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THE ROLE OF ACCOUNTING INFORMATION IN DECISION-MAKING AND ECONOMIC PERFORMANCE: THE PORTUGUESE ACCOUNTANTS' PERSPECTIVE*

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Abstract. The rise of the concept of sustainability reveals a pivotal shift in market thinking, thus pushing companies to reevaluate the method in conducting their decision-making processes. The main objective is to investigate the role of accounting information in decision-making from the point of view of Certified Accountants. Specifically, it aims to analyse the relationship between the companies' size, the usefulness of Financial Information (FI) and Management Control Information (MCI), and the company's economic performance. Supporting evidence is provided by analysis of an online questionnaire survey of professionally qualified accountants working in Portugal. We used structural equation modelling in the analysis of causal relationships between different constructs. The results show the size of the companies and their performances are directly related, so it is the larger companies that have the best economic performance. However, to improve the company's performance, it has been proven that the use of FI in decision-making is not sufficient, so the use of MCI is decisive for a good economic performance. This study highlights the importance of producing useful FI and MCI to assist decision-making and contribute to economic sustainability.

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1. Introduction

The rise of the concept of sustainability reveals a pivotal shift in market thinking, thus pushing companies to reevaluate the method in conducting their decision-making processes. In current competitive environment, companies are asked to innovate at any moment, warranty tomorrow's sustainability and make money now. This context challenges the current mindset of decision-makers and threatens the role accounting information plays in decision-making. For Biancone et al. (2019), the need for open innovation management is crucial to improve organizations performance and consequent sustainable business development. Literature suggests that the growing number of innovation activities in companies has stressed the need for research on management accounting and control (Janka et al., 2020). Based on the literature, Le et al. (2020) argue that managers often require more information for decision-making when facing high uncertainty in business environment. Thus, accounting information system is useful for decision-making process in an innovation context (Janka et al., 2020; Sajady et al., 2012).

In fact, accounting is, unquestionably, an important component of business information systems. Generally, the role of accounting in business organizations is perceived to be the provision of information for decision-making (Hayes, 1977). Indeed, early writers such as Beaver et al. (1968) understood predictive ability of accounting as a facilitator of decision making. However, usefulness of accounting information is grounded on the assessment of decision-making as a rational process. This approach assumes management as a planned, intentional, and rational act, and decision-making as a rational process where managers act as maximizing entrepreneurs (Da Silva et al., 2020). It fits with neoclassic theories of the company which state that organizations identify, evaluate, and implement optimal alternatives. Economic actors are self-interested, but conflicts of interest are resolved through a prior contract by which employees agree to pursue the interests of an entrepreneur (Jensen & Meckling, 1992). These assumptions are challenged by Cyert and March (1992, p.8), with the idea of "bounded rationality", i.e., rational actors are significantly constrained by the limitations of information and calculation. As stated by Wooldridge and Cowden (2020, p.1), "although such decision-making was originally conceived as a completely rational, top-management process, contemporary thinking recognizes that strategies from across multiple organizational levels changes within social and political contexts".

Accounting system provides useful information to interested parties for decision-making and therefore information produced by the accounting can determine organization success and sustainability in an innovation context (Janka et al. 2020; Sajady et al. 2012; Haleem et al., 2018; Ibrahim et al., 2020). The same is to say that FI use is a mandatory condition for the organization success and sustainable development (Baugh et al., 2020). In fact, in studies of Hope and Vyas (2011), and Cepêda and Monteiro (2020), FI usefulness and business performance are statistically correlated. Yet, literature suggests existence of numerous factors that vary according to each company characteristics and context (Amoako, 2013) as proven by contingency theory (Cadez & Guilding, 2018).

An example of a factor that can influence decision-making is company's size and complexity itself because, according to structural functionalism, managers of larger and more complex companies have a greater need to make rational decisions to innovate in business and, in this sense, key decisions are necessary for companies' operation (Miller & Wilson, 2006).

The main objective of this study is to investigate accounting information potential in decision-making, from Certified Accountants perspective. Specifically, it aims to analyse relationship between the companies' size, FI usefulness and MCI, and company's economic performance. Methodologically, it follows a quantitative approach. This research covers a gap in literature regarding accountant's perception about contingency factors that influence the role of accounting information in decision-making and the firm's performance.

Next two sections present the literature review, theoretical framework and hypotheses. After that, we explain methodological procedures. Empirical findings and their discussion follow. Finally, research conclusions and implications are presented.

2. Decision-making and the role of accounting information

Open innovation management is important to firms (Biancone et al. 2019). According to Volberda et al. (2013, p.1), "management innovation consists of changing a firm's organizational form, practices and processes in a way that is new to the firm and/or industry, and results in leveraging the firm's technological knowledge base and its performance in terms of innovation, productivity and competitiveness". For Biancone et al. (2019, p.3), "the more firms have innovation capacity, the more effective the performance and value creation will be for them". Managing innovation is not an easy process and it implies making the right decisions.

A decision is a choice between possible options for action. Decision process results in a choice. The term decision can be associated with decision-making process, with decision support instruments or with decision theory. Making decisions is just like talking, people do it all the time, consciously or unconsciously. So, it is not surprising that decision-making subject is shared by many disciplines, from mathematics and statistics to economics and political science, to sociology and psychology. The study of decision is approached in the most diverse areas of knowledge and according to several perspectives.

Firstly, it is important to separate the concept of problem analysis from the concept of decision-making. Usually, first precedes the second (Kepner & Tregoe, 1981). The analysis of the problem supposes the problem identification and the study of its causes. A problem will be more complex the greater its level of novelty, ambiguity, urgency, as well as its amplitude and importance for the organization. Decision-making presumes the prior definition of objectives and the study of alternatives. Alternatives are all global actions that can be performed and evaluated in isolation. The decision maker is the one responsible for choosing among the alternatives identified as viable. Decision criteria are tools that allow the comparison of alternatives with previous objectives.

Decision-making is either a reasoning or emotional process that can be rational or irrational, based on explicit or tacit assumptions. Decisions are likely to be involuntary and after the decision, we spend our time evaluating the costs and benefits of such a decision (Doya & Shadlen, 2012). However, all the process is highly subjective because as stated by Mock et al. (2008, p.127), "the way a decision-maker should assess evidence depends on how the task is framed".

Rationality concept is central to "decision theory" studies, classical decision theories are based on a rationality perspective. These approaches assume Man as a rational being. The concept origin of Homo Economicus goes back to Adam Smith's work, *Wealth of Nations* (1987). In his model, the capitalist investor would act to maximize and therefore would try to pay the lowest wages but at the same time, the worker would endeavour to find a better paying job in such a way that, if these economic agents were free from any regulation, would eventually find a satisfactory balance point for both.

Following rational decision-making argument in business context, seems quite easy to argue accounting information use. Business decisions are made in an unknown and uncertain decision environment (Shagari & Dandago, 2013). In that sense, the more reliable the FI and the MCI, the better the manager's decisions will be, mainly decisions linked to innovation (Janka et al., 2020). Moreover, usefulness is a major premise of accounting (Frendy, 2017).

Under this assumption, we can argue that the entire accounting information system is useful for the decision-making process (Sajady et al., 2012) and manager must select the greatest expected utility alternative (Thuan & Huong, 2019). The usefulness of FI and MCI refers to information capable of making a difference in the decision-making of financial statement users by having confirmatory value, predictive value or both (Frendy, 2017). This is because FI and MCI allow interested parties to use them to predict future benefits in all past analysis and therefore FI and MCI are prepared so that all information produced by accounting can be used by interested parties to better understand and manage the company (Carragher & Auken, 2013).

Both FI and MCI provide useful information for a wide range of users, internal and external (İbicioglu, Kocabiyik & Dalgat, 2010). All FI produced must be reliable, relevant, and accurate to be analysed and processed by users, to be a fundamental pillar in decision-making (Popescu, 2009). FI is composed of all accounting information, however Financial Statements are one of the most relevant sources of information for financial analysis (Monea, 2013). A Financial Statement is powerful because it reports company's financial performance in each period and it summarizes all income and expenses, and reports its results (Monea, 2013, p.143). On the other hand, Cash Flow Statements information, together with the Balance Sheet, also has enormous relevance for decision-making and for all external and internal users, as they summarize the company's financial position presenting assets, liabilities and equity for a given period (Sharma & Jones, 1998).

According to Mock et al. (2008), managers should be aware that FI can help them keep the financial situation under control and, consequently, enhance business growth. In a similar perspective, Salehi et al. (2010, p.188) argue that FI "plays an important role in the management process of a company's activity". In the same vein, Soudani (2012, p.50) states that "accounting information systems are considered as important organizational mechanisms that are critical to the effectiveness of management and decision control in organizations".

Owners of micro and small companies generally lack management knowledge and have difficulty interpreting the financial statements, which prevents owners from extracting utility out of FI (Birkinshaw *et al.*, 2008). Likewise, managers have difficulty analysing the reports derived from MCI and therefore do not recognize its usefulness (Auken, 2005). Consequently, this difficulty in analysing and interpreting the FI and MCI can compromise the business survival and innovation (Janka et al. 2020; Çaliyurt, 2011).

The main justification for accounting is to meet the users' need for FI. To create meaning from communicated information, the user should be able to process the information and integrate it in his decisions. Yet, as mentioned by Kober et al. (2010, p.271), "concept of usefulness of information is widely regarded as encompassing several qualitative characteristics". Thus, when preparing it, the accountant should consider all the qualitative characteristics of the Financial Statements according to Regulation (EC) No. 1606/2002, of European Parliament and of Council, of July 19th, published by European Commission in November 2003, namely intelligibility,

relevance, comparability and credibility. To have credibility, any information in financial statement must be completed. Any omission can make the information false, misleading and lacks credibility or becomes irrelevant.

For Le et al. (2020), the MCI is an important role in the firm's strategic management. Information systems have contributed to the quality and usefulness of accounting information. Within management accounting, Enterprise Resource Planning (ERP) systems are having a positive impact on this branch of accounting and on the work of management accountants. An ERP system comprises integrated application modules covering most business functions, which allows access to a large amount of information for decision support as well as for control. Oyewo (2020) examined the outcomes of the interaction between organizational characteristics and the robustness of management accounting practice on corporate sustainability, from the standpoint of the Global Management Accounting Principles and concluded that a robust management accounting practice elevates corporate sustainability, organizational characteristics such as size, organization lifecycle, and presence of specialist skills may determine the extent to which such benefit is realized. Le et al. (2020) studied the relationship between organizational culture, management accounting information, innovation capability, and firm performance in Vietnamese small and medium-sized enterprises (SMEs) and proved that management's cultural orientation combined with management accounting information has a significant positive effect on innovation capability and enhanced firm performance. Ibrahim and Naym (2020) and İbicioglu et al. (2010) analysed the influence of age, size and competitive environment of organization on financial and non-financial use performance indicators. A brief review of literature about the contingency factors affecting the efficacy of accounting information systems and its impact on performance show that firm size is a very explored variable, both as moderating variable (Guenther & Heinicke, 2019) and independent variable (Hoque, 2014).

3. Theoretical framework and hypotheses

Contingency Theory advocates that accounting information system characteristics impact on organization effectiveness depends on Contingent Variables such as external environmental, competitive strategy, technology used, firm size, firm diversification, organizational structure, industry variables, and so on. This approach has been widely explored by accounting researchers. Since seminal works, as those of Hayes (1977) and Otley (1980), and Chapman (1997), more than one hundred papers have been published under the topic of "contingency theory" and accounting in web of science database. Moreover, the decisions of managers are influenced by the different characteristics of the company (Çaliyurt, 2011). The importance of examining companies' contextual factors such as their size and accounting information, has been particularly addressed in the literature (Sharma & Jones, 1998).

İbicioglu et al. (2010) concluded that small companies, when compared to large ones, have less liquidity, have more volatile cash flows, depend on short-term financing and are more likely to experience financial difficulties and constraints. These authors also state that failure rates in small companies are unacceptably high. Many studies have found that decision making in small companies involves several factors that make the process complex, for example, the level of company revenue can affect many decisions to innovate in small businesses (Carraher & Auken, 2013). Another cause of this situation, according to Amoako (2013), may be related to the fact that the managers of microenterprises give less importance to FI in decision-making. In this context, we formulate the first hypothesis:

H1: The size of the company influences the usefulness that manager attributes to FI in decision-making.

An accounting system is one of the most effective tools in management decision-making process, because it allows entire FI collection and organization which will then be the basis to produce MCI, making it a critical management aid in the business operation (Amoako, 2013). According to Horvat and Mojzer (2019), large companies use FI and MCI more often than Micro, Small and Medium-Sized Enterprises (MSME). However, the

usefulness of FI and MCI remains a valuable mechanism for all companies to help them achieve their goals (Phornlaphatrachakorn, 2019).

This paper encompasses the orthodox perspective of accounting information systems as a frame that meets two main functions: (a) to support decision-making and (b) to support management control (Zimmerman, 2011). Thus, just like the size of the company can be influenced by the utility that manager attributes to FI when making decisions (İbicioğlu et al. 2010; Salehi et al. 2010), the utility that manager attributes to MCI may also depend on company context characteristics, namely its size (Cadez et al. 2008; Horvat et al. 2019). That is why Cadez and Guilding's (2018) study proved that there is no strategic accounting and management system universally appropriate, because it will always depend on the specific company characteristics. Thus, company size has been a factor considered in many studies because according to the contingency theory, the efficiency of the structure or procedures of an organization depends on the specific circumstances of that organization (Cadez & Guilding, 2018). Thus, our second hypothesis is:

H2: The size of the company influences the usefulness that manager attributes to MCI in decision-making.

Accounting system is one of most effective tools in management decision-making process, because it prepares the whole FI considering all its qualitative characteristics (Auken, 2005). Hence, through FI it is possible to prepare reports for management, i.e., FI is the basis to produce MCI, which makes it a critical aid for management and consequently for good decision-making (Amoako, 2013).

Based on the basic theory of accounting information system, Shen and Han (2020, p.820) demonstrate that accounting information optimization depends on the ability to "truly use the auxiliary accounting function and integrate its functions into the management accounting of the enterprise to play its due role". Similarly, Taipaleenmäkia and Ikäheimob (Ri Taipaleenmäki & Ikäheimo, 2013, p.323) describe the convergence of management accounting and financial accounting as a contemporary phenomenon "in which both intentional integrating and aligning actions of human actors and changes in contingencies are shifting management accounting and financial accounting towards one another, forming newly observable connections between them, through which they affect and interact with each other". In line with this perspective, we formulate third hypothesis:

H3: The usefulness that the manager assigns to the FI is directly related to the usefulness that manager assigns to MCI in decision-making.

Literature suggests that there is "a multidimensional conceptualization of organizational performance related predominantly to stakeholders, heterogeneous product, market circumstances and time" (Richard et al., 2009, p.718). According to Richard et al. (2009), measuring business performance is essential for managers to assess companies position in relation to their rivals and how companies evolve and behave over time. Thus, it is quite acceptable that "there is a growing body of research that seeks to examine whether decision makers are proficient in assessing assumptions and whether performance can be improved" (Mock et al. 2008, p.124). The company's performance, "is a kind of effectiveness indicator" (Richard et al., 2009, p.722) and has always motivated and guided the company's actions (Folan & Browne, 2005).

Upadhaya et al. (2014) investigated the role of performance measurement systems in organizational effectiveness and suggest that non-financial measures and feedback are tightly intertwined with organizational effectiveness. According to Ruf et al. (2001) use measures of financial performance as return on equity, return on sales and sales growth. Several authors measure company performance through profitability, growth, and market share (Richard et al., 2009; Dhanaraj & Beamish, 2003), and adopt a dynamic guideline to measure performance by asking the respondent about the evolution of results in the last 3 years (Sousa, Martínez-López & Coelho, 2008).

Previous empirical studies, supported by statistical data, have analysed relationship between company performance and FI usefulness (Hope et al. 2011; Cepêda et al. 2020; Soudani, 2012). In this context, we formulate the following hypothesis:

H4: The utility that manager attributes to FI influences economic company performance.

Mail et al. (2006), Biancone et al. (2019) and Janka et al. (2020) discuss the importance of studying change management accounting practice that could lead to improve organizational innovation and performance. Mail et al. (2006) demonstrated that management accounting, as a managerial tool in creating organizational control, has a positive effect on organizational, financial, and operational performance. Traditionally, MCI's jurisdiction has played a role in providing information to assist managers in decision-making (Kaplan & Norton, 1996). Given its usefulness for decision-making, MCI may have an influence on organizational performance (Cadez & Guilding, 2018). For instance, Pavlatos and Kostakis (2018) explored top management team impact characteristics and historical financial performance on strategic management accounting and concluded that one of the most important factors that influence the level of usage of SMA techniques is lagging historical enterprises performance.

The impact of management accounting and control in performance has been explored in main dimension, namely sustainability (Narayanan & Boyce, 2019), supply chain integration (Nartey et al., 2020) effective organizational learning under high levels of advanced manufacturing technology (Choe, 2004) and culture. Le et al. (2020, p.1) study “reveal that management’s value orientation towards innovation has a positive direct effect on the use of management accounting, which in turn leads to higher firm performance”. In this context, we formulate following hypothesis:

H5: The usefulness that manager attributes to MCI influences the company's performance in decision-making.

According to Lee (2009), a key line of research in management and accounting is to identify factors that explain financial performance like profitability, the absolute size of a firm being considered a key determinant. In its study, the authors observed that “along with market share, absolute firm size plays a dominant role in explaining variations in profitability” (Lee, 2009, p.200). Indeed, several investigations have found a high degree of association between organizations size and performance. Normally, researchers hypothesize positive relationship between size and performance because “the larger company's assets, the higher investor’s belief to invest” (Mahendri & Irwandi, 2007, p.240). This kind of studies tend to “emphasize the importance of scale economies and other efficiencies in larger firms” (Lee, 2009, p.189), such as negotiation power, greater resources, and market opportunities. There are also a few studies that investigate organizational performance determinants, such as company’s context characteristics (Mail et al., 2006; Lee & Choi, 2003). Other authors, such as Shen and Han (2020, p.809) demonstrate that “reorganizing accounting business processes can greatly improve accounting information decision making usefulness, thereby enhancing enterprises competitiveness”.

Previous studies suggest that context factors such as company size can have a significant weight on its performance (Cadez et al., 2008; Mock et al., 2008; Guilding, 1999). In this context, we formulate following hypothesis:

H6: Company size influences company performance.

Hypotheses defined above support operational model that we propose for this research. Operational model is shown in Figure 1.

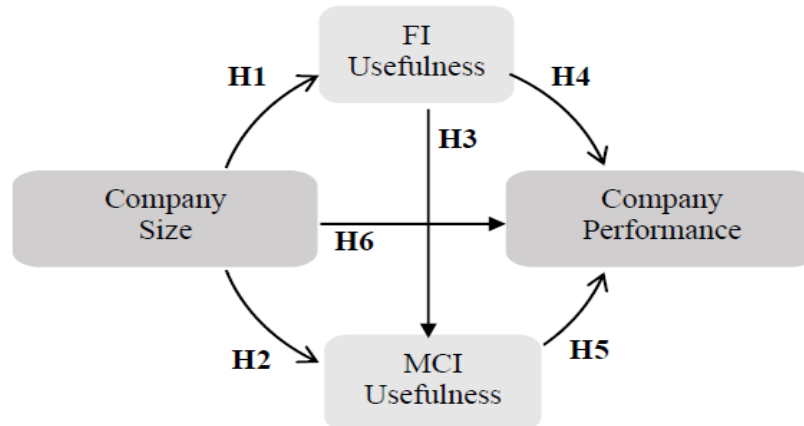


Figure 1. Conceptual model

4. Conceptual model and methodological procedures

This study has contingency theory as its theoretical lens, accepting that there is no universally appropriate accounting and management system (Cadez & Guilding, 2018). It investigates the perception of accountants about contingency factors influencing accounting information role in decision-making. Specifically, we capture certified accountants perspective about the usefulness that manager attributes to FI and MCI in decision-making and its relationship with company’s context characteristics (its size) and its impact on performance.

To achieve proposed objective, this study is based on a quantitative approach, which involves application of an online survey to certified accountants (available on the certified accountant’s website). This survey was directed to certified accountants because they are the ones who prepare and produce companies’ FI and can evaluate FI and MCI usefulness, depending on the type of information that is normally produced and what is actually requested by the manager. Given the large number of Certified Accountants (about 72,000), authors opted for a non-probabilistic statistic.

A survey-based study was carried out to test proposed model. Questionnaire was pre-tested with two higher education professors in accounting, and five accounting professionals, to detect problems related to wording of instruction/questions and clarity. Questionnaire’s final version included a question about firm (size), FI and management control usefulness in decision-making and company’s performance.

To measure company variables, several questions were asked in the questionnaire. Regarding companies’ size, accountants were asked to indicate one of the following options: (1) micro entity, (2) small entity, (3) medium entity or (4) large entity (as defined by the EU). The variable FI usefulness was measured based on the importance attributed to financial statements and FI disclosed in other reports. In assessing the MCI usefulness variable, we considered the importance attributed to management accounting tools (annual budget and forecast maps and management control maps). We measured company performance using Murphy et al.’s (1996) measurement scale (6 items). The items of each dimension were evaluated on a Likert scale of 5 points.

The survey was carried out with Portuguese’s certified accountants enrolled in the Order of Certified Accountants (OCC) from May 2017 to August 2018. We emphasize that the professional, to perform the function of certified accountant, must be compulsorily enrolled in the OCC. The link to access the online survey was made available on the OCC website.

During data collection, a total of 285 questionnaires were received, 250 of which were usable because 35 respondents do not currently practice.

In data analysis, we used SPSS statistical software (version 19) and AMOS SPSS (version 24). In the preliminary data analysis, all the procedures, as of data "cleaning" (treatment of missing data and analyses of outliers, central tendency and normality and sample size) will be performed in the SPSS software. This analysis aims to prepare data and assess whether they meet necessary requirements to be subjected to Structural Equation Model (SEM). SEM, performed in AMOS SPSS, is a multivariate technique and involves two steps: (1) evaluation of the measurement model and (2) structural model. In parameters estimating, we use the maximum likelihood method. The maximum likelihood estimation method was used to evaluate measurement model (Marôco, 2010). This method, when using covariance matrices, calculates more reliable estimates. According to Marôco (2010), this method is robust enough for samples that do not follow a normal distribution of data.

In research model evaluation, in addition to model adjustment evaluation, measures were also considered to verify the unidimensionality, reliability and validity of the constructions.

5. Results

Findings show that the sample is mostly composed of men (56.8%), by individuals over 50 years old (65.6%), higher education (80.8%), experience for more than 10 years (81.6%), and currently assume accounting in more than one company (65.6%). Accountants', in their replies, took into consideration the company and managers that, by the nature and wealth of information allowed them, with more knowledge, to respond this inquiry.

Regarding managers under analysis, 80% are male, 57.6% have higher education, 56% work in micro-entities, 27.2% in small entities, 14.4% in medium-sized companies and 2.4% in large companies, and 88.8% managers are business enterprise owners. Most companies belong to the services sector (57.6%), with 25.6% of commercial sector and 16.8% of industry. About three-quarters of companies have started their business more than 10 (years) ago and more than half of the companies have been in the market for more than 20 years.

In this study, in order to prepare the data and assess whether they meet the requirements to be submitted to a SEM analysis, we proceeded to a preliminary analysis of the data. Then we performed evaluation of the SEM. Analysis using the structural equation model involves two steps, the measurement model and the structural model assessment.

In analysis, we find moderate main assumptions violations of normality. However, maximum likelihood estimation method is considered robust against normality assumptions violations (Marôco, 2010)

The measurement model, the unidimensionality of constructs, as well as reliability and validity (convergent and discriminate) were analysed.

Table 1 provides measurement model evaluation results. In first-order models, all items correspond statistically with their factor, demonstrating the unidimensionality of the factor. All loads of observed variables have values, which proves the existence of convergent validity of the constructs (≥ 0.70) (Garver & Mentzer, 1999). All latent variables have values greater than 0.60, which proves the reliability of the scales (Bagozzi & Yi, 1988). Finally, the value of the extracted average variance (>0.50) shows discriminant validity of the constructs (Fornell & Larcker, 1981).

Table 1. Measurement model results

<i>Construct and items</i>	<i>Standardised loading</i>
FI usefulness (CR=0.93; AVE= 0.70)	
Balance sheet	0.72*
Income statement	0.70*
Cash flow statement	0.80*
Statement of changes in equity	0.77*
Notes	0.72*
Other FI	0.81*
MCI usefulness (CR=0.93; AVE=0.94)	
Annual budget and forecast maps	0.81*
Management control maps	0.94*
Company performance (FC=0.98; MVE=0.84)	
Turnover has increased over the last 3 years.	0.84*
The company has expanded its activity in the last 3 years.	0.78*
The company has been very profitable in the last 3 years.	0.93*
The company has increased its market share in the last 3 years.	0.95*
The company size has increased in the last 3 years.	0.92*
The number of employees has increased in the last 3 years.	0.71*
Notes: CR = composite reliability; AVE = average variance extracted. (*) All loadings are statistically significant at p<0.001.	

Results show a good fit of the model ($\chi^2 (94) = 122.5$; $p < 0.05$, GFI=0.943, CFI=0.962, RMSEA=0.05). Table 2 presents the standardised coefficients, the value of t and the significance level for each relationship postulated in the model, as well as the coefficient of determination for each construct. Table 3 presents the standardised coefficients, the value of t and the significance level for each relationship postulated in the model, as well as the coefficient of determination for each construct and Table 3 depicts the standardised indirect effects of the theoretical model.

Table 2. Testing results hypotheses

Parameters	Standardised coefficients	t value	R2	Hypotheses	Results
Company's size – FI usefulness	0.15	2.61(*)	0.02	H1	Supported
Company's size – MCI usefulness	0.11	2.88 (*)	0.60	H2	Supported
FI usefulness – MCI usefulness	0.87	15.54 (*)		H3	Supported
FI usefulness – company's performance	-0.79	-3.03(*)	0.35	H4	Supported
MCI usefulness – company's performance	0.97	3.65(*)		H5	Supported
Company's size – company's performance	0.27	4.36(*)		H6	Supported

Note: (*) Sig. value at p<0.01.

Table 3. Standardised indirect effects of the theoretical model

	Company's size	FI usefulness
MCI usefulness	0.13	0.00
Company's performance	0.12	0.84

Note: All coefficients are statistically significant at $p < 0.01$.

In this study we found that, statistically, manager of larger companies, attributes greater utility to FI and MCI ($\beta=0.15$, $p < 0.01$; $\beta=0.11$, $p < 0.01$, respectively), which leads to support of H1 and H2. Regarding the relationship between FI usefulness and MCI usefulness, results indicate that manager who attributes high importance to FI also attributes to MCI ($\beta=0.87$, $p < 0.01$), so H3 is supported. It is also possible to conclude that manager who attributes more usefulness to FI is not manager of companies with the best performance ($\beta=-0.79$, $p < 0.01$). Based on the results, H4 is supported, however, the relationship signal was not expected. Although the impact of FI usefulness is negative on company's performance, the MCI usefulness is an important variable that mediates this relationship [$\beta=0.84$ (0.87×0.97), $p < 0.01$]. On the other hand, managers who give more importance to MCI in decision-making are managers of a company with high performance ($\beta=0.97$, $p < 0.01$), supporting H5. These results allow us to conclude that attributing importance to the FI alone is not enough to achieve superior performance and organizational innovation. MCI proves to be paramount in the decision-making process. Additionally, in this study, as expected, larger companies have better performance ($\beta=0.27$, $p < 0.01$), which allows to support the last investigation hypothesis (H6). In sum, all hypotheses were supported, and model explains 60% and 35% of MCI usefulness and company's performance variations, respectively.

Discussion and Conclusion

In innovation management, the decision maker is encouraged to environment research, gather information, and form and evaluate educated assumptions in order to make accurate judgements and decisions (Janka et al., 2020; Sajady et al., 2012). Thus, for good management it is necessary to use information produced by financial accounting and management accounting. The objective of this study is to analyse relationship between utility that manager attributes to accounting information (FI and MCI) in decision-making and size of the company, as well as analyse its impact on economic performance.

In this study, we developed and evaluated a theoretical model using SEM technique. Based on 250 certified accountants' perspective, results show that the company's size has direct influence on the usefulness of the FI and MCI, as well as on companies' performance. FI usefulness determines the MCI usefulness. However, to improve company performance, it has been proven that the use of FI in decision-making is not sufficient, so MCI use is decisive for good economic performance. Previous studies also found that the larger the company, the greater the business performance (Mock et al., 2008) because they can have negotiation power, greater resources, market opportunities and benefit of scale economies and other efficiencies (Lee, 2009; Lee & Choi, 2003). As in this study, other authors also suggest that the managers of large companies recognize greater usefulness to FI and MCI (Cepêda et al. 2020; Amoako, 2013; Cadez et al., 2008; Phornlaphatrachakorn, 2019) which leads to conclusion that accounting information is valuable to all companies as it can help them to take decisions and achieve their goals and superior performance (Cepêda et al. 2020; Phornlaphatrachakorn, 2019) and consequently contributes to business sustainable development. In this study we draw important conclusions: (1) usefulness of the information prepared by management accounting is strongly dependent on the size of the company and the usefulness that the

manager attributes to FI in decision-making, which suggests that the information prepared by the management accounting system depends on the specific characteristics of the firm (Cadez & Guilding, 2018) and the manager; (2) use of the IF decision-making alone does not contribute positively to the companies' performance but, together with MCI, they are determinants of Portuguese companies success.

Based on contingency theory assumption, in this study, we conclude the companies' performance depends on the specific factors, namely size and innovative decisions-making based on accounting information system (Janka et al., 2020; Sajady et al., 2012; Cadez et al., 2008).

This paper is original and contributes to literature, as we present evidence, with the assumptions on contingency theory, on the relationship between company's size, usefulness of FI and MCI, and business performance from the point of view of Certified Accountants. This research is also relevant for accounting and management professionals as it provides a better understanding of the type of information that managers value in decision-making, which may determine the survival and sustainable growth of Portuguese firms.

This study, like all, has some limitations, namely in terms of survey sample size, since we use a convenience sample which limits results generalization. This research involves the accountants' perspective and not managers. We chose to apply the survey to certified accountants to fill a gap in the literature, that is, the absence of studies that analyse the importance that manager recognizes to the information that is produced by the accounting professional.

Organizations move in ecosystems of significant uncertainty. They never know what comes next, what will be the next step of their competitors or what innovation they are planning to launch in the market and on what time scale. Most Portuguese companies operate within the very competitive environment of EU. Digital transformation of society and organizations has been one of the biggest priorities of the EU over the last two decades. However, the constraints imposed by COVID'19 pandemic accelerated the digital transformation in a way never seen before. Companies had to reinvent themselves, managers face great challenges in the field of open innovation. Thus, even though this study remains current and relevant, in future research, we encourage the introduction of information technology and accounting 4.0 as drivers the role of accounting information in decision-making and company performance.

We also suggest: (1) applying this study directly to managers, in order to compare the results obtained and applying this study in different countries with a bigger sample of large companies, given that 99.9% of Portugal companies are MSME; (2) including other independent variables, such as the quality of the internal control system and accounting information system importance and another dependent variable, namely success in decision-making; and (3) performing the same research in different geographical areas in Europe as Italy, Germany, and other continents, to validate or modify our results and start a fruitful discussion under this topic

The model developed within study framework provides a management's orientation approach in terms of using accounting information to determine decision-making quality and the business performance for business sustainability in an environment that is increasingly associated with innovation.

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