ANALYSIS OF THE EFFECTS OF TASK ENVIRONMENT AND FIRM’S MARKET POWER ON COMPETITIVE POSITION OF BRAZILIAN FIRMS

ABSTRACT

Purpose: The study aims to analyze the effects that task environment and firm’s market power exerts on Brazilian firm’s competitive position, during the period of 2012 to 2017, which encompasses the effects of the 2008 crisis.

Design/methodology/approach: We used Partial Least Squares path modeling when estimating the effects of competitive environment and market power on a firm’s competitive position, considering the effects of time. The size of firm was used as a weighting factor. The sample is comprised by manufacturing industry Brazilian publicly traded firms, active in the period 2012 to 2017.

Findings: The capacity of firms to achieve and sustain a favorable competitive position is directly dependent on the degree of market power they own. Under a reactive managerial point of view, managers should make strategic choices that allow the firm to stay close to consumers, to maintain and reinforce market power, avoiding reductions in market share. Under a proactive managerial point of view, managers should take advantage of market power by building barriers that would make it difficult for competitors to have access to consumers.

Originality/value: This research brings two original contributions. The first one is the identification of the determining factors of the competitive position of Brazilian firms, during the period after the 2008 financial crisis. The second one is the proposition and test of a structural equations model to estimate the effects of market power and task environment on firm’s competitive position.

Keywords: Task environment; Market power; Competitive position; 2008 financial crisis.
RESUMO

Objetivo: Este estudo tem por objetivo analisar os efeitos que o ambiente competitivo e o poder de mercado da firma exercem na posição competitiva de firmas, no período de 2012 a 2017, que abarca os efeitos da crise de 2008.

Desenho/metodologia/abordagem: Os parâmetros do modelo estrutural foram estimados por meio de modelagem de caminhos com mínimos quadrados parciais. O tamanho da firma foi utilizado como fator de ponderação. A amostra é composta por firmas brasileiras de capital aberto, atuantes na indústria manufatureira e ativas no período de 2012 a 2017.

Resultados: A capacidade das firmas de alcançar e sustentar uma posição competitiva favorável é dependente do seu poder de mercado. Sob uma perspectiva gerencial reativa, gestores devem fazer escolhas estratégicas que permitam à firma se manter próxima aos consumidores, e manter e reforçar o seu poder de mercado, evitando reduções em sua participação de mercado. Sob uma perspectiva gerencial proativa, os gestores devem tirar vantagem do poder de mercado, com o estabelecimento de barreiras que dificultem o acesso dos concorrentes aos consumidores.

Originalidade/valor: Esta pesquisa apresenta duas contribuições originais. A primeira delas é a identificação dos fatores determinantes da posição competitiva de firmas brasileiras, durante o período após a crise financeira de 2008. A segunda é a proposição e o teste de um modelo de equações estruturais, com o objetivo de estimar os efeitos do poder de mercado e do ambiente competitivo, na posição competitiva da firma.

Palavras-chave: Ambiente de operações; Poder de mercado; Posição competitiva; Crise financeira de 2008

1 INTRODUCTION

The Industrial Organization Theory (IO) approaches the relationships between firms, markets, and industries, considering the way firms compete (Lelissa & Kuhil, 2018). With reference on the IO perspective and aligned with the Structure-Conduct-Performance paradigm, the main objective of this research is to measure and analyze the effects that task environment and a firm’s market power exerts on that firm’s competitive position, during the period of 2012 to 2017, which encompasses the effects of the 2008 crisis on Brazilian economy.

According to Latham and Braun (2011, p. 96), “a compelling and strong argument exists maintaining that economic recessions represent the most transformative event faced by organizations.” As pointed out by Kunc and Bhandari (2011), very dynamic, competitive environments and periods of crisis and recessions lead managers to look for strategies that can enable firms to obtain and sustain competitive advantages from expanding their market share or maintaining their competitive position by means of the adoption of defensive behavior and focusing on performance.

Authors approached the relationship between market concentration and market power (Bhuyan, 2020; Wang & Li, 2021); the effects of market power on firm’s profitability (Loecker, Eeckhout, & Unger, 2020); the relationship between competition and market power (Patel & Seegert, 2020); and the effect of firm’s market power on the accounts payable and that firm’s ownership structure (Jhang, Lin, & Fang, 2020).

In response to shifts in macroeconomic and specific task environment conditions, firms seek to achieve and sustain such a competitive advantage position that allows them to continuously deal with their competitors’ conduct. This achievement is directly influenced by the capacity of firms to establish a degree of market power that permits them to avoid other firms to expand their market share, increasing the strength of the barriers to access consumers.

Studies on the determining factors of a firm’s competitive position include those that addressed the effects of such firm’s size on its competitive advantage, such as Moen (1999); Dias, Sousa, Silva, and Silva (2020) identified significant effects of dynamism and rivalry on competitive
position of American firms in 2008 and in the post-crisis period (2009 to 2015); Dias, Rossi, Silva, Camargos, and De-Carvalho (2020), when studying the effects of competitive environment on firm’s competitive position, identified a worsening in that firm’s competitive position, the more unfavorable the competitive environment is, considering the periods before and after the 2008 crisis. Few authors approached the relationships proposed in this research, which consider the simultaneous effects exerted by task environment on a firm’s market power and competitive position, and by a firm’s market power on competitive position.

The remainder of the article is organized as follows: the Literature Review section presents the theoretical approach which constitutes the bases for the hypotheses proposed and presented along the section; the research model is presented in the Methods section, with variables operationalization; the Results and Discussion section presents the data analysis and model parameters interpretation. In that same section, the analysis of the hypotheses is presented. Final remarks are offered in the last section.

2 LITERATURE REVIEW

Firms constantly need to work with different strategies to respond to market structure in different industries. This market structure refers to the various components that are decisive in relation to the mark-up of firms, involving the number and size of them, the types of products developed, the possibility of economies of scale, barriers of entry, among others. Understanding the characteristics of a given industry and its competitive environment becomes essential for the development and implementation of strategies.

Pereira and Bánkuti (2016) point out that the characteristics of the market structure directly influence the adoption of appropriate strategies to achieve the expected performance, being, therefore, essential to the comprehension of the interaction between the elements of this structure. Since the market structure determines the conduct and, this, the performance of the firm (Pereira & Bánkuti, 2016), this research considered rivalry and dynamism as constructs that make up this structure, identifying their influences exerted on the competitive position. According to De-Carvalho, Dias, and Rossi (2018), when evaluating the environment in which a firm operates, it should be considered which firms are constituent of the environment, that is, they operate in the same industry as the firm under analysis, so that the degrees of rivalry and dynamism of the competitive environment are identified and evaluated.

Mas-Ruiz and Ruiz-Moreno (1993, p. 47) studied the relationship between the rivalry in strategic groups and their effects on firm’s performance. They concluded that, although the existence of a direct link between the association of groups and the profitability of the firm seems questionable, the structure of the group can indirectly impact profitability, since this affects the conditions of the rivalry and complement that the concept of strategic groups can be useful to analyze the competitive structure of an industry, as these analyses can help diagnose competition, competitive position, and profitability of companies in an industry.

In the context of price, the same can be influenced by rivalry and prices tend to be higher in markets where there is less rivalry (Hamza, Saab, & Rodrigues Filho, 2012). Research conducted by Czarnitzki and Toole (2013, p. 26) further demonstrates that “strategic rivalry limits the firm’s ability to delay ongoing projects and thus offsets the influence of uncertainty on investment.” Czarnitzki and Toole (2013) also state that the specific effect of the firm’s uncertainty on research and development is less in markets where the rivalry is more intense.
According to Dias, Sousa, Silva and Silva (2020), the intensity of rivalry influences the firm’s competitive position. The authors identified that the greater the rivalry, the more favorable the firm’s competitive position in 2008 and in the post-crisis period, while no influence on competitive position in the pre-crisis period was identified. The authors identified that firms tend to respond to increase in rivalry by means of expanding market share, leading to increased profitability.

The studies by Li and Simerly (1998) present dynamism as a rate between change and the degree of instability of factors within an environment. Within this context, environmental dynamism is the product of numerous forces acting at the same time, including an increase in the size and number of firms operating in the same industry and an increase in the rate of technological transformation and its dispersion throughout the industry (Simerly & Li, 2000).

According to Lumpkin and Dess (2001), dynamism reflects the degree of uncertainty faced by a firm, since it presents itself as the various unforeseen changes in the environment, suggesting that the proactivity of firms is related to performance in dynamic environments. The authors also concluded, in their studies, that both the growth and profitability of firms are related to proactivity and dynamism.

Sener (2012) validates the findings of Dess and Beard (1984) and, based on studies by Simerly and Li (2000), the author confirms that the greater the environmental dynamism, the greater the incompetence of actors in evaluating the current and future state of the environment, concluding that in a dynamic environment, the implementation of processes is difficult due to the impossibility of collecting all the information necessary for an environmental analysis and due to the difficulty of predicting changes in the environment. Thus, as each firm adopts different strategies to deal with the same environmental exposures, it is inferred that success, which can be partially measured by performance, will also be observed differently, in view of the positioning of each one in the face of fluctuations arising from the environment, that is, in the face of environmental dynamism.

Dias, Sousa, et al. (2020), identified variations in the dynamism of the industry when considering the periods before and after the 2008 crisis. By addressing the dynamism of the industry as a factor that influence the firm competitive position, Dias, Sousa, et al. (2020) observed a trend of lower growth and higher profitability as environmental dynamism increased, indicating a tendency to seek remuneration for investments made in assets, to the detriment of the expansion of market share. Such placements support the proposition of the following hypotheses:

\( H_1 \) – The more favorable the competitive environment, the better the competitive position of the firm.

\( H_2 \) – The competitive environment becomes more favorable over time.

Oh and Thomas (2013) point out that market power exists when one or more firms have the ability to influence price and that several methods have been proposed to monitor it in order to develop procedures to mitigate or eliminate effects, such as the Herfindahl-Hirschman Index (HHI). Kaplow (2015) adds that market power plays not only a central role regarding pricing and related practices, but also in relation to other contractual arrangements that violate competition laws and are therefore incorporated into many government guidelines.

Mendonça and Lima (2009) state that the level of concentration can affect investments to determine profitability, concluding that the relationship between the level of concentration and profitability of firms is statistically significant. However, it is important to emphasize that in markets with high rates of innovation, market share and market power behave differently (Posner, 2000; Thepot, 2013) or even in scenarios of aggressive dynamic competition. In fast cycles it also relativizes
the degree of market power that an agent can explore (Teixeira, 2017). These approaches give rise to hypotheses:

\[ H_3 \] – The greater a firm’s market power, the better its competitive position.

\[ H_4 \] – Market power increases over time.

According to Brito and Brito (2012), when approaching superior performance, the most important point is to identify which aspects and performance variables reveal the value created by the firm and can accurately reflect its competitive position, that is, how to attribute competitive advantage to a firm by studying its performance. For this, it is necessary to relate performance measures with the theoretical approach and the concept of competitive advantage, which is then observed as the prospect of creating greater economic value for the firm in relation to the competitor (Peteraf & Barney, 2003, p. 314).

Growth can eventually lead to scale gains that are also reflected in lower costs and greater profitability. However, it is important to consider that growth is a dimension of performance. Price positioning relative to the market average determines both growth potential and profitability level, and the two performance results can be combined or individually favored at different strategic times. Among others, the growth strategy can accelerate the accumulation of knowledge about the experience of buying and using the product, increasing the utility perceived by customers (Priem, 2007).

Brito and Brito (2012) add that the firm’s capacity of adapting to changes in competitive environment will depend on the value added by the firm. In a position of competitive advantage, the company can choose strategies that bring superior financial performance, be it profitability and/or growth. Firms in parity or disadvantage cannot achieve the same results and, to grow, firms with competitive parity must increase the customer’s surplus and sacrifice their profitability; to achieve above-average profitability, they may lose market share. In this way, the firm’s competitive position will be directly influenced by the competition settings in the industry in which it operates, as well as influence its level of performance, both in terms of market expansion and profitability.

The combined performance matrix proposed by Brito and Brito (2012) contextualizes the approach to be used in the research model when considering competitive advantage, competitive disadvantage, and competitive parity as constructs of competitive position. The study in question was carried out using return on asset (ROA) to measure profitability. To measure the growth in market share, data on net sales in time were used, which were transformed into logarithms to allow the comparison of the composite rate in a period of five years. Brito and Brito (2012) conclude that growth is a relevant indicator of competitive advantage, and that the position of competitive advantage is not so rare in a scenario of hyper competition, as some authors argue.

Based on the approaches above, the fifth hypothesis is proposed:

\[ H_5 \] – The competitive position becomes more favorable over time.

3 METHODS

The sample studied is comprised by manufacturing industry Brazilian publicly traded firms, active in the period between 2012 and 2017, which had their accounting information disclosed in the Datastream – Thomson Reuters® database. This time interval was characterized by considerable variations in interest rates on loans and in GDP growth.
According to World Bank data (2022), Brazil showed reduction in the average interest rate from 2011 to 2012 (11.67% and 8.53%, respectively). In 2013 there was also a reduction in relation to the previous year (8.19%). However, from 2013 to 2016 there were increases in the rate of growth of the index (10.85% in 2014, 13.38% in 2015, and 14.07% in 2016, returning to reduce in 2017 (10.08%).

According to IBGE (2022), Brazil showed a change in GDP of 1.90% from 2011 to 2012. In 2013 it showed a recovery, with growth of 3.00%. However, from 2014 to 2016 there was a drop in the pace of growth of the index (0.50% in 2014) declining in 2015 (-3.50%), and 2016 (-3.30%), returning to growth in 2017 (1.30%).

These figures represent the instability in the Brazilian macroeconomic scenario, in the period after the worldwide economic crisis, with consequences to the achievement of firms, leading managers to seek for market power that allows then to deal with task environment threats to firms’ competitive position.

The estimated structural model (Figure 1) expresses the proposed hypotheses and includes the effects of competitive environment and market power on firm’s competitive position, considering the effect of time on the three constructs. The size of the firm was considered as a control variable and used as a weighting factor when estimating the parameters of the model. We used SmartPLS 3.3.2 (Ringle, Wende, & Becker, 2015) when estimating the parameters.

The year-based samples (2012 - 95 cases, 2013 - 98 cases, 2014 - 105 cases, 2015 – 96 cases, 2016 - 90 cases and 2017 - 92 cases) are above the minimum of 77 cases calculated for a test power of 0.800, effect size of 0.150, three predictors and two-tailed test significance at 5%, for the calculation of a coefficient of determination ($R^2$) statistically different from zero. Minimum sample size was calculated by means of the G*Power 3.1.9.2 software (Faul; Erdfelder; Buchner, & Lang, 2009) and the reference established by Hair, Hult, Ringle, and Sarstedt (2014).

Figure 1. Structural mod

Source: the authors
In the analysis model, we consider that COMPETITIVE POSITION is influenced by the TASK ENVIRONMENT, and by the MARKET POWER of the firm. The effects exerted by time (YEAR) on the dependent variable and on the independent variables were measured by means of dummy variables, the year 2012 as reference. The operationalization of indicators is presented in Figure 2.

**Figure 2. Indicator’s operationalization**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Operationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Environment</strong></td>
<td></td>
</tr>
<tr>
<td>Rivalry (Shepherd’s G Index)</td>
<td>Degree of concentration of the industry, calculated through the Herfindahl-Hirschman Index - HHI, minus the firm’s market share.</td>
</tr>
<tr>
<td>Environmental dynamism index according to Simerly and Li (2000)</td>
<td>Standard error of the regression of sales values in the industry in relation to the year, divided by the average value of sales values, in the industry, in the year.</td>
</tr>
<tr>
<td><strong>Market Power</strong></td>
<td></td>
</tr>
<tr>
<td>MktPower</td>
<td>Logarithm of the proportion of the HHI Index attributed to the firm, obtained by dividing the square of market share by the HHI Index.</td>
</tr>
<tr>
<td><strong>Competitive Position</strong></td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>The firm’s market share minus the average market share of firms in the same industry and in the same year.</td>
</tr>
<tr>
<td>Profitability</td>
<td>Profitability of the firm minus the average profitability of firms in the same industry and in the same year. Profitability = Net Income / Total Assets.</td>
</tr>
<tr>
<td>Competitive Position (COMPOS)</td>
<td></td>
</tr>
<tr>
<td>Value 1 (Competitive Disadvantage), if the value calculated for the variable Growth is less than the average market share in the industry minus a standard deviation, and the value calculated for the variable Profitability is less than the average profitability of the industry minus a standard deviation.</td>
<td></td>
</tr>
<tr>
<td>Value 2 (Competitive Parity), if the value calculated for the variable Growth is situated in the range between the average calculated for the market share in the industry minus a standard deviation (minimum value) and plus a standard deviation (maximum value) and the value calculated for the variable Profitability is situated in the range between the average calculated for the Profitability minus a standard deviation (minimum value) and plus a standard deviation (maximum value).</td>
<td></td>
</tr>
<tr>
<td>Value 3 (Focus on Growth), if the value calculated for the variable Growth is greater than the average market share in the industry plus a standard deviation, and the value calculated for the variable Profitability is less than the average profitability of the industry minus a standard deviation.</td>
<td></td>
</tr>
<tr>
<td>Value 4 (Competitive Advantage), if the value calculated for the variable Growth is greater than the average market share in the industry plus a standard deviation, and the value calculated for the variable Profitability is greater than the average of the industry profitability plus a standard deviation.</td>
<td></td>
</tr>
<tr>
<td>Value 5 (Focus on Profitability), if the value calculated for the variable Growth is less than the average market share in the industry minus a standard deviation, and the value calculated for the variable Profitability is greater than the average profitability of the industry plus a standard deviation.</td>
<td></td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Dummy variables for each year, with 2012 as reference.</td>
</tr>
</tbody>
</table>

Source: the author
4 RESULTS AND DISCUSSION

As can be seen in Table 1, the estimated weights for the indicators are statistically significant, which validates the measurement model and allows the analysis of the structural model, and it should be emphasized that there is only one indicator for the Market Power and Competitive Position constructs. There was no occurrence of collinearity, in view of the calculation of values of the Variance Inflation Factor (VIF) below the limit of 5.000 for all constructs.

Table 1. Weights of indicators

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicator</th>
<th>Weight</th>
<th>VIFa</th>
</tr>
</thead>
<tbody>
<tr>
<td>TASK ENVIRONMENT</td>
<td>RIVALRY</td>
<td>-0.475</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>DYNAMISM</td>
<td>0.935</td>
<td>***</td>
</tr>
<tr>
<td>MARKET POWER</td>
<td>MKTPOWER</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>COMPETITIVE POSITION</td>
<td>COMPOS</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>YEAR</td>
<td>D2013</td>
<td>0.168</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>D2014</td>
<td>0.546</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>D2015</td>
<td>0.922</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>D2016</td>
<td>0.888</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>D2017</td>
<td>0.906</td>
<td>***</td>
</tr>
</tbody>
</table>

Source: the authors

* – Variance Inflation Factor - index for collinearity test, which should be below 5.000, as indicated by Hair et al. (2014).

*** p < 0.010; ** p < 0.050; * p < 0.100

The statistical significance of the path coefficients was calculated by means of the bootstrapping technique, with 5.000 samples, with the option of not signal changing.

The first criterion used to evaluate the structural model is the verification of the collinearity between the component constructs of the proposed model. As can be seen in Table 2, no occurrence of collinearity was identified, in view of the calculation of values for the VIF index below the reference point of less than or equal to 5.000, proposed by Hair et al. (2014).

According to the results presented in Table 2, the task environment exerts a positive and statistically significant influence on the firm’s competitive position (β = 0.114; p < 0.050), signaling that the lower the rivalry and the greater the dynamism of the competitive environment, the better the firm’s competitive position. This result leads to the non-rejection of hypothesis $H_1$ – The more favorable the competitive environment, the better the competitive position of the firm.

The market power in its linear form exerts a positive and statistically significant influence on the firm’s competitive position (β = 0.440; p < 0.010), as well as in its quadratic form (β = 0.187; p < 0.010), making it possible to understand, therefore, that the greater the market power, the better the competitive position of the firms analyzed, conclusions that allow the non-rejection of hypothesis $H_3$ – The greater a firm’s market power, the better its competitive position.
Table 2. Structural Model - Direct Effects

<table>
<thead>
<tr>
<th>Independent</th>
<th>Dependent</th>
<th>Path Coefficient</th>
<th>VIF^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>TASK ENVIRONMENT</td>
<td>COMPETITIVE POSITION</td>
<td>0.114</td>
<td>**</td>
</tr>
<tr>
<td>QUADRATIC EFFECT OF MARKET POWER</td>
<td>COMPETITIVE POSITION</td>
<td>0.187</td>
<td>***</td>
</tr>
<tr>
<td>MARKET POWER</td>
<td>COMPETITIVE POSITION</td>
<td>0.440</td>
<td>***</td>
</tr>
<tr>
<td>YEAR</td>
<td>COMPETITIVE POSITION</td>
<td>0.020</td>
<td></td>
</tr>
<tr>
<td>YEAR</td>
<td>MARKET POWER</td>
<td>0.073</td>
<td></td>
</tr>
<tr>
<td>YEAR</td>
<td>TASK ENVIRONMENT</td>
<td>-0.716</td>
<td>***</td>
</tr>
</tbody>
</table>

Source: the authors

^a – Variance Inflation Factor - index for collinearity test, which should be below 5.000, as indicated by Hair et al. (2014).

*** p < 0.010; ** p < 0.050; * p < 0.100

The statistical significance of the path coefficients was calculated by means of the bootstrapping technique, with 5,000 samples, with the option of not signal changing.

Regarding the effect of time, a negative and statistically significant effect was identified in the task environment (β = -0.716; p < 0.010), indicating an increase in rivalry and reduction in dynamism, characteristics of task environment that becomes more unfavorable over time. Due to this result, hypothesis H_2 – The competitive environment becomes more favorable over time was rejected.

As for the effect on market power, the positive and statistically significant path coefficient (β = 0.073; p < 0.100) indicates an increase over time and the consequent non-rejection of H_4 – Market power increases over time. In relation to the effect of time on the competitive position, no statistically significant parameter was estimated, leading to the rejection of hypothesis H_5 – The competitive position becomes more favorable over time. The summary of the results of hypothesis testing is presented in Figure 3.

Figure 3. Hypothesis testing results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H_1 The more favorable the competitive environment, the better the competitive position of the firm</td>
<td>Non-rejected</td>
</tr>
<tr>
<td>H_2 The competitive environment becomes more favorable over time</td>
<td>Rejected</td>
</tr>
<tr>
<td>H_3 The greater a firm’s market power, the better its competitive position</td>
<td>Non-rejected</td>
</tr>
<tr>
<td>H_4 Market power increases over time</td>
<td>Non-rejected</td>
</tr>
<tr>
<td>H_5 The competitive position becomes more favorable over time</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Source: the authors

The next step was the analysis of the proportion of variance of endogenous latent variables explained by the structural model, expressed by the coefficient of determination (R^2). Based on Hair et al. (2014), an R^2 up to 0.250 represents low explanatory capacity, while R^2 between 0.250 and 0.500 represents average explanatory capacity and R^2 above 0.500 represents large explanatory capacity.
The structural model explains 20.10% of the variance of the construct Competitive Position ($R^2 = 0.201; p < 0.010$) - low explanatory capacity. Regarding the construct Market Power, Year presents derisory and statistically non-significant explanatory capacity ($R^2 = 0.005; p > 0.100$). In relation to the Task Environment construct, a large and statistically significant explanatory capacity was calculated for the Year ($R^2 = 0.513; p < 0.010$).

In addition to the analysis of the coefficient of determination, Hair et al. (2014) indicates the analysis of the contribution of each exogenous construct to the explanation of the variance of endogenous constructs, by means of the effect size ($f^2$). As recommended by the authors, the effects between 0.020 and 0.150 are considered small; between 0.150 and 0.350 are considered medium and the effects above 0.350 are considered large. Effects below 0.020 are considered negligible.

As can be seen in Table 3, Task Environment presents insignificant contribution to the explanation of the variance of the Competitive Position construct, while Market Power in its linear form exerts medium effect and in its quadratic form exerts small effect. As for time, a negligible effect was also identified in explaining the variance of the Competitive Position construct.

### Table 3. Effect Size - $f^2$

<table>
<thead>
<tr>
<th>Independent</th>
<th>Dependent</th>
<th>$f^2$</th>
<th>Source: the authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>TASK ENVIRONMENT</td>
<td>COMPETITIVE POSITION</td>
<td>0.008</td>
<td>EN</td>
</tr>
<tr>
<td>QUADRATIC EFFECT OF MARKET POWER</td>
<td>COMPETITIVE POSITION</td>
<td>0.086</td>
<td>ES</td>
</tr>
<tr>
<td>MARKET POWER</td>
<td>COMPETITIVE POSITION</td>
<td>0.209</td>
<td>EM</td>
</tr>
<tr>
<td>YEAR</td>
<td>COMPETITIVE POSITION</td>
<td>0.000</td>
<td>EN</td>
</tr>
</tbody>
</table>

EN – negligible; ES- small; EM - medium

Based on the analysis of the parameters estimated by means of a structural equations model, which is representative of the proposed set of influences, we can affirm that Brazilian manufacturing industry firms had as main determinant of their competitive position the variation of their market power in the period studied, followed by task environment characteristics in terms of rivalry and dynamism. In other words, competitive position was predominantly influenced by idiosyncratic characteristics of firms with regards to their capacity of influencing the environment, establishing the reference to competitors in terms of the relationships with clients, based on the acquisition and maintenance of a relevant parcel of market share, when compared to competitors.

Such results are in line with Child’s (1974, 1975), Coccia (2017), and Tan (2019) propositions that the strategic choices are made by managers to enable the firm to deal with changes in the competitive environment, and that there is a direct and straight relationship between competitive environment and the development of competitive advantage.

## 5 FINAL REMARKS

This research contributes to the advancement of the study of the determining factors of the competitive position of firms, with special focus on those active in the Brazilian manufacturing industry during the period of 2012 to 2017, by means of the simultaneous measurement of the effects exerted by task environment, firm’s market power and time on the competitive positions of...
the firms (competitive disadvantage, competitive parity, competitive advantage, focus on growth and focus on profitability), while prior works approached these relationships in separated relations (i.e., from task environment on competitive position; from a firm’s market power on its competitive position). In other words, the identification of the factors that determine a firm’s competitive position should not consider a dichotomy between task environment and the firm itself, but researchers should approach this theme under a complementary factors point of view.

We conclude that the capacity of firms to achieve and sustain a competitive position that can lead them to keep superior performance over time, and to deal with changes in the competitive environment, is directly dependent on the degree of market power they own. Under a reactive managerial point of view, the results indicates that managers should look for strategic choices that allows the firm to stay close to consumers, to maintain and reinforce market power, avoiding reductions in market share originated by competitors’ actions with the objective of erode the firm position in the market. Under a proactive managerial point of view, managers should take advantage of market power by building barriers that would make it difficult for competitors to have access to consumers.

For future studies, we suggest considering the macroeconomic context as influencing the proposed relationships in the structural model, and the expansion of the sample to other countries of BRICS, which allows to the development of a comparative analysis. As limitations of the study, we can point out that the sample is comprised only by public traded firms and those inherent to the data processing method applied.

REFERENCES


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