

## **STRATEGIC ORIENTATIONS OF MANUFACTURING ORGANIZATIONS IN THE EUROPEAN MARKET: EVIDENCE FROM PORTUGAL**

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### **ABSTRACT**

The objective of this study is to investigate the strategic approaches utilized by Portuguese manufacturing organizations in response to the competitive pressures in the European and global markets. Based on the results of the analysis, it appears that the sampled organizations are following hybrid strategic orientations. These strategic orientations appear to be motivated by well-defined mixed strategies. The strategic elements of e-business are detected in these mixed strategies.

**Keywords:** Generic strategies, Manufacturing organizations, European market, Portugal.

### **BACKGROUND**

Porter's generic strategies framework has been one of the most used frameworks to study the strategic behavior of organizations [2]. Examples of utilizing Porter's framework are found in many business culture and industries [15][11][7][8][19][1]. An examination of this literature tends to support the utilizations of Porter's generic strategies in their pure form or as hybrid mix forms, revealing different levels of performance (for a detailed meta-analysis please see [4]).

During the 90's several researchers used Porter's generic strategies framework to study how Portuguese organizations were competing in the global market. In the process, the strategic orientation of some of the main industries, namely textile [17][5], hospitality [14], and construction [3], were studied. Green et al. [9] studied the applications of Porter's generic strategies in the Portuguese manufacturing organizations of several industries.

More recently this research theme was continued by [13], [18], and [10] who examined three important Portuguese industries, namely the Cristal Glass, the Mould, and the Porcelain respectively. These studies pointed to three main conclusions. First, the studied organizations in these three industries were following Porter's classical generic strategies. Thus the Porter's model appeared to be valid 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 showed the presence of a non-classical differentiation based on a time-based tendency.

The objective of this study is to investigate the strategic approaches utilized by Portuguese executives of manufacturing organizations in order to maintain or improve their organizations competitive position in the global market. Specifically, this investigation focuses on the competitive methods which are utilized by these executives. In the process, this study explores the following research questions:

1 – Are Portuguese manufacturing organizations following Porter’s classic generic strategies framework?

2 – How are Portuguese manufacturing organizations adapting strategically to the recent market changes.

3 – To what extent are Portuguese manufacturing organizations integrating information technologies, and e-business strategies in their corporate strategic choices?

## **METHODOLOGY**

### **Instrument**

The research instrument used in this study was designed based on an extensive literature review. Thirty-three competitive methods were included in the instrument. Twenty-one questions were derived from Dess and Davis [6] seminal work on generic strategies. Five variables were previously used on the study [10] by dealing with strategic orientations of manufacturing Portuguese organizations. Finally, seven new variables were included. Those variables were related to e-business strategies (3), environment health and safety in the workplace standards (2), and information technologies utilization (2). The questionnaire development included translation and adaptation to the reality of the Portuguese manufacturing environment. For each of thirty-three competitive methods utilized, executives of manufacturing organizations were asked to indicate their relevance to organizational strategy. A likert-type scale ranging from 1 (not utilized), to 5 (frequently utilized) was used.

### **Sample and Data Analysis**

For the purpose of this study, the database maintained by a governmental agency — Portuguese National Institute of Statistics — was used. This institute attempts to maintain relevant and current data on Portuguese organizations. A random sample was obtained from the population of manufacturing firms with fifty (50) employees or more. The research instrument was sent to the executives of the five-hundred (500) sampled manufacturing organizations.

Sixty-eight (68) completed instruments were received, while four (4) instruments were returned with some reasons offered for the unwillingness to participate in the study. Forty-two (42) instruments were returned due to firms going out of business or moving out of the initial address. An adjusted response rate of 23.2% was obtained.

No significant differences in terms of the characteristics of respondents relative to the non-respondents were detected ( $\alpha=0.05$ ). The participating executives were asked to provide information regarding number of employees, type of certification achieved, and the extent of existence of integrated performance measurement systems in their manufacturing organizations (see Table I).

In the first phase of the data analysis, factor analysis was used to extract the underlying dimensions (factors) of strategies followed by the studied organizations. The second phase of the data analysis was focused on investigating the existence of groups of companies with similar competitive factors considered critical to enhancing organizational performance. A cluster analysis was used to group the organizations into strategic types. For this purpose, the hierarchical agglomerative technique (Wards's method) was used. This technique is designed to recognize outliers and to determine the appropriate number of clusters [21]. As a result of this technique the sample was reduced to sixty seven (67) responses. The number of cluster was set on four (4).

In order to better understand the strategic behavior of each group, a performance indicator (Pi), reflecting the net return on assets of the organizations was utilized. The participants were requested to provide information regarding their organizations last three years total assets and net profit. Using this information, the Pi indicator for each organization was calculated.

The average of this performance ratio for the last three years was calculated (PI) and used to quantify the average performance of each strategy group. Finally, in order to identify which competitive methods are preferred by each strategy group a cluster analysis was used.

## **RESULTS AND DISCUSSION**

### **Factor Analysis Results**

Using the Kaiser-Myer-Olkin test, sample adequacy for all variables was analyzed. A sample adequacy overall value of 0.70 was obtained. This value reached the value considered acceptable in the literature for this type of analysis [21]. The principal component method with a Varimax rotation was used to extract relevant factors. The results of the Bartlett test confirmed the appropriateness of the factor analysis procedure as used.

Based on the factor analysis procedure, a height-factor solution was extracted explaining 68.27 per cent of total variance. However, the last three factors only included one variable For the purpose of the research analysis, only five factors were retained (Table II). This five-factor solution explained 51.07 per cent of the total variance. The five factors extracted based on this solution are presented next.

Factor One – Market Leadership

Factor Two – Production and Products

Factor Three – Organizational Innovation

Factor Four – Efficiency and Service

Factor Five – Quality and Reliability

### **Cluster results**

Based on the cluster analysis procedure, a four-cluster solution was extracted with significant differences between all strategic dimensions (Table III). Based on the results, the Efficiency and Service strategic dimension is found at the top of preferences for all strategic groups. This perhaps reveals a new strategic tendency on the part of Portuguese organizations in an effort to complement their traditional cost-leadership strategy with outstanding customer service. This emerging preferred strategic orientation can be viewed as a strategic reaction to the entrance of manufacturing organizations from countries newly admitted to EU to markets which Portuguese organizations had competed in the past. These organizations traditionally also compete based on the cost-leadership strategies. Thus, Portuguese manufacturing organizations are attempting to differentiate themselves from new comers.

#### **Group A**

Includes nineteen organizations (28.4% of the sample) which follow a hybrid generic strategy, with an equal emphasis on all strategic dimensions other than Quality and Reliability. This strategic behavior could be labeled as a typical stuck-in-the-middle based on Porter's classical generic strategic model. These organizations do not value enough either in certification, or in the reliability of raw materials.

#### **Group B**

This strategic group includes twenty-five organizations (37.3% of the sample) which assign the highest scores to four of the five strategic dimensions. Market Leadership in this group is the second least emphasized, compared to the other strategic choices. This group is clearly facing the new market challenges with almost all the strategic weapons they can master.

#### **Group C**

Includes eight organizations (11.9% of the sample) which assign the lowest scores to four of the five strategic dimensions. The Quality and Reliability received the second lowest scores. Organizations in this group are neglecting important strategic dimensions related to customer, namely the Market Leadership and Quality and Reliability. They are also neglecting two important dimensions which can make or break their future strategic survival, namely Organizational Innovation, and Production and Products.

#### **Group D**

This group includes fifteen firms (22.4% of the sample). Four of the five strategic dimensions are not significantly different from other groups. The Market Leadership strategic dimension is the

lowest strategic choice among firms in this group. Otherwise, it appears that these firms are following hybrid/mixed strategy.

### **Firm's distribution by industry within the strategic groups**

Since the sample used in this study represent a cross-sectional sample from different manufacturing industries, it is important to analyze the distribution of the organizations by industry within each strategic group. The results show that all industries but one (paper and paper products and publishing industries) are presented in the Group B. On the other hand, Group C includes only four industries. The distribution of Groups A and D appears to be not very different from Group B.

### **Strategic Group Performance**

In order to evaluate the existence differences in performance between the organizations which are following different strategic orientations, analysis of variance is performed for the performance indicator PI, representing the average of net return on assets, during the last three years. The results show no significant mean differences between organizations of the four groups ( $\alpha=0.05$ ).

To determine the existence of significant differences in performance within each group between organizations with certification and those without, analysis of variance was used. The same analysis was done relating the utilizations of integrated performance measurement systems. The results of both analysis point to the non-existence of significant differences ( $\alpha=0.05$ ).

### **The most important competitive methods**

To finalize the strategic behavior characterization, a cluster analysis was used to identify which competitive methods are preferred by each strategic group. Three competitive methods were identified for strategic group A, five were identified for group B, four were identified for group C, and three for group D. The results show that all groups included customer service, and meeting delivery dates among the three first preference positions. Groups A, C and D also included operating efficiency on these three positions (Table V). While strategic group B ranked product development among the third highest preference positions, groups A, C and D assigned it lower preferences, respectively six, eighteen and thirteen. Consistent with this behavior is the preference given to product and service quality improvement which was five by organizations in Group B.

The organizations included in strategic group C assigned the fourth preference position to experienced/trained personal, while the remaining groups assigned it a lower importance. This behavior can be explained by the fact that group C included the Portuguese industries with more interaction with global market through high levels of export sales.

## CONCLUSION AND IMPLICATIONS

Based on the results of this study the following conclusions are in order.

First, it is very difficult to relate the hybrid strategic orientation practiced by the studied Portuguese manufacturing organizations to the classical Porter's framework. Since the hybrid generic strategies detected in this study emphasize the strategic almost equally, it is difficult to establish clear strategic orientations.

Second, it seems that Portuguese manufacturing organizations are not sure what strategic dimension they are following. Perhaps the turbulent market environment is forcing Portuguese organizations to continuously strategically adapt to market conditions. Thus, the strategic choice is dynamic and evolving based on market realities. All strategic groups appear to have a strategic preference in relation to the Efficiency and Service dimension. However this behavior can only be interpreted as a pre-requisite to competing in global markets, including new e-markets rather than a true differentiation strategy. Perhaps this hybrid strategic orientation is related with the markets in which they are competing.

Third, results show an increased use of e-business competitive methods along with information technology. The use of information technology and e-commerce strategically is seen as a differentiation effort [12]. However, since these organizations are part of traditional manufacturing industries, they appear to have difficulties combining cost-leadership with the elements of the e-operational and market environment.

Finally, although no significant differences were found between the strategic groups in relation to global performance, as measured by the net return on assets, the results show evidence that allow us to label Group D as the relatively best performer. Organizations in this group appear to be concerned with quality and reliability, while providing simultaneous efficiency and customer service.

**References, tables and exhibits available upon request from Mahmoud M. Yasin**