

How Will Market Orientation and External Environment Influence the Performance among SMEs in the Agro-Food Sector in Malaysia?

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Abstract

Many researchers have explored the relationship between market orientation and firm performance in manufacturing and services industries but such studies in agro-food SMEs are scarce. Previous research conducted has conceptually and empirically supported the notion that market orientation independently or collectively have positive correlations with the business performance of organization (such as Narver and Slater, 1990; Jaworski and Kohli, 1993; Lee and Peterson, 2000). The aim of this paper is to examine the marketing practices and the marketing orientation-business performance relationship among SMEs in agri-food sector in Malaysia. This study also investigated the role of the external environment in the market orientation-performance linkage. From an analysis of a survey data of 102 agri-food organizations, three dimensions namely customer-competitor orientation, inter-functional coordination and information dissemination extracted from factor analysis result of market orientation. The study revealed that customer-competitor orientation and information dissemination were positively related to business performance. In terms of the role of external environment, two dimensions produced by factor analysis, market-technology turbulence and competitive intensity did not moderate the relationship between market orientation and business performance. Findings are discussed and implications are highlighted.

Keywords: Market Orientation, External Environment, Business Performance

1. Introduction

Market orientation is a popular term used by marketers as indicator of the extent to which organisation implements its marketing concept. A market-oriented organisation has a superior capability in achieving higher profits compared to non-market oriented organisation (Agarwal et al., 2003). A great deal of attention has been focused on the concept of market orientation in the literature since the topic was re-ignited by Kohli and Jaworski (1990) and Narver and Slater (1990). The link between market orientation and company performance is widely highlighted and contended that market orientation is important to firms because of its positive association with performance. Some studies find that market orientation associate positively with business performance (Pelham, 1997; Pelham & Wilson, 1996; Pitt et al., 1996; Pulendran et al., 2000; Ruckert, 1992; Kara et al., 2005; Kirca et al., 2005; Sin et al. 2005; Kaynak and Kara 2004; Verhees and Meulenbergh 2004; Langerak 2003; Shergill and Nargundkar, 2005). On the other hand, several studies do not find significant direct effect or weak relationships between market orientation and business performance (Diamantopoulos & Hart, 1993; Greenley, 1995; Han et al., 1998; Siguaw et al., 1998, Nwokah, 2008, Appiah-Adu, 1998, Bhuian (1997) and Sargeant and Mohamad, 1999).

Based on the findings there is a need to assess the hypothesized relationship between market orientation and business performance in other business environment. Moreover, the majority of studies results from samples of heterogeneous firms across several industrial sectors but are not industry specific. According to Kimery and Rinehart (1998), marketing concept may be better implemented through a new conceptualization, where the focus will be on customers, competitors, suppliers and determining of the roles play in influencing business performance within industries. In addition to the lack of industry specific focus, there has been limited research outside of Western cultures (such as Narver and Slater, 1990; Jaworski and Kohli, 1993; Greenley, 1995) which the findings may not apply or suitable to the Asia context. There are very few attempts to address this limitation in the Asian perspective (e.g Aziz and Yasin, 2004; Kwon and Hu, 2000; Chan and Ellis, 1998). Matsuno and Mentzer (2000) and Han et al. (1998) explain that the positive performance impact by applying market orientation has accumulated but there is the need to investigate more closely the potential moderators of the market orientation-performance relationship. Diamantopoulos and Hart (1993) conclude that the market orientation-business performance relationship is situation specific and subject to several moderating influences.

While market orientation and their antecedents and consequences have been investigated within, industrialized western business environments and their applicability and generalizability in a non-western context have not been well researched. Unfortunately, only few studies have investigated the potential moderating effects of external

environment on the business performance influence of market orientation. There is also a need to conduct a study on food and beverage oriented firms by obtaining perceptions from multiple respondents from firms, not just focus on the management assessment only (Agarwal et al., 2003). This study attempts to fill the gaps in the literature. Moreover, since the majority of existing studies have concentrated on the manufacturing sectors, this study extends the existing research to food and beverages industry namely local based companies in Malaysia.

The above underpins the importance of empirical examination of the concepts across regional boundaries and the need for Southeast Asia related perspective. By understanding and applying the concept of marketing orientation within the context of the food and beverages industry, the study will identify the role of marketing in the related organisations and its impact (if any) on food and beverage organizations. This study hopes to contribute to the understanding of market orientation practices in the food and beverage industry in developing country through the investigating of the moderating role of external environment/forces on market orientation - performance relationship. The study seeks to contribute to the knowledge concerning marketing orientation and business performance by applying the established model to food and beverage organisations in Malaysia. Anwar (2008) suggests that more research is needed to examine market orientation, the different kinds of effects the orientation may have over different periods of time and services. More over organization cannot assumed that market orientation in one company or culture work equally well in other countries with differentiation business cultures.

The primary purpose of the study is to contribute to the knowledge concerning market orientation and performance-competency concept by applying the established market orientation model in the food and beverage industry in Malaysia. The study also incorporated external environment as moderator on the business performance-competency effects of market orientation.

This study attempt to contribute to the literature by addressing the following research questions:

- What is the state of market orientation among Malaysian smaller agro-food companies?
- Do market orientation factors influence the business performance in smaller agro-food companies?
- Do environmental factors moderate the effects of market orientation on the business performance in smaller agro-food companies?

2. Literature Review

Kohli and Jaworski (1990) proposed the label of 'market-orientation' appears to be preferable if compared to 'marketing orientation'. Shapiro (1988) proposed market-orientation as the participation of variety of departments rather than exclusively a concern of the marketing function in generating, disseminating and taking actions in response to market intelligence. Since 'market driven' and 'customer oriented' are treated in the same construct (Shapiro 1988), the label also is seen as focusing to markets which includes customers and other forces affecting the markets (Kohli & Jaworski 1990). Consistent with the above arguments, Kohli and Jaworski (1990) proposed three elements of market orientation which are (1) intelligence generation, (2) intelligence dissemination, and (3) responsiveness.

In intelligence generation, Kohli and Jaworski (1990) suggested market intelligence as the starting point of market orientation. Thus, analysis on exogenous factors affecting customer needs and preferences such as regulation, technology, competitors and other environmental forces is included in market intelligence. Such environmental scanning activities are included in market intelligence generation. Customers are also need to be properly identified. Besides customer surveys, market intelligence can be generated through formal and informal means (e.g., discussion with trade partners) in which sometimes involve in primary data collection or consulting secondary data sources.

The importance of market intelligence dissemination is to provide 'a shared basis for concerted actions' by different departments. One form of intelligence dissemination within an organization is through horizontal communication (Ziethemel, 1996). Finally, responsiveness is the action taken in response to the generation and dissemination of market intelligence. Findings by Kohli and Jaworski (1990) suggest that market intelligence and responsiveness includes target market selection, "designing and offering products/services that cater to their current and anticipated needs", and product promotion in getting favourable end-customer response.

A high level of market orientation is theorized to lead to a high level of organizational performance. A number of empirical studies test the relationship of market orientation and firms' performance. Some studies find that market orientation associate positively with business performance (e.g., Jaworski & Kohli, 1993; Pelham, 1997; Pelham & Wilson, 1996; Pitt et al., 1996; Pulendran et al., 2000; Ruckert, 1992; Kara et al., 2005; Kirca et al., 2005; Sin et al. 2005; Kaynak and Kara 2004; Verhees and Meulenber 2004; Langerak 2003; Slater and Narver 1994; Shergill and Nargundkar, 2005).

The external environment in which organizations operate is complex and constantly changing; a significant characteristic of the external environment is competition (Wood *et al.*, 2000). Organizations that recognize the presence and intensity of competition have a greater tendency to seek out information about customers for the purpose of evaluation and to use such information to their advantage (Slater and Narver, 1994). Recognition of the threat from competition drives organizations to look to their customers for better ways to meet their needs, wants, and thereby enhances organizational performance (Wood and Bhuian, 1993). Accordingly, when competition is perceived as a threat by the organization, there is a greater tendency to adopt a market orientation (Wood *et al.*, 2000).

The perception of demand faced by the organization as under or over the capacity to serve also influences organizations' search for information. Demand under the organization's capacity to serve is a situation where the current demand for the organization's goods/services is below the desired demand level; demand over the organization's capacity to serve is where the current demand for the organization's goods/services is above the desired demand level or, more particularly, above the level that can be served (Wood *et al.*, 2000). In theory, organizations faced with either under or over demand situations tend to seek out information about customers and modify their market offerings based on consumer data in order to improve or rectify the situation (Bhuian, 1992; Wood and Bhuian, 1993).

Given the disparity of findings, others have suggests that the relationship between market orientation and performance may be moderated by additional variables such as market or technological turbulence (Greenley, 1995; Han *et al.*, 1998) and competitive intensity (Homburg and Pflesser, 2000; Jaworski and Kohli, 1993). This is strongly supported by the study conducted by Ellis (2006) who studied on a Meta analysis of market orientation and performance. The variations in results across the different regions, combined with the significant Q-statistics for the overall sample, Ellis suggested that moderators influence the market orientation-performance relationship.

There has been a long tradition of support for the assumption that environmental factors influence the effectiveness of organizational variables (Appiah-Adu, 1998). Indeed, several studies have investigated the association between different environmental factors and established the effects of moderating influences on organizational variables (e.g., Slater and Narver (1994; Jaworski and Kohli, 1993; Greenley, 1995 and Han *et al.*, 1998). Researchers have argued that firms should monitor their external environment when considering the development of a strong market-oriented culture (Kohli and Jaworski, 1990). To determine the influence of the external environment on market orientation in transition economies, Golden *et al.* (1995) examined four factors: demand changes, product obsolescence, competitive pressures and product technology. These variables appear to mirror, respectively, four external factors, namely market growth=demand, market turbulence, competitive intensity and technological turbulence, which were identified as potential moderators of the market orientation-performance link by Kohli and Jaworski (1990).

3. Research Model and Hypotheses

Figure 1 shows the research model of this study. The framework assumes that market orientation has a direct and indirect link with business performance. This study also aims to determine the influence of external environment on the relationship between market orientation and business performance.

The literature seems to suggest that market-oriented firms are committed to deliver superior value to customers in order to achieve marketing competency. In general, previous studies have found a positive relationship between market orientation and business performance and that the firms are better of than their competitors in terms of their market competency (Narver & Slater, 1990; Pelham & Wilson, 1996). In the context of exporting firms' performance, Prasad, Ramamurthy, & Naidu, 2001) also found that market orientation has a positive influence on marketing competency.

The possibility of a moderating effect is consistent with a long tradition of support for the theory that environment moderates the effectiveness of organizational characteristics. According to Slater and Narver (1994), the competitive environment might affect the market orientation-performance relationship. Day and Wensley (1988) suggest that the competitive environment (the number and power of competitors) could affect the necessary focus of the intelligence generation activity within a given magnitude of market orientation. Kohli and Jaworski (1990) propose that the degree of market orientation is influenced by the market environment (i.e., market turbulence, competitive intensity, and technological turbulence), and two factors (supply-side factors and demand-side factors) moderate the relationship between market orientation and business performance.

The study suggests the following hypotheses are based on the factor analysis results:

H1 Customer-competitor orientation (a), inter-functional coordination (b) and information dissemination (c) is positively related to business performance.

H2 The positive relationship between customer-competitor orientation (a), inter-functional coordination (b) and information dissemination (c) is moderated by market and technology turbulence.

H3 The positive relationship between customer-competitor orientation (a), inter-functional coordination (b) and information dissemination (c) is moderated by competitive intensity.

4. Methodology

4.1 Research Design

The data used for this research was collected from the survey of 300 Malaysian agri-food organizations. The organizations were randomly selected from Malaysia Food and Beverage Manufacturers Directory. A total of 102 organizations completed the surveys, yielding a usable response rate of 34%. Since the main objective of this study is to clarify the domain constructs, the unit of analysis is conducted at the organizational level. The top management or the senior executives' perceptions are regarded as the main source of information because they are directly responsible for planning and management of the company. Self-administered questionnaires were distributed to the managers of the selected agri-food companies.

The data collection instrument is a structured questionnaire, which was first developed and pre-tested among a small group of respondents, who are academics and have significant expertise in marketing and financial services. The questionnaire contains two parts: Part I deal with the firm's perception of market orientation. These measurements were adopted from Narver and Slater's (1990). Ten items mainly adopted from Jaworski and Kohli (1993) measured external environment. All the items were measured using six-point Likert scale items with anchor points 1 = strongly disagree and 6 = strongly agree.

The business performance was measured using subjective approach and Dess and Robinson (1984) add that this approach is commonly used in research when it is impossible to obtain data (e.g. Greenlay, 1995; Slater and Narver, 1994). This approach consisted of asking respondents for their assessment of their company's performance competency. Miles and Snow (1978) explain that competency refers to an assessment of how well or poorly firms perform marketing related activities compared with their competitors.

Previous studies (e.g. Robinson and Pearce, 1988; Venkatraman and Ramanujam, 1986) that using both approaches subjective and objective measures found that subjective approaches were closely correlated with objective measures. It was measured using a 6-point Likert scale measured on a 1= well below average to 6 = well above average, consisting of 10 items borrowed from Prasad et al. (2001), Jaworski and Kohli (1993) and Slater and Narver (1994). Most of the above items were adapted and modified to make items suitable for the study. The 6-point Likert scale was used to anchor each item statement was chosen in order to avoid the clustering of responses at the neutral point and remain non-committal (Quee, 2002).

Part II obtains information on the firms' characteristics in terms of number of employees, age, ownership, percentage of employment in market, market area responded, decision making orientation etc.

4.2 Measures

In order to ascertain whether the measures retained construct validity (i.e. measure what they are supposed to) an exploratory factor analysis using principal components and varimax rotation technique was conducted to examine the underlying dimension of market orientation and market competency. In determining the factor/s, common decision rules employed in empirical research were applied: (i) minimum eigenvalue of 1 (ii) KMO measure of sampling adequacy greater than 0.5 and the Bartlett's test of sphericity should be significant which indicate that the items for consumption factor are appropriate for factor analysis. (iii) minimum factor loading of 0.5 for each indicator variable. The cut-off value of 0.5 and higher is assigned such that only items with loadings of at least 0.50 are retained in order to obtain a power level at 80% at 0.05 significant levels (Hair *et al.*, 1998). Items with loadings exceeding 0.50 on two or more dimensions are removed and have to retest (King and Teo, 1996). (iv) simplicity of factor structure, and (v) exclusion of single item factor structure. v) reliability analysis is carried out to eliminate items that are not strongly related to other items in the construct and construct reliability was assessed using Cronbach's alpha. As suggested by Nunnally (1978), the reliability of a construct between 0.6 and 0.8 is acceptable.

5. Findings and Discussions

5.1 Descriptive Statistic

Table 1 shows the study sample comprises of 102 organizations which vary on such characteristics as company main business, ownership structure, age of company, number of employees, incentive scheme and quality and safety certification.

The results shown in Table 2 indicates the highest score of respondents is on the statement of the company's objectives are driven by customer satisfaction with a mean score of 5.24 followed by the statement that the company is constantly monitor to serve customer needs (5.23) and the company is constantly create value for their customers (5.17). There is a substantial degree of agreement with all the statements.

5.2 Factor Analysis.

Table 3 shows the factor analysis results on market orientation construct resulted in three factors explaining 61.28% of the overall variance. Table 4 shows the factor analysis results on external environment that produced two distinct factors explaining 50% of the overall variance. One of the factors was excluded for further analysis because it has only a single item. Meanwhile, factor analysis conducted on business performance resulted of one significant component with eigenvalue of 3.466 that explained 69.32% of the overall variance.

5.3 Regression Analysis

The regression analysis, the variables were tested significant with ($p < 0.01$) and $F = 6.964$. The regression tests had presented R square of 0.176. Approximately 17.6% variations of business performance can be explained by customer-competitor orientation, inter-functional coordination and information dissemination. The adjusted R^2 value is 0.150. The multiple regression analysis indicates that customer-competitor orientation is positively related to business performance with the beta value of 0.299, significant at $p < 0.05$, 95% degree of confidence. This supported the study done by Day and Wensley (1988), Narver and Slater (1990), emphasized the significance of customers and competitors for business success. Information dissemination also found significant at $p < 0.10$ -a 90% degree of confidence. The beta value of information dissemination ($\beta = 0.179$) indicates that the independent variable is positively related to business performance. Inter-functional coordination was found not to be significant. Hence, Hypothesis 1a and 1c was accepted at $p < 0.05$ and $p < 0.10$ respectively. Hypothesis 1b was rejected.

Previous studies have shown that organizations that employed a market orientation approach relatively achieve a better business performance. The most significant predictor of the performance measure in this study is customer and competitor orientation followed by information dissemination. The study's result validate the other findings in the literature as those Atuahene-Gima, 1996; Dend and Dart, 1994; Deshpande et al., 1993; Egeren and O'Connor, 1998; Horng and Chen, 1998; Jaworski and Kohli, 1993; Kumar et al 1998; Kara et al., 2005; Kaynak and Kara 2004; Kirca et al, 2005; Langerak 2003; Matear et al, 2002. Megicks and Warnaby, 2008; Narver and Slater, 1990; Ngai and Ellis, 1998; Pelham, 1997; Pelham & Wilson, 1996; Pitt et al., 1996; Pulendran et al., 2000; Raju et al, 1995; Ruckert, 1992; Sin et al. 2005; Slater and Narver 1994 and Verhees and Meulenbergh 2004. This implies that organizations need to be customer and competitor oriented and need to disseminate information to perform well in business.

This study investigates the role of external environments integration in the linkage between market orientation variables and business performance, labelled as market-technology turbulence and competitive intensity. The market-technology turbulence did not improve the strength of the influence of customer-competitor orientation and information dissemination toward business performance. Therefore, hypothesis 2a and 2c were not supported by the present study as shown in Table 5.

Table 6 shows the hierarchical regression result, the competitive intensity as a moderator in the relationship between customer & competitor orientation, information dissemination and business performance. The hierarchical regression tested hypotheses 3a, and 3c. The hierarchical regression shows that competitive intensity did not moderate the relationship between both market orientation variables and business performance Thus hypotheses 3a and 3c were rejected. The findings of our study do not support the study of Day and Wensley (1988), Doyle and Wong (1996), Gray et al. (1998), Greenley 1995), Narver and Slater (1994).

This study has contributed to our understanding of the interplay between market orientation and business performance with investigating on the role of external environment. Our findings manifest that business performance is affected by customer-competitor orientation and information dissemination. The study also found that market-technology turbulence and competitive-intensity do not moderate the relationship between customer-competitor orientation and business performance as well as the relationship between information dissemination and business performance.

In managerial decision-making, it is important for the decision should proactively seek new ideas and ability to consider options and select an appropriate one. Which this involves motivation in evaluating the different options in relation to company operation, creativity is assessing priorities, eliminating irrelevant or incompatible ideas. In enhancing company's performance, decision making should allow for changes in the market place with managers keeping open minded, flexible approach to solving problems and ready to adapt to market and customers

expectations. Management must consistently motivate the team players in the firm so that they will analyse customers' needs and seek ways to satisfy them. Besides that, try to adapt the products to these needs and react to competitors' actions and responses. The management team also should collaborate with the firm's workers and share information about customers and competitors that direct them to firm's goals.

The competences of knowledge and experience will need to be built on and expanded to develop distinctive expertise using motivation, communication, coordination, and leadership. Management should be able to demonstrate responsibility by their proactive behaviour and a positive outlook in searching for better way of carrying out task and delivery of marketing activity such as through the usage of the Internet to gain market information. Understand how employees can create customer needs, the communication from customer-staff-management decision makers should be practiced in the firm in allowing and ensuring firm's customers have relevant and necessary information for product consumption. The main factor, which is significantly related to business performance are sharing information about competitor and rapid response to competitor actions. This will definitely need the management to focus on maintaining communication with all functional units/departments in the organization and gathering information about competitors and customers. The management needs to recognize and compile useful information and must have the ability to interpret and draw useful and timely conclusions from competitor information. At the same time, ability to learn from mistakes is another important aspect in the development of business performance.

6. Conclusion

This study establishes the importance of market orientation for smaller agro-food organizations in order to obtain a sustainable competitive advantage by relating the degree of market orientation to the extent of success in achieving critical performance outcomes. This provides relevant and interesting insights to the understanding of the impacts of market orientation on business performance in a Southeast Asia business environment particularly in Malaysia. The implication for practicing managers is clear. An awareness of changes in the marketplace such as consumer perception and competitors' activity in order the firms can create product differentiation and carve out new market. Management commitment should involve the whole firm in building long-term commitment through activities such as inspiring and enthusing staff, feeding them with appropriate information and obtaining feedback in order to achieve better company's performance.

Implementation of a market orientation leads to improved financial and marketing performance. In terms of future research, remains a lot to be done in understanding the importance of agro-food companies in Asia. The limited attention given to marketing and business performance studies in this sector, provide ample scope for further study. Future studies should improve the model by incorporating other relevant independent variables and dependent variables. Research should seek out and examine various contexts where the meaning and conceptualization of market orientation might differ from each other.

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Table 1. Description of Study Sample

	Frequency	Percentage
<u>Role in Industry</u>		
Manufacturer	79	77.5
Exporter	4	3.9
Wholesaler	4	3.9
Supplier	6	5.9
Distributor	9	8.8
<u>Main Business</u>		
Snack food	39	38.2
Sauces/spices	12	11.8
Dairy products	4	3.9
Cereal products	1	1.0
Frozen food	16	15.7
Beverage	13	12.7
Other	17	16.7
<u>Ownership Structure</u>		
Independent owned	75	73.5
Subsidiary of local company	14	13.7
Subsidiary of foreign company	3	2.9
Joint venture of with local company	3	2.9
Joint venture of with foreign company	4	3.9
Other	3	2.9
<u>% marketing experienced employees</u>		
0-20%	38	37.3
21-40%	26	25.5
41-60%	21	20.6
61-80%	15	14.7
81-100%	2	2.0
<u>Concern in food manufacturing</u>		
quality	81	79.4
low fat	5	4.9
variety of flavours	7	6.9
ingredients	4	3.9
price	2	2.0
packaging	1	1.0
others	2	2.0

<u>Age of Company</u>		
Less than 5 years	30	29.4
5-9 years	21	20.6
10-14 years	16	15.7
15-24 years	16	15.7
25 years and above	19	18.6
<u>No of Employees</u>		
Less than 5	17	16.7
5-10	21	20.6
11-24	19	18.6
26-50	18	17.6
Over 50	27	26.5
<u>Incentive</u>		
Export incentive	9	8.8
Research & Development incentive	12	11.8
Training incentive	29	28.4
General incentive	9	8.8
Other	40	39.2
None	3	2.9
<u>Relationship with government agencies</u>		
SMIDEC	25	24.5
MARA	11	10.8
FAMA	10	9.8
MITI	5	4.9
MARDI	10	9.8
Ministry of Agriculture	7	6.9
Others	27	26.5
None	7	6.9
<u>Quality & Safety Certification</u>		
Good manufacturing practice (GMP)	14	13.7
HACCP	16	15.7
ISO	45	44.1
JAKIM (halal)	16	15.7
Other	2	2.0
None	9	8.8

Table 2. Descriptive statistic for market orientation

Items	Mean	Standard Deviation
Business Strategy to increase customer value	4.99	0.814
Frequent measure customer satisfaction	4.94	0.877
Competitive advantage base on customer's need	4.85	0.948
Respond to competitive actions	4.85	0.883
Objective are driven by customer satisfaction	5.24	0.869
Monitor customer needs	5.23	0.743
Business functions are integrated	4.96	0.807
After sale service	4.89	0.964
Management discuss competitor strategy	4.75	0.961
Share resources with business units	4.61	1.016
Opportunities for competitive advantage	4.93	0.859
Create value for customers	5.17	0.746
Customer info freely communicated	4.39	1.351
Share competitor info	4.72	1.120

Table 3. Factor Analysis for Market Orientation

Variables	F1	F2	F3
<u>Factor 1: Customer & Competitor Orientation</u>			
Business strategy to increase customer value	0.784		
Frequent measure customer satisfaction	0.745		
Competitive advantage base on customer's need	0.692		
Respond to competitive actions	0.659		
Objective are driven by customer satisfaction	0.633		
Monitor customer needs	0.624		
Business functions are integrated	0.616		
After sale service	0.500		
Management discuss competitor strategy	0.549		
<u>Factor 2: Inter-functional Coordination</u>			
Share resources with business units		0.832	
Opportunities for competitive advantage		0.623	
Create value for customers		0.623	
<u>Factor 3: Information Dissemination</u>			
Customer info freely communicated			0.803
Share competitor info			0.755
Eigenvalue	4.295	2.248	2.037
Percentage variance (Cumulative :61.283%)	30.681	16.055	14.547
Cronbach Alpha (Reliability)	0.885	0.719	0.600
KMO: 0.868			

Table 4. Factor Analysis for External Environment

Variables	F1	F2
<u>Factor 1: Market and technology turbulence</u>		
Customers' product preference change quite a bit over time	0.818	
Our customers tend to look for new varieties of food all the time	0.753	
The technology in our industry is changing rapidly	0.752	
Technology changes provide big opportunities in our industry	0.657	
<u>Factor 2: Competitive Intensity</u>		
We are witnessing demand for our food products from customers who never bought before		0.833
Price competition is common in our industry		0.657
Sometimes our customers are very price sensitive but on other occasions, price is relatively unimportant.		0.652
There are many promotions wars in our industry		0.503
Eigenvalue	2.720	2.268
Percentage variance (Cumulative:50%)	27.30	22.70
Cronbach Alpha(Reliability)	0.786	0.670
KMO:0.826		

Table 5. The Moderating Effect of Market & Technology Turbulence on the Relationship between Market Orientation and Business Performance.

Independent Variable	Std beta Model 1	Std beta Model 2	Std beta Model 3
F1	.299	.235*	.477
F3	.179	.191*	.175
Moderating variable			
EE1		.162	-1.186
EE2			
Interaction Terms			
F1xEE1			-.507
F3xEE1			.013
R ²	.176	.198	.241
Adjusted R ²	.150	.165	.184
R ² change	.176	.022	.043
F change	6.964	2.695	1.763
Sig. F change	0.000	0.104	0.160

Note** p<0.05, *p<0.10
 F1= Customer and competitor orientation
 F3= Information dissemination
 EE1= Market and technology turbulence
 BF=Business Performance

Table 6. The Moderating Effect of Competitive Intensity on the Relationship between Market Orientation and Business Performance.

Independent Variable	Std beta Model 1	Std beta Model 2	Std beta Model 3
F1	.299**	.251**	.166
F3	.179*	.177*	.076
Moderating variable			
EE2		.183*	-.150
Interaction Terms			
F1xEE2			.152
F3xEE2			.132
R ²	.176	.202	.204
Adjusted R ²	.150	.169	.144
R ² change	.176	.026	.002
F change	6.964	3.218	0.061
Sig. F change	0.000	0.076	0.980

Note** p<0.05, *p<0.10
 F1= Customer and competitor orientation
 F3= Information dissemination
 EE2= Competitive intensity
 BP=Business Performance

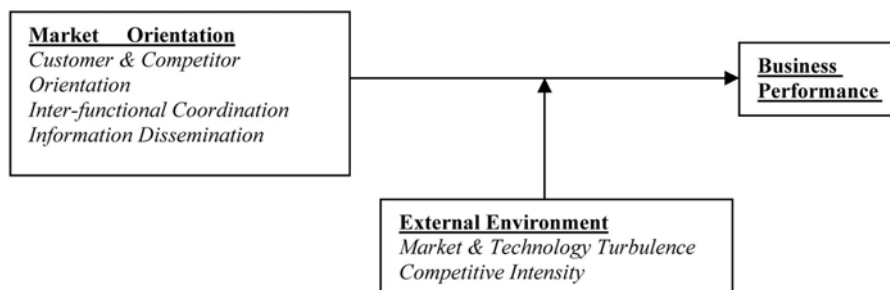


Figure 1. Research Model