



## MARKET ORIENTATION AND THE SYNERGISTIC EFFECT OF MEDIATING AND MODERATING FACTORS ON PERFORMANCE: THE CASE OF THE FASHION CLUSTER<sup>1</sup>

*Manuel A. Ramos Mações*

Lusíada University of Oporto, Faculty of Economics and Business Management.  
macaes@por.ulusiada.pt

*Minoo Farhangmehr*

University of Minho, School of Management and Economics.  
mino@eeg.uminho.pt

*José Carlos Pinho*

University of Minho, School of Management and Economics.  
jcpinho@eeg.uminho.pt

---

### Abstract

It is commonly accepted that a market-oriented behaviour has a positive impact on organizational performance. This study provides additional support for the classical relationship between market orientation and organizational performance and goes further by not only including in the model the mediating role of both the organizational learning and organizational innovation, but also examining the potential moderating impact of the environmental conditions in the previous relationship. The analysis is based on data collected from a sample of 130 Portuguese SME operating in the fashion cluster. Implications and future research questions based on the findings are offered at the conclusion of the paper.

**Keywords:** Market Orientation, Organizational Learning, Organizational Innovation, Organizational Performance.

---

---

<sup>1</sup> A previous draft of this article was presented at European Marketing Academy Conference (EMAC), 2006, Athens, Greece.

## 1. INTRODUCTION

At the beginning of the 21<sup>st</sup> century, most organizations are experiencing a period of deep-seated change in which the competition of the industrial era is giving way to the competition of the information age (Kaplan and Norton, 1996). The increasing globalization of markets and the emergence of new information technologies are forcing companies not only to become progressively more market-focused but also to develop new capabilities such as learning and an innovative attitude (Baker and Sinkula, 1999; Slater and Narver, 1995). Failure to do so is likely to threaten their competitiveness and long-term survival.

The development of marketing theories has attracted the interest of many scholars and researchers. From early calls for the customer to become the focus of the organization (Drucker, 1954) to the recent conceptualization and application of market orientation, a number of authors have seen this concept as a way of operationalising the marketing concept (Narver and Slater, 1990; Kohli and Jaworski, 1990; Kohli, Jaworski and Kumar, 1993). Others hold the view that market orientation is a type of organizational culture that confers competitive advantage and can contribute to improving the organizational performance (Narver and Slater, 1990; Slater and Narver, 1994; Hunt and Morgan, 1995).

It is generally accepted that market oriented behaviour facilitates organizational innovation, which in turn has a positive effect on business performance. A number of researchers have demonstrated a clear positive relationship between market orientation and organizational performance (Narver and Slater, 1990; Ruekert, 1992; Jaworski and Kohli, 1993; Slater and Narver, 1994; Pelham and Wilson, 1996); others have found a weak relationship (Diamantopoulos and Hart, 1993; Pitt, Caruana and Berthon, 1996), and still others have found no clear effect in this relationship (Greenley, 1995; Caruana, Pitt and Berthon, 1999).

These findings have led some researchers to suggest that the relationship between market orientation, innovation, organizational learning and performance is still unclear and not fully explained. Furthermore, the relationship between market orientation and performance appears to be more complex than that reported in earlier studies (Slater and Narver, 1995; Hurley and Hult, 1998). Driven by the need to explain this inconsistency and to better explain this relationship, some researchers have lately introduced several mediating variables such as organizational learning (Slater and Narver, 1995), innovation (Hurley and Hult, 1998; Han, Kim and Srivastava, 1998) and environmental conditions (Han, Kim and Srivastava, 1998).

Notwithstanding these major contributions, little research has been devoted to building an integrative model that simultaneously incorporates organizational

learning and organizational innovation as mediating variables as well as environmental conditions as a moderating variable to explain the classical relationship between market orientation and performance. The objective of this paper is, therefore, to fill this gap in the literature of market orientation. In terms of the organization of this paper, the first part concerns the background of the research. Subsequently, the methodology and construct development will be presented in part two. Research findings and discussion of the results will be addressed in part three. The final section will be dedicated to limitations, recommendations and directions for further research.

## 2. BACKGROUND OF THE RESEARCH AND HYPOTHESES

It is generally accepted that the concept of market orientation has attracted a significant amount of academic and practitioner interest in current marketing literature. The review of literature surrounding this topic has been exhaustive; however, it is worth mentioning the most representative studies of this field conducted by Narver and Slater (1990), Kohli and Jaworski (1990) and Desphandé and Farley (1996). Narver and Slater have defined market orientation as "a business culture that, very effectively and efficiently, creates greater value for customers" (1990:20). These authors viewed market orientation as consisting of three behavioural dimensions (customer orientation, competitor orientation and inter-functional coordination). Kohli and Jaworski, for their part, viewed market orientation as "the generation of market information on customers' present and future needs at the organizational level, and the dissemination of that information across departments and by sensitising the entire organization to the market" (1990:6). Desphandé and Farley defined market orientation as "a set of interconnected functional processes and activities intended to create and satisfy customers through the constant appraisal of their needs" (1996:14).

With regard to the construct of innovation, the results of the various studies invariably indicate the positive influence of two types of innovation – organizational and technological - on performance (Damanpour and Evan, 1984; Damanpour, Szabat and Evan, 1989). Similarly, recent studies have demonstrated that organizational learning can indirectly influence performance by contributing to improve the market-oriented behaviour, and it is also claimed that it can create a favourable climate for the development of learning in terms of products, processes and systems (Day, 1994; Baker and Sinkula, 1999).

Existing studies on the relationship between market orientation and organizational performance have also considered the environmental dimension in their analysis. For example Greenley (1995) found that the influence of

market orientation on performance is moderated by environmental variables, including market turbulence, customer power and technological turbulence. Similarly, Appiah-Adu (1998) acknowledged that the competitive environment influenced the market orientation-performance relationship. The aforementioned analysis revealed that, invariably most studies on market orientation have examined the relationship between the concepts of market orientation, organizational learning, organizational innovation and their effect on performance separately. To our best knowledge, no integrated model that combines innovation, organizational learning and environment within the market-orientation framework has been developed. Thus, our research attempts to examine whether several moderating factors such as market turbulence, competitive intensity and technological turbulence affect the relationship between the degree of market orientation and performance in the Portuguese context. Based on the aforementioned analysis, and derived from relevant literature, the following research hypotheses are proposed:

- H 1.a: Market orientation is strongly and positively related to organizational performance.**
- H 1.b: Market orientation is strongly and positively related to organizational learning.**
- H 1.c: Organizational learning is strongly and positively related to organizational performance.**
- H 2.a: Market orientation is strongly and positively related to organizational innovation.**
- H 2.b: Organizational innovation is strongly and positively related to organizational performance.**
- H 3 : Organizational learning is strongly and positively related to organizational innovation.**
- H 4.a: The relationship between market orientation and organizational performance is strengthened in industries characterized by high market turbulence.**
- H 4.b: The relationship between market orientation and organizational performance is strengthened in industries characterized by high competitive intensity.**
- H 4.c: The relationship between market orientation and organizational performance is strengthened in industries characterized by high technological turbulence.**

### 3. RESEARCH METHODOLOGY AND INSTRUMENT DEVELOPMENT

#### 3.1. Sample and Data Collection Procedures

Since the objective of the present study is mainly quantitative (What issues to investigate and what hypotheses to test), a questionnaire survey research method was used to seek responses from firms operating in the fashion cluster composed of textile, clothing and footwear sectors. According to Clarke and Dawson (1999), the questionnaire provides the means to quantify responses so that variables in the proposed model can be measured, and the statistical significance of the relationships between them can be estimated, as with similar studies in this area.

Therefore, the questionnaire was developed based on the scales derived from literature and complemented with items raised in the exploratory stage, in which a number of representatives of the sectors were interviewed. Then, a final draft of the questionnaire was validated through a pre-test carried out with personal interviews with a number of managers and practitioners. Data were collected from a random sample of 1000 firms operating in the cluster fashion which were identified from a list of the most important associations of the Textile, Clothing and Footwear Industry. After pre-testing, the questionnaire was mailed out in April 2004, accompanied by a cover letter explaining the objectives and the relevance of the study for the sector. Responses were obtained from 130 usable questionnaires (13% response rate). This response rate compares favourably with similar studies [Gatignon and Xuereb, 1997 (14%); Pelham, 1997 (14%)]. The sample size would allow the use of structural equation modeling methodology, assessing the measures' properties, and testing the research hypotheses (Anderson and Gerbing, 1988; Hair et al., 1998). Potential non-response bias was also tested for by assessing the differences (*t*-tests) between the early and late respondents with regard to several key variables (Armstrong and Overton, 1977). No significant differences were found between early and late respondents in regard to the key variables ( $p > 0.05$ ). Therefore, the non-response bias did not appear to be a serious problem in the current study.

A profile of the responding firms is provided in Table 1. As can be seen, the sample includes firms spanning a size range varying from small firms representing nearly 35% (10-50 employees), medium firms representing 60% (51-500 employees) to large firms representing 4% (>500) of the sample. That is, the sample is mainly represented by SMEs. The textile and clothing sector is represented by 42% whereas the shoe sector accounts for 58% of the firms. The main activity and product category are also presented in Table 1.

TABLE 1

Characteristics of Respondents and Firm

	Cases	Percentage	Cumulative Percentage
<b>Industry Type</b>			
Textile and Clothing	58	42%	42%
Shoes	72	58%	100%
<b>Firm Size (nº of employees)</b>			
≤ 10	12	9.2%	9.2%
11 - 50	33	25.5%	34.7%
51 - 100	42	32.3%	67.0%
101 - 200	23	17.7%	84.7%
201 - 500	12	9.2%	93.9%
> 500	5	3.8%	97.7%
Unreported	3	2.3%	100%
<b>Firm Age</b>			
≤ 3 years	4	3.1%	3.1%
4-5	3	2.3%	5.4%
6-10	15	11.5%	16.9%
11-20	38	29.2%	46.1%
> 20 years	61	47.0%	93.1%
Unreported	9	6.9%	100%
<b>Respondent Age</b>			
≤ 25 years	5	3.9%	3.9%
26-35	44	33.8%	37.7%
36-45	35	26.9%	64.6%
46-55	34	26.2%	90.8%
> 55 years	10	7.7%	98.5%
Unreported	2	1.5%	100%
<b>Main Activity</b>			
Manufacturing	114	87.7%	87.7%
Commercial	14	10.8%	98.5%
Unreported	2	1.5%	100%
<b>Product Category</b>			
Industrial Products	27	20.8%	20.8%
Consumer Products	101	77.7%	98.5%
Unreported	2	1.5%	100%
<b>TOTAL</b>	<b>130</b>	<b>100%</b>	

### 3.2. Data Reliability and Validity

Multiple-item measures were derived from relevant literature and measured on a 5 point Likert-type scale, respectively anchored by (1) strongly disagree and (5) strongly agree. A confirmatory factor analysis (CFA) using LISREL 8.72 was conducted to test the convergent and discriminant validity before conducting a test of the structural model. It also should be emphasised that the normality of the observed variables was assessed through examination of

histograms using the SPSS package, and none of the observed variables was significantly skewed or highly kurtotic.

Since reliability concerns the degree to which the scores are free from random measurement error, the present study also addressed several measures of reliability. Although the typical approach to reliability analysis assessment is the Cronbach coefficient (Nunnally, 1978), this measure alone is not robust enough to capture the measurement properties of a scale and does not ensure unidimensionality (Hair et al., 1998). Thus, in order to ensure unidimensionality, the composite reliability and variance-extracted measures for each construct were also calculated. Table 2 shows the indices for each construct and the composite reliability, which in all cases is greater than 0.70 (Hair et al., 1998). Similarly, the variance-extracted is greater than 0.50 suggesting that the indicators are truly representative of the latent variable.

TABLE 2  
Assessment of Internal Consistency Reliability

Variables	Standardized Coefficients ( $\lambda$ )	Error Variance ( $\delta$ or $\varepsilon$ )	t Value	Composite Reliability	Variance-extracted
<b>MO (<math>\xi_1</math>)</b>					
CUOR ( $\lambda^x_{11}$ )	0.77***	0.40	-	<b>0.84</b>	<b>0.57</b>
COOR ( $\lambda^x_{21}$ )	0.83***	0.31	9.55		
IFCO ( $\lambda^x_{31}$ )	0.83***	0.30	12.58		
RSYS ( $\lambda^x_{41}$ )	0.55***	0.70	6.07		
<b>OL (<math>\eta_1</math>)</b>					
COML ( $\lambda^y_{11}$ )	0.78***	0.39	-	<b>0.88</b>	<b>0.70</b>
SHVI ( $\lambda^y_{21}$ )	0.90***	0.19	11.23		
OMIN ( $\lambda^y_{31}$ )	0.83***	0.31	10.23		
<b>OI (<math>\eta_2</math>)</b>					
ADMI ( $\lambda^y_{42}$ )	0.77***	0.40	10.26	<b>0.87</b>	<b>0.68</b>
PRCI ( $\lambda^y_{52}$ )	0.87***	0.25	12.15		
TECI ( $\lambda^y_{62}$ )	0.84***	0.30	-		
<b>PERF (<math>\eta_3</math>)</b>					
FPER ( $\lambda^y_{73}$ )	0.93***	0.13	-	<b>0.88</b>	<b>0.79</b>
MPER ( $\lambda^y_{83}$ )	0.83***	0.30	10.71		
$\chi^2 = 99.930$ (g. l. =47); GFI = 0.89; AGFI = 0.81; CFI = 0.97; SRMR = 0.04; RMSEA =0.09					
* p < 0.05; ** p < 0.05; *** P < 0.001					

Both convergent and discriminant validity involve the evaluation of measures against each other. Concerning the former, a set of variables presumed to measure the same construct showed convergent validity. That is, the large

and significant standardized loadings of all items on its intended construct ( $t > 2.58$ ;  $p < 0.01$ ) did not reveal any problem in the study. In order to assess the construct's discriminant validity, we set the correlation parameter of the two constructs to 1.0, then a  $\chi^2$  difference test between the constrained and unconstrained model was performed. Since the fit of the unconstrained model is significantly better than the constrained model, discriminant validity is accomplished (Anderson and Gerbing, 1988; Steenkamp and Van Trijp, 1991). The pairwise tests among every two dimensions of the four constructs indicated that in each case the  $\chi^2$  difference was significant at the 0.001 level, and provided strong evidence of discriminant validity (Table 3).

TABLE 3

Assessment of Discriminant Validity

Market Orientation	$\chi^2$	d. f.	$\Delta \chi^2$
1. Unconstrained Model	0.882	2	-
2. Correlation between CUOR e COOR constrained to 1	155.405	2	154.523***
3. Correlation between CUOR e IFCO constrained to 1	92.937	2	92.055***
4. Correlation between CUOR e RSYS constrained to 1	116.941	2	116.059***
5. Correlation between COOR e IFCO constrained to 1	114.931	2	114.049***
6. Correlation between COOR e RSYS constrained to 1	98.867	2	97.985***
7. Correlation between IFCO e RSYS constrained to 1	113.722	2	112.84***
Organizational Learning	$\chi^2$	d. f.	$\Delta \chi^2$
1. Unconstrained Model	0.000	0	-
2. Correlation between COML e SHVI constrained to 1	127.067	0	127.067***
3. Correlation between COML e OMIN constrained to 1	113.612	0	113.612***
4. Correlation between SHVI e OMIN constrained to 1	115.461	0	115.461***
Organizational Innovation	$\chi^2$	d. f.	$\Delta \chi^2$
1. Unconstrained Model	0.000	0	-
2. Correlation between ADMI e PRCI constrained to 1	139.681	2	135.577***
3. Correlation between ADMI e TECI constrained to 1	148.879	2	144.775***
4. Correlation between PRCI e TECI constrained to 1	154.664	2	150.56***
Organizational Performance	$\chi^2$	d. f.	$\Delta \chi^2$
1. Unconstrained Model	0.683	1	-
2. Correlation between FPER e MPER constrained to 1	22.884	1	22.201***

\*\*\*  $p < 0.001$

#### 4. RESEARCH FINDINGS AND DISCUSSION

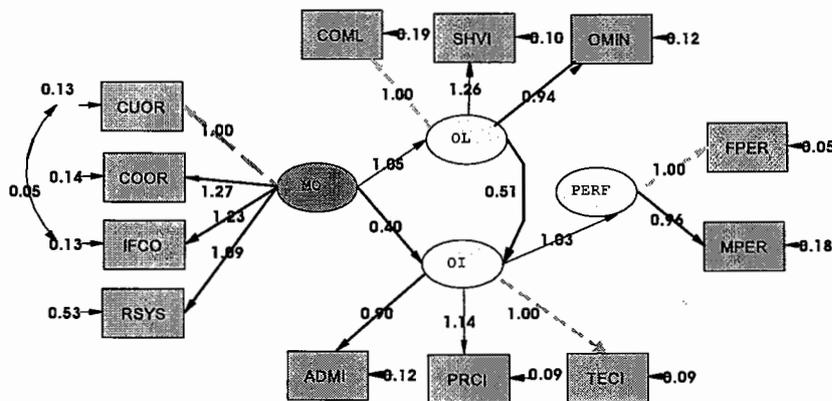
Since the proposed conceptual model postulates a set of relationships between four latent variables and 12 factors measured by multiple indicators and due to the fact that the latent variables act simultaneously as dependent variables in one dependency relationship and as independent variables in

another relationship, the structural equation modelling (SEM) approach is deemed to be the most appropriate analytical methodology for testing the proposed model. Hypotheses were tested by applying causal structural modelling.

The initial structural model when first tested was not satisfactory. It was therefore modified by constraining the non-significant paths to zero and using the Modification Indices (MIs) as an exploratory tool to identify structural paths that improve the fit of the model to data (Jöreskog and Sörbom, 1996). The final model is presented in Figure 1 and the statistical results are shown in Table 4.

FIGURE 1

Path Diagram of the Final Model



Chi-Square=101.20, df=49, P-value=0.00002, RMSEA=0.091

**Legend:** Market-Orientation (MO); Customer Orientation (CUOR); Competitor Orientation (COOR); Inter-functional Coordination (IFCO); Market Based Reward System (RSYS); Organizational Learning (OL); Commitment to Learning (COML); Shared-Vision (SHVI); Open-Mindedness (OMIN); Organizational Innovation (OI); Administrative Innovation (ADMI); Innovation in Methods and Processes (PRCI); Technological Innovation (TECI); Organizational Performance (PERF); Financial Performance (FPER); Market Performance (MPER).

Results suggest that the model fits the data rather well ( $\chi^2_{(49)} = 101.200$ ,  $p < 0.001$ ; GFI=0.88; AGFI=0.82; CFI=0.97; SRMR=0.04; RMSEA=0.09). The measurement model indicates that all the items scored high on the hypothesised constructs (see Table 4). All items differed significantly from zero with  $t$ -values ranging from 6.07 to 12.53, standard errors from zero and all  $t$ -values are significant ( $p < 0.001$ ). All the fit statistics were indicative of a good fit.

TABLE 4

Results of the Final Model: Structural Model

Exogenous Variables	Endogenous Variables	Path Coefficients	Standardized Coefficients	t
MO ( $\xi$ )	OL ( $\eta_1$ )	$\gamma_{11}$ (MO-OL)	1.05***	7.71
	OI ( $\eta_2$ )	$\gamma_{21}$ (MO-OI)	0.40*	2.45
	PERF ( $\eta_3$ )	$\beta_{32}$ (OI-PERF)	1.03***	8.93
		$\beta_{21}$ (OL-OI)	0.51***	3.74
Measurement Model				
Exogenous Variables	Endogenous Variables	Path Coefficients	Coefficients	t value
MO				
CUOR (X1)		$\lambda_{11}^x$ (CUOR-MO)	1.00***	-
COOR (X2)		$\lambda_{21}^x$ (COOR-MO)	1.27***	9.49
IFCO (X3)		$\lambda_{31}^x$ (IFCO-MO)	1.23***	12.53
RSYS (X4)		$\lambda_{41}^x$ (RSYS-MO)	1.09***	6.07
OL				
	COML ( $Y_1$ )	$\lambda_{11}^y$ (COML-OL)	1.00***	-
	SHVI ( $Y_2$ )	$\lambda_{21}^y$ (SHVI-OL)	1.26***	11.23
	OMIN ( $Y_3$ )	$\lambda_{31}^y$ (OMIN-OL)	0.94***	10.14
OI				
	ADMI ( $Y_4$ )	$\lambda_{42}^y$ (ADMI-OI)	0.90***	10.21
	PRCI ( $Y_5$ )	$\lambda_{52}^y$ (PRCI-OI)	1.14***	10.20
	TECI ( $Y_6$ )	$\lambda_{62}^y$ (TECI-OI)	1.00***	-
PERF				
	FPER ( $Y_7$ )	$\lambda_{73}^y$ (FPER-PERF)	1.00***	-
	MPER ( $Y_8$ )	$\lambda_{83}^y$ (MPER-PERF)	0.96***	10.50
$\chi^2 = 101.200$ , g. l.=49; GFI=0.88; AGFI=0.82; CFI=0.97; SRMR=0.04; RMSEA=0.09				
* p < 0.05 **p < 0.01 *** p < 0.001				

This study also applied to a nested (hierarchical) approach to test the hypothesised relationships in which the  $\chi^2$  of each related model is compared with the  $\chi^2$  of the theoretical model in order to compute the  $\chi^2$  difference. Results are shown in Table 5.

TABLE 5

Comparative Analysis Using Nested Models

Models	$\chi^2$	d. f.	$\Delta \chi^2$	GFI	AGFI	CFI	RMSR	RMSEA
Mt: Theoretical Model	99.93	47	-	0.89	0.81	0.97	0.04	0.09
M <sub>1</sub> : $\gamma_{11}=0$	168.25	48	68.32***	0.82	0.71	0.93	0.30	0.14
M <sub>2</sub> : $\gamma_{21}=0$	105.17	48	5.24*	0.88	0.81	0.97	0.04	0.10
M <sub>3</sub> : $\gamma_{31}=0$	100.29	48	0.36	0.89	0.81	0.97	0.04	0.09
M <sub>4</sub> : $\gamma_{21}=0$	105.96	48	6.03*	0.88	0.80	0.97	0.04	0.10
M <sub>5</sub> : $\gamma_{31}=0$	101.19	48	1.26	0.88	0.81	0.97	0.04	0.09
M <sub>6</sub> : $\gamma_{32}=0$	108.28	48	8.35**	0.88	0.80	0.97	0.05	0.10
Mo: Null Model	448.21	53	341.28***	0.63	0.46	0.85	0.45	0.24
* P < 0.05 ( $\chi_c^2=3.84$ ) **P < 0.01 ( $\chi_c^2=6.63$ ) *** P < 0.001 ( $\chi_c^2=10.83$ )								

In the nested models analysis, the relationship MO → OL was assumed as zero in M<sub>1</sub> with an obvious difference found in the fit of M<sub>1</sub> ( $\Delta\chi^2 = 68.32$ ,  $\Delta df=1$ ,  $p<0.001$ ). This result shows that MO does have an obvious effect on OL. From the causal coefficients of the theoretical structure (see Table 6) it can also be seen that the causal coefficient MO → OL is positive and significant ( $\gamma_{11}=0.86$ ,  $p<0.001$ ), which means that the more an organization is market oriented, the better it performs on OL. Results also revealed that MO does have a significant positive effect on OL. Thus, *H<sub>1.b</sub> is supported*. In a similar analysis of the causal relationships of the structural model (Figure 1), the results showed that there is *no support* for *H<sub>1.a</sub>* ( $\gamma_{31}=0.20$ ,  $p>0.05$ ) and *H<sub>1.c</sub>* ( $\beta_{31}=-0.31$ ,  $p>0.05$ ) while the hypotheses *H<sub>2.a</sub>* ( $\gamma_{21}=0.33$ ,  $p<0.05$ ), *H<sub>2.b</sub>* ( $\beta_{32}=0.85$ ,  $p<0.05$ ) and *H<sub>3</sub>* ( $\beta_{21}=0.62$ ,  $p<0.001$ ) are supported (see Table 6). Results from LISREL also highlight that the direct effect of market orientation on organizational learning ( $\gamma=1.05$ ) is greater when compared with organizational innovation ( $\gamma=0.40$ ). Similarly, the total effect of market orientation on performance is higher through organizational learning ( $\gamma=0.55$ ) and lower through innovation ( $\gamma=0.41$ ).

TABLE 6

Summary of Model Results and Hypothesis Tests

Loadings	Causal Relationships	Standardized Factor Loadings	Hypothesis	Results
$\gamma_{11}$	MO → OL	0.86***	H <sub>1.b</sub>	Supported
$\gamma_{31}$	MO → PERF	0.20	H <sub>1.a</sub>	Not Supported
$\gamma_{21}$	MO → OI	0.33*	H <sub>2.a</sub>	Supported
$\beta_{21}$	OL → OI	0.62***	H <sub>3</sub>	Supported
$\beta_{31}$	OL → PERF	-0.31	H <sub>1.c</sub>	Not Supported
$\beta_{32}$	OI → PERF	0.85**	H <sub>2.b</sub>	Supported
$\gamma_{31}$	-	-	H <sub>4.a</sub>	Not Supported
$\gamma_{31}$	-	-	H <sub>4.b</sub>	Not Supported
$\gamma_{31}$	-	-	H <sub>4.c</sub>	Partially Supported

\* P < 0.05 \*\*P < 0.01 \*\*\* P < 0.001

In order to confirm whether the relationship between market orientation and performance is really affected by environmental conditions, a multi-group analysis was conducted for hypothesis testing. Again LISREL 8.72 with SIMPLIS language was used to analyse data from several samples simultaneously (Jöreskog and Sörbom, 1993, pp. 51-84). The analysis involved the following: the sample was split-up into two groups based on a median score. The data above the median was defined as high turbulence and high competitive intensity, while the data below the median as low turbulence and competitive intensity.

A two-group LISREL model was then performed, so it could be determined whether (or not) there was a significant difference in structural parameters between the high market turbulence group and the low market turbulent group. The first model assumes that the two parameters from market orientation to organizational performance are the same for both groups (*equal constraint model*), which means that the two ( $\gamma$ ) are thought to be equal. The second model assumes that the two are free (*free model*). The difference of the two models' statistical significant was used as a test for the equality constraint model, that is, whether or not this model fits better than the free model (Matsuno and Mentzer, 2000). The findings are shown in Table 7.

TABLE 7  
Pairwise Comparasions

Groups	Constraint Model	Free Model	$\Delta \chi^2$	$\gamma$ Estimates Constraint Model (t value)	$\gamma$ Estimates Free Model (t value)
Low Market Turbulence vs. High Market Turbulence	$\chi^2=42.13$ d. f.=32  p=0.108 RMSEA=0.07 SRMR=0.12 CFI=0.96 NNFI=0.96	$\chi^2=50.80$ d. f.=31  p=0.014 RMSEA=0.10 SRMR=0.12 CFI=0.93 NNFI=0.93	$\chi^2=8.67^*$ d. f.=1	Low: 0.58 (3.03)  High: 0.58 (3.03)	Low: 0.57 (2.30)  High: 0.50 (2.07)
Low Competitive Intensity vs. High Competitive Intensity	$\chi^2=51.44$ d. f.=35  p=0.036 RMSEA=0.08 SRMR=0.12 CFI=0.94 NNFI=0.95	$\chi^2=51.29$ d. f.=34  p=0.029 RMSEA=0.08 SRMR=0.11 CFI=0.94 NNFI=0.95	$\chi^2=0.15^{**}$ d. f.=1	Low: 0.59 (3.05)  High: 0.59 (3.05)	Low: 0.77 (2.96)  High: 0.49 (2.13)
Low Technological Turbulence vs. High Technological Turbulence	$\chi^2=51.81$ d. f.=31  p=0.011 RMSEA=0.10 SRMR=0.11 CFI=0.93 NNFI=0.93	$\chi^2=43.68$ d. f.=29  p=0.039 RMSEA=0.09 SRMR=0.08 CFI=0.95 NNFI=0.95	$\chi^2=8.13^{***}$ d. f.=2	Low: 0.57 (3.00)  High: 0.57 (3.00)	Low: 0.44 (2.62)  High: 1.34 (3.54)

Results of the comparison between low and high *market turbulence* revealed that the  $\chi^2$  difference is significant ( $\Delta\chi^2 = 8.67$ , d.f = 1,  $p < 0.05$ ). The  $\gamma$  estimates for the constraint model of market turbulence are significant ( $\gamma = 0.58$ ,  $p < 0.05$ ); the estimate for the free model is  $\gamma = 0.57$  for low market turbulence and  $\gamma = 0.50$  for high market turbulence. Estimates for the free model are also significant ( $p < 0.05$ ).  $H_{4,a}$  is, therefore, *not supported*.

This is in line with Rose and Shoham's (2002) results in which a non-significant effect for market turbulence was found; they also discovered that the indirect effects of market orientation on organizational performance are negative either in high market turbulence or low market turbulence environments. In this study, the results of the comparison between low and high *competitive intensity* showed that the  $\chi^2$  difference is not significant ( $\Delta\chi^2=0.15$ ,  $df=1$ ,  $p<0.05$ ). Therefore,  $H_{4,b}$  is not supported, i. e., as suggested by the previous authors, no effect was found for competitive intensity. Finally, results of the comparison between low and high *technological turbulence* indicated that the  $\chi^2$  difference is significant ( $\Delta\chi^2=8.13$ ,  $df=2$ ,  $p<0.05$ ). The  $\gamma$  estimates for the constraint model of technological turbulence are significant ( $\gamma=0.57$ ,  $p<0.05$ ), while the estimates for the free model are  $\gamma = 0.44$  for low technological turbulence and  $\gamma = 1.34$  for high technological turbulence, and they are significant ( $p<0.05$ ). Therefore,  $H_{4,c}$  is partially supported, which means that, the indirect effects of market orientation on organizational performance are positive in high-turbulence environments and negative in low-turbulence environments.

## 5. CONCLUSIONS AND IMPLICATIONS

The major findings of this study and their implications are discussed in this section. The study did not validate the direct relationship between market orientation and performance ( $H_{1,a}$ ). Although this finding is supported by studies conducted by Jaworski and Kohli (1993), Diamantopoulos and Hart (1993) and others, it is inconsistent with the results of Narver and Slater (1990) and Ruekert (1992). It also seems worth mentioning the work of Appiah-Adu (1998), who studied this relationship and concluded that market orientation does not have a direct impact on sales growth or return on investment.

Concerning the mediating variables, the empirical findings provided support for the argument that market orientation is an important antecedent of both organizational learning and organizational innovation ( $H_{1,b}$  and  $H_{2,a}$ ). These results corroborate the work of Hurley and Hult (1998) who suggest that market orientation promotes organizational learning and the organization's ability to assimilate new ideas for change. An interesting finding of the present study relies on the fact that the impact of market orientation on performance is mainly mediated by organizational innovation rather than organizational learning. To be market-oriented without being innovative does not contribute to achieving a sustainable competitive advantage. That is, organizational innovation is an important antecedent of organizational performance ( $H_{2,b}$ ), nevertheless the same result was not found concerning organizational learning ( $H_{1,c}$ ). This indicates that more research needs to be done concerning this latter issue. To

be market-oriented without being innovative does not contribute to achieving sustainable competitive advantage. This study supports the notion that market orientation is an important determinant of organizational performance, particularly when this relation is mediated by innovation. It also offers empirical support with regard to the contribution of organizational learning to organizational innovation ( $H_3$ ), which is consistent with the work conducted by Salavou, Baltas and Lioukas (2004).

This study did not find support for the fact that high turbulence markets strengthen the relationship between market orientation and organizational performance ( $H_{4.a}$  -  $\gamma$  the estimates free model are lower in the equal constraint model), which is in line with Jaworski and Kohli (1993) and Rose and Shoham (2002). Additionally, contrary to what was expected, competitive intensity ( $H_{4.b}$ ) did not turn out to be a significant moderator of the market orientation-performance relationship (the  $\chi^2$  difference between the equal and free models is non-significant). This may be explained by the fact that most SMEs, particularly those operating in the textile, clothing and shoe sectors are facing a very hostile environment as a consequence of the entrance of China into WTO and their response to competitors is mainly focused on cost-control systems, price-cutting strategies and performance control systems rather than on market-oriented behaviours. This result is consistent with a number of previous studies (Jaworski and Kohli, 1993; Slater and Narver, 1994). Only when technological turbulence assumes high values does it appear to have some influence in the market orientation-organizational performance relationship ( $H_{4.c}$ ). This suggests that SMEs operating under high technological turbulence are more likely to be market-driven.

## 6. LIMITATIONS, RECOMMENDATIONS AND DIRECTIONS FOR FURTHER RESEARCH

This section discuss the limitations of the study and, where applicable, offer some recommendations and directions for further research. Among the limitations, three are noteworthy to mention: i) the single key-informant approach, and ii) reliance of the study on perceptual measures subject to cognitive biases. This is particularly relevant when the research relies mainly on multidimensional constructs such as the case of this study; iii) the environmental conceptualization may not be meaningful to managers since it may be too abstract and may fail to represent environments in terms that managers are able to relate to.

Another possible limitation concerns the decision to use LISREL instead of Partial Least Squares (PLS). Relevant for this study is the fact that several

authors argued that the minimum sample size to ensure the appropriate use of ML estimation (such as the case of this study) ranges between 100 and 150 (Hair et al., 1998). Although PLS is a possible option (due to the relatively small sample size), this approach is particularly adequate where “theory is weak and where the available manifest variables or measures would be likely not to conform to a rigorous-specified measurement model” (Sánchez-Franco and Rodríguez-Bobada, 2004:72). Moreover, PLS is recommended for analyses of measurement models with both formative and reflective items (Diamantopoulos and Winklhofer, 2001). Since the present study did not conform to any of the aforementioned requirements, it was decided to use LISREL. It also may be worth noting that the ratio of cases to observed variables is 11:1, which is adequate for SEM, according to the guidelines proposed by Hair et al. (1998).

In terms of manager’s recommendations, this research highlights the link between market orientation and organizational performance with not only organizational learning and organizational innovation as mediating variables but also environmental conditions as a moderator factor. The findings suggest that a market orientation culture has no direct effect on organizational performance; however, its impact is mediated by organizational learning and organizational innovation. The results also suggest that organizational learning does not have a direct association with organizational performance although its impact is mediated by organizational innovation. Additionally, it can be emphasised that although a market-oriented approach is a necessary condition for an organization to perform better, it is not a sufficient condition. Managers should also pay attention to learning orientation, which encompasses a broad range of activities. Likewise, to be market-oriented without being innovative does not contribute to achieving a sustainable competitive advantage and increased performance.

Overall, results from this study provide additional support for the relationship between market orientation and organizational performance and go a step further in the simultaneous inclusion of key variables (organizational learning, organizational innovation, and environmental conditions) that may help to explain the previous relationship. This is important because, as mentioned before, it is generally accepted that market orientation provides a solid foundation for sustainable competitive advantage. Finally, an area of research that may be explored further includes the analyses and replication of these relationships into other cultural contexts where the fashion industry also plays an important role.

## References

- Anderson, J. and Gerbing, D. (1988), "Structural Equation Modeling in Practice: A Review and Recommended Two-step Approach", *Psychological Bulletin*, Vol. 103 N° 3, pp. 411-423.
- Appiah-Adu, K. (1998), Market Orientation and Performance: Empirical Tests in a Transition Economy. *Journal of Strategic Marketing*, Vol.6, n°1, pp. 25-45.
- Armstrong, J. and Overton, T. (1977), "Estimating Non-response Bias in Mail Surveys", *Journal of Marketing Research*, Vol. 14, pp. 396-402.
- Baker, W. & Sinkula, J. (1999), "The Synergistic Effect of Market Orientation and Learning Orientation on Organizational Performance", *Journal of the Academy of Marketing Science*, Vol. 24, N° 4, fall, 411-427.
- Caruana, A., Pitt, L. & Berthon, P. (1999), "Excellence-Market Orientation Link: some Consequences for Service Firms", *Journal of Business Research*, Vol. 44, pp. 5-15.
- Clarke, A. & Dawson, P. (1999), "Evaluation Research: An Introduction to Principles, Methods and Practice", Sage Publications, London.
- Damanpour, F. & Evan, W. (1984), "Organizational Innovation and Performance: The Problem of Organizational Lag", *Administrative Science Quarterly*, Vol. 29, September, pp. 392-409.
- Damanpour, F. Szabat, K. & Evan, W. (1989), "The Relationship Between Types of Innovation and Organizational Performance", *Journal of Management Studies*, November, pp. 587-601.
- Day, G. (1994), "The Capabilities of Market-Driven Organisations", *Journal of Marketing*, Vol. 58, pp. 37-52.
- Deshpandé, R., & Farley, J. (1996), "Understanding Market Orientation: A Prospectively Designed Meta-analysis of Three Market Orientation Scales", Working Paper, Report Number 96-125, December, Marketing Science Institute, Cambridge, Massachusetts, pp. 1-22.
- Diamantopoulos, A. & Hart, S. (1993), "Linking Market Orientation and Company Performance: Preliminary Work on Kohli and Jaworski's Framework", *Journal of Strategic Marketing*, Vol. 1, pp. 93-122.
- Diamantopoulos, A. and Winklhofer, H. (2001), "Index construction with formative indicators: an alternative to scale development", *Journal of Marketing Research*, Vol. 38, pp. 269-77.
- Drucker, P. (1954), "The Practice of Management", Harper & Row, New York.
- Greenley, G. (1995), "Market Orientation and Company Performance: Empirical Evidence from UK Companies", *British Journal of Management*, Vol. 6, pp. 1-13.
- Gatignon, H. & Xuereb, J. M. (1997), "Strategic Orientation of the Firm and New Product Performance", *Journal of Marketing Research*, Vol. XXXIV, pp. 77-90.
- Hair, J., Anderson, Tathan & Black, W. (1998), "Multivariate Data Analysis", Fifth Edition, Upper Saddle River, N. Y., Prentice Hall.
- Han, J., Kim, N. & Srivastava, R., (1998), "Market Orientation and Organizational Performance: Is Innovation the Missing Link?", *Journal of Marketing*, Vol. 62, October, pp. 30-45.
- Hunt, S. & Morgan, R. (1995), "The Comparative Advantage Theory of Competition", *Journal of Marketing*, Vol. 59, April, pp. 1-15.
- Hurley, R. & Hult, G. (1998), "Innovation, Market Orientation, and Organizational Learning: An Integration and Empirical Examination", *Journal of Marketing*, Vol. 62, July, pp. 42-52.
- Jaworski, B. & Kohli, A. (1993), "Market Orientation: Antecedents and Consequences", *Journal of Marketing*, Vol. 57, July, pp. 53-70.
- Jöreskog, K. & Sörbom, D. (1993), "LISREL 8: Structural Equation Modeling with the Simplis Command Language", Scientific Software International, Chicago, IL.
- Jöreskog, K. & Sörbom, D. (1996), "LISREL 8: User's Reference Guide", Scientific Software International, Chicago, IL.
- Kaplan, R.S. & Norton, D.P. (1996), "A estratégia em acção: Balance Scorecard", Editora Campus, Rio de Janeiro.
- Kohli, A. & Jaworski, B. (1990), "Market Orientation: The Construct, Research Propositions and Managerial Implications", *Journal of Marketing*, Vol. 54, April, pp. 1-18.

- Kohli, A. & Jaworski, B. & Kumar, A. (1993), "Markor: A Measure of Market Orientation", *Journal of Marketing Research*, Vol. XXX, November, pp. 467-477.
- Matsuno, K. & Mentzer, J. (2000), "The Effects of Strategy Type on the Market Orientation-Performance Relationship", *Journal of Marketing*, Vol. 64, October, pp 1-16.
- Narver, J. & Slater, S. (1990), "The Effect of a Market Orientation on Business Profitability", *Journal of Marketing*, N.º 50 (October), pp. 20-35.
- Nunnally, J. (1978), "Psychometric Theory", New York, McGraw-Hill Book Company.
- Pelham, A. (1997), "Market Orientation and Performance: The Moderating Effects of Product and Customer Differentiation", *Journal of Business and Industrial Marketing*, Vol. 12, N.º 5. pp. 276-296.
- Pelham, A. & Wilson, D. (1996), "A Longitudinal Study of the Impact of Market Structure, Firm Structure, Strategy, and Market Orientation Culture on Dimensions of Small-Firm Performance", *Journal of the Academy of Marketing Science*, Vol. 24, N.º1, pp. 27-43.
- Pitt, L., Caruana, A., & Berthon, P. (1996), "Market Orientation and Business Performance: Some European Evidence", *International Marketing Review*, Vol. 13, N.º 1, pp. 5-18.
- Rose, G. & Shoham, A. (2002), "Export Performance and Market Orientation Establishing an Empirical Link", *Journal of Business Research*, Vol. 55, pp. 217-225.
- Ruekert, R. (1992), "Developing a Market Orientation: An Organizational Strategy Perspective", *International Journal of Research in Marketing*, Vol. 9 (3), pp. 225-245.
- Salavou, Baltas & Lioukas (2004), "Organizational Innovation in SMEs: The Importance of Strategic Orientation and Competitive Structure", *European Journal of Marketing*, Vol. 38, N.º 9/10, pp. 1091-1112.
- Slater, S. & Narver, J. (1994), "Market Orientation, Customer Value and Superior Performance", *Business Horizons*, March-April, pp. 22-28.
- Slater, S. & Narver, J. (1995), "Market Orientation and Learning Organization", *Journal of Marketing*, Vol. 59, July, pp. 63-74.
- Sánchez-Franco, M. & Rodríguez-Bobada, J. (2004), "Personal factors affecting users' web session lengths", *Internet Research: Electronic Networking Applications and Policy*, Vol. 14, N.º 1, pp. 62-80.
- Steenkamp, J.B. & Van Trijp, H. (1991), "The Use of LISREL in Validating Marketing Constructs", *International Journal of Research in Marketing*, Vol. 8 pp. 283-299.

---

## Resumo

É vulgarmente aceite pela literatura relevante que um comportamento orientado para o mercado tem um impacto positivo na performance. Este estudo reforça empiricamente a relação clássica entre orientação para o mercado e performance organizacional, mas vai mais longe incluindo no modelo não apenas o efeito sinérgico das variáveis mediadoras aprendizagem organizacional e inovação organizacional, mas examina também o potencial efeito moderador do meio envolvente na referida relação. A análise baseia-se numa amostra de 130 empresas de pequena e média dimensão que operam na fileira da moda, traduzida pelos sectores têxtil e do vestuário e calçado.

Algumas implicações e recomendações deste estudo e sugestões para investigação futura são apresentadas na parte final do artigo.

**Palavras-chave:** Orientação para o Mercado, Aprendizagem Organizacional, Inovação Organizacional, Performance Organizacional.

