedasticity of the error term, and the normality of the error term distribution (Hair et al, 1995), are assessed.

First, the linearity of the relationship between dependent and independent variables represents the degree to which the change in the dependent variable associated with the predictor variable is constant across the range of values for the independent variable. The

linearity of the relationship between dependent variable and independent variables in each equation is assessed by using studentized residual plots which is the most widely used (Hair et al., 1995). From the studentized residuals plots, no nonlinear pattern is exhibited in all three equations, thus, ensuring that the overall equations are linear.

Second, the homoscedasticity is defined when the variance of the error terms appears constant over a range of predictor variables. When the error terms have increasing or modulating variance, the data are said to be heteroscedastic. There is no universally agreed-upon method of testing for heteroscedasticity (Studenmund, 1992). According to Tabachnick and Fidell (1996), heteroscedasticity causes OLS to underestimate the variances of the coefficients. However, the analysis is weakened but not invalidated. In this study, the homoscedasticity is diagnosed by using studentized residual plots (Hair et al., 1995). The studentized residual plots show no pattern of increasing or decreasing residuals in all equations; thus, they indicate homoscedasticity in the multivariate case. Tests for heteroscedasticity find no violation of this assumption in all three equations.

Third, the normality of the error term distribution is assessed by using histograms and the normal probability plots. The histogram of residuals is the simplest diagnostic for the set of predictor variables in the equation (Hair et al., 1995; Watson et al., 1990). The histogram provides a visual check for a distribution approximating the normal distribution. Furthermore, the normal probability plots are also suggested. If a distribution is normal, the residual line closely follows the diagonal which is made by the normal distribution. With a visual examination of the normal probability plots and the histograms of the residuals, the regression variate is found to meet the assumption of normality for every equation. The values fall along the diagonal in the normal probability plots; thus, the residuals are considered to represent a normal distribution. Tests of normality find no violation of the assumption in all three equations.

Estimation of the Model and the Overall Model Fit

The goodness-of-fit of the model is assessed by the coefficient of determination (R^2). R^2 indicates the percentage of total variation of dependent variable explained by independent variables and the overall degree of fit of an equation. F-test is used to test the hypothesis that R^2 is greater than zero and to provide a formal hypothesis test of the level of significance of that overall fit. The null hypothesis is R^2 is equal zero. If the calculated F-ratio is greater than the critical F-value, the hypothesis would be rejected (Hair et al., 1995). The critical F value used in this study is at 0.05 significant level.

Standard error of the estimate (SEE) represents an estimate of the standard deviation of the actual dependent values around the regression line. It is a measure to assess the absolute size of the prediction error.

The regression coefficients are also tested that they differ significantly from zero. This is not a test of any exact value of the coefficient but rather of whether it should be used at all. The t-test is used. The statistical test of the regression coefficient is to ensure that across all the possible samples that could be drawn, the regression coefficient should be different from zero (Hair et al., 1995).

1. Equation 1: Dependent variable is process innovation.

First, this study employs multiple regression analysis with the enter method. All variables hypothesized are entered in the single step. The enter method enables to include all variables in the proposed model. This technique allows the researcher to examine the contribution of all investigated variables proposed in this dissertation. The finding of the enter method indicates that the variables - *clarity of work direction, selection by job competence, employee contribution, control, employment security,* and *standardization strategy* - appear to have the sign or direction of relationship with *process innovation* consistent with hypothetical expectations in Chapter 2. *Global integration with local responsiveness strategy* also appears in

the proposed model as expected when *standardization strategy* and *national responsiveness strategy* have zero value of dummy variables. However, e*mployee participation, reward system at management level,* and *national responsiveness strategy* are unlikely to have the expected sign of relationship with *process innovation* according to the literature review explained in Chapter 2. However, from bivariate test in the earlier section, the correlations between *process innovation* and such variables except *national responsiveness strategy* have sign as expected, according to literature review in Chapter 2. The explanation will be further discussed in Chapter 5.

Table 4.10: Findings of Relationship of International Strategy and Human Resource Management Practices with Process Innovation

Variables	Beta	t	Significant level	VIF
Constant	3.949	5.612	0.000	
Clarity of work direction	0.063	0.287	0.774	3.863
Selection by job competence	0.143	0.840	0.403	2.505
Employee contribution	0.474	2.999	*0.003	2.793
Control	-0.271	-1.446	0.151	1.556
Employee participation	-0.341 (a)	-1.861	0.066	3.367
Reward system at management level	-0.082 (a)	-0.401	0.689	2.247
Employment security	0.208	1.513	0.134	1.895
Standardization strategy (Dummy variable)	-1.187	-3.252	*0.002	2.710
National responsiveness strategy (Dummy variable)	0.326 (a)	1.533	0.129	1.598

Note: (a) = Inconsistent with hypothetical expectation
* = Significant at 0.01 level

Table 4.10 shows that only t-statistics to test coefficients of *standardization strategy* and *employee contribution* is found to be statistically significant at 0.05 level. Thus, next step, this study runs multiple regression analysis with stepwise method in order to test the proposed model

and hypotheses. Hair et al. (1995) note that stepwise method enables to allow a researcher to examine the contribution of each independent variable to the model. The stepwise method shows that *employee contribution* and *standardization strategy* are significant at the 0.01 level. (See Table 9 in Appendix B on Page 144). The variables of *employee participation, clarity of work direction, reward system at management level, employee security, selection by job competence, control, national responsiveness strategy* and *global integration with local responsiveness strategy* are not significant in the equation.

Using stepwise method, the value of the coefficient of determination (R^2) at the 0.450 indicates that *standardization strategy* and *employee contribution* account for 45% of the variation in *process innovation* of the firm. The value of Standard error of the estimate (SEE) at the 0.851 indicates that, on average, the model generates a small amount of prediction error. The F-test indicates that the model is statistically significant at the 0.05 level. The hypothesis of no linear relationship between dependent variable and independent variables is rejected at the 0.05 level of significance. The t-statistics indicate that the coefficients of standardization strategy and employee contribution differ significantly from zero at 0.05 level. The VIF values in no case exceed 5, suggesting that, it does not have severe multicollinearity. (See Table 9 in Appendix B on Page 144). Thus, the equation is following.

Equation1:

Process innovation = 3.736 - 1.499 *standardization strategy* * + 0.34 *employee contribution**

Note: standardization strategy = 1 if international strategy is standardization strategy

= 0 otherwise

* Significant at 0.05 level

Hypothesis testing

From Equation 1, there are significantly negative relationship between *standardization strategy* and *process innovation;* and significantly positive relationship between *employee contribution* and *process innovation.* Thus, Hypotheses 1.1 and 2.7 are supported. Even though the variables of *national responsiveness strategy, employee participation, clarity of work direction, reward system at management level, employment security, selection by job competence,* and *control* appear to have significant correlation with *process innovation*, they are excluded from the analysis. The finding suggests that such variables do not have correlation with *process innovation* strong enough to contribute to the relationship model. At bivariate analysis, the result appears to have no significant correlation between *global integration with local responsiveness strategy* and *process innovation.* Thus, Hypotheses 1.4, 1.7, 2.1, 2.4, 2.10, 2.10, 2.16, and 2.19 are not supported. The explanation will be further discussed in Chapter 5.

2. Equation 2: Dependent variable is product innovation.

To investigate *product innovation* as dependent variable, this study first employs multiple regression analysis with the enter method. The finding of the enter method indicates that the variables - *clarity of work direction, selection by job competence, control, employee participation, standardization strategy,* and *national responsiveness strategy* - appear to have the sign or direction of relationship with *product innovation* consistent with hypothetical expectations in Chapter 2. *Global integration with local responsiveness strategy* also appears in the proposed model as expected when *standardization strategy* and *national responsiveness strategy* have zero value of dummy variables. However, *employee contribution, reward system at management level,* and *employment security* appear to unlikely have the expected sign of relationship with *product innovation* according to the literature review explained in Chapter 2. However, from bivariate analysis in the earlier section, the correlations between such variables and *product innovation* have the sign as expected, according to literature review in Chapter 2.

Table 4.11: Findings of Relationship of International Strategy and Human Resource Management Practices with Product Innovation

Variables	Beta	t	Significant level	VIF
Constant	2.805	5.187	0.000	
Clarity of work direction	0.063	0.377	0.707	3.863
Selection by job competence	0.416	3.189	*0.002	2.505
Employee contribution	-0.171 (a)	-1.411	0.162	2.793
Control	-0.062	-0.432	0.667	1.556
Employee participation	0.351	2.492	**0.014	3.367
Reward system at management level	-0.226 (a)	-1.442	0.153	2.247
Employment security	-0.239 (a)	-2.265	**0.026	1.895
Standardization strategy (Dummy variable)	-1.079	-3.845	*0.000	2.710
National responsiveness strategy (Dummy variable)	-0.377	-2.306	**0.023	1.598

Note: (a) = Inconsistent with hypothetical expectation
* = Significant at 0.01 level; ** = Significant at 0.05 level

Table 4.11 shows that only t-statistics to test coefficients of *standardization* strategy and *selection by job competence* are found to be significant at 0.01 level. T-statistics to test coefficients of *employee participation, employment security,* and *national responsiveness strategy* are found to be significant at 0.05 level. Thus, next step, this study runs multiple regression analysis with stepwise method in order to test the proposed model and hypotheses. Hair et al. (1995) note that stepwise method allows a researcher to examine the contribution of each independent variable to the model. Findings of the stepwise method are that *selection by job competence, standardization strategy,* and *national responsiveness strategy* are significant at the 0.01 level. *Global integration with local responsiveness strategy* also appears in the model when *standardization strategy* and *national responsiveness strategy* have zero values of dummy variables. (See Table 10 in Appendix B on Page 145). *Employee participation, clarity of work*

direction, reward system at management level, employee security, employee contribution, control are not significant. The explanation will be further discussed in Chapter 5.

Using stepwise method, the value of the coefficient of determination (R^2) at the 0.378 indicates that *selection by job competence, standardization strategy, national responsiveness strategy,* and *global integration with local responsiveness strategy* account for 37.8% of the variation in *product innovation* of the firm. The value of standard error of the estimate (SEE) at the 0.664 indicates that, on average, the model generates a small amount of prediction error. The F-test indicates that the model is statistically significant at the 0.05 level. In addition, the dependent variable is significantly related to the independent variables at the 0.05 level. The t-statistics indicate that the coefficients of *selection by job competence, standardization strategy,* and *national responsiveness strategy* differ significantly from zero at 0.05 level. The VIF values in no case exceed 5, implying that there is no severe multicollinearity. (See Table 10 in Appendix B on Page 145). Equation 2 is summarized as follows.

Equation 2:

Product innovation = 2.122+ 0.337 *selection by job competence** - 1.037 *standardization strategy* * - 0.375 *national responsiveness strategy* *

Note: standardization strategy = 1 if international strategy is standardization strategy

= 0 otherwise

national responsiveness strategy = 1 if international strategy is national responsiveness strategy

= 0 otherwise

* Significant at 0.05 level

Hypothesis testing

From Equation 2, there are significantly negative relationship between *standardization strategy* and *product innovation;* significantly negative relationship between *national responsiveness strategy* and *product innovation;* significantly positive relationship between *selection by job competence* and *product innovation.* Two dummy variables - *standardization strategy* and *national responsiveness strategy* - are used even though there are three conditions which, in this study, are *standardization strategy, national responsiveness strategy, and global integration with national responsiveness strategy.* The omitted condition is *global integration with local responsiveness strategy.* This is because one fewer dummy variable is constructed than conditions. According to Studenmund (1992), two dummy variables are employed when three conditions appear. Likewise, one dummy variable is employed when two conditions appear. The omitted condition forms the basis against which the included conditions are compared. Therefore, when *standardization strategy* and *national responsiveness strategy* have zero values of dummy variables, it means that *global integration with local responsiveness strategy* is also in the model as the omitted condition (Studenmund, 1992). From Equation 2, the negative sign of coefficients of *standardization strategy* and *national responsiveness strategy* and the positive sign of the intercept in the model interpret the positive sign of the omitted condition which is *global integration with local responsiveness strategy.* Thus, there is significantly positive relationship between *global integration with local responsiveness strategy* and *product innovation* from Equation 2.

In conclusion, Hypotheses 1.2, 1.5, 1.8 and 2.17are supported. Even though the variables - *employee participation, clarity of work direction, employee contribution, reward system at management level,* and *control* - appear to have significant correlation with *product innovation*, they are excluded from the analysis. This enables to explain that such variables do not have correlation with *product innovation* strong enough to contribute to the proposed model. At bivariate analysis, the result also shows that *employment security* has no significant

correlation with *product innovation*. Thus, Hypotheses 2.2, 2.5, 2.8, 2.11, 2.14, and 2.20 are not supported. The explanation will be further discussed in Chapter 5.

3. The Equation 3: Dependent variable is Productivity.

To investigate *productivity* as dependent variable, this study first employs multiple regression analysis with the enter method. The finding of the enter method indicates that the variables - *clarity of work direction, selection by job competence, control, employee participation, reward system at management level, employment security, standardization strategy,* and *national responsiveness strategy* - have the sign or direction of relationship with *productivity* consistent with hypothetical expectations in Chapter 2. *Global integration with local responsiveness strategy* also appears in the proposed model as expected when *standardization strategy* and *national responsiveness strategy* have zero value of dummy variables. However, *employee contribution* does not have the expected sign of relationship with *productivity* according to the literature review explained in Chapter 2. However, from bivariate analysis in the earlier section, the correlation between *employee contribution* and productivity have the sign as expected, according to the literature review in Chapter 2.

Table 4.12: Findings of Relationship of International Strategy and Human Resource Management Practices with Productivity

Variable	Beta	t	Significant level	VIF
Constant	1.575	3.049	0.003	
Clarity of work direction	0.135	0.842	0.402	3.863
Selection by job competence	0.109	0.876	0.383	2.505
Employee contribution	-0.092 (a)	-0.796	0.428	2.793
Control	-0.129	-0.939	0.350	1.556
Employee participation	0.040	0.297	0.767	3.367
Reward system at management level	0.236	1.572	0.119	2.247
Employment security	0.172	1.708	0.091	1.895
Standardization strategy (Dummy variable)	-0.676	-2.522	0.013	2.710
National responsiveness strategy (Dummy variable)	-0.083	-0.533	0.595	1.598

Note: (a) = Inconsistent with hypothetical expectation

Table 4.12 shows that there is no t-statistic to test coefficient significant at 0.01 level. Thus, next step, this study runs multiple regression analysis with stepwise method in order to test the proposed model and hypotheses. Hair et al. (1995) note that stepwise method enables to allow a researcher to examine the contribution of each independent variable to the model. The finding from the stepwise method is that *reward system at management level, employment security,* and *standardization strategy* are significant at the 0.01 level. (See Table 11 in Appendix B on Page 146). *National responsiveness strategy, global integration with local responsiveness strategy, employee participation, clarity of work direction, employee contribution, selection by job competence,* and *control* are not significant.

From stepwise method, the value of the coefficient of determination (R^2) at the 0.419 indicates that *standardization strategy, reward system at management level and employment security* account for 41.9% of the variation in *productivity* of the firm. The value of Standard error of the estimate (SEE) at the 0.604 indicates that, on average, the model generates a small

amount of prediction error. The F-test indicates that the model is statistically significant at the 0.05 level. The hypothesis of no linear relationship between dependent variable and independent variables is rejected at the 0.05 level of significance. The t-statistics indicate that the coefficients of *standardization strategy, reward system at management level,* and *employment security* differ significantly from zero at 0.05 level. The VIF values in no case exceed 5, suggesting that there is no severe multicollinearity. (See Table 11 in Appendix B on Page 146). Equation 3 is summarized as follows.

Equation 3:

Productivity = 1.431 - 0.737 *standardization strategy* * + 0.294 *reward system at management level* * + 0.206 *employment security* *

Note: standardization strategy = 1 if international strategy is standardization strategy

= 0 otherwise

* Significant at 0.05 level.

Hypothesis testing

From equation 3, there are significantly negative relationship between *standardization strategy* and *productivity;* significantly positive relationship between *reward system at management level* and *productivity;* and significantly positive relationship between *employment security* and *productivity.* Thus, Hypotheses 1.3, 2.12, and 2.15 are supported. Even though variables - *national responsiveness strategy, global integration with local responsiveness strategy, employee participation, clarity of work direction, employee contribution, selection by job competence,* and *control* - appear to have significant correlation with *productivity*, they are excluded from the analysis. The findings possibly indicate that such variables do not have a strong enough correlation with *productivity* to contribute to the proposed model. Thus,

Hypotheses 1.6, 1.9, 2.3, 2.6, 2.9 , 2.18, and 2.21 are not supported. The explanation be further discussed in Chapter 5.

5. Analysis of variance (ANOVA)

ANOVA is employed to investigate relationship between 3 types of international strategy and 7 human resource management practices. International strategy is grouped into 3 factors. In this case, international strategy is defined as factor variable, while each practice of 7 human resource management practices is defined as dependent variable. A practice of human resource management practices is tested whether a practice is different across groups of international strategy. Thus, seven ANOVA tests are investigated in this study.

One assumption needed for applying ANOVA is equality of variance. Levene test which is a homogeneity-of-variance test is used in this study because it is less dependent on than the assumption of normality and thus it is particularly useful with ANOVA. Table 4.13 shows that all seven ANOVA tests of international strategy and human resource management practices meets the assumption of homogeneity of variance.

Table 4.13: Levene Test for Three Groups of International Strategy and Human Resource Management Practices

	Levene Statistic	df1	df2	Sig.
Clarity of work direction	1.308	2.000	100.000	0.275
Employee contribution	0.460	2.000	100.000	0.633
Selection by job competence	0.228	2.000	100.000	0.796
Control	1.060	2.000	100.000	0.350
Employee participation	0.967	2.000	100.000	0.384
Reward system at management level	0.702	2.000	100.000	0.498
Employment security	1.127	2.000	100.000	0.328

To test that three groups of international strategy conduct the same average amount of a particular type of human resource management practices, the observed significance level is obtained by comparing the calculated F to values of the F distribution with 2 and 100 degrees of freedom. The observed significance level is the probability of obtaining an F statistic at least as

large as the one calculated when all population means are equal. Table 4.14 shows summary of ANOVA of relationship between international strategy and human resource management practices.

Table 4.14: ANOVA Test for 3 Groups of International Strategy and 7 Human Resource Management Practices

		Sum of Squares	df	Mean Square	F	Sig.
Clarity of work work direction	Between Groups	26.220	2.000	13.110	43.001	0.000
	Within Groups	30.487	100.000	0.305		
	Total	56.707	102.000			
Employee contribution	Between Groups	23.786	2.000	11.893	21.891	0.000
	Within Groups	54.330	100.000	0.543		
	Total	78.117	102.000			
Selection by job competence	Between Groups	17.701	2.000	8.851	20.637	0.000
	Within Groups	42.887	100.000	0.429		
	Total	60.589	102.000			
Control	Between Groups	1.013	2.000	0.507	1.693	0.189
	Within Groups	29.923	100.000	0.299		
	Total	30.937	102.000			
Employee participation	Between Groups	24.592	2.000	12.296	27.086	0.000
	Within Groups	45.397	100.000	0.454		
	Total	69.990	102.000			
Reward system at management level	Between Groups	8.964	2.000	4.482	15.658	0.000
	Within Groups	28.625	100.000	0.286		
	Total	37.589	102.000			
Employment security	Between Groups	19.563	2.000	9.781	19.364	0.000
	Within Groups	50.514	100.000	0.505		
	Total	70.077	102.000			

Hair et al. (1995) suggest that the Scheffe test should be employed to pinpoint exactly where the significant differences lie. Scheffe method is conservative to pairwise comparison means. It requires larger differences between means for significance than other methods. The Scheffe test enables the researcher to explain the significance between pair means of a pair of types of international strategy. Table 12 in Appendix B on Page 147 shows the summary of the Scheffe results.

Hypothesis testing

1. Employee participation and international strategy

Table 4.14 shows that it is unlikely that companies with different types of international strategy would conduct the same amount of practice of employee participation. Thus, Hypothesis 3.1 is supported. In addition, the Scheffe statistic shows that companies conducting standardization strategy have different practice of employee participation from those conducting national responsiveness strategy and global integration with local responsiveness strategy. However, companies with national responsiveness strategy do not have different practice of employee participation from those with global integration with local responsiveness strategy. (See Table 12 in Appendix B on Page 147).

2. Clarity of work direction and international strategy

Table 4.14 shows that it is unlikely that companies with different types of international strategy would conduct the same amount of practice of clarity of work direction. Thus, Hypothesis 3.2 is supported. In addition, the Scheffe statistic shows that companies conducting standardization strategy have different practice of clarity of work direction from those conducting national responsiveness strategy and global integration with local responsiveness strategy. However, companies with national responsiveness strategy do not have different practice of clarity of work direction from those with global integration with local responsiveness strategy. (See Table 12 in Appendix B on Page 147).

3. Employee contribution and international strategy

Table 4.14 shows that it is unlikely that companies with different types of international strategy would conduct the same amount of practices of employee contribution. Thus, Hypothesis 3.3 is supported. In addition, the Scheffe statistic shows that companies conducting standardization strategy have different practices of employee contribution from those conducting

national responsiveness strategy and global integration with local responsiveness strategy. However, companies with national responsiveness strategy do not have different practices of employee contribution from those with global integration with local responsiveness strategy. (See Table 12 in Appendix B on Page 147).

4. Reward system at management level and international strategy

Table 4.13 shows that it is unlikely that companies with different types of international strategy would conduct the same amount of practice of reward system at management level. Thus, Hypothesis 3.4 is supported. In addition, the Scheffe statistic shows that companies conducting standardization strategy have different practice of reward system at management level from those conducting national responsiveness strategy and global integration with local responsiveness strategy. The Scheffe statistic also shows that companies conducting national responsiveness strategy have different practice of reward system at management level from those conducting global integration with local responsiveness strategy. (See Table 12 in Appendix B on Page 147).

5. Employment security and international strategy

Table 4.14 shows that it is unlikely that companies with different types of international strategy would conduct the same amount of practice of employment security. Thus, Hypotheses 3.5 is supported. In addition, the Scheffe statistic shows that companies conducting standardization strategy have different practice of employment security from those conducting national responsiveness strategy and global integration strategy. However, companies with national responsiveness strategy do not have different practice of employment security from those with global integration with local responsiveness strategy. (See Table 12 in Appendix B on Page 147).

6. Selection by job competence and international strategy

Table 4.14 shows that it is unlikely that companies with different types of international strategy would conduct the same amount of practice of selection by job competence. Thus, Hypotheses 3.6 is supported. In addition, the Scheffe statistic shows that companies conducting standardization strategy have different practice of selection by job competence from those conducting national responsiveness strategy and global integration with local responsiveness strategy. However, companies with national responsiveness strategy do not have different practice of selection by job competence from those with global integration with local responsiveness strategy. (See Table 12 in Appendix B on Page 147).

7. Control and international strategy

Table 4.14 shows that it is likely that companies with different types of international strategy would conduct the same amount of practice of control. Thus, Hypotheses 3.7 is not supported. The explanation will be discussed in Chapter 5.

Table 4.15 shows the summary of hypothesis results.

Table 4.15: Summary of Hypothesis Results

Hypotheses	Result
H1.1: Standardization strategy is negatively related to process innovation.	Supported
H1.2: Standardization strategy is negatively related to product innovation.	Supported
H1.3: Standardization strategy is negatively related to productivity.	Supported
H1.4: National responsiveness strategy is negatively related to process innovation.	Not supported
H1.5: National responsiveness strategy is negatively related to product innovation.	Supported
H1.6: National responsiveness strategy is negatively related to productivity.	Not supported
H1.7: Global integration with local responsiveness strategy is positively related to process innovation.	Not supported
H1.8: Global integration with local responsiveness strategy is positively related to product innovation.	Supported
H1.9: Global integration with local responsiveness strategy is positively related to productivity.	Not supported

Table 4.15: Summary of Hypothesis Results (continue)

Hypotheses	Result
H2.1: Greater employee participation is positively related to process innovation.	Not supported
H2.2: Greater employee participation is positively related to product innovation.	Not supported
H2.3: Greater employee participation is positively related to productivity.	Not supported
H2.4: Greater clarity of work direction is positively related to process innovation.	Not supported
H2.5: Greater clarity of work direction is positively related to product innovation.	Not supported
H2.6: Greater clarity of work direction is positively related to productivity.	Not supported
H2.7: Greater employee contribution is positively related to process innovation.	Supported
H2.8: Greater employee contribution is positively related to product innovation.	Not supported
H2.9: Greater employee contribution is positively related to productivity.	Not supported
H2.10: Greater reward system at management level is positively related to process innovation.	Not supported
H2.11: Greater reward system at management level is positively related to product innovation.	Not supported
H2.12: Greater reward system at management level is positively related to productivity.	Supported
H2.13: Greater employment security is positively related to process innovation.	Not supported
H2.14: Greater employment security is positively related to product innovation.	Not supported
H2.15: Greater employment security is positively related to productivity.	Supported
H2.16: Greater selection by job competence is positively related to process innovation.	Not supported
H2.17: Greater selection by job competence is positively related to product innovation.	Supported
H2.18: Greater selection by job competence is positively related to productivity.	Not supported
H2.19: Greater control is negatively related to process innovation.	Not supported
H2.20: Greater control is negatively related to product innovation.	Not supported
H2.21: Greater control is negatively related to productivity.	Not supported
Hypotheses	**Result**
H3.1: Firms with different international strategy have different human resource management practice of employee participation.	Supported
H3.2: Firms with different international strategy have different human resource management practice of clarity of work direction.	Supported
H3.3: Firms with different international strategy have different human resource management practice of employee contribution.	Supported
H3.4: Firms with different international strategy have different human resource management practice of reward system at management level.	Supported
H3.5: Firms with different international strategy have different human resource management practice of employment security.	Supported
H3.6: Firms with different international strategy have different human resource management practice of selection by job competence.	Supported
H3.7: Firms with different international strategy have different human resource management practice of control.	Not supported