FINANCIAL PERFORMANCE AND GENERIC STRATEGY OF MEXICAN STOCK ENTERPRISES BEFORE AND DURING THE COVID-19 PANDEMIC

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Abstract

In the context of the COVID-19 period, this article aims to identify whether the type of strategy used by organisations (cost-based strategy and differentiation strategy) showed significant differences in financial performance indicators: net margin (NM), return on assets before taxes (ROA), and return on equity (ROE). Statistical analysis was performed using a multivariate technique considering non-metric independent variables (type of strategy) and metric dependent variables (financial indicators). The sample used considered companies listed on the Mexican Stock Exchange during the pre-COVID (2019), COVID (2020) and post-COVID periods (2021). The results from statistical tests provide evidence about the differences in the average financial results comparing the groups of companies using a particular strategy for a particular year, in the case of the Mexican companies analysed. The insights about a reaction to face a crisis derived from a pandemic are valuable for researchers, policymakers, and practitioners.

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Key Words

Cost strategy; differentiation strategy; financial performance; COVID-19; Hotelling's T-square.

INTRODUCTION

COVID-19 has been one of the most significant and unexpected crises in modern times which has caused society to question itself at a local, regional, national, and global level Specifically, five main clusters of research relating COVID-19 and strategy have been identified: entrepreneurship, innovation, digital transformation, leadership and resilience (Guyottot & Le Fur, 2023).

This epidemic has not only had economic consequences, society as a whole has been affected, leading to dramatic changes in the way businesses operate and in consumer behavior. In particular, some aspects have been analysed: consumer habits, public health interventions, workplace transformations, corporate social responsibility and marketing philosophy, social and informational uncertainty, business education, changes in consumption, supply chain, and tourism (Donthu & Gustafsson, 2020).

The effects in developed economies were heterogeneous. Some businesses, especially in high-tech-related industries, adapted well to social distancing requirements relying on remote work, while other businesses were unable to adapt, as was the case in the food, travel, and hospitality sectors, as their nature required close contact with customers and among workers (Pagano et al., 2023).

Companies' reaction to COVID-19 was reflected in the price of stocks, but it was not the same among listed companies; the variation depended on their resilience to social distancing, financial flexibility, and corporate culture (Pagano & Zechner, 2022). COVID 19 affected the health and economy of countries in general, and in Mexico, the effects of COVID-19 on companies are assumed to be similar to those experienced in countries in other parts of North America and Europe.

In a context of great uncertainty, it might be more convenient for a company to follow a particular strategy. Therefore, the objective was centered on identifying if the type of strategy used by the companies listed on the Mexican Stock Exchange influenced the financial performance in the pre-COVID period (2019), and throughout the COVID period (2020 and 2021).

In order to evaluate the financial impact of COVID-19 on the Mexican companies' results, we carried out a statistical analysis to determine whether the organisations based on a cost-strategy and organisations based on a differentiation strategy presented a significant difference in financial performance.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

A review of concepts that support the statistical analysis and results is presented.

Strategy

Porter (1996) states that the essence of strategy is choosing a unique and valuable position supported by systems of activities much more difficult to match. In addition, Firoz et al. (2019) mention the usability and applicability of Porter's generic strategies in the e-business, evaluating the cost leadership strategy and differentiation strategy to generate performance. Furthermore, Pangarkar & Prabhudesai (2024) give practical advice to managers about applying Porter's Five Forces analysis, observing the environment to formulate a strategy for a particular context. Similarly, Farida & Setiawan (2022) show that business strategies have a positive impact on the competitive advantage of small and medium enterprises, considering that better business strategies improve performance and innovation capability, and, consequently, competitive advantages are strengthened. Regarding methods, Bindra et al. (2019) state that research for understanding strategic management is methodologically challenging as the variables used to analyze a plan or a pattern are difficult to measure, hindering the analysis of their relationship and the determination of causality.

Performance

Pagano & Zechner (2022) analyze the effects of COVID-19 on the stock price, sales, employment, and asset growth of companies: effects that depend on people's interaction or social distancing, financial flexibility, and corporate culture, noting that listed firms reduced leverage and unlisted increased it. Besides, Baker et al. (2020) propose explanations for the reaction of the stock market to the COVID-19 pandemic, suggesting that government restrictions on commercial activity and voluntary social distancing, in a service-oriented economy, are the main reasons for the United States stock market's strong reaction to COVID-19 compared to previous pandemics in history. Regarding social responsibility, Awaysheh et al. (2020) examine the relation between corporate social responsibility (CSR) and financial performance, observing that the best evaluated firms that heeded CSR outperformed their industry peers in operating performance and had better market valuations (for this case the Q of Tobin indicator). Regarding markets, Pagano et al. (2023) study the time-varying price of asset markets by analyzing stock returns that reflect different exposure to the pandemic, inferring from market outcomes that firm resilience correlates with exposure to social distancing, and that it is priced based on changes of the firms' expected returns. In valuation, Souder et al. (2024) introduce a methodology of stock market valuations considering the future value of operations and the dynamic future value associated with competitive positioning to measure the effect of cash holdings on performance. The references and definitions considered for the indicators of financial performance are shown in Table 1.

Table 1. Reference authors for indicators to measure financial performance

AUTHOR	Financial Performance
Awaysheh et al. (2020)	OIBD=Operating Income Before Depreciation / TA= Total Assets (OIBD/TA) Tobin's Q ([Total Assets – Book Value of Common Equity + Market Value of Common Equity]/Total Assets)
Ramírez Rocha et al. (2019)	ROA = Return on Assets ROA =Net operating profits / Average assets book value ROE = Return on equity ROE =Net operating profits / Average equity book value OSS = Financial Sustainability OSS =total financial revenue / financial expenses + operating expenses + provision for losses
Ibrahim et al. (2018)	PM = Profit Margin ratio Adjusted New Operating Income / Adjusted Financial Revenue ROA = Return on Assets ratio (Adjusted Net Operating Income - Taxes) / Adjusted Average Total Assets OSS = Operational Self-sufficiency Financial Revenue / (Financial Expense + Impairment Losses on Loans + Operating Expense) ratio

Strategy and Performance

The relation of strategy and performance is observed. For instance, Agnihotri (2014) states that by fitting their strategy to the mode of financing, firms may be able to lower their capital cost and consequently improve their financial performance. Regarding generic strategies, Lee et al. (2021) analyze firms using strategies of low-cost and focus observing an improvement in performance, finding that when individually executing these strategies firms experience benefit but when implementing these two generic strategies simultaneously, firms' profitability is affected negatively. Specifically, Greckhamer & Gur (2021) explore, with the Porter framework for strategic positions of firms, the generic strategies of cost leadership, differentiation, and focus, and their effects on firm performance in the American and Canadian airline industry, finding that a generic strategy advantage is not sufficient for high performance, although it is necessary for achieving success.

Effects of COVID on Strategy and Performance

Barrot et al. (2024) study the effects of business closures in response to the COVID-19 pandemic, observing a negative causal effect on mortality rates, especially in areas with contact-intensive activities and performing an analysis of health benefits of business closures and economic costs. In investments, Gao et al. (2022) investigate the effects of COVID-19 on corporate financial portfolio choice of financial assets and find that firms with

higher pandemic exposure tend to hold fewer financial assets with a preference to reduce liquidity shortage. Regarding production, Kapoor et al. (2024) examine the effects of COVID-19 in the case of companies' manufacturing operations, and identify difficulties such as reduced capacities, increased costs, and uncertainty, as well as management interventions they executed like investment in digital technologies, resource redistribution, and localizing, all of them to help manufacturing businesses face the pressures of lockdowns. In addition, Wenzel et al. (2021) analyse the strategic responses to the COVID-19 pandemic crisis and the impact on firms at a global scale, identifying four types of potential strategic responses from firms: retrenchment, perseverance, innovation, and exit. In corporate culture, Li et al. (2021) identify firm-level measures of exposure and response related to COVID-19, observing a negative impact of COVID-19 on the operation of companies, but firms with a strong corporate culture performed better than firms without a strong culture, supported their communities, were more open to digital transformation, and tended to develop new products. With respect to contracts, Eldar & Wittry (2021) analyse the adoption of poison pills during the coronavirus pandemic and find a positive reaction to crisis pills to prevent changes in ownership, noticing that after a decline in valuation, stock prices increased after the adoption of these pills. Concerning human resources, Orlowski (2021) reviews the impact of the pandemic, observing negative effects on the workforce, although without considerable effects on the level of physical capital. About government measures, Gormsen & Koijen (2020) point out that the response in monetary policy and fiscal stimulus boosted the recovery in the stock market and improved growth expectations, but above all, long-term expectations. In addition, Aguirre-Ríos et al. (2022) analyze the fiscal policies implemented in a sample of Latin American countries and their effects on the context of the COVID-19 pandemic, finding problems in the fiscal structure in underdeveloped countries and a neutrality of the fiscal mechanisms that were not generating positive outcomes against the economic inequalities of the region.

METHODOLOGY

Two-sample hypothesis tests have been identified as fundamental problems in statistical inference, which seek to detect differences between two probabilistic measures and have numerous applications in the real world. (Wang et al., 2023).

Pérez Valencia (2009) points out that Hotelling's T-square test, in the case of a normal skewed multivariate distribution, has proven to be a useful model in some important practical situations, such as in the measurement of certain anthropometric variables.

Similarly, Abdullah et al. (2015) point out that the empirical results of a simulation study based on Hotelling's T-square test using the established relationships of the multivariate distribution with the real multivariate distribution show that the model works well in differentiating the means.

Analyzing the data distribution during the pre-COVID period (2019), and

during the COVID period (2020 and 2021), it was determined to perform the multivariate statistical tests particularly when there are two groups to be analyzed, selecting metric dependent variables for the case of financial results and non-metric independent variables for the type of strategy implemented. Considering that the decision regarding the direction of the company falls on the general director, the two types of generic strategies in which the company competes were selected as the independent variables. The results obtained by the company in financial terms were selected as dependent variables. For three metric dependent variables, net margin (NM), return on assets before taxes (Pre-tax ROA), return on equity (ROE), and two non-metric independent variables (cost strategy and differentiation strategy), the recommended multivariate technique is Hotelling's T-square test (De la Garza et al., 2013).

The methodology used allowed us to analyse the distribution of the multivariate data, perform variance matrix tests and apply statistical tests to determine whether there was a difference in the mean of the financial performance variables according to the types of strategies used by the organisations, for the years 2019, 2020, and 2021.

The statistical results obtained provided empirical evidence through statistical tests about the effect of the type of strategy employed in organisations on the financial results for the case of the Mexican companies analysed. Likewise, we identified a change in the average financial results of each group of companies, classified by type of strategy, because of facing a crisis derived from the COVID-19 pandemic.

Independent Variables

The two independent variables were non-metric, and there were two types of strategies: cost strategy and differentiation strategy (Porter1996). For the classification of each company and their competitive strategy the following process was carried out: 1) documentary analysis of the strategic planning on the website, 2) documentary analysis of the annual report of the previous two years, and finally, 3) validation with two expert researchers about strategy on the list made. Particularly, for the definition of the type of strategy (independent variables) applied by each company, despite being widely known companies (in their products and strategy), the method of Expert Validation was used. It is a qualitative method, which refers to the process used to evaluate the quality and accuracy of data and/or results gathered through research. When using this method, the researchers ask several experts or “judges” to analyze, evaluate, allocate, classify, and/or generate conclusions regarding specific topics (Patton, 2023). Two expert researchers were invited to the process. Each expert was asked to select the type of differentiation or cost strategy for each company. Upon completion, both lists were compared,and given that they are well-known companies in the Mexican market, it was no surprise that they completely coincided. The generic strategies are presented in Table 2.

Table 2. Identified generic strategies and their methodological framework

Group	Denomination	Variable	Type of variable
1	Cost Strategy	Independent	Non-metric
2	Differentiation Strategy	Independent	Non-metric

Dependent Variables

Three variables to measure financial performance were considered:

Net Margin (NM) or return on sales. It is calculated by dividing the after-tax income for the fiscal year by the total income for the same period. The variable is expressed as a percentage.

Pre-tax return on assets (ROA) or return over assets. This variable presents the return on assets before taxes. It is the result of dividing the pre-tax income for the fiscal year by the average total assets for the same period. The variable is expressed as a percentage.

Return on Equity (ROE) or return over capital. It is obtained from dividing the net income before extraordinary items for the fiscal year by the average of the total capital for the same period. The variable is expressed as a percentage.

Additional indicators are possible for financial performance, but the most common indicators, as presented in Table 1 for the analysis, were considered.

Hypothesis

To analyse the effect of the type of strategy executed on the financial performance results obtained by the sample of organisations listed on the Mexican Stock Exchange, in the pre-COVID (2019), and COVID (2020 and 2021) periods, the alternative hypothesis was established:

H1 = the financial performance of companies implementing a cost strategy and the financial performance of companies implementing a differentiation strategy is not the same on average in both groups.

The multivariate Hotelling's T-square test was selected to perform the statistical analysis and evaluate the hypothesis. This test is recommended to find differences between two experimental groups. (De la Garza et al., 2013).

Sample Data

The initial sample took financial data from 143 companies listed on the Mexican Stock Exchange. The data included the measures considered to gauge financial performance: net margin (NM), return on assets before taxes (Pre-tax ROA), and return on equity (ROE). From the review of the initial database, companies were selected to manage a complete database for the statistical analysis. Some companies were removed from the database

because the indicators of financial performance were not presented or were incomplete. The sample excluded non-local companies and companies with negative capital to focus on the universe of Mexican companies operating normally The sample, after data revision was located at 102 companies considering the three financial performance indicators consulted on the Eikon Thomson Refinitiv platform. The period considered for analysis included the years 2019, 2020, and 2021.

Based on the analytical framework proposed by Porter (1996) the companies were classified in two groups: companies based on a cost strategy and companies based on a differentiation strategy. The companies were classified after a revision of their annual reports, focusing on strategy plans and the comments from their general directors regarding strategy execution. We observed that sixty-five companies (64%) of the sample focused on cost strategy, and thirty-seven companies (36%) focused on differentiation strategy.

The sample analysed was of publicly traded companies. The limitation for the study is centred on the number of companies that were finally reduced. The filtering of 143 companies to 102 companies represented a reduction of almost 30% of the initial sample. In particular, a company that presented serious financial problems and was facing legal proceedings was reduced.

It is important to point out that the initial number of companies considered in the sample for performing the statistical analysis was the whole universe of publicly traded companies in the stock market, 143 companies. However, some of the companies were facing administrative changes or financial restructuring, thus, the universe narrowed down to the final number of 102 companies analysed.

Univariate and Multivariate Statistical Tests

The univariate statistics for the sample companies included mean and standard deviation of financial data of companies classified by cost and differentiation strategies. The univariate statistical results are presented in Table 3.

Table 3. Mean and standard deviation of financial performance variables by type of strategy

Strategy	Number of Companies	Variables Financial Performance	2019 Mean	2019 Standard Deviation	2020 Mean	2020 Standard Deviation	2021 Mean	2021 Standard Deviation
Cost	65	NM	0.047	0.446	-0.0651	0.594	0.112	0.191
		ROA	0.053	0.087	0.025	0.098	0.078	0.085
		ROE	0.082	0.160	-0.022	0.269	0.117	0.142
Differentiation	37	NM	0.039	0.059	-0.062	0.225	0.028	0.245
		ROA	0.039	0.043	0.009	0.081	0.033	0.064
		ROE	0.070	0.173	-0.041	0.387	-0.043	0.680

		NM	0.044	0.356	-0.064	0.491	0.081	0.214
Total	102	ROA	0.048	0.074	0.019	0.092	0.061	0.081
		ROE	0.077	0.164	-0.029	0.315	0.059	0.428

Notes: Net margin (NM), Pre-tax return on assets (ROA), Return on equity (ROE).

The multivariate tests performed to evaluate the financial data of the sample companies included:

Skewness. The test describes the symmetry of the distribution. The bias test allows us to determine whether the distribution of the data is symmetrical around a mean.

Kurtosis. The test describes the clustering of scores toward the centre of the distribution. This test allows us to determine if there is a degree of flattening of the distribution.

Box's M test. It allows testing of the null hypothesis that the observed multiple variance-covariance matrices are equal across groups. (De la Garza et al., 2013).

Hotelling's T-square test. This test was performed for the case of two samples with unequal variance matrices. The objective of this test was to determine whether there was a significant difference in the means of the analysed groups (De la Garza et al., 2013).

The multivariate kurtosis and skewness results are presented in Table 4.

Table 4. Skewness and kurtosis of financial performance variables by type of strategy

Strategy	Number of Companies	Variables Financial Performance	2019 Skewness	2019 Kurtosis	2020 Skewness	2020 Kurtosis	2021 Skewness	2021 Kurtosis
		NM	-6.143	46.151	-6.720	50.131	2.137	10.387
Cost	65	ROA	0.154	8.184	0.070	10.561	2.023	7.539
		ROE	-0.921	8.309	-3.036	10.557	-0.296	4.063
		NM	-0.109	1.150	-1.835	2.512	0.540	14.917
Differentiation	37	ROA	0.761	1.787	-1.014	2.064	-1.485	4.525
		ROE	3.825	19.060	-1.132	5.155	-5.426	31.801
		NM	-7.488	70.304	-7.495	66.621	1.076	12.453
Total	102	ROA	0.351	10.285	0.350	9.065	1.429	7.992
		ROE	0.987	11.701	-1.938	7.501	-8.081	75.751

Notes: Net margin (NM), Pre-tax return on assets (ROA), Return on equity (ROE).

The objective of the research was to compare the differences between the means of the data; therefore, it was decided to use the Hotelling test. Additionally, the composition of the limited sample allowed the test to be carried out with the necessary adjustments and to show statistical evidence.

We do not consider the Tobin Q test to be the best indicator for this case

since it allows us to observe whether a specific company is above or below its value. By our research objective, we focused on managing profitability indicators to validate the behaviour as dependent variables of the strategies used. However, further studies may address this test of particular interest for the analysis of companies.

There are advanced analytical methods, such as the Structural Equation Modelling, but sample characteristics limit the use of these techniques by requiring more data to perform the statistical analysis.

RESULTS

The Box's M test results determined that the variance matrices from the two groups of companies classified by cost strategy and differentiation strategy were not equal. The results from the multivariate statistical tests provided evidence that the multivariate distribution was not normal. It was observed that the distribution of data presented bias or asymmetry, as well as kurtosis. The Hotelling's T-square test for two samples with unequal variance matrices was performed with the data for 2019, 2020, and 2021, in such a way that we reviewed the period before the pandemic (2019), and the period throughout the pandemic (2020 and 2021).

The summary of results from Box's M Test and Hotelling's T-square Test is presented in Table 5.

Table 5. Summary of results from Box's M Test and Hotelling's *T-square* Test for two samples (unequal covariance matrices)

Year	**2019**		**2020**		**2021**	
Test	**Box's M**	**Hotelling's *T-square***	**Box's M**	**Hotelling's *T-square***	**Box's M**	**Hotelling's *T-square***
Coefficient	114.114	2.178	95.254	2.503	165.678	9.796
p-value	0.000	0.547	0.000	0.487	0.000	0.026
Criteria	$p < \alpha^*$	$p > \alpha^*$	$p < \alpha^*$	$p > \alpha^*$	$p < \alpha^*$	$p < \alpha^*$
Covariances	Unequal		Unequal		Unequal	
Differences		No		No		Yes

Note: *α = .05 indicates statistical significance at 5%.

Considering the data did not present a normal multivariate distribution, and in accordance with Hotelling's T-square test for two samples with unequal variance matrices, the result was that during 2019, there was no significant statistical difference in the means of the financial performance variables, comparing the two independent variables. We cannot, therefore, reject the null hypothesis (H0).

When analysing 2020, the same results were obtained from Hotelling's T-square test for two samples with unequal variance matrices. Consequently, we cannot reject the null hypothesis (H0) for this year.

However, for the year 2021, Hotelling's T-square test for two samples with unequal variance matrices resulted in a significant statistical difference in the average financial performance between the two groups of companies that used cost strategy and differentiation strategy.

Specifically analysing 2021 and the total number of companies in the sample, the averages in net margin were 8.18%, in ROA 6.19%, and in ROE 5.94%. The range for net margin was -92% to 108%, with a standard deviation of 21%. For ROA the range was -21% to 49% with a standard deviation of 8%, and for ROE the range was -392% to 77% with a standard deviation of 42%. For ROA the range was -21% to 49% with a standard deviation of 8%, and for ROE the range was -392% to 77% with a standard deviation of 42%.

In companies with a cost strategy, the average net margin was 11.22%, ROA 7.84%, and ROE 11.76%. The range for net margin was -37% to 108%, with a standard deviation of 19%. For ROA, the range was -6% to 49% with a standard deviation of 8.5, and for ROE, the range was -45% to 48% with a standard deviation of 14%.

In companies with a differentiation strategy, the average net margin was 2.83%, ROA 3.29%, and ROE -4%. The range in net margin was -92% to 107%, with a standard deviation of 24%. For ROA, the range was -21% to 12% with a standard deviation of 6.38%, and for ROE, the range was -392% to 77% with a standard deviation of 67%.

Some other possible factors for this behaviour could be considered within the environment faced by the companies that were observed in the margins that were presented in the average of the companies, based on costs from 11% to 2% in the case of the average of the companies with a differentiation strategy.

The ROA also follows this adjustment in the average of cost-based companies from 7% to 3% in the case of differentiation companies.

The strongest difference was in ROE, from 11% on average in companies based on cost strategy to -4% in the case of companies based on differentiation strategy.

In this case, we accept the alternative hypothesis (H1):

H1 = the financial performance of companies implementing a cost strategy and the financial performance of companies implementing a differentiation strategy are not the same on average in both groups.

The hypotheses validations by year are presented in Table 6.

Table 6. Hypothesis Validation.

Year	**2019**	**2020**	**2021**
Hypothesis	**Findings**	**Findings**	**Findings**
H0 null	Remains the same	Remains the same	Rejected
H1 alternative	Not accepted	Not accepted	Accepted
Conclusion	No difference	No difference	Notable difference

DISCUSSION

The statistical analysis considered, on the one hand, the strategic framework adapted from Porter (1996) and, on the other, the financial performance variables used by various authors seeking significant effects of the type of strategy on financial results for the pre- and COVID pandemic periods.

Considering that the data did not present a normal multivariate distribution and in accordance with Hotelling's T-square test for 2 samples with unequal variance matrices, the result was that during 2019 there was no significant statistical difference in the means of the financial performance variables: net margin (NM), return on assets before taxes (Pre-tax ROA), and return on equity (ROE). The above compared the 2 classification groups or independent variables: cost strategy and differentiation strategy. Therefore, we cannot reject the null hypothesis (H0) of our study:

H0 = the financial performance of companies that use a cost strategy and the financial performance of companies that use a differentiation strategy on average is the same for both groups.

When analysing 2020, the same results were obtained from Hotelling's T-square test for two samples with unequal variance matrices. Consequently, we cannot reject the null hypothesis (H0) of our study.

However, for 2021, Hotelling's T-square test for two samples with unequal variance matrices resulted in a significant statistical difference in the average financial performance between the two groups of companies that used the cost strategy and the differentiation strategy.

In this case, we can reject the null hypothesis (H0) of our study and accept the alternative hypothesis (H1):

H1 = the financial performance of companies that use a cost strategy and the financial performance of companies that use a differentiation strategy on average is not the same for both groups.

The findings allowed us to establish that the financial performance of companies that use a cost strategy and the financial performance of companies that use a differentiation strategy, on average, were not equal in both groups, comparing the 2021 period.

Reviewing the financial performance variables for the 2021 period, we can note that organisations with a cost-based strategy recorded on average better levels of net profit margin (NM), achieving a positive difference of 8.3% over organisations with a strategy based on differentiation. In the case of return on assets before taxes (ROA), the difference was also positive at 4.5% in favour of the group of cost-based organisations compared to organisations based on a differentiation strategy. Likewise, in the case of return on equity (ROE), the difference was positive by 16.0% for organisations based on cost strategy compared to those with a differentiation strategy.

In the fiscal year 2021, the group of companies that followed a cost-based strategy recorded an average net margin (NM) of 11.22%, an average return on assets before taxes (Pre-tax ROA) of 7.84%, and an average return on equity (ROE) of 11.76%. These results are higher than the averages

recorded by the group of companies based on a differentiation strategy for this year.

In the case of the net margin (NM), it is possible to locate improvement in this indicator, on the one hand, by generating higher sales and, on the other, in better management of operating and financial expenses. Considering the ROA, it is possible to locate improvement in generating a higher number of sales and a better investment strategy in productive assets. In the case of ROE, it is also possible to locate the improvement in generating a higher number of sales and a better capital management strategy (reinvestment of profits and dividend management).

CONCLUSIONS

In 2019, the group of companies that followed a cost-based strategy recorded a difference on the average net margin (NM) of 0.9%, a difference on the average return on assets before taxes (Pre-tax ROA) of 1.4%, and a difference on the average return on equity (ROE) of 1.1%. These results were not significantly different between the two groups. Likewise, in 2020, the group of companies that followed a cost-based strategy recorded a difference on the average net margin (NM) of 0.2%, a difference on the average return on assets before taxes (Pre-tax ROA) of 1.7%, and a difference on the average return on equity (ROE) of 1.8%. These results were not significantly different between the two groups.

Nevertheless, the comparison of organisations with a cost-based strategy and organisations based on a differentiation strategy resulted in a significant difference in the means of the financial performance variables, specifically for the 2021 pandemic period.

We can infer, from the statistically significant results, that the group of organisations based on cost strategies had a better strategic reaction in the pandemic period of 2021, which translated into better financial results.

The importance of strategic planning to reach performance and competitiveness, as pointed out by Elbanna et al. (2020) was noted, as well as the importance of strategic responses to crisis as mentioned by Wenzel et al. (2021).

The research contribution focuses on the empirical confirmation of the statistical effects of the type of strategy used in organisations on financial results for the pre and COVID periods in the case of Mexico. The management contribution focuses on the identification of the change in the average financial results of each group of companies classified by type of strategy, due to facing a crisis in organisations derived from the COVID-19 pandemic.

In the practical business field, it is important to point out that in times of crisis such as what happened throughout COVID-19, products whose strategy is based on cost will have a great advantage given the contraction of the economy. Therefore, companies that work with a differentiation strategy in times of crisis must make immediate efforts to present themselves as essential elements within consumer spending with the aim of generating

a close bond (customer/company). These efforts can include a marketing campaign highlighting the importance of the product/service, joint/package purchasing proposals (family/business), as well as operational adjustments to reduce the range of differentiated items during the crisis and consequently improve production efficiency. Since the objective was centred on the types of strategy and financial results obtained in the period, agility and how well these strategies were implemented or adapted are possible to be addressed in future related analysis.

In the case of regulators and policy makers, observing what was mentioned by Gormsen & Koijen (2020), possible measures could be explored in particular for the case of Mexico, like granting fiscal stimuli to support the operation of companies, and supporting the access to financing with low interest rates to support economic growth in the short and long term. Likewise, as mentioned by Orlowski (2021), it is important to support labour markets for the retention of workers and the maintenance of productivity in the face of a pandemic scenario.

This work is developed in the context of Mexico with a sample of organisations listed on the Mexican Stock Exchange, which presents a limitation for the generalisation of results. It is necessary to continue developing research to corroborate the results found, analysing other organisations in different countries. Limitations are recognised by analysing the effectiveness of cost or differentiation strategies applied by companies, considering the type of industry in which they are immersed. It is possible that the effectiveness of the type of strategy by type of industry presents variations in the results, considering, for example, the characteristics of a service company focused on the final client or consumer, or a production or manufacturing company oriented to intermediate clients or suppliers of other industries.

The analysis is limited to the observed analysis period (2019-2021), which is relatively short and constitutes an initial effort. The time horizon considered for the analysis can be extended in subsequent analyses to verify whether the results are maintained over time and whether the adjustments made by decision-makers had an effect on the strategies to maintain their competitive position.

Future research can focus on determining in greater depth the specific decisions to improve financial performance in organisations during times of crisis or consider other elements that could be influencing the reactivation and improvement of financial results, such as the local environment of the firm as an origin of competitive success mentioned by Porter (1996). Additional external factors may affect financial results, such as changes in economic policies, government regulations, or changes in consumer behaviour, which open the possibility of including more variables to expand the analysis in future work. Employing the resource-based view, Helfat et al. (2023) show the new directions for the research on strategic management, considering new contexts like artificial intelligence and sustainability, new concepts like resource redeployment, and new methods like text analysis and machine learning. Subsequent analyses could focus on addressing the

challenges in the measurement and explanation of causality of strategic variables, as observed by Bindra et al. (2019).

Guyottot & Le Fur (2023) mention aspects to explore such as the effects of COVID-19 and the importance of corporate social responsibility, sustainability and environmental issues regarding strategy and performance of companies, globalization and reindustrialization, economic growth and preservation of natural resources, as well as the development of digital communications and human solidarity.

Donthu & Gustafsson (2020) provide research themes like freedom, healthcare, government intervention, approaches to handle the stress on the job markets and infrastructure, support to businesses and citizens, and in general, the best approaches to face a major disaster in the future.

Other avenues of research could consider important aspects such as the interaction of generic strategies with organisational culture, technology adoption, and sustainability in organisations. Addressing these dynamics can broaden the vision and understanding of the implementation of the type of generic strategy and the financial results generated.

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