CHAPTER 5

THE IMPACTS OF MARKET ORIENTATION MANAGEMENT AND THREE MODERATING FACTORS ON BUSINESS PERFORMANCE OF RURAL ENTERPRISES

Chapter 4 focus on the analysis of the antecedents or preconditions of the market orientation management (MOM) in the rural enterprises, this chapter addresses itself to the major aspects: the consequence analysis. Firstly, this chapter shows the impacts of MOM on business performance; then the effects of three moderating factors, *market turbulence, competitive intensity and technological turbulence*, on the relationship between MOM and business performance will be tested and analyzed.

5.1 Impact of Market Orientation Management on Objective Business Performance

5.1.1 Quantifying objective business performance and market orientation management with its three components

In the regression analysis (research analysis design please refer to Chapter 2: 2.5.3 The consequences of MOM on business performance), each variable is measured by *unweighted sum scoring* all items of its scale. Before running regression analysis, *Cronbach alpha coefficients* were calculated to test the inter-item reliability of all variable scales. The statistics in Table 5.1 show that the sampled data are fairly reliable.

Note: How to calculate Cronbach alpha coefficients ?

— Divide the items on the scale into two sets. A total score is obtained for each set by adding the items within each set, and then calculate the correlation.

Table 5.1 Descriptive statistics of variables

Variables	Possible score range	Maximum	Minimum	Mean	Cronbach Alpha
Z: Subjective business performance (sum value of 6 items' score)	6-30	30	12	22.6	.8609*
Y_1 Overall market orientation (sum value of 32 items' score)	32-160	144	77	113.5	
Intelligence generation (10 items)					.6794
Intelligence dissemination (8 items)					.6710
Response design (7 items)					.4735
Response implementation (7 items)					.6491
X_9 Competitive intensity (sum value of 6 items' score)	6-30	27	16	20.2	.5825
X_{10} Substitutes (sum value of 5 items' score)	5-25	22	6	14.8	.8627*
X_{11} Product quality (sum value of 5 items' score)	5-25	25	13	18.5	.8393*
X_{12} Supplier power (sum value of 4 items' score)	4-20	16	4	9.4	.8823*
X_{13} Buyer power (sum value of 5 items' score)	5-25	19	7	13.3	.6229
X_{14} Entry barrier (sum value of 7 items' score)	7-35	32	15	22.6	.7805*

* Cronbach alpha coefficient > .70

The mean score of subjective business performance is 22.6, with a standard deviation of 4.24 and a range of 12 to 30 (out of a possible range of 6 to 30). The score of market orientation (Y1) is the unweighted sum of the three components of generation (Y2), dissemination (Y3), and responsiveness (Y4). Its mean score is 113.51, with a standard deviation of 12.24 and a range of 77 to 144 (out of a possible range of 32 to 160). The correlation is .59 between the generation and dissemination component, .46 between dissemination and responsiveness, and .60 between responsiveness and generation. Furthermore, the correlation coefficients between the overall market orientation and the generation, dissemination, and responsiveness components are .87, .79, and .85 respectively. The descriptive statistics of other variables refer to above Table 3.

5.1.2 Regression result analysis and discussion for hypothesis 9

Recall Hypothesis 9: *The greater the market orientation of an organization, the higher its business performance.*

The regression results are reported in Table 5.2 as following. It is easy to find that all the signs of the coefficients meet the proposed the sign except the variable of "supplier power" which was expected a positive effect on business performance, was estimated with a slight magnitude of negative value. The adjusted R2 is .678, F value 13.041 (.001 level). After t-test, it is found that two variables *competitive intensity (2.635) and pressure from substitutes (-2.384)* are significant at .05 level; *product quality (1.794)* is significant at .10 level. The tested variable, *"overall market orientation"* (1.510), is significant at .15 level. The standardized coefficient values are *pressure from substitute (-. 424), product quality (.383), competitive intensity (.291) and overall market orientation (.174)* respectively.

As of the other proposed factors, *supply power, buyer power,* and *entry barrier,* their t-values are not significant. This result means that their effects on business performance were not significant, or were not yet distinctly detected due to data limitation in this regression analysis.

Table 5.2 Regression Coefficients estimated for Hypothesis 9

(Dependent variable: Subjective business performance)

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.673	8.528		.782	.440
Overall market orientation[c]	6.043E-02	.040	.174	1.510	.141
Competitive intensity[a]	.280	.106	.291	2.635	.013
Pressure from substitutes[a]	-.478	.200	-.424	-2.384	.023
Product quality[b]	.594	.331	.383	1.794	.082
Supplier power	-6.731E-02	.221	-.054	-.304	.763
Buyer power	.220	.232	.162	.948	.350
Entry barrier	-.119	.104	-.130	-1.152	.258

$R^2 = .734$ F = 13.041

Adjusted $R^2 = .678$ N = 41

a $P<0.05$,

b $P<0.10$

c $P<0.15$

If the coefficient magnitude indicates the degree of the significance of these variables' effects on the business performance, the analyses displayed that *overall market orientation* has considerably important effect on the RE business performance. However, the regression result shows that *pressure from substitutes, product quality and competitive intensity* are three most important factors. It seems that *market orientation* is a key factor, but not the crucial one, why this occurs? The statistics of RE samples at Table 5.3 may answer this inquiry.

Table 5.3 Employee education level of sampled REs

Statistics in Rural Enterprises	Employee Education Level (number of schooling year)	Top management Education Level (education degree)	Ratio of Technician to Employee
Average	*7.9 year*	*Vocational college*	*13.00%*
Highest value	12 year	Bachelor degree (2 samples)	35.71%
Lowest value	6 year	High school (1 samples)	1.96%

Firstly, it is known that REs have intrinsic disadvantages, i.e. *illiberal labor force, shortage of inspired personnel, lack of accesses to advanced technologies, and in-organized management.* See Table 5.3, the employee educated year in average is only *7.9*, top management education degree is *vocational college,* and the ration of technician to employee is *13.00%.* These data can explain the results above. Many low technological and duplicated products fill in market, thus make *"product quality"* becomes the key factor in successful competition.

Secondly, according to the sample statistics, the majority of RE operate *laggard industries*.   The mean value of the factor e*ntry barrier* is only *3.23 (by five-scale scoring, where 5 means the highest entry barrier, 1 refers to the lowest)*, which implies that RE industries are easy to enter.   It is reasonable to deduct that most REs are contesting in the primary stage that is featured by both *insufficiency of product differentiation* and *a low price level*.   So, the *pressure from substitutes* is inevitable.

Finally, another hypothesis is that *the greater the competitive intensity, the stronger the relationship between a market orientation and business performance*.   The correlation value between *competitive intensity and overall market orientation* is *.24 (P value .131)*, it does support the hypothesis.   The mean value of *competitive intensity* is only *3.30*, and that of *market orientation* is *3.56.*   These values imply *market competitive intensity* of RE is at a medium-low level, therefore the implementation of *market orientation management* does not yet become the crucial approach, but the *product quality* is the key factor to determine REs' business performance.

5.2 The Effects of Three Moderating Factors on the Relationship between Market Orientation Management and Business Performance (Tests of Hypothesis 10, 11, and 12)

In this section, the effects of the three moderating factors, *market turbulence, competitive intensity,* and *technological turbulence,* on the relationship between market orientation management and business performance are tested.

Recall hypothesis 10: *The greater the market turbulence, the stronger the relationship between a market orientation and business performance.*

Hypothesis 11: *The greater the competitive intensity, the stronger the relationship between a market orientation and business performance.*

And Hypothesis 12: *The greater the technological turbulence, the weaker the relationship between a market orientation and business performance.*

The data analysis design refer to Chapter 2, 2.5.4 The Test of Three Moderating Factors' Effects on the Relationship between MOM and BP.

Table 5.4 shows the regression results.

Table 5.4 Regression Coefficients estimated for Hypothesis 10-12

(Dependent variable: Subjective business performance)

Predictors	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	9.665	8.885		1.088	.285
Overall market orientation	9.313E-02	.049	**.269***	1.903	**.066**
Market turbulence	-.106	.110	-.130	-.962	.344
Competitive intensity	.339	.131	**.351****	2.590	**.014**
Technological turbulence	-.144	.137	-.119	-1.048	.303
Pressure from substitutes	-.502	.203	**-.445****	-2.475	**.019**
Product quality	.469	.345	.303	1.361	.183
Supplier power	-.111	.228	-.090	-.487	.629
Buyer power	.223	.234	.164	.951	.349
Entry barrier	-.122	.111	-.133	-1.102	.279

$R^2 = .865$ F = 10.275   N = 41

Adjusted $R^2 = .676$ Sig.   .000

** P<.05

* P<.10

In Table 5.4, after adding the three moderating factors, which are *market turbulence, competitive intensity,* and *technological turbulence,* into the regression equation, there occurs some small differences compared with the results from Table 5.2. The adjusted R2 is .676, F value 10.275 (sig. .001). The result of the t-test shows that two variables, *competitive intensity (2.590) and pressure from substitutes (-2.475)* are significant at .05 level; *overall market orientation* (1.903), is significant at .10 level. But, *product quality (1.361),* which used to be significant before in Table 5.1, is not significant. This result support the hypothesized effect of *competitive intensity (hypothesis 11)* that *the greater the competitive intensity, the stronger the relationship between a market orientation and business performance.*

As of the other two proposed factors, *market turbulence (hypothesis 10)* and *technological turbulence (hypothesis 12),* their t-values shows the they are not significant. This result means that their effects on the relationship between MOM and business performance were not supported by the results, or were not yet distinctly detected due to data limitation in this regression analysis.

So, the above test shows that the regression results supported *hypothesis 11,* but not *hypothesis 10 and 12.* It is possible that the hypothesized moderating effects of *market turbulence* and *technological turbulence* do exist but were not detected because of the potentially insufficient power of the regression test as a result of the relatively small sample size or because the reliabilities of the measures were not sufficiently high.