

The Role of Strategic Management Accounting Techniques in the Improvement of A Company's Financial Performance: The Case of low-cost Airlines

JORGE SUAREZ¹, IVETA LUDVIGA², INESE MAVLUTOVA³

¹Faculty of Accounting,
Externado University of Colombia,
12 Street # 1-17,
COLOMBIA

²Faculty of Business and Economics,
RISEBA University of Applied Sciences
Meza str. 3, Riga, LV-1048,
LATVIA

³Department of Economics and Finance,
BA School of Business and Finance,
Kr. Valdemara 161, Riga, LV-1013,
LATVIA

Abstract: - This article presents a unique exploration of the role of Strategic Management Accounting techniques in supporting decision-making. This perspective has not been extensively studied in the context of low-cost airlines. This accounting branch is characterized by providing external, financial, non-financial, long-term, and forward-looking information, expanding the informational framework for strategic management and decision-making. The methodology relies on the application questionnaires and the financial performance analysis of fifteen low-cost airlines in America and Europe. Structural equation models were applied to test the relationships among the variables. The results evidence that the strategic management accounting techniques that positively and significantly affect the financial performance of the analyzed low-cost airlines are the ones related to the group of costing and strategic decision-making.

Key-Words: - strategic management accounting, strategic management accounting techniques, management accounting, decision making, low-cost airlines, structural equation models.

Received: April 25, 2024. Revised: September 13, 2024. Accepted: October 16, 2024. Published: November 14, 2024.

1 Introduction

As the dynamic business world has evolved over the forty years, companies have faced high local and international competition. Companies require strategically oriented information with an interdisciplinary approach that integrates developments from various fields including management accounting (hereinafter MA), strategy, strategic management, marketing, production, and finance. In this context, strategic management accounting (hereinafter SMA) is called to gather the demands for new information that supports strategic management and decision-making.

SMA generates essential changes in how accounting is perceived in organizations, helping to shape organizational strategy, decision-making, and

senior managers' and decision-makers behaviour. However, its more visible contributions to businesses relate to the strategic information obtained from applying a set of strategically oriented techniques. Despite the lack of consolidation and implementation of SMA, its progress continues, and its impact seems to depend on specific factors faced by a range of diverse industries.

This paper focuses on the airline industry, specifically *low-cost airlines (LCAs)*. It is composed of a competitive business environment characterized by high fixed costs, low levels of profitability, and operational areas with high levels of complexity. To compete in this context, LCAs deploy several strategies to maximize efficiency - *labor*

productivity, high usage of the aircraft, higher occupation rates- and minimize cost *-long-term agreements for the supply of fuel, operation in secondary airports, and personnel outsourcing-*. The airline industry supports social and economic development, cultural and people connections, business and international trade, and jobs worldwide.

In that regard, one of the contributions of this paper is the identification of the main decisions made by LCAs. Another key point is the collection of some of the strategic factors determining the success of LCAs established. Besides, this article assesses the current application of strategic management accounting techniques (hereinafter SMATs) such as attribute costing, value-chain costing, strategic costing, competitor cost assessment, and others in the analyzed LCAs, identifies the most important ones, examines the future application of these techniques for the next five years. Moreover, the results of structural equation modeling determine the effect and direction that SMA has on the financial performance of the studied LCAs.

The study focuses on low-cost airlines and aims to shed light on the role of Strategic Management Accounting techniques in supporting decision-making, which ultimately affects financial performance.

The rest of the paper is organized as follows: the next section presents the literature review, continuing with the methodology and hypotheses development. Then, the findings and results are presented, ending with the discussion and conclusions.

2 Literature Review

2.1 Strategic Management Accounting

SMA is an interdisciplinary concept that represents the last stage of the development of MA and contributes crucial information to support decision-making and strategic management. SMA provides long-term, financial, non-financial, external, and forward-looking information, directly connecting companies with their business context. One of the most frequently identified gaps in the literature review is the lack of empirical studies related to SMA, especially those incorporating a wide range of techniques, [1]. Previous studies on the application of SMA have focused on hotels, hospitals, manufacturing companies, universities, banks, and agriculture. However, there is a lack of studies on

the airline industry. Besides, it was found that SMA has been studied without connection to the key decisions faced by industries. This factor should be the starting point for connecting SMA with the key decisions of organizations.

Strategic decision-making requires external and future-oriented information, such as information about customers and competitors [2], [3], [4] and traditional MA does not fulfill these requirements.

Some definitions of SMA are associated with supporting techniques and tools for strategy, business success, and value creation [5], [6], [7], [8]. Moreover, SMA can be a way to obtain knowledge regarding the organizational environment and be prepared for possible changes within it [9], [10]. [11] pointed out that SMA refers to new accounting techniques that have emerged to support strategic decision-making.

SMA is deployed in companies by adopting diverse techniques, as presented in Figure 1. Some of them are used to support strategic cost management, such as identifying the cost of specific attributes of the product/service valued by customers - *attribute costing*. *Life-cycle costing* seeks to determine the costs of the products/services in the stages of introduction, growth, maturity, decline, and abandonment. *Quality costing* refers to the costs of creation, identification, repair, prevent defects, and after-sales service.

Target costing defines a maximum cost level that the previous production process must achieve to generate a special margin, satisfy customers' needs, and satisfy shareholders' expectations. Value chain costing is related to allocating costs related to the activities required to design, procure, produce, market, distribute, and service a product or service.

Other techniques support planning, control, and performance measurement. *Benchmarking* implies comparing practices with a referent in the industry that applies best practices to identify ways to implement efficiency improvements. *Integrated performance measurement* seeks to appraise factors associated with customer satisfaction.

Regarding Strategic decision-making, *Strategic costing* analyzes cost data based on strategic and marketing information to make strategies that allow the building up of a sustainable competitive advantage. *Strategic pricing* helps to determine prices based on competitor price reaction, price elasticity, market growth, economies of scale, and experience. *Brand valuation* assesses the brand value based on factors such as leadership, stability, market, internationality, trend, support, and historical brand profit.

Concerning Competitor accounting, *Competitor performance appraisal* evaluates competitors based on the analysis of their financial statements and management reports. Competitor cost assessment provides and analyzes information on competitors' costs—actual and estimated costs—based on technologically advanced investments, competitive position, economies of scale, and technology product design. *Competitive position monitoring* evaluates market trends and the company concerning some variables such as sales, market share, volume, unit costs, return on sales, and strategies.

Finally, in customer accounting, *customer profitability analysis* seeks to determine the profit earned for the commercial relationship with each customer. *Lifetime customer profitability analysis* tries to anticipate future revenues and costs for each customer, such as TV and mobile plans. *Valuing customers as assets determines the present value of future profit streams* regarding clients.

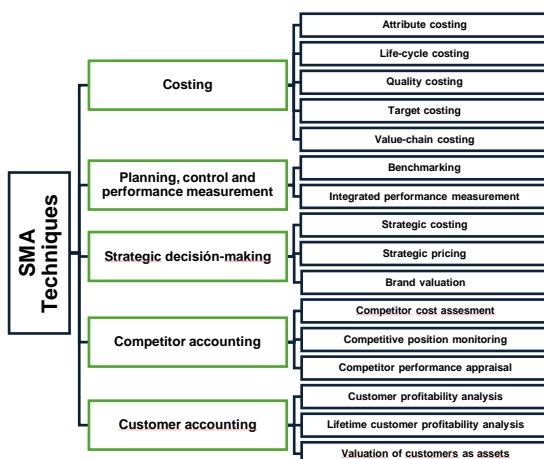


Fig. 1: Strategic Management Accounting Techniques

Source: Author owns elaboration based on [3]

SMA reconfigures the roles of both accounting and accountants in companies and contributes to strategic management through the incorporation of external information, which affects how companies are managed and how decisions are made in a global and competitive business environment. These demands expand the information contributed by accounting to the decision-making processes and increase the roles of accountants as providers of strategic information to support strategic management. In addition, SMA contributes information to support the definition, implementation, and monitoring of the business strategy, affecting the financial performance.

Superior information provided by SMA improves the effectiveness of administrative decisions, which in turn improves organizational performance (Baines & Langfield, 2003, cited by [4]). The International Federation of Accountants (IFAC) framework includes SMA tools, which play a vital role in management support for both control and strategy perspectives, designating it to support corporate governance [8].

SMA has been studied using the perspective of several theories, such as contingency theory, contestable markets theory, upper-echelons theory, and grounded theory. Nonetheless, studies on the topic can be developed using the main premises of behavioral management accounting by [12], [13], [14], [15], [16]. This theory considers that accounting information affects the behaviors and minds of senior managers, shaping how they make decisions.

2.2 The Airline Industry

This industry is characterized by high levels of competition, assets intensive, and several non-controllable factors such as the weather, financial crisis, political instability, pandemics, changes in passengers' expectations, and fuel costs. Airlines connect people and cultures, supporting international trade, business, and social and economic factors.

Regarding their cost structure, the most practical classification of costs for decision-making and analysis in airlines relies on three key concepts: i) operating and non-operating costs, ii) direct and indirect costs, and iii) fixed and variable costs, [17]. In the airline industry, operating costs are related to the air transport operation. Direct costs align with passengers or aircraft and can be divided into fixed—*aircraft costs, fixed maintenance costs, passenger handling at the airport, fixed cost of crew, and commercial fixed costs, among others*; and variable—*fuel, airport fares, handling, variable maintenance costs, variable crew costs, passengers' compensation, lost baggage compensation, service on board, and so on*-. Finally, indirect operating costs are related to maintenance engineering costs, costs of the technical flight management area, and costs of the structure in general.

Mason and Morrison [18] pointed out that for many airlines, labor costs are the highest cost component, although the advantage is that this is controllable. Also, an airline's information technology infrastructure can significantly impact a business's costs because it represents overhead and is the third most important thing in the cost structure (after labor costs and fuel). When the proportion of

employee costs out of total costs is small, as it happens in LCAs, airlines should outsource operational activities. Meanwhile, an airline with a higher proportion of employees' costs out of total costs -usually the case of FSAs- is inclined to undertake more operational activities internally.

In agreement with Daft and Albers [19], airport landing and passenger fees offer cost-saving advantages when secondary airports are used, such as in Ryanair's case. Additionally, the ticket distribution costs can be reduced by exclusively using online distribution. However, sales by telephone are complementary strategies, and they are not expensive. These strategies exclude travel agencies that are a common distribution channel for FSAs in exchange for a commission. In the current century, Air Asia was a pioneer in implementing ticket sales via short messaging services as a distribution strategy, [20].

[21], through the development of a simple theoretical model, showed that airlines tend to offer both - lower fares and frequencies on thinner markets. However, airlines can also charge higher fares when flight frequency increases. This is a relevant finding for understanding why LCAs operate on uncommon and crowded routes. For instance, LCAs operate similarly to FSAs in the US in terms of route choices because both types of airlines prefer high-density routes. In contrast, European LCAs dominate routes with a lower number of seats. This could be the situation in secondary cities, such as Almeria and Alicante (Spain), Bergerac and Carcassonne (France), Dresden and Memmingen (Germany), and so on.

To manage cost, different avenues are available for airlines: i) reduction of capacity, ii) cutting the number of inflight amenities, iii) downsizing management, iv) outsourcing non-critical operations, and v) discontinuing usage of older aircraft models. As stated in [22], typical ways to cost management in the LCAs are i) the high density of seats, ii) direct online ticket sales, iii) removing all forms of services -for instance, *catering, entertainment-*, and iv) legroom.

Research classified the advantages of low cost into three main factors: i) service savings, ii) operational savings, and iii) overhead savings [23]. Furthermore, [24] pointed out three key factors in managing the cost in an airline: i) network structure and mesh, ii) type and aircraft characteristics, and iii) labor costs and quality management. The airline industry has faced an increase in operative levels and a decrease in the average operative costs. However, airlines continue to have low levels of profitability.

Another critical situation affecting this industry is the sudden and high fuel cost increases, [25]. Fuel cost is a non-controllable variable for airlines and is fundamental to operating aircraft. [26], carried out a study with a sample of 45 global airlines identifying that fuel represented around 32,3% of total operating cost, while in 2007, that rate was 27,4%, and it was between 12-13% during 2001-2003. Airlines have responded by operating more efficient aircraft in terms of fuel consumption and using financial hedging operations for their fuel costs.

3 Methodology and Hypotheses Development

The methodological framework of this research is composed of qualitative and quantitative analysis using primary and secondary data. The impact of SMA on the financial performance of the analyzed LCAs can be measured by identifying SMATs implemented by these companies and their relationship with profitability, return on assets (ROA), and return on equity (ROE). In that regard, identifying benefits and advantages is crucial to encouraging the use of innovative and new practices, such as SMA, and its contributions to financial performance.

For the qualitative research, the literature review was carried out by searching for papers on SMA by title in the Science Direct and Scopus databases. 82 papers from 1981-2023, of which 72 were included, were obtained. They were complemented by 21 articles and books on MA. In addition, information on the low-cost airline business model and the airline industry was obtained from monographs, industrial reports, and scientific articles published in the same databases.

For the quantitative research, fifteen low-cost airlines were identified following the 2019 Skytrax awards: eight in Europe and seven in North America. Financial information (*operating revenue, net profit after taxes, total assets, shareholders equity, liabilities, profitability, return on assets, and return on equity*) was obtained from several sources: the airline's annual reports, its corporate website, Statista, and the Education Management Information System (EMIS). Financial data was obtained in American dollars, euros, pounds, and Mexican pesos. All these were converted to USD using the exchange rates effective on January 31, 2023.

Moreover, a questionnaire was applied to senior airline industry managers in finance, accounting, planning, strategy, and budgeting. It sought to

identify their perceptions and points of view on the levels of implementation of SMATs, their contributions to the decision-making processes, strategic management, and the roles played by management accountants in that regard. The instrument used a seven-point Likert scale, where 1= *not used at all*, 7= *excessively used*. A total of thirty-four responses were collected, of which thirty were used in the analysis. Its internal reliability and consistency were validated through the Cronbach alpha coefficient. This instrument was also assessed by two researchers (one in Spanish and one in English), *two chief financial officers, and two native speakers of English (an American and a British person)*. Python was used for descriptive and inferential statistics and structural equation modeling with SmartPLS.

One of the key variables studied in business is performance. In the airline industry, it can be financially measured as *profitability, revenues, return on assets, return on equity, cost per available seat kilometer, and revenue per passenger kilometer*. For any industry, other factors affecting financial performance are technology, degree of centralization, type of control, or leadership style [27], and costs, assets, and revenues [28]. Financial performance is affected by the appropriate decisions taken by senior managers and the information they employ to support them.

The [29] pointed out that several studies have found that SMA generates information for strategic decision-making. Still, few explanations exist for its effect on the financial performance of service industries.

In manufacturing companies, researchers found that financial performance is affected by organizational learning and the level of competition. Likewise, MA information systems directly impacted financial performance and environmental uncertainty [29], [30]. On the contrary, findings by [31] indicated that managerial performance is not affected by MA information systems but by the decision-making style.

MA practices that offer vast information are positively related to company performance [4], such as SMA, which facilitates improving companies' financial performance operating in high-complexity environments, [29].

The paper, [32] collected some literature about the weak but positive relationship between using SMA and perceived performance and organizational performance. On the other hand, [32] identified a strong positive correlation between using SMATs and organizational performance.

Authors [33] found a positive and meaningful relationship between SMA and performance. Researchers [4] pointed out that few studies have investigated the relationships between the use of SMATs and organizational performance; most studies indicate a positive association. They [4] also found that SMEs operating in an overly complex environment use SMA tools more extensively to improve financial performance.

[27] stated that when MA practices are adopted by an organization that is aligned with its strategic objectives, it achieves better business performance. This author found that adopting conventional practices and pursuing a low-cost strategy positively influences organizational performance. On the other hand, adopting strategic accounting practices and pursuing a differentiation strategy also positively influences organizational performance.

Based on the concepts mentioned above in the study about the airline industry, in particular, the impact and direction in which SMA techniques are determinants of the financial performance of LCAs, it is appropriate to raise the following hypotheses and create a Research model (Figure 2):

H1: *Strategic management accounting techniques related to Costing positively impact the financial performance of low-cost airlines.*

H2: *Strategic management accounting techniques related to Planning, Control, and Performance Measurement positively impact the financial performance of low-cost airlines.*

H3: *Strategic management accounting techniques related to Strategic Decision-Making positively impact the financial performance of low-cost airlines.*

H4: *Strategic management accounting techniques related to Competitor Accounting positively impact the financial performance of low-cost airlines.*

H5: *Strategic management accounting techniques related to Customer Accounting positively impact the financial performance of low-cost airlines.*

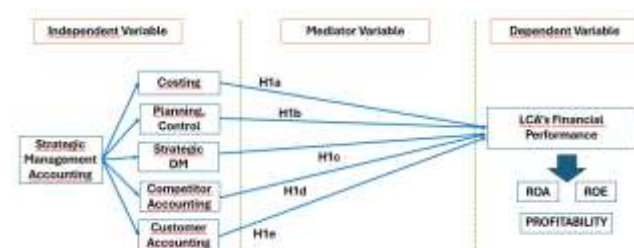


Fig. 2: Research Model

Source: own elaboration

4 Findings and Results

According to the obtained information (see Appendix 1), it was found that from the set of sixteen SMATs analyzed, twelve have a mean score of current application in the studied LCAs over the average of 4.0. In addition, the most used for the examined LCAs are strategic pricing (5.7), benchmarking (5.6), and the ones related to competitor accounting -*competitor performance appraisal* (5.6) and *competitor performance monitoring* (5.6). This is because this industry is characterized by high levels of competition that require best practices to be followed. On the other hand, the techniques related to customer accounting -*customer profitability analysis* (3.9), *valuation of customers as assets* (3.8), and- *lifetime customer profitability analysis* (3.7) are the least relevant for the studied LCAs, especially for the existence of a single class, many of whom lack loyalty plans.

Furthermore, the findings in Appendix 2 also disclose that in the next five years, these LCAs will use all sixteen SMATs, including those related to customer accounting, more than the average. In that vein, SMA will continue to be important for the analyzed LCAs for the foreseeable future.

Appendix 3 reveals that the main decisions made by LCAs are related to prices/fares, routes to operate, cost control, frequencies, and airports to operate, among others.

Regarding the relationships between SMA and the financial performance of LCAs, the outer final model (*measurement model*) in Figure 3 includes one endogenous construct - performance; it is measured through Profitability (Prof), ROA, and ROE. Furthermore, it includes five exogenous constructs: i) cost (SMATs related to Costing), ii) pcp (SMATs related to Planning, control, and performance measurement), iii) str (SMATs related to Strategic decision-making), iv) com (SMATs related to Competitor accounting), and v) alpha (SMATs related to Customer accounting).

According to [34], the outer model explains the level at which each construct is measured or how each set of indicators is related to their latent variable. [35], defined the outer model as revealing how constructs are measured or indicators measure one theoretical concept of interest. To evaluate the model, the following factors must be examined: outer loadings (size and significance), composite reliability, average variance extracted (AVE) or convergent validity, and discriminant validity.

The final model is used to make conclusions about hypotheses. The primary evaluation criteria for SEM are R^2 results. R^2 values 0.75, 0.50, and 0.25 for endogenous latent variables indicate

substantial, moderate, or weak predicting capacity, [35]. As seen from the previous Table 1, $R^2 = 0.600$; therefore, the model has a moderate predicting capacity for engagement, [34]. In other words, SMA explains 60% of changes in the financial performance of the analyzed LCAs.

The convergent validity of the reflective constructs is examined with average communality or AVE. This indicator should be at least higher than 50%. In the model, AVE scores are depicted in Table 2. By the scores, all of them are well above 0.5 and thus are acceptable, except Cronbach's alpha for pcp, which is slightly below 0.5, [34].

All HTMT values should be lower than 0.85 for conceptually distinct constructs and lower than 0.9 for similar constructs. According to Table 3, the HTMT values ranged from 0.064 to 1.101; the validity is confirmed for the values lower than 0.85. Thus, acceptable discriminant validity is demonstrated by the HTMT method, [34]. However, from the HTMT ratio, discriminant validity problems according to the HTMT criteria only applied to the relationship com-pcp. This implied that most HTMT criteria do not detect the collinearity problems among the latent constructs - *multicollinearity*, [36] reason why collinearity is not a critical problem, [34].

Results in Table 4 show that Prof (*profitability*) and ROA are collinear, but this could be explained by the nature of the indicators—both measure financial performance. The rest of the indicators do not have any problems in that regard.

Based on the inner model results (Table 5), **H1 and H3 are supported**. To put it another way, changes in the financial performance of the analyzed LCAs are explained by the implementation of SMATs related to Costing and Strategic decision-making. On the other hand, **H2, H4, and H5 are rejected**. To put it another way, changes in the financial performance of the analyzed LCAs are not explained by the implementation of SMATs related to Competitor accounting (com), Customer accounting (cust), and Planning, control, and performance measurement (pcp).

Considering that some previous studies confirmed that SMA positively contributes to company financial performance, respondents' points of view, and results of inferential statistics, triangulation permits corroborating that SMA contributes to better financial performance in the studied LCAs.

The study reveals that SMA can contribute to LCAs by providing information on strategic variables such as prices, trends, competitors' strategies, cost structure, customers' preferences, and expectations.

This information could support strategic decision-making and monitor the achievement of objectives

and goals, considering timely improvement measures.

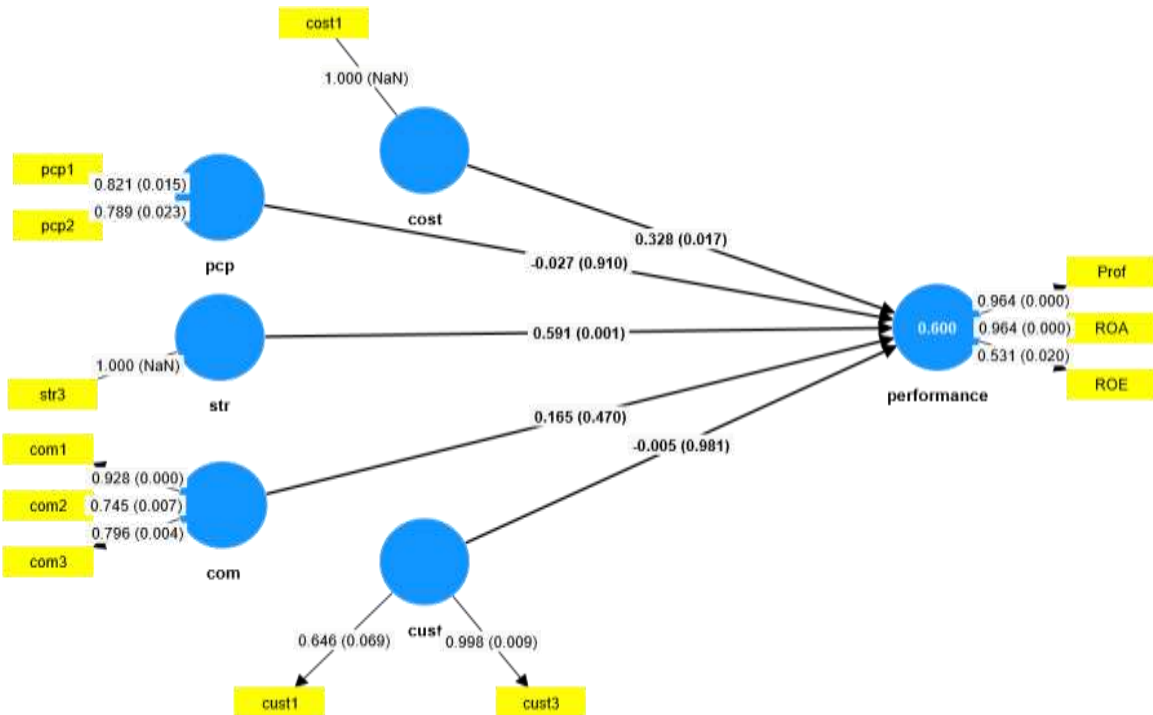


Fig. 3: Final model

Source: Author owns elaboration

Table 1. Factors to evaluate the final model

R-square	R-square adjusted	Cronbach's alpha	Composite reliability (rho_c)	Composite reliability (rho_a)	The average variance extracted AVE
0,600	0,517	0,790	0,876	0,948	0,714

Source: Author owns elaboration

Table 2. Quality criteria of the final model

	Cronbach's alpha	Average variance extracted (AVE)
com	0.769	0.683
cust	0.818	0.707
pcp	0.459	0.649
performance	0.790	0.714

Source: Author owns elaboration

Table 3. HTMT

	com	cost	cust	pcp	performance
com					
cost	0.069				
cust	0.288	0.106			
pcp	1.101	0.064	0.34		
performance	0.32	0.47	0.275	0.345	
str	0.221	0.216	0.505	0.376	0.739

Source: Author owns elaboration

Table 4. Collinearity statistics VIF

	VIF		VIF
Prof	5.633	cost1	1.000
ROA	5.738	cust1	1.919
ROE	1.183	cust3	1.919
com1	2.320	pcp1	1.097
com2	1.695	pcp2	1.097
com3	1.557	str3	1.000

Source: Author owns elaboration

Table 5. Inner model results: Path coefficients and P-values

	Paths coefficient Sample mean (M)	Standard deviation (STDEV)	P values	Decision on Hypothesis
com -> performance	0.195	0.229	0.470	H1d rejected
cost -> performance	0.327	0.137	0.017	H1a supported
cust -> performance	0.032	0.200	0.981	H1e rejected
pcp -> performance	0.009	0.237	0.910	H1b rejected
str -> performance	0.529	0.18	0.001	H1c supported

Source: Author owns elaboration

5 Discussion and Conclusion

This article expands SMA's theoretical and practical contributions to companies, providing a framework to continue studying the topic in other industries, [37]. From a theoretical perspective, it introduces the central tenets of behavioral management accounting as an additional theory to develop research in the area. From a disciplinary perspective, it identifies and collects dispersed ideas related to the crucial concepts, contributions, and techniques in the study of SMA, [38].

This study assessed a big set of SMATs which according to [1] is one of the main limitations of studies on SMA that only included a limited number of SMATs. It evidences that the SMATs related to costing, planning, control, performance measurement, strategic decision-making, and competitor accounting are widely used in the studied LCAs.

In addition, this is the first research asking about their future use of SMATs over the next five years. It identifies that all sixteen will be used in the coming years, evidencing the topic's huge importance for LCAs.

The paper also contributes to raising awareness about the need to update knowledge in MA to respond to new demands in a context characterized by globalization, high competition, and technology, [39]. Considering that some SMATs positively and significantly contribute to financial performance,

SMA has a strategic importance in contributing to companies' competitiveness, [7].

From a methodological perspective, this research combines primary and secondary data in the analysis using Python and Structural Equation Modelling through SmartPLS, extending the limited empirical research on SMA and financial performance as was suggested by the doctoral theses [40] and [41].

This article also collects information about the main strategic decisions by LCAs.

Regarding practical significance, this study provides quantitative evidence of the degree to which SMA is adopted by LCAs and its effects on their financial performance. Furthermore, this study contributes ideas for a better understanding of how the airline industry works, with a particular approach to LCAs and their main strategies, key decisions, and information needs. This information could not be more relevant for leaders in the industry like the American Southwest or the European Ryanair and EasyJet. Nevertheless, from the Latin perspective, where most of the LCAs are still emergent companies, this article provides strong ideas to project how these will operate in the future and the strategies to be deployed to remain competitive.

References:

- [1] Hadid, W. & Al-Sayed, M. (2021). Management accountants and strategic management accounting: the role of organizational culture and information system. *Management Accounting Research* 50, pp. 1-17. <https://doi.org/10.1016/j.mar.2020.100725>
- [2] Chenhall, R. (2003). Management control systems design within its organizational context: findings from contingency-based research and directions for the future. *Accounting, Organizations and Society* 28, pp. 127-168. [https://doi.org/10.1016/S0361-3682\(01\)00027-7](https://doi.org/10.1016/S0361-3682(01)00027-7)
- [3] Guilding, C., Cravens, K. & Tayles, M. (2000). An international comparison of strategic management accounting practices. *Management Accounting Research*, 11, pp. 113-135. <https://doi.org/10.1006/mare.1999.0120>
- [4] Nejad, A., Abdul, S., Sofian, S. & Nezhad, B. (2015). A conceptual framework for assessing the use of strategic management accounting in SMEs. *Global Business and Organizational Excellence*, pp. 45-54. <https://doi.org/10.1002/joe.21644>
- [5] Roslender, R. & Hart, S. (2003). In search of strategic management accounting: theoretical and field study perspectives. *Management Accounting Research* 14, pp. 255-279. [https://doi.org/10.1016/S1044-5005\(03\)00048-9](https://doi.org/10.1016/S1044-5005(03)00048-9)
- [6] AlMaryani, M. & Sadik, H. (2012). Strategic management accounting techniques in Romanian companies: some survey evidence. *Procedia Economics and Finance* 3, pp. 387-396. [https://doi.org/10.1016/S2212-5671\(12\)00169-4](https://doi.org/10.1016/S2212-5671(12)00169-4)
- [7] Abdullah, N., Krishnan, S., Mohd, A. Morris, G. (2022). Strategic management accounting practices in business: A systematic review of the literature and future research directions, *Cogent Business & Management*, 9:1, pp. 1-21. DOI: [10.1080/23311975.2022.2093488](https://doi.org/10.1080/23311975.2022.2093488)
- [8] Arunruangsirilert, T. & Chonglertham, S. (2017). Effect of corporate governance characteristics on strategic management accounting in Thailand. *Asian Review of Accounting* Vol. 25 No. 1, pp. 85-105. DOI: [10.1108/ARA-11-2015-0107](https://doi.org/10.1108/ARA-11-2015-0107)
- [9] Dixon, R. & Smith, D. (1993). Strategic management accounting. *Omega International Journal of Management Sciences* Vol. 21, No. 6, pp. 605-618.
- [10] Alborov, R., Kontsevaya, S., Klychova., G. & Kuznetsov, V. (2017). The development of management and strategic management accounting in agriculture. *Journal of Engineering and Applied Sciences* 12 (19), pp. 4979-4984. DOI: [10.3923/jeasci.2017.4979.4984](https://doi.org/10.3923/jeasci.2017.4979.4984)
- [11] Atrill, P. & Mc Laney, E. (2009). *Management accounting for decisions makers*. Lombarda. Prentice Hall.
- [12] Angay, F. (2017). Behavioral accounting and its interactions. Gokten, S. *Accounting and Corporate Reporting - Today and Tomorrow*, chapter 11, pp. 191-207. DOI: [10.5772/intechopen.68972](https://doi.org/10.5772/intechopen.68972)
- [13] Belkaoui, A. (2002). *Behavioral management accounting*. London. Quorum books.
- [14] Dalla, N. (2012). *Three essays in behavioral management accounting*. Doctoral thesis. Università Ca'Foscari Venezia. http://dspace.unive.it/bitstream/handle/10579/1254/DallaVia_955549.pdf?sequence=1 (Last accessed date: May 15th, 2024)
- [15] Libby, T. & Thorne, L. (2017). *Accounting and human information processing*. The Routledge Companion to Behavioural Accounting Research Routledge, London, pp. 22-33.
- [16] Nnanna, K. (2015). Behavioral implications of management accounting practices: a contemporary issue in management accounting. <https://dx.doi.org/10.2139/ssrn.2656521>
- [17] Asociación Española de Contabilidad y Administración de Empresas AECA. (2011). *La contabilidad de gestión en las empresas de transporte aéreo*. Documento No. 57.
- [18] Mason, K. & Morrison, W. (2008). Towards a means of consistently comparing airline business models with an application to the 'low cost' airline sector. *Research in Transportation Economics* 24, pp. 75-84. <https://doi.org/10.1016/j.retrec.2009.01.006>
- [19] Daft, J. & Albers, S. (2012). A profitability analysis of low-cost long-haul flight operations. *Journal of Air Transport Management* 19, pp. 49-54. <https://doi.org/10.1016/j.jairtraman.2012.01.010>
- [20] Shuk, T. & Waring, P. (2010). The lowest of low-cost carriers: the case of AirAsia. *The International Journal of Human Resource Management*, Vol. 21, No. 2, pp. 197-213. <https://doi.org/10.1080/09585190903509480>

- [21] Fageda, X. & Fillol, R. (2012). Air services on thin routes: Regional versus low-cost airlines. *Regional Science and Urban Economics* 42, pp. 702-714. <https://doi.org/10.1016/j.regsciurbeco.2012.03.005>
- [22] Badicu, G. & State, V. (2016). Low-cost aerial transport in Europe. *Valachian Journal of Economic Studies* Volume 0 (0) Issue 0, 2016, pp. 31-40. DOI: [10.1515/vjes-2016-0004](https://doi.org/10.1515/vjes-2016-0004)
- [23] Aeknarajindawat, N. (2017). International passengers' satisfaction: a case study of low-cost airlines. *The Business and Management Review*, Volume 9 Number 1, pp. 106-109.
- [24] De Arantes, R. & Moreira, M. (2014). The main-cost related factors in airlines management. *Journal of transport literature* Vol. 8, n. 1, pp. 8-23. DOI: [10.1590/S2238-10312014000100002](https://doi.org/10.1590/S2238-10312014000100002)
- [25] Wensveen, J. & Leick, R. (2009). The long-haul low-cost carrier: A unique business model. *Journal of Air Transport Management* 15, pp. 127-133. <https://doi.org/10.1016/j.jairtraman.2008.11.012>
- [26] International Air Transport Association IATA. (2010). Airline fuel and labor cost share. IATA Economic Briefing February.
- [27] Mclellan, J. (2012). Strategy and management accounting practices alignment and its effect on organizational performance. *International Conference on Excellence in Business Sharjah, United Arab Emirates*, pp. 1-23. <https://ssrn.com/abstract=1925747>
- [28] Abdelmoneim, A. & Jones, T. (2014). Relationship between strategic management accounting techniques and profitability: a proposed model. *Measuring Business Excellence* Vol. 18, No.3, pp. 1-22. DOI: [10.1108/MBE-04-2013-0023](https://doi.org/10.1108/MBE-04-2013-0023)
- [29] Khan, A., Ullah, M., Alam, M., Qazi, U. & Saeed, A. (2021). Strategic management accounting practices and financial performance of banking sector in Pakistan. *Indian Journal of Economics and Business* Vol. 20 No. 3 (Special Issue, 2021), pp. 1705-1714.
- [30] Susilawati, S. & Faisal, A. (2021). Business Strategy, Environmental Uncertainty and Management Accounting Systems and Their Influence on Firm Performance. *IRE Journals* Volume 5 Issue 5, pp. 37-48.
- [31] Efendi, D. & Kusuma, E. (2021). The role of the management accounting system and decision-making style on managerial performance. *Jurnal Keuangan dan Perbankan* Volume 25, Issue 1 2021, pp. 144-161. DOI: [10.26905/jkdp.v25i1.5330](https://doi.org/10.26905/jkdp.v25i1.5330)
- [32] Apak, İ. ve Duman, H. (2020). The use of management accounting / strategic management accounting tools and effect on performance: a research in Turkey. *Muhasebe Bilim Dünyası Dergisi*, 22 (4), pp. 580-610. <https://doi.org/10.31460/mbdd.634289>
- [33] Nejad, A., Nezhad, B. & Abdul, S. (2017). The indirect effect of strategic management accounting in the relationship between CEO characteristics and their networking activities and company performance. *Journal of Accounting & Organizational Change* Vol.13, No. 4, pp. 471-491. <https://doi.org/10.1108/JAOC-05-2015-0042>
- [34] Ludviga, I. & Kalvina, A. (2016). Exploring the Relationships between Job Satisfaction, Work Engagement and Loyalty of Academic Staff. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering* Vol:10, No:1, pp. 99-105. London.
- [35] Hair, J., Hult, T., Ringle, C., Sarstedt, M., Danks, N., & Ray, S. (2022). Partial least squares structural equation modeling (PLS-SEM) using R. Cham. Springer.
- [36] Ab Hamid, M., Sami, W. & Mohmad, M. (2017). Discriminant Validity Assessment: Use of Fornell & Larcker criterion versus HTMT Criterion. *Journal of Physics: Conf. Ser.* 890 012163.
- [37] Mavlutova, I., Lesinskis, K., Liogys, M., Hermanis, J. (2020). The Role of Innovative Methods in Teaching Entrepreneurship in Higher Education: Multidisciplinary Approach, chapter, In book: *Reliability and Statistics in Transportation and Communication*, Editors: I. Kabashkin, I. Jatskiv, O. Prentkovskis, pp.684-693, DOI: [10.1007/978-3-030-44610-9_66](https://doi.org/10.1007/978-3-030-44610-9_66), Springer, pp.684-693
- [38] Tirado, J. Mavlutova, I. (2023) The Impact of Strategic Management Accounting on The Financial Performance of Low-Cost Airlines *WSEAS Transactions on Environment and Development*, ISSN / E-ISSN: 1790-5079 / 2224-3496, 3, Art. #74, p.786-797 DOI: [10.37394/232015.2023.19.74](https://doi.org/10.37394/232015.2023.19.74)
- [39] Arefjevs, I., Spilbergs A., Natrins A. Verdenhofs, A. , Mavlutova, I. , Volkova, T. (2020). Financial Sector Evolution And Competencies Development In The Context

Of Information And Communication In Technologies Research For Rural Development 2020, Proceedings 26th Annual International Scientific Conference "Research for Rural Development 2020", Vol. 35 , pp.260-267, ISSN 1691-4031, DOI: 10.22616/rrd.26.2020.038, pp.260-267. Latvia.

- [40] Ojra, J. (2014). Strategic management accounting in Palestinian companies: application of contingency theory perspective, [Online]. <https://core.ac.uk/download/pdf/29107927.pdf> (Accessed Date: May 15, 2024).
- [41] Quon, P. (2020). Strategic management accounting use in Canada: an exploratory study of key techniques and factors, [Online]. <https://dt.athabascau.ca/jspui/handle/10791/332> (Accessed Date: May 15, 2024).

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

- Jorge Suarez carried out the literature review, data collection, and interpretation of the results.
- Iveta Ludviga carried out the research model and data analysis.
- Inese Mavlutova has reviewed and edited, as well supervised.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

No funding was received to conduct this study.

Conflict of Interest

The authors have no conflicts of interest to declare.

Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0

https://creativecommons.org/licenses/by/4.0/deed.en_US

APPENDIX

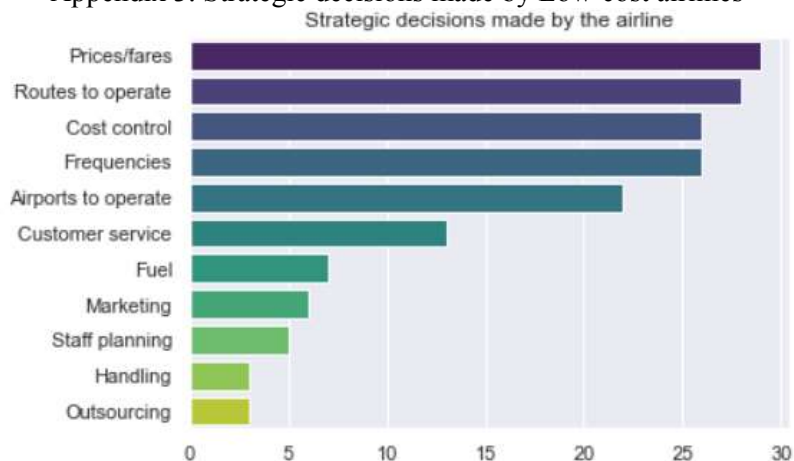
Appendix 1. Current use of Strategic Management Accounting techniques by the studied Low-cost airlines

	Very Intensively used	Highly used	Used	Neutral	Partially used	Not used	Absolutely not used	Mean Score
Costing								
Attribute costing		1	15	4	12	2		4.0
Life-cycle costing	1	6	11	2	9	5		4.2
Quality costing		4	19	1	8	2		4.4
Target Costing	2	15	9	3	2	2	1	5.1
Value chain costing		4	17	2	9	2		4.4
Planning, control and performance measurement								
Benchmarking	5	15	11	2		1		5.6
Integrated performance measurement	1	15	14	2		2		5.3
Strategic decision-making								
Strategic costing	1	18	10	2	1	2		5.3
Strategic pricing	3	23	6		2			5.7
Brand valuation	2	3	7	3	15	3	1	3.9
Competitor accounting								
Competitive position monitoring	3	16	14		1			5.6
Competitor cost assessment/analysis	1	16	11	4		2		5.2
Competitor performance appraisal	2	17	14		1			5.6
Customer accounting								
Customer profitability analysis	4	3	7	1	12	6	1	3.9
Valuation of customers as assets		7	6	2	12	7		3.8
Lifetime customer profitability analysis		6	7	3	8	9	1	3.7

Appendix 2. Importance of the use of Strategic Management Accounting techniques by the studied Low-cost airlines in the next five years

	Extremel y importan t	Very importa nt	Moderatel y important	Neutra l	Slightly importa nt	Low importanc e	Not at all importa nt	Mea n Scor e
Costing								
Attribute costing	2	16	11	1	2	2		5.3
Life-cycle costing	2	8	17	4	2	1		5.0
Quality costing	4	9	16	3		2		5.2
Target Costing	5	19	5	2	1	1	1	5.5
Value chain costing	2	10	17	4		1		5.2
Planning, control and performance measurement								
Benchmarking	8	18	6	2				5.9
Integrated performance measurement	4	21	8	1				5.8
Strategic decision-making								
Strategic costing	13	12	5	1		2	1	5.8
Strategic pricing	17	14	1	1	1			6.3
Brand valuation	4	5	10	4	11			4.6
Competitor accounting								
Competitive position monitoring	8	23	3					6.1
Competitor cost assessment/analysis	12	14	4	3		1		5.9
Competitor performance appraisal	7	18	8	1				5.9
Customer accounting								
Customer profitability analysis	2	8	9	1	11	3		4.4
Valuation of customers as assets		8	8	2	13	3		4.1
Lifetime customer profitability analysis	2	9	2	6	10	5		4.2

Appendix 3. Strategic decisions made by Low-cost airlines



Source: Authors owns elaboration