



REVISITING THE APPLICABILITY OF PORTER'S MODEL TO THE PORTUGUESE MANUFACTURING: A DEPARTURE FROM TRADITIONAL STRATEGIES

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Abstract

The purpose of this paper is to analyze the strategies utilized in the Portuguese manufacturing environment, and to compare the results with those of a similar study conducted in 1993. Self-administered surveys were employed and a total sample of 229 firms were used for the analysis. The responses were factor analyzed to establish patterns of strategic behaviours. In comparison with 1993, today's Portuguese manufacturing firms are using more product development and innovation in order to offer many new customized products to different markets. In most cases, they are capitalizing on flexible manufacturing to achieve more depth and breadth in their product lines.

Keywords: Portuguese manufacturing firms, strategy, Porter's typology.

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1. INTRODUCTION

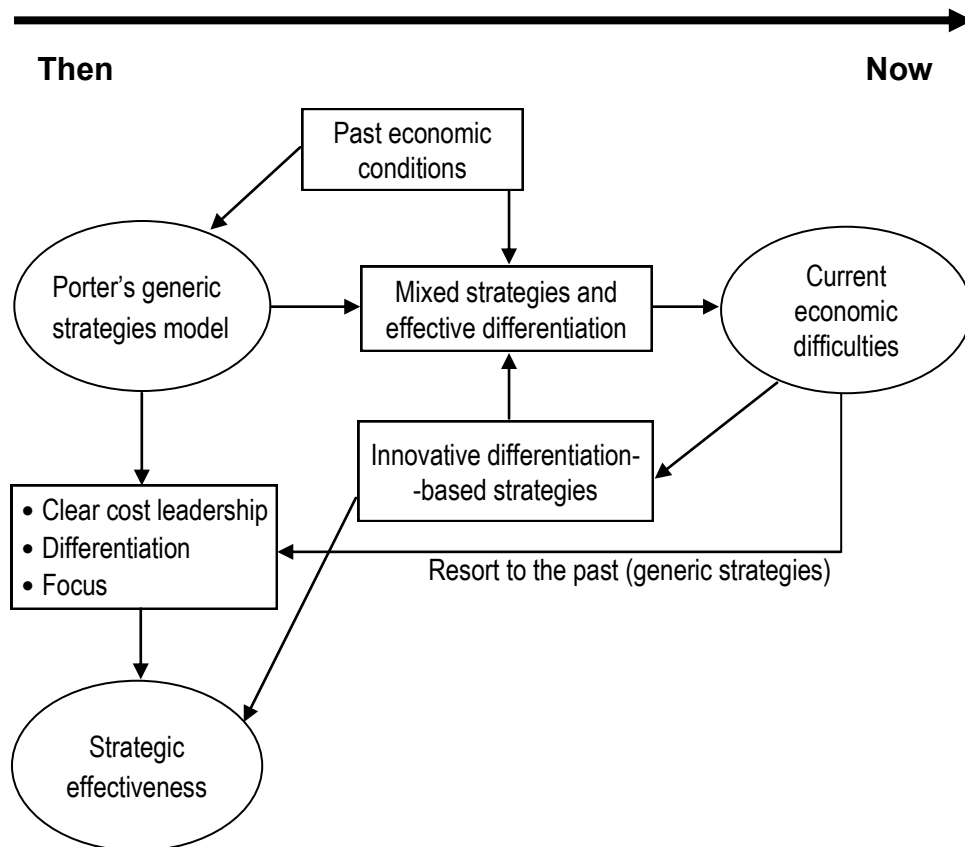
Since Portugal joined the European Union, Portuguese manufacturing organizations have evolved strategically. Before becoming part of the competitive European Union, Portuguese manufacturing organizations lacked a well-defined strategic orientation derived from formal strategic planning systems. For the most part these organizations competed in the local Portuguese market, where the need for a clear strategic orientation was not a prerequisite for survival. In 1993, seven years after joining the European Market, a study revealed that Portuguese manufacturers were starting to utilize Porter's generic strategy model (Green et al., 1993). The study revealed that pure, generic strategies based on Porter's model were being used in response to the competitive pressure of the European Market. Although differentiation strategies and focus strategies were used, the main emphasis was on clear efficiency, and cost leadership strategies. Such a strategic orientation was justified, as Portuguese manufacturing organizations had a production cost advantage.

More recently, the Portuguese economy has experienced several difficulties, which have been attributed to the global economic and financial crisis. As a result of the competitive pressure brought on by such a challenging economic and financial business environment, Portuguese manufacturing organizations are re-engineering their strategic choices in order to become more customer responsive.

This study examines the current strategic choices of Portuguese manufacturing organizations empirically. In the process, the findings are compared with the findings of the 1993 study. To achieve this objective, a sample of 229 Portuguese manufacturing organizations is used. Using 21 competitive methods, factor analysis is used to uncover the strategic orientations of the sampled organizations. Figure 1, which is based on the comparison of the findings of the current study with findings of the 1993 study, provides a framework to motivate future research.

Figure 1

Strategic choices and economic condition



2. BACKGROUND

Recent environmental, competitive, and economic changes have left organizations struggling for mere survival. These changes have caused many organizations to reconsider their strategic choices and modes of operations. While many of these organizations have made tremendous strategic adjustments in the last 25 years in order to become more open to the needs of the customers, in the last few years, most organizations have been called upon to adopt a survival strategy based on greater efficiency and cost reductions. This has been brought about by the recent financial and economic crisis. In this context, the right strategic approach to adopt is no easy choice.

A study conducted by Hambrick (1982) concluded that successful organizations interact more efficiently with their environment than less successful organizations. Hence, according to contingency theory, an organization's performance depends on its capacity to scope and adapt its strategy, structure and operational process to the environment. Studies conducted by Hambrick and Mason (1984) and Szilagyi and Schweiger (1984) tend to support the notion that the strategies adopted by organizations usually differ because their implementation requires different managerial capacities, values and knowledge. In addition, the works of other authors such as Kim and Lim (1988), Jennings and Lumpkin (1992), Lamon, Marlin and Hoffman (1993) tend to be in favour of strategic choices as a volunteer act by the management side as an answer to environmental changes.

Porter's generic strategies framework has become one of the most frequently used frameworks to study the strategic behaviour of organizations (Allen et al., 2006), and it is found in many business cultures and industries (McNamee and Hugh, 1989; Kim et al., 2004; Garrigós-Simón et al., 2005; Gibbons and O'Connor, 2005; Spanos et al., 2004; Allen et al., 2007). An examination of this literature tends to support the use of Porter's generic strategies in their pure form, or in hybrid mixed forms, revealing different levels of performance (for a detailed analysis see Campbell-Hunt, 2000).

During the 1990s and early 2000s several researchers used Porter's generic strategies framework to study how Portuguese organizations were competing in the global market. For example, Green et al. (1993) studied the application of Porter's generic strategies in the Portuguese manufacturing organizations of several industries. Raposo (1994) has examined the textile industry. Marques et al. (2000), Silva et al. (2000), and Jácome et al. (2002) have examined three important industries, namely: Crystal Glass, Moulds, and Porcelain, respectively.

These studies have led to three important conclusions: First, the organizations studied were following Porter's classical generic strategies. Thus, Porter's model appeared to be applied in the manufacturing Portuguese environment. Second, these studies showed that organizations which followed a differentiation strategic choice tended to achieve higher performance relative to organizations which did not. Third, these studies hinted as to the presence of non-classical differentiation strategic choices. In particular, the work of Green et al. (1993) concluded that Portuguese business strategies are internally consistent although Portugal had been characterized as having unsophisticated business acumen with very little formal strategic planning. The results of the 1993 study indicated that the strategies employed, regardless of the degree of formalization of the planning process, were internally consistent and viable based on Porter's model.

The true measure of a theory's contribution to society is its ability to explain its behaviour in different contexts. Porter's generic strategy falls in this category. The numerous studies involving the operationalization of his theory in different industries and settings have demonstrated the usefulness of his theory both for academics and practitioners.

During the last decade, many authors have used Porter's generic typology to analyze managerial practices and organizational performance. A study conducted by Allen, Helms and Marilyn (2006) has identified a list of strategic practices that are more representative of the generic Porter strategy. They propose a list of critical practices associated with performance for each specific generic strategy. Parnell (2006) builds on Porter's generic strategies to propose a new business strategy typology that includes value and market control as two important factors. More recently Lotayif (2010) has studied a sample of 243 Egyptian executives and identified relationships between organizational performance and the generic strategies adopted.

The survey conducted by Green et al. (1993) was carried out eight years after Portugal joined the EC at a time when only 15 countries were full EC members. Those times were marked by the movement towards a European-wide trading block, where the participating European countries were viewed, as they still are, as a single trading partner. After eighteen years, there are now twenty seven full member states, which has increased the trading area tremendously and completely changed the social and economic environment of business operations. It is these changes that have motivated us to analyse the new strategic orientations utilized by Portuguese firms, and to compare them with the strategic orientations utilized in 1993. Thus the general objective of this study is to revisit the strategic choices utilized by Portuguese organizations and compare those results with the choices prevalent almost eighteen years ago. In short, are strategic orientations changing or is it more of an adjustment in tactics to cope with the extraordinary movement towards a global business?

3. METHODOLOGY

3.1. Research Instrument

In his previous study, Green et al. (1993) used a survey instrument based on the work of Dess and Devis (1984) to measure the strategic orientation of Portuguese organizations. The instrument was translated to Portuguese and mailed to administrators/CEOs, who were asked to rate the relative importance of the competitive methods (see Table 1) for their firm's strategies. Almost 20 years later, we use the same research instrument to pursue the objective of this study: to revisit the strategic choices utilized by Portuguese organizations and compare these choices against those found eighteen years ago.

Table 1

Expert panel's view on the relative importance of competitive methods

Competitive Method	D	CL	F
1. New product development	Most	*	*
2. Customer service	*	Least	*
3. Operating efficiency	*	Most	*
4. Product quality control	*	*	*
5. Experienced/trained personnel	*	*	*
6. Maintaining high inventory levels	*	*	Least
7. Competitive pricing	Least	Most	*
8. Broad range of products	Least	*	Least
9. Developing/refining existing products	*	*	*
10. Brand identification	Most	*	Most
11. Innovation in marketing techniques and methods	Most	Least	*
12. Control of channels of distribution	*	*	*
13. Procurement of raw materials	Least	Most	Least
14. Minimum use of outside financing	Least	*	Least
15. Serving specific geographic markets	*	Least	Most
16. Capacity to manufacture specialty products	*	Least	Most
17. Products in high price market segments	*	Least	*
18. Advertising	Most	*	*
19. Reputation within industry	*	*	*
20. Forecasting market growth	*	*	*
21. Innovation in manufacturing process	*	Most	*

Note: *No clear consensus by panel.

In addition to the demographic data, the research instrument was designed to gather information regarding manufacturing flexibility, product innovation, process innovation, organizational innovation, and organizational performance. Also, the research instrument gathered information regarding important environmental factors, business complexity, and financial options. The research instrument utilized a seven-point Likert scale.

This instrument was pre-tested using a sample of five administrators/CEOs of Portuguese manufacturing firms to assess its practical relevance and its face validity. The obtained input was used to make some modifications to the instrument to improve its practical relevance to Portuguese firms and its face validity.

3.2. Sample

The database utilized for the purpose of this study was supplied by COFACE (Compagnie Française d'Assurance pour le Commerce Extérieur). This database included contact information for 4000 Portuguese manufacturing firms. Four thousand surveys were mailed to the administrators/CEOs. A letter explaining the nature of the study and encouraging participation accompanied the research instrument.

Out of the 4000 surveys mailed to the administrators/CEOs, 1880 (47%), were returned as 'undeliverable'. We received 256 questionnaires, resulting in a response rate of 12.1%. Twenty-seven (27) surveys were returned as very incomplete and therefore not included in the study. The final usable sample was 229 questionnaires. Although this response rate is similar to previous studies reported in literature (e.g. Green et al., 1993; Dugler et al., 2011), the sample size used in this study is substantially larger, making our findings more consistent. The responses were factor analyzed to establish patterns of relative importance consistent with the views of the expert panel of Dess and Davis (1984).

4. RESULTS

4.1. Explanation

The total of 229 responses was collected for analysis. Table 2 compares the descriptive statistics for the 21 competitive methods collected in 1993 and 2011. The Wilcoxon rank sum test confirmed that, although the data were collected at different times, the distribution of the relative importance of the

competitive methods is the same.

H₀: The two populations sampled have identical probability distributions.

H_a: The probability distribution for 1993 population is shifted to the left or to the right of the 2011 population.

The Z scores is:

$$Z = \frac{T_A - \frac{n_1(n_1 + n_2 + 1)}{2}}{\sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}} = -1,019 < Z_{0,025} = -1,96$$

where:

T_A is the rank sum for 1993 population and n₁ and n₂ the sample size for 1993 and 2011, respectively. These findings suggest that although some changes in the relative importance of the competitive methods have been detected, these changes are not significant. The factor analysis, which follows next, shows the changes in the competitive strategies adopted by the Portuguese firms.

Table 2

Means and standard deviations data 1993 vs. 2011

	Mean		SD			
	1993 ^a	2011 ^b	1993 ^a	2011 ^b		
	HL	HL				
1. New product development	4.04	5	5.59	9	1.15	1.55
2. Customer service	4.00	6	5.63	8	1.22	1.49
3. Operating efficiency	4.35	3	6.23	2	0.96	1.05
4. Product quality control	4.51	1	6.25	1	0.78	1.02
5. Experienced/trained personnel	4.00	6	5.86	5	0.99	1.09
6. Maintaining high inventory levels	2.25	17	3.71	18	1.18	1.75
7. Competitive pricing	3.94	7	5.90	4	0.99	1.19
8. Broad range of products	3.18	11	5.69	7	1.04	1.33
9. Developing/refining existing products	3.84	8	5.73	6	1.00	1.20
10. Brand identification	3.84	8	5.17	13	1.39	1.88
11. Innovation in marketing techniques and methods	4.00	6	4.72	16	1.11	1.72
12. Control of channels of distribution	3.49	9	4.79	14	1.22	1.68
13. Procurement of raw materials	3.13	12	5.41	12	1.30	1.54
14. Minimum use of outside financing	2.84	15	4.72	16	1.31	1.81
15. Serving specific geographic markets	2.97	13	4.79	14	1.28	1.69
16. Capacity to manufacture specialty products	2.91	14	5.41	12	1.29	1.604
17. Products in high price market segments	2.68	16	4.74	15	1.37	1.82
18. Advertising	3.25	10	3.99	17	1.18	1.69
19. Reputation within industry	4.44	2	6.07	3	0.87	1.06
20. Forecasting market growth	4.06	4	5.48	11	0.88	1.31
21. Innovation in manufacturing process	3.94	7	5.56	10	1.17	1.40

Notes: ^a n= 68; ^b n=229.

The 1993 data is based on a 5 point Linkert scale. The 2011 data is based on a 7 point Linkert scale.

The factor analysis results for the current study are summarized below.

Factor 1: Marketing innovation differentiation

Factor 1 focuses on marketing tools to sell available products to existing markets. This factor signifies a marketing-based strategic orientation. In this context, innovative marketing is used to create product differentiation through brand identification and advertising. Large inventories are used to improve product delivery to well-established and growing markets. Strategic agreements are used to manage and control the supply chain.

Factor 2: Product innovation differentiation

Factor 2 focuses on product and production innovations to reach new markets and customers. This factor utilizes product innovation to alter customized products for different markets. This approach is made feasible through the utilization of advanced and flexible manufacturing technology. The ability to offer many new products through flexible production enables the organization to compete despite charging high prices. In this context, the organization is supported by an earned reputation which makes such a strategic orientation feasible.

Factor 3: Customer-orientation differentiation

Factor 3 focuses on the customer by creating value to the customer through service, a low price gained through operational efficiency, and product quality. Customer service is promoted through trained staff. Organizations utilizing this strategic orientation are attempting to serve the customer better by means of gained efficiency. In this context, they are passing some of the efficiency gains to the customer in the form of low prices, high customer service, and acceptable quality. As such, they are stressing the overall value of the product to the customer.

Factor 4: Efficiency-based differentiation

This factor is not a cost leadership in the true sense of the cost leadership. It is focused on the efficiency gained through the management of the supply chain, pricing and financing. Therefore, it is focused on gaining the efficient use of the resources of the organization. This efficiency is transmitted to the customer in the form of lower prices.

4.2 Comparison of findings

Table 3 shows the factor analysis findings from 1993. As can be seen from Table 3, seven years after entering the European Market, Portuguese manufacturing organizations were relying on classical generic strategies to compete. Despite the utilization of a differentiated strategy, the efficiency-based cost leadership strategic theme was evident. Entering the European Market, Portuguese manufacturing organizations had a competitive advantage

in terms of cost of production. Therefore, emphasizing a cost leadership was a logical strategic choice for those organizations. However, even at that time, Portuguese manufacturing felt the presence of competition. Some of these organizations resorted to differentiation generic strategies to cope with the dynamic, competitive European Market.

Table 3

Factor analysis results - data 1993 vs. 2011

<i>Variables</i>	<i>Factors</i>	F1	F2	F3	F4
Factor 1: Classic differentiation					
New product development		0.64			
Customer service		0.65			
Broad range of products		0.50			
Brand identification		0.64			
Innovation and marketing techniques and methods		0.79			
Advertising		0.83			
Forecasting market growth		0.56			
Factor 2: Cost Leadership					
Operating efficiency			0.86		
Product quality control			0.79		
Developing/refining existing products			0.69		
Innovation in manufacturing process			0.78		
Factor 3: Focus/Differentiated					
Capacity to manufacture specialty products				0.77	
Products in high price market segments				0.82	
Factor 4: Service Orientation					
Maintaining high inventory levels					0.61
Minimum use of outside financing					0.69
Reputation within industry					0.70
<i>Eigenvalues</i>		3.88	3.44	2.12	1.98

Table 4 displays the results of the current study. The results show that Portuguese manufacturing organizations appear to be relying most on mixed, differentiated strategies to respond to the changing realities of the competitive European Market. While efficiency is not ignored in their strategic choices, the Portuguese organizations appear to be emphasizing innovative, mixed strategies. These innovative strategies are becoming more feasible due to the utilization of more automation in manufacturing processes. In addition to new manufacturing technologies, Portuguese manufacturing organizations are using more innovative operational philosophies such as TQM, JIT, other process improvement tools, and supply-chain management. The differentiated strategic orientation of Portuguese firms appears to have distinct customer orientation and marketing flavor. Some organizations are supplementing this flavor with efficient automation-based manufacturing in order to give the customer a lower price. In comparison to 1993, today's Portuguese manufacturing firms are using more product development and innovation in order to offer many new customized products to different markets. In most cases, they are capitalizing on flexible manufacturing to achieve more depth and breadth for their product lines.

Table 4

Factor analysis result - data 2011

<i>Variables</i>	<i>Factors</i>	F1	F2	F3	F4
Factor 1: Marketing innovation differentiation					
Maintaining high inventory levels		0.517			
Brand identification		0.725			
Innovation in marketing techniques and methods		0.763			
Control of channels of distribution		0.793			
Advertising		0.822			
Factor 2: Product innovation differentiation					
New product development			0.541		
Broad range of products			0.504		
Capacity to manufacture specialty products			0.753		
Products in high price market segments			0.777		
Reputation within industry			0.557		
Innovation in manufacturing process			0.567		
Factor 3: Customer-orientation differentiation					
Product and service efficiency					
Customer service				0.562	
Operating efficiency				0.757	
Product quality control				0.792	
Experienced/trained personnel				0.722	
Factor 4: Efficiency-based differentiation					
Competitive pricing					0.526
Procurement of raw materials					0.705
Minimum use of outsider financing					0.798
<i>Eigenvalues</i>		7.401	2.066	1.539	1,271
<i>% of variance</i>		16.669	16.186	14.593	11.016
<i>Cumulative %</i>		16.669	32.856	47.449	58.464
<i>Cronbach alpha</i>		0.810	0.790	0.775	0,590

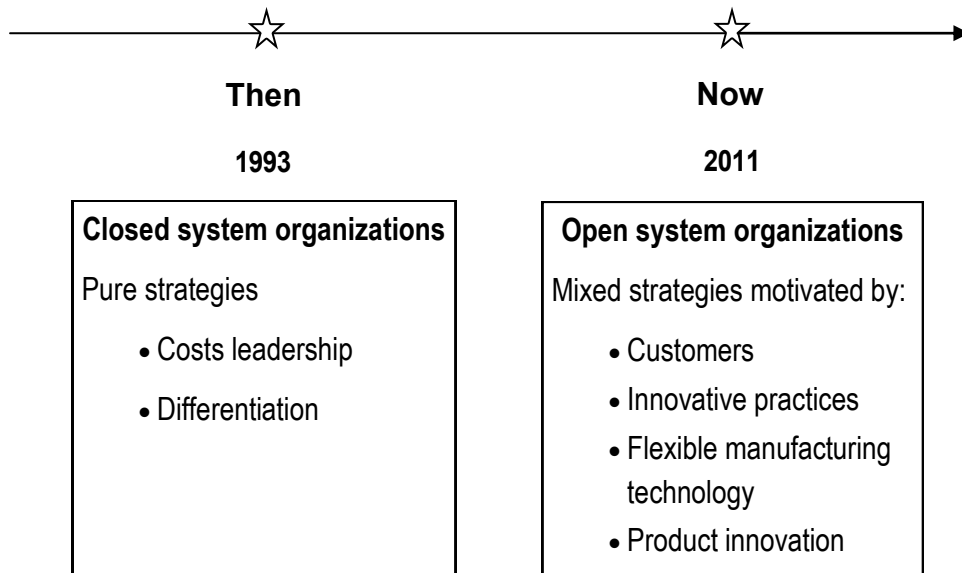
5. CONCLUSION

In comparison to 1993, the current strategic choices of Portuguese manufacturing organizations appear to be shifting from pure, generic strategies to more mixed, innovative strategies (see Figure 2). This shift appears to be a response to a more competitive market place, which is characterized by more and more demanding customers. In this context, customers appear to view efficiency as a given. As such, they are demanding more than merely affordable prices. They are seeking to do business with organizations that emphasize differentiation through a broader range of quality of both existing and new products.

The Portuguese manufacturing organizations appear to be strategically evolving toward a more open system strategic model, where the customer is an integral part of the manufacturing system. In this context, the shift from pure generic strategies to innovative, mixed strategies is seen as a strategic necessity to survive in an ever changing marketplace.

Figure 2

The strategic evolution of Portuguese manufacturing organizations



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