

Journal Homepage: -www.journalijar.com

# INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)



**Article DOI:**10.21474/IJAR01/16267 **DOI URL:** http://dx.doi.org/10.21474/IJAR01/16267

#### RESEARCH ARTICLE

# THE PORTUGUESE ACCOUNTANTS: A IMPORTANT ROLE ON MANAGEMENT ACCOUNTING USE? AND IN FIRM PERFORMANCE?

# **Paulo Jorge Alves Gomes**

PhD in Management, Administration Department, Portuguese Military Academy, CINAMIL, Lisbon

# Manuscript Info

Manuscript History

Received: 15 December 2022 Final Accepted: 19 January 2023 Published: February 2023

Key words:-

PLS-SEM, Accountant, Management Accounting, Firm Performance

#### Abstract

Currently the role of accountants in firms is changing. Increasingly, accountants should have adequate skills not only in terms of financial accounting, but also skills in terms of management accounting that help in the decision-making process and in the performance of firms. The use of management accounting practices, and the respective instruments, has been gaining more and more importance in the business sector. presenting very satisfactory results, contributing greatly to the achievement of a company's competitive advantage over others operating in the same field of activity. There are some studies that suggest a weak influence on the role of management accounting in the decision-making process and in firm or organizational performance, however, they are already somewhat old, namely from the end of the 20th century. However, more recent studies show that many small and medium-sized firms cannot survive in the first years of activity, possibly due to a lack of specialists in decision-making support and they didn't implement Management Accounting (MA). The research objective of this article isto analyse the role of the Portuguese accountant, his skills and how the use of MA can contribute to the firm performance. To meet the research objective, it was decided to apply a quantitative analysis. It was developed a reflective structural equation model (SEM), using a Partial Least Squares method (PLS-SEM), which reveals the influence and impact of the Portuguese accountant and the MA on the firm performance. The results obtained allowed us to conclude that accountants in Portugal recognize the relevance of financial accounting and management accounting for the firm performance, however, they do not give relevance to the complementarity, use and applicability of these two accountings. For accountants in Portugal, management accounting is a complement to the firm performance, not being relevant to financial performance and is less important than financial accounting.

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# **Introduction:-**

The management sector of an organization seeks to create value by managing resources, activities and people to achieve organizational objectives effectively and efficiently. Management accounting provides tools and insights that help managers accomplish this, so it is important to study these tools. Accountants should be experts in using

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**Corresponding Author:- Paulo Jorge Alves Gomes** 

Address:- PhD in Management, Administration Department, Portuguese Military Academy, CINAMIL, Lisbon.

management accounting tools to help the organization and its managers execute operations that contribute to the improvement of firm performance (Hilton & Platt, 2017).

Kaplan & Johnson (1987) mention that one of the reasons for the stagnation of management accounting was the dominance and the obligation of external financial reporting in the 20th century. It was also mentioned that the cost of collecting, processing the data and providing information to managers was perhaps so high that the decision to invest in management accounting was not economically viable. More recently, Scapens, Ezzamel, &Baldvinsdottir (2003) showed that, in the 1990s, the importance and relevance of management accounting in UK firms increased, as the information provided was more directed to the needs of top managers.

The role of management accounting (MA) is very different now than it was a few years ago. In the past, management accountants were in support and administrative departments, often physically separated from the managers for whom they provided reports and information. Now, instead of isolating them in a separate department, firms often locate them in finance or operational departments, where they work with other managers to make decisions and solve operational problems (Hilton & Platt, 2017).

Managers often want the accountant to extend their influence by developing even more internal activities (Marriott & Marriott, 2000), but influence must be defined in relation to the structural form and the responsibilities and activities to be exercised to avoid internal conflicts. Primary studies suggest the need for further investigation and clarification of the role of accountants to minimize possible conflicts (McKenna, 1978; Hopper, 1980; Sathe, 1983).

With accountants also having a key role in the budget management of firms, a recent study by Adu-gyamfi (2020) shows that the budget is seen as a predictor of power and the most important for organizational performance and that the use of MA it is also a statistically significant predictor of improving organizational performance.

However, senior managers continue to prefer financial accounting to improve organizational performance over management accounting. MA is seen as more important at the operational level (Hopper, Kirkham, Scapens, & Turley, 1992; Richardson, 2002). Beyond this preference, there is evidence that the extent to which MA is involved in business processes is insufficient in terms of how the role is adopted and in terms of expectations of analysis (Jablonsky et al., 1993; Sheridan, 1997). From this perspective, a single system of accounting for both managerial decision-making and stakeholder reporting has deep roots. "It is based on three considerations. First, in equity-focused economies, the claim is made that managers should always act in the best interests of shareholders, i.e. their decisions should focus on maximizing shareholder value. Financial statements provide a means by which shareholders monitor management and are often used to build compensations systems intended to align management interests with those of shareholders. But more than this, it is argued that shareholders should be able to see the information on which managers make their decisions in order to differentiate between good/poor outcomes and good/poor decisions" (Richardson, 2017).

But recently, more studies show that MA should increase its importance and influence in the decision-making process, as it is an important tool in organizational performance nowadays (Adu-gyamfi, 2020; Kasravi, Ghasemi, &Najafizadeh, 2020; Pedroso, Gomes, & Yasin, 2020; Wu, 2020).

Thus, it is extremely important to continue to carry out studies to demonstrate that, currently, the accountant can play a relevant role in the firm performance, using management accounting (Pierce & O'Dea, 2003).

At the level of MA instruments, several studies demonstrate their relevance for companies to have a competitive advantage, however, it is important to deepen the studies regarding the existing instruments in the literature, which allow to improve performance and obtain competitive advantage and effectively used in practice (McLellan, 2014; Jansen, 2018; Al-Tarawneh, Al-Thnaibat, &Almomani, 2021). An understanding of the assumptions underlying MA and its limitations is essential (Collier, 2003).

In Portugal, the existing studies show that the applicability of MA in firms continues to have a secondary role, however, they do not show the influence of this accounting on firm performance (Vicente, Major, Pinto, &Sardinha, 2009; Vicente, 2014; Robalo & Ribeiro, 2015).

So, the research problem of this article is: identify the influence of the skills of the accountant and his role in Portugal in the firm performance, as well as what is the relevance of the use of management accounting in the improvement of that performance.

This article also seeks to evidence the role of the Portuguese accountant, his skills, and the importance of using management accounting within his professional activity. It also analyses how the Portuguese accountant, and the use of management accounting can contribute to the firm's performance.

Thus, the specific objectives of this investigation are:

- Analyse the most relevant skills of the Portuguese accountant to their professional activity;
- Analyse the impact of the Portuguese accountant on the firms performance;
- Evaluate how the Portuguese accountant and the use of management accounting can influence the firmsperformance;
- Assess how the information provided by management systems influence the role of the accountant in Portugal.

#### **Literature Review:-**

#### Financial and management accounting

The main purpose of accounting is to provide enough information to different users to meet their needs at the lowest cost

There are many users of accounting information who need information in the decision-making process. They can be classified into two broad categories: internal groups within the organization and external groups outside the organization. Thus, it is important to distinguish between the two branches of accounting, based on the existence of these two types of users of accounting information: external users and internal users. Financial accounting provides information to enable external users such as shareholders, creditors and other interested parties to make informed decisions. The focus of this information is to evaluate and make decisions for an individual company or to compare two or more companies. However, the information provided by financial accounting is mostly historical and is not sufficient to be useful for organizational management. MA is based on the needs of managers within the organization, not to stakeholders outside the organization. It thus provides information to people within the organization to make the best decisions, thus being different from financial accounting. That is, MA has a more specific focus, and the information is more detailed and timelier to internal users (Ioana-Diana, 2013; Franklin, Cooper, &Graybeal, 2019).

According to some authors (Hopper et al., 1992; Richardson, 2002), the main interest of senior managers is financial accounting information. This accounting is perceived as having a great influence on organizational management, as it is this accounting that guarantees legitimacy and the main financial indicators, which are useful indicators for organizational performance. Thus, the relevance of financial accounting continues to dominate management accounting.

In addition to this fact, some authors refer that, increasingly, there is a need for firms operate in a highly decentralized manner (Collier, 2003; Caplan, 2006). Managers of responsibility centre's must be able to prepare budgets, develop business cases for capital investment, and exercise cost control to ensure organizational objectives are met. They must also be able to analyse and interpret the information provided by accounting (Collier, 2003).

However, there are many similarities between management and financial accounting information because both are based on data from the companies' accounting system. A part of the financial accounting system is based on data on the production costs of goods and services. That is, these data are used in both management and financial accounting (Hilton & Platt, 2017). Accountants must provide tools and insights that help managers. Currently, accountants can be auditors, financial and management accountants (Ahid& Augustine, 2012).

But these two types of accountants (management and finance) are often seen as separate people. Unlike financial accountants, management accountants can be seen as employees within organizations, with no need to register with accounting associations. Several studies even suggest that the management accountant could be an economist or an engineer. Thus, management accountants were not in direct competition with financial accountants (Richardson, 2017).

In now a days, a management accountant, must have knowledge of tax, internal control, internal audit, performance measurement, management control etc. According to Richardson (2017, pp. 06-07) "the motivation to consolidate financial and management accounting professional associations appears to be driven by three factors:

- Management accounting associations provided an organizational basis from which practitioners could attempt
  usurpatory closure in response to the exclusionary closure of public/financial accounting associations.
  Consolidation of the profession represents a new boundary for exclusionary practices while reducing the risk of
  usurpatory closure.
- 2. Financial accounting associations over-produced audit trained practitioners to meet the labour needs of public accounting firms but these "excess" practitioners migrated into management accounting roles pushing their audit/financial accounting professional body to provide services beyond their original mandate. I refer to this as a process of "professional drift". This process undermined the differentiation of financial versus managerial accounting associations and created inefficient duplication of services.
- 3. The creation of international trade in services has created the demand for transnational professional associations. To the extent that scale of professional associations is necessary for competition and nationalism is still a motivation behind professional association formation, financial and management accounting associations may merge to compete against other international associations entering their domestic market".

#### The current role of the accountant in firms and their competencies

The role of accountants has been evolving and is expanding to encompass management accounting functions. This role will increasingly be that of a business consultant, often with responsibilities outside traditional accounting. One of the reasons for this role shift for accountants is that they understand financial and non-financial information (Kaplan, 1984). Currently, they play a more active role in analysing all financial and non-financial information. For this analysis and to support managers, they need to have skills not only in the traditional areas of accounting, but also in microeconomics, management, and finance. Thus, the challenge for accountants in the field of management accounting is the ability to take advantage of the opportunities that arise and give a new vision to the accounting function (Vicente et al., 2009).

The management accountant is critical to the decision maker as it provides information on which managers can base their decisions. In other words, it is up to the administration to decide, and to make a good decision, it must be based on recommendations (Gazely& Lambert, 2006). Management accountants are experts in developing and using management tools to help the organization and its managers manage the organization effectively. Their knowledge results from appropriate and specific skills, as well as specific knowledge and techniques to be applied in companies (Hilton & Platt, 2017).

Nowadays, an accountant to practice his profession needs knowledge of the business in which he is working. This knowledge involves partnership, collaboration and business awareness in decision making, in designing performance planning and management systems, and in providing financial reporting expertise to formulate and implement an organization's strategy (Franklin et al., 2019; Institute of Management Accountants, 2019). An accountant is someone who must meet the standards of a professional, defined as (International Federation of Accountant, 2005):

- Have skills, knowledge and competences tested by examination and continuously developed in a structured and monitored context;
- Committed to the values of accuracy, honesty, integrity, objectivity, transparency and reliability;
- Subject to supervision by a body with disciplinary powers.

In terms of responsibilities, the current accountant should be able to (International Federation of Accountant, 2005; Warren C., Reeve J., 2006):

- Preparation, organization and interpretation of financial statements and information systems;
- Preparation of tax returns, relating to taxable income;
- Generation or creation of value through the effective use of resources (financial and others) through understanding the drivers of stakeholder value (which may include shareholders, customers, employees, suppliers, communities and government) and organizational innovation;
- Supply, analysis and interpretation of information to management for strategy formulation, planning, decision making and control;
- Performance measurement and communication to stakeholders, results and company performance;
- Cost determination and financial control, through the use of cost accounting, budgeting and forecasting techniques;

- Reduction of wasted resources used in business processes through the use of process analysis and cost management;
- Risk management and investment operations;
- Ensure the quality of financial statements through audit processes and statements.

Regarding the management accountant, he must have a set of tools, systems and perspectives that add value to an organization, aiming at five main objectives (Hilton & Platt, 2017):

- 1. Provide information for decision making and planning.
- 2. Assist managers in directing and controlling operational activities.
- 3. Motivate managers and other employees towards the organization's goals.
- 4. Measure the performance of the organization's activities, sectors, managers and other employees.
- 5. Assess the organization's competitive position and ensure the organization's long-term competitiveness in the sector in which it operates.

To this end, for organizations to keep up with current challenges, the ever-changing business environment and technological advances, the Institute of Management Accountants (2019) analysed the emerging competencies needed for management accountants. Competencies should be in six domains of knowledge and skills, essential for staying current in the Digital Age and for performing their current and future roles effectively. The domains of knowledge and respective competences should be the following:

 Table 1:-Domains of knowledge and competences of Accountants.

| Domain                 | Competencies required  |
|------------------------|--|
| Strategy, Planning &   | Strategic and Tactical Planning  |
| Performance            | Decision Analysis  |
|                        | Strategic Cost Management  |
|                        | Capital Investment Decisions   |
|                        | Enterprise Risk Management   |
|                        | Budgeting and Forecasting  |
|                        | Corporate Finance  |
|                        | Performance Management   |
| Reporting And Control  | Internal Control   |
|                        | Financial recordkeeping  |
|                        | Cost Accounting  |
|                        | Financial Statement Preparation  |
|                        | Financial Statement Analysis   |
|                        | Tax Compliance and Planning  |
| Technology & Analytics | Integrated Reporting   |
|                        | Technology and control   |
|                        | Information Systems  |
|                        | Data Governance  |
|                        | Data Analytics   |
|                        | Data Visualization   |
| Business Acumen &      | Industry-Specific Knowledge  |
| Operations             | Operational Knowledge  |
|                        | <ul> <li>Quality Management and Continuous Improvement</li> </ul>        |
|                        | Project Management   |
| Leadership             | Communication Skills   |
|                        | Motivating and Inspiring Others  |
|                        | <ul> <li>Collaboration, Teamwork, and Relationship Management</li> </ul> |
|                        | Change Management  |
|                        | Conflict Management  |
|                        | Negotiation  |
| Professional Ethics &  | Professional Ethical Behavior  |
| Values                 | <ul> <li>Recognizing and Resolving Unethical Behavior</li> </ul>         |
|                        | Legal and Regulatory Requirements  |

Source: Institute of Management Accountants (2019)

In Portugal, the accountant profession is currently regulated by the Law no. 139/2015, of September 7, and it is incumbent to the Order of Certified Accountants to regulate and discipline the exercise of the accounting profession. It is also responsible for developing all actions leading to greater profession credibility and dignification(Ordem dos ContabilistasCertificados, 2022).

#### The relevance of management accounting in firms

Currently, managers in their decision-making process need information from several sources, including economists, financial specialists, marketing and production personnel, accountants and the management accounting system itself (Hilton & Platt, 2017).

In this way, the role of accountants who devalue the use of MA and the analysis of financial and non-financial information tend to fail and contribute to the success of the firm for which they perform functions (Ameen et al., 2018).

Many firmsthat compete in the current business environment in which they fit globally, introduce new products, new forms of distribution, new customer segments, but insist on the use of inappropriate management methods (Kaplan, 1998). A company, to adapt to market requirements, a market that has tendency to increase its level of demand over time, must use effective tools for data analysis and financial information, with MA playing a central role in provide these specific cost analysis and control tools (Novas, 2014). A well-founded decision contributes for the firm's success and ensures efficient performance management, however success is entirely associated with all the information made available through MA and the respective instruments used (Cokins et al., 2011).

MA is increasingly becoming a critical and fundamental process in decision making in firms all over the world. The growing need to produce useful information to support the decision-making processes of managers encourages a systematic improvement of MA (Ameen et al., 2018).

When operating in a competitive environment, it is very beneficial and important for firms to use more comprehensive instruments (Kaplan, 2006), and management accounting instruments can take on two types of nature, namely they can be qualitative and quantitative. Instruments of a quantitative nature have been developed over the years and this type of instrument includes the budget, the analysis of ratios and the total costing. The use of quantitative methods can facilitate the decision-making process related to costs (Wosniak& Rezende, 2012). On the other hand, instruments of a qualitative nature are the new focus of management accounting, which is characterized by being the new focus of the same approaching more in a performance evaluation aspect, being an example of these instruments the ABC, BSC and EVA method (Ferreira, 2012). Contrary to the traditional perspective, where management accounting was limited to recording, analysing and controlling (Kaplan, 1998), the implementation of these new techniques has as its main objective a qualitative analysis, and not only quantitative, as was the case until then. With the emergence and use of instruments of a qualitative nature, the term "advanced management accounting techniques" also appears, which is characterized as the turning point and distinction between the use of modern and traditional management accounting practices (Ferreira, 2012).

Currently, we live in a climate of great economic and financial instability, so the obtaining of revenue, by organizations, depends mostly on the way resources are managed. Given the importance of access to more detailed financial and non-financial information on how the resources of a given organization are managed, the possibility of adopting management accounting thus arises (Ahmetshina et al., 2018).

According to Jaf, Sabr, & Nader (2015), management accounting is necessary to know the flows inside and outside the firm and provide relevant information about the firm's relationship with its customers and suppliers, helping managers. Also in this sense, it is essential to know the cost of products in the total cost of production.

Nowadays, an accountant is the person who will have to understand the firm finances and much more. He should have solid knowledge of accounting, both financial and management (Franklin et al., 2019). By understanding the business fundamentals of the organization, it will help managers, assisting them in providing relevant information for strategic business planning decisions and to increase the organization's performance (Ahid& Augustine, 2012; Lawson, 2016).

It is thus revealed that the main objective of the MA is to identify, measure, analyse, interpret, and communicate useful information to managers, helping them in planning, controlling, evaluating roles and goals. MA is an integral part of the management process, and accountants with these skills are important strategic partners for all organizations (Hilton & Platt, 2017; Franklin et al., 2019). Faced with this situation, accountants need better skills and competences to perform their future roles (Mishra, 2012).

The analysis of the information provided by the MA involves the implementation of adequate management control systems (MCS). These should provide all types of information to support financial and management accounting(Simons, 2000). Bearing in mind that financial data make up a large part of the inputs and outputs of a management accounting system, an adequate management control system should present non-financial data as well. Measuring, controlling and continually improving operational activities are essential requirements for an organization's success and performance(Simons, 2000;Merchant& van der Stede, 2007; Hilton & Platt, 2017).

A management system, in addition to providing financial information, must provide cost and inventory data and assessments to support financial reporting. This system should help managers increase their performance targets (Simons, 2000; Richardson, 2017).

Firms may have a competitive advantage arising from technological or product innovation. However, this advantage may not last because competitors copy this innovation. Thus, managers should continue to value the role of accountants, as they help in the decision-making process and in the analysis of competitors (Gazely& Lambert, 2006).

### The impact of management accounting on firm performance

Some studies on the role of management accounting in the context of decision-making and organizational performance have suggested a weak influence (Hopper, 1980; Mouritsen, 1996; Robert, Stan, & Lin, 2002). Ideally, a company should adopt management accounting only if the perceived benefits of using it outweigh the costs of implementation. However, in practice, this is not always the case (McLellan, 2014; Jaf et al., 2015).

The practice of MA can improve firm performance, as it plays an important role in making better business decisions, better planning, control and early detection of problems (Byrne & Pierce, 2007; Krishnan, 2015; AbRahman, Omar, Rashid, & Ramli, 2016; Alabdullah, 2019). But firm performance can only be improved if their managers want to increase the performance and are aware of the importance of MA (Adu-gyamfi, 2020).

It is also verified that a high percentage of Small and Medium Enterprises (SMEs) die during the first years of activity, possibly because they do not use an adequate Management Accounting system or because they lack specialized support in decision-making (Ferreira, 2012).

Current management accounting practices incorporate financial and non-financial practices, with budgeting, performance evaluation, gathering information for decision making and strategic analysis being the most used methods to provide operational and organizational information (Kalifa et al., 2020). In terms of improving firm performance, the trend should be to consolidate these practices and competencies in the same profession. Any of the accounts should focus on the decision support needs of managers and stakeholders, differing only in practices and not in competencies (Richardson, 2017).

Many of the challenges of MA result from the need for managers to have a solid understanding of the terminology and basic characteristics of the production processes (goods and services) of firms. An important issue in business management is the decision-making process. A decentralized process requires that the managers of the various responsibility centres have adequate information (Caplan, 2006).

In relation to any business, MA contributes to effective and efficient decisions, allowing the appropriate use of available resources. By providing financial and non-financial information, namely reports, cost analysis and financial forecasts, MA allows more efficient and effective activities. This information is fundamental to the decision process, to make instant decisions and actions, allowing the development of the firm's performance (Collier, 2003; Adams & Evans, 2004) and that they have a competitive advantage (Kaplan, 2006; Kalifa et al., 2020). Furthermore, the current globalization environment requires organizations to have effective strategies to

respond to different challenges and to be able to keep up with the main developments and changes in their internal and external environments (Al-Tarawneh et al., 2021).

This corporate performance should also be based on adequate performance measurement and management. Performance measurement facilitates monitoring and the introduction of effective corrective measures by analysing the current level of performance and comparing it to the desired level of performance (Melnyk et al., 2014). By not using MA, managers run a serious risk of making inappropriate decisions, also implying the use of inappropriate performance measures (Otley, 2001).

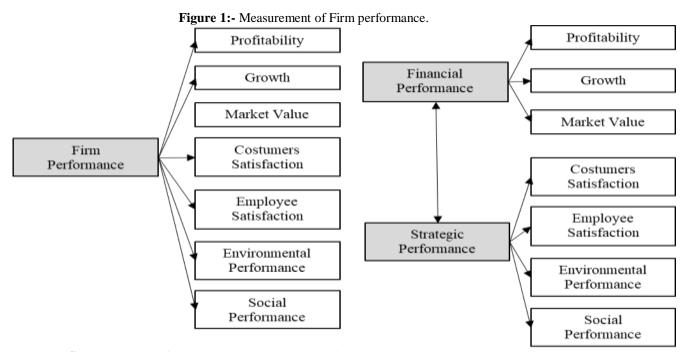
Studies show that the practice of management accounting can improve firm performance, as it is an important tool for the decision-making process and ensure the effective implementation of performance and its measurement (AbRahman et al., 2016; Alabdullah, 2019). However, MA must be adapted to the size of firms and implement appropriate tools to improve their performance (Adu-gyamfi, 2020; Kasravi et al., 2020).

Several authors even mention that traditional costing instruments continue to be the most used, although the adoption of new instruments or techniques is increasing (Angelakis, Theriou, &Floropoulos, 2010; Yalcin, 2012; McLellan, 2014).

Therefore, there is a need to better understand the way in which MA and its various instruments can contribute to the development and implementation of organizational strategy and the improvement of firm's performance.

In the literature, firm performance has been theoretically and empirically differentiated, and can be divided into two dimensions. The financial performance and theoperational performance (Venkatraman and Ramanujam, 1986). The operational domain may even be called strategic performance (Santos & Brito, 2012).

So,the empirical model developed by Venkatraman & Ramanujam (1986) that comprises financial and strategic (operational) performance has been used by several authors (Figure 1) in the analysis of the firm performance (Combs et al., 2005; Menon & Mohanty, 2012; Santos & Brito, 2012; Selvam, Gayathri, Vasanth, Lingaraja, & Marxiaoli, 2016).



Source: Adapted from Venkatraman and Ramanujam (1986) and Selvam et. Al. (2016).

The financial domain can be represented by profitability, growth, and market value. Financial performance measurement includes measures related to economic outcomes such as sales growth, net income, and the stock

market. The strategic domain includes non-financial competitive aspects, such as customer satisfaction, quality, innovation, employee satisfaction and reputation (Menon & Mohanty, 2012; Santos & Brito, 2012). The measurement of operational performance is related to the measurement of the results of the various activities that an organization performs (Combs et al., 2005), being fundamental for strategic performance (Venkatraman & Ramanujam, 1986).

It is therefore important to analyse the influence of MA in the different performance domains, and these domains should be measured differently, since one of the most common mistakes is to use the same performance measurements, thus being an inadequate representation of firm performance (Menon & Mohanty, 2012; Santos & Brito, 2012).

#### Methods:-

# Research model and hypotheses

Given the identified research problem, this article seeks to identify, analyse and highlight relevant factors for this research problem (Osborn & Hagedoorn, 1997; Gulati & Kellogg, 1998; Parvinen & Niu, 2010).

Considering the variables observed in the literature review (table 1), an exploratory research model was developed that highlights the importance of MA and accountants for the firm performance (table 1).

Table 1:- Latent and observed variables.

| Latent Variables           | Observed variables (Items)                                      | Source               |  |  |
|----------------------------|---|----------------------|--|--|
|                            | Strategy, Planning & Performance (IDA1)                         |                      |  |  |
|                            | Financial report (IDA2)   | Institute of         |  |  |
| Importance of the          | Internal control and management (IDA3)                          |                      |  |  |
| following skills for       | Technology & Analytics (IDA4)                                   | Management           |  |  |
| accountants (IDA)          | Business Acumen & Operations (IDA5)                             | Accountants (2019)   |  |  |
|                            | Leadership (IDA6)   |                      |  |  |
|                            | Professional Ethics & Values (IDA7)                             |                      |  |  |
|                            | Preparation, organization and interpretation of financial       |                      |  |  |
|                            | information (IPC1)  |                      |  |  |
|                            | Taxation (IPC2)   |                      |  |  |
|                            | Creating value for stakeholders through the efficient           |                      |  |  |
|                            | management of resources (IPC3)                                  |                      |  |  |
|                            | Implementation of critical reporting techniques and decision    | International        |  |  |
| Importance of the role of  | support (IPC4)  | Federation of        |  |  |
| the accountant in Portugal | Management Controller with connection to the                    | Accountant, (2005);  |  |  |
| in terms of (IPC)          | CEO/Administration (IPC5)                                       | Warren C., Reeve J., |  |  |
|                            | Implementation of costing systems (ex: ABC) (IPC6)              | (2006)               |  |  |
|                            | Financial and financial management consultant (IPC7)            |                      |  |  |
|                            | Financial auditor andinternal auditor (IPC8)                    |                      |  |  |
|                            | Risk management and investment operations (IPC9)                |                      |  |  |
|                            | Budget preparation (IPC10)                                      |                      |  |  |
|                            | Implementation of management models (IPC11)                     |                      |  |  |
|                            | Performance measurementsystem (IPC12)                           |                      |  |  |
| Importance of the          | Improvements in market share and value (ICDF1)                  |                      |  |  |
| accountant in Portugal for | Improvements in management assets (ICDF2)                       | Venkatraman and      |  |  |
| financial performance in   | Profitabilityimprovements (ICDF3)                               | Ramanujam, (1986)    |  |  |
| terms of (ICDF)            |   |                      |  |  |
| Importance of the          | Improvements in employee satisfaction (ICDO1)                   |                      |  |  |
| accountant in Portugal for | Improvements in productivity and customer satisfaction          | 77 1                 |  |  |
| organizational             | (ICDO2)   | Venkatraman and      |  |  |
| performance at the level   | Improvements in environmental performance (ICDO3)               | Ramanujam, (1986)    |  |  |
| of (ICDO)                  | Improvements in governance and organizational structure (ICDO4) |                      |  |  |
|                            | (ICDO4)   |                      |  |  |

| Latent Variables              | Observed variables (Items)                              | Source             |  |  |
|-------------------------------|---|--------------------|--|--|
| Importance of the             | Improvements in market share and value (ICGDF1)         |                    |  |  |
| accountant use MA for         | Profitabilityimprovements (ICGDF2)                      | Venkatraman and    |  |  |
| financial performance (ICGDF) | Improvements in management assets (ICGDF3)              | Ramanujam, (1986)  |  |  |
|                               | Improvements in employee satisfaction (ICGDO1)          |                    |  |  |
| Importance of the             | Improvements in productivity and customer satisfaction  |                    |  |  |
| accountant use MA for         | (ICGDO2)  | Venkatraman and    |  |  |
| organizational                | Improvements in environmental performance (ICGDO3)      | Ramanujam, (1986)  |  |  |
| performance (ICGDO)           | Improvements in governance and organizational structure |                    |  |  |
|                               | (ICGDO4)  |                    |  |  |
|                               | Cost of firm services or products (SCG1)                |                    |  |  |
|                               | Budget management (SCG2)                                |                    |  |  |
|                               | Assets management (SCG3)                                |                    |  |  |
|                               | Financial report (SCG4)                                 | Simons,            |  |  |
| Importance of information     | Economicanalysis (SCG5)                                 | (2000);Merchant &  |  |  |
| from management and           | Planning and measurement of deviations from the plan    | van der Stede      |  |  |
| control systems (SCG)         | (SCG6)  | (2007);Richardson, |  |  |
| control systems (SCG)         | Internalaudit (SCG7)                                    | (2017).            |  |  |
|                               | Qualitycontrol (SCG8)                                   |                    |  |  |
|                               | Performance measurement (SCG9)                          |                    |  |  |
|                               | Measuring the value created for stakeholders (SCG10)    |                    |  |  |
|                               | Humanresource management (SCG11)                        |                    |  |  |

Source: Created by the author.

The research model is described in the figure below, based on the following hypotheses:

Figure 2:- Research model. Management control systems H8Role of the Portuguese нз Portuguese accountants accountants skills H1H2 H5H4Н6 H7Management Management accounting use accounting use Financial Performance Organizational Performance Firm performance

Source: Created by the author.

- H1: Accountants' skills influence positively the use of MA for the firm's financial performance;
- H2: Accountants' skills influence positively the use of MA for the firm's organizational performance;
- H3: Accountants' skills influence positively the role of accountants in Portugal;

- H4: The accountant in Portugal has a positive impact on the financial performance of the firm;
- H5: The accountant in Portugal has a positive impact on the firm's organizational performance;
- H6: The use of MA by accountant in Portugal influences positively the financial performance of the firm;
- H7: The use of MA by accountant in Portugal influences positively the firm's organizational performance;
- H8: The information provided by the management and control systems influence positively the role of the Portuguese accountant.

#### Data analysis

To meet the defined research objectives, it was decided to apply a quantitative analysis. Quantitative research is an approach to test objective theories, seeking to determine the existence of relationships between variables, based on statistical procedures (Creswell, 2003).

For the quantitative analysis, primary data from a questionnaire developed by the author were used. The latent variables of the created questionnaire obeyed the literature review and refer to attributes of an individual or organization, in order to respond to the research objectives (Creswell, 2014).

The questionnaire was disseminated, through the Portuguese Order of Certified Accountants (OCC), to the respective members. We obtained 91 responses from a universe of around 60,000 members.

In terms of social sciences research, the use of Structural Equation Models (SEM) has played an increasing role in the analysis of relationships between variables (Hair, Hult, Ringle, &Sarstedt, 2017). Considering that this article seeks to highlight the importance of the MA and of the accountant for the firm performance, it was developed an exploratory model, based on the empirical model developed by Venkatraman & Ramanujam (1986), regarding firm performance. Thus, this research was carried out using the Partial Least Squares method (PLS-SEM), adopting a reflective measurement model, that is the most suitable measurement for studies in accounting and finance(Nascimento et al., 2018). In the reflective model, it is assumed that the items are a reflection of the variables under study (Marôco, 2014),

To give greater robustness to this research based on the SEM, it was made a univariate analysis (mean and standard deviation), regarding the importance of the various items associated with the skills of accountants (IDA) and the role of the accountant (IPC), for firm performance (ICDF/ICDO), using to the MA (ICGDF/ICGDO) An effort was also made to show the most important information to be produced by the management and control systems (SCG).

The SEM and the validation of the hypotheses was carried out using the SmartPLS 3.0 software.

# **Results:-**

The analysed sample consisted of 91 accountants. Despite the reduced sample number, to Hair et al. (2017) the use of SEM through PLS-SEM is adequate for samples smaller than 100, being able to obtain representative results. However, the same author states that the ideal would be a sample that was 10 times greater than the maximum number of variables dependent on the latent (observed) variables. As the latent variable relating to the importance of the role of the accountant in Portugal (IPC) has twelve independent variables, the ideal number of respondents should be 120.

Based on the research model, a reflective Structural Equations Model (SEM) was developed (figure 3), to analyse the influence of the accountant role in Portugal for the firm performance and the influence of MA for firm performance:

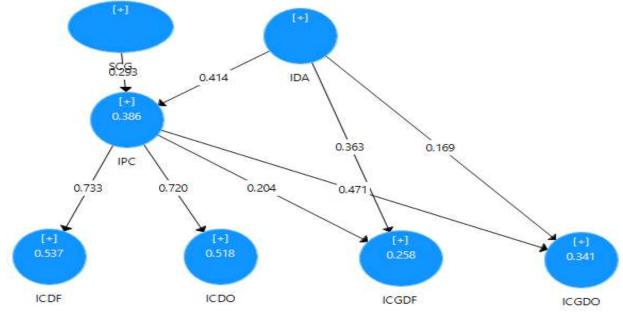


Figure 3:- Reflective Structural Equations Model developed.

**Source:** Created by the author.

The results concerning the SEM developed are structured in two phases. In the first phase, the evaluation of the reflective structural model was carried out, as well as the adjustments made so that this model is valid. In the second phase, the results concerning the obtained model, the validation of the hypotheses and the descriptive statistics are presented.

As for the first phase, this SEM was evaluated in two stages. In a first stage, it was carried out through an analysis of the Internal Consistency Reliability (Cronbach's Alpha - AC), the Convergent Validity (Average Variance Extracted - AVE), the rho\_A Coefficient and the Composite Reliability (CC) through the PLS Algorithm. In exploratory research, composite reliability values between 0.60 and 0.70 are accepted, for AVE a minimum value of 0.5 and for the remaining analyzes a minimum value of 0.70(Hair et al., 2017).

It should also be verified whether there are multicollinearity problems, through the analysis of the variance inflation factor (VIF), which must be less than 5. Through the PLS Algorithm, it was verified (table 2) that there are only two constructs (IPC and SCG) whose AVE is slightly lower than 0.5, but which, when rounded up, allows the model to be considered adequate (Hair, Black, Babin, & Anderson, 2014).

Table 2:-Evaluation of the reflective structural model.

| Construct | Cronbach Alpha | rho_Acoefficient | CompoundReliability(p | ConvergentValidity(AVE) |
|-----------|----------------|------------------|-----------------------|-------------------------|
|           |                |                  | - rho)                |                         |
| ICDF      | 0.884          | 0.895            | 0.928                 | 0.811                   |
| ICDO      | 0.862          | 0.878            | 0.915                 | 0.782                   |
| ICGDF     | 0.869          | 0.920            | 0.918                 | 0.789                   |
| ICGDO     | 0.948          | 0.949            | 0.963                 | 0.866                   |
| IDA       | 0.872          | 0.935            | 0.896                 | 0.560                   |
| IPC       | 0.863          | 0.899            | 0.890                 | 0.466                   |
| SCG       | 0.866          | 0.855            | 0.874                 | 0.453                   |

Source: Created by the author.

As a result of the variance inflation factor analysis (Variance Inflation Factor - VIF), it was found that there are multicollinearity problems (VIF > 5) in some of the items of the constructs, namely:

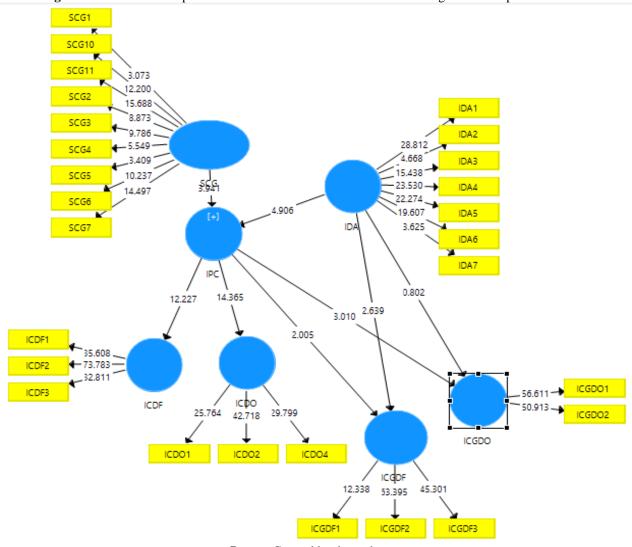
**Table 3:-** Items excluded due to multicollinearity problems.

| Item excluded | VIF   |
|---------------|-------|
| ICGDO3        | 9.536 |
| ICGDO4        | 5.809 |

**Source:**Created by the author.

These items were removed from the SEM, and a new assessment of this model was then carried out.

**Figure 4:-**SEM for the importance of the accountant and of the MA for organizational performance.



**Source:**Created by the author.

Regarding the second phase, the SEM calculated through the Bootstraping function, the trajectories with a significance level of 5% (p<0.05; t>1.96) were considered significant. Thus, it was possible to obtain empirical evidence of the raised hypotheses (table 4). Hypotheses H1, H3, H4, H5, H7 and H8 were supported and validated as they presented statistically significant relationships (p<0.05; t>1.96). On the contrary, hypotheses H2 and H6 did not obtain significant relationships (p>0.05; t<1.96), therefore aren't supported.

**Table4:-**Research hypotheses and effects obtained.

| Hypotheses       | T Statistics | P Values | Effect expected | Effect<br>obtained | Empiricalevidence |
|------------------|--------------|----------|-----------------|--------------------|-------------------|
| H1: IDA -> ICGDF | 2.474        | 0.014    | +               | +                  | Supported         |
| H2: IDA -> ICGDO | 0.814        | 0.416    | +               | -                  | Notsupported      |
| H3: IDA -> IPC   | 4.790        | 0.000    | +               | +                  | Supported         |
| H4: IPC -> ICDF  | 12.803       | 0.000    | +               | +                  | Supported         |
| H5: IPC -> ICDO  | 15.561       | 0.000    | +               | +                  | Supported         |
| H6: IPC -> ICGDF | 1.952        | 0.052    | +               | -                  | Notsupported      |
| H7: IPC -> ICGDO | 3.102        | 0.002    | +               | +                  | Supported         |
| H8: SCG -> IPC   | 3.849        | 0.000    | +               | +                  | Supported         |

**Source:**Created by the author.

Regarding Hypotheses 1 and 3 (H1 and H3), the results show that there is a significant association between the skills of the accountant (IDA), with the use of management accounting for the financial performance (ICGDF) and with the role of accountants in Portugal (IPC) (at a significance level of 1%).

As for the importance of the most important knowledge domains for the performance of accountants in Portugal (table 5), we found that the domains of ethics and professional values (mean=4.77;  $\sigma$ =0.50) and financial reporting (mean=4.74;  $\sigma$ =0.51) are the most important, although domains related to control and internal management are also very significant (mean=4.60;  $\sigma$ =0.67). Statistical evidence of knowledge domains with firm performance was found, but this domain was one of the least important (mean=4.34;  $\sigma$ =0.79).

**Table5:-** Statistical analysis of the importance of accountants' skills.

| How important are the following domains (skills) to your professional activity (IDA)? | Mínimum | Maximum | Mean | Standard<br>Deviation<br>(σ) |
|---|---------|---------|------|------------------------------|
| Strategy, Planning & Performance (IDA1)   | 3       | 5       | 4,34 | 0,792                        |
| Financial report (IDA2)   | 3       | 5       | 4,74 | 0,513                        |
| Internal control and management (IDA3)  | 3       | 5       | 4,60 | 0,665                        |
| Technology & Analytics (IDA4)   | 3       | 5       | 4,57 | 0,669                        |
| Business Acumen & Operations (IDA5)   | 2       | 5       | 4,08 | 0,897                        |
| Leadership (IDA6)   | 2       | 5       | 4,41 | 0,802                        |
| Professional Ethics & Values (IDA7)   | 3       | 5       | 4,77 | 0,496                        |

Note: Scale (1=Not important; 2= Slightly important; 3= Fairly important; 4= Important; 5= Very important). Source: Created by the author.

Regarding Hypothesis 2 (H2), no association was obtained between accountant skills (IDA) and the use of management accounting for the firm organizational performance (ICGDO) (at a significance level of 5%), so this hypothesis wasn't validated.

As for Hypotheses 4 and 5 (H4 and H5), there was a significant association between the role of accountants in Portugal (IPC) and the firm performance. The importance of the accountant for financial (ICDF) and organizational (ICDO) performance (at a significance level of 1%), were the relationships that showed the strongest effect.

Analysing the effects obtained in terms of the observed variables (items), these SEM also suggest that the accountant's skills (IDA) are reflected in a stronger way in the role of the accountant in Portugal (IPC). This role, with their skills (the strongest in terms of strategy, planning and control - IDA1), have the strongest effect in terms of financial performance in the use of assets (ICDF2), as well as in terms of organizational performance for improvements in productivity and customer satisfaction (ICDO2).

Using MA, the accountant in Portugal and their skills, have a stronger effect on improving profitability, in terms of financial performance (ICGDF2), as well as improving productivity and customer satisfaction (ICGDO2).

Regarding the importance of the various roles of the accountant in Portugal, we found that matters relating to financial accounting are given greater importance, to the detriment of matters relating to management accounting and improving the firm performance (table 6).

**Table6:-** Statistical analysis of the importance of the accountant's role.

| How important is the role of the accountant in Portugal      | Mínimum | Maximum | Mean | Standard  |
|--|---------|---------|------|-----------|
| (IPC) in terms of?   |         |         |      | Deviation |
|  |         |         |      | (σ)       |
| Preparation, organization, and interpretation of financial   | 4       | 5       | 4,70 | 0,459     |
| information (IPC1)   |         |         |      |           |
| Taxation (IPC2)  | 4       | 5       | 4,84 | 0,373     |
| Creating value for stakeholders through the efficient        | 2       | 5       | 4,27 | 0,776     |
| management of resources (IPC3)                               |         |         |      |           |
| Implementation of critical reporting techniques and decision | 1       | 5       | 4,44 | 0,846     |
| support (IPC4)   |         |         |      |           |
| Management Controller with connection to the                 | 3       | 5       | 4,31 | 0,784     |
| CEO/Administration (IPC5)                                    |         |         |      |           |
| Implementation of costing systems (ex: ABC) (IPC6)           | 1       | 5       | 4,11 | 1,080     |
| Financial and financial management consultant (IPC7)         | 2       | 5       | 4,41 | 0,802     |
| Financial auditor andinternal auditor (IPC8)                 | 1       | 5       | 4,27 | 1,065     |
| Risk management and investment operations (IPC9)             | 2       | 5       | 3,98 | 1,022     |
| Budget preparation (IPC10)                                   | 1       | 5       | 3,88 | 1,237     |
| Implementation of management models (IPC11)                  | 1       | 5       | 4,18 | 0,938     |
| Performance measurementsystem (IPC12)                        | 1       | 5       | 3,95 | 1,129     |

Note: Scale (1=Not important; 2= Slightly important; 3= Fairly important; 4= Important; 5= Very important). Source: Created by the author.

Analysing in greater detail the importance of the items that contribute to the firm performance (table 7), it was also verified the increased importance that the accountant has for financial performance (mean=4.44;  $\sigma$ =0.65), to the detriment of organizational performance (average=3.71;  $\sigma$ =1.16), with greater divergence in responses regarding the importance of organizational performance.

**Table7:-** Statistical analysis of the importance of the accountant's for firm performance.

|                               | the accountant in Portugal for the                               |   | Maximum | Mean | Standard  |
|-------------------------------|--|---|---------|------|-----------|
|                               | following firm performance?                                      |   | Maniful | Mean | Deviation |
|                               |  |   |         |      | (σ)       |
| Financial performance         | Improvements in market share and value (ICDF1)                   | 2 | 5       | 4,27 | 0,776     |
| (ICGDF)                       | Improvements in management assets (ICDF2)                        | 3 | 5       | 4,51 | 0,565     |
|                               | Profitabilityimprovements (ICDF3)                                | 3 | 5       | 4,54 | 0,620     |
|                               | Financial performance  | 2 | 5       | 4,44 | 0,653     |
| Organizational<br>Performance | Improvements in employee satisfaction (ICGDO1)                   | 2 | 5       | 3,49 | 1,119     |
| (ICGDO)                       | Improvements in productivity and customer satisfaction (ICGDO2)  | 1 | 5       | 3,85 | 1,192     |
|                               | Improvements in environmental performance (ICGDO3)               | 1 | 5       | 3,46 | 1,232     |
|                               | Improvements in governance and organizational structure (ICGDO4) | 1 | 5       | 4,04 | 1,084     |
|                               | Organizational performance                                       | 1 | 5       | 3,71 | 1,157     |

Note: Scale (1=Not important; 2= Slightly important; 3= Fairly important; 4= Important; 5= Very important). Source: Created by the author.

As for the statistical evidence between the role of accountants in Portugal (IPC) regarding the use of management accounting for the financial firm performance (ICGDF), no evidence was obtained. So, the Hypothesis 6 (H6) wasn't validated.

Statistical evidence was also obtained between the role of accountants in Portugal (IPC) with the use of management accounting for the organizational firm performance (ICGDO) (at a significance level of 1%), thus validating the Hypothesis 7 (H7).

As for the importance of accountant use MAfor organizational firm performance (table 8), improvements in productivity and customer satisfactionare seen as the most important factor for the organizational firm performance (mean=4.07;  $\sigma$ =0.93)

Table8:- Statistical analysis of the importance of use MA for organizational firm performance.

| Importance of accountant useMA for organizational firm performance (ICGDO)? |  | Mínimum | Maximum | Mean | Standard<br>Deviation<br>(σ) |
|---|--|---------|---------|------|------------------------------|
| Organizational performance  | Improvements in employee satisfaction (ICGDO1)                     | 1       | 5       | 3,76 | 1,026                        |
|   | Improvements in productivity and customer satisfaction (ICGDO2)    | 1       | 5       | 4,07 | 0,929                        |
|   | Improvements in environmental performance (ICGDO3) *               | 1       | 5       | 3,84 | 1,098                        |
|   | Improvements in governance and organizational structure (ICGDO4) * | 1       | 5       | 4,04 | 1,115                        |
|   | Organizational performance   | 1       | 5       | 3,93 | 1,042                        |

<sup>\*</sup> Items removed on SEM

Note: Scale (1=Not important; 2= Slightly important; 3= Fairly important; 4= Important; 5= Very important). Source: Created by the author.

Regarding H8, it was possible to verify that there is a significant association between management control systems (SCG) and the role of accountants in Portugal (IPC) (at a significance level of 1%). The results also suggest that the strongest effect likely to be achieved by the SCG would be on the firm budgetary management (SCG2).

In terms of analysing the importance of the information to be made available by the SCG (table 9), we found greater importance to be given to economic (average=4.74;  $\sigma$ =0.44) and financial (mean=4 .64;  $\sigma$ =0.61), but also information on management accounting (mean=4.74;  $\sigma$ =0.51)

**Table9:-** Statistical analysis of the importance of the accountant's role.

| What is the importance of the following information to be made available by the management and control systems | Mínimum | Maximum | Mean | Standard<br>Deviation |
|--|---------|---------|------|-----------------------|
| (SCG)?   |         |         |      | (σ)                   |
| Cost of firm services or products (SCG1)   | 3       | 5       | 4,74 | 0,513                 |
| Budget management (SCG2)   | 2       | 5       | 4,44 | 0,763                 |
| Assets management (SCG3)   | 3       | 5       | 4,26 | 0,680                 |
| Financial report(SCG4)   | 3       | 5       | 4,64 | 0,606                 |
| Economicanalysis(SCG5)   | 4       | 5       | 4,74 | 0,443                 |
| Planning and measurement of deviations from the plan (SCG6)  | 3       | 5       | 4,47 | 0,621                 |
| Internalaudit(SCG7)  | 3       | 5       | 4,41 | 0,760                 |
| Qualitycontrol(SCG8)   | 2       | 5       | 4,37 | 0,709                 |
| Performance measurement(SCG9)  | 2       | 5       | 4,37 | 0,709                 |
| Measuring the value created for stakeholders (SCG10)   | 2       | 5       | 4,25 | 0,754                 |
| Humanresource management (SCG11)   | 3       | 5       | 4,38 | 0,692                 |

Note: Scale (1=Not important; 2= Slightly important; 3= Fairly important; 4= Important; 5= Very important). Source: Created by the author.

#### Conclusions:-

This investigation intended to identify the influence of the accountant's skills and their role in Portugal on the firm'sperformance, as well as the relevance of using management accounting in improving this performance. To meet the objective of this investigation, a structural equation modelling (SEM) was used, to develop a model with new perspectives of analysis such as mediation effects that were both robust and reliable. Once the validity and reliability tests of this SEM have been carried out, the developed model allows responding to the research problem and validating six of the eight hypotheses proposed.

According to the results obtained, in response to the specific objectives of this investigation, it can be seen that the skills of accountants positively influence the role of accountants in Portugal and the use of MA for the financial firm performance (H3 and H1).

For this positive influence, we highlight the competences in the areas of ethics and professional values and financial reporting, as well as competences related to internal control and management (the strongest in terms of strategy, planning and control). These accountant skills are more strongly reflected in the role of the accountant in Portugal as a management controller with connection to the CEO/Administration, and in financial performance in terms of asset use.

It was also found that the accountant in Portugal has a positive impact on the firm performance, both financial and organizational (H4 and H5). However, we found that in terms of this impact, greater importance is given to financial accounting, in relation to management accounting and improving the firm performance.

The accountant, using MA, also positively influences the organizational firm performance (H7). This influence is stronger on improvements in profitability, in terms of financial performance, as well in productivity and customer satisfaction, in terms of organizational performance.

It was also found that the information provided by the management and control systems positively influence the role of the accountant in Portugal (H8). These systems should prioritize economic and financial information, as well as management accounting.

In response to the central research question, these results allow us to conclude that accountants in Portugal recognize the relevance of financial accounting and management accounting for the firm's performance and should have skills at the level of these two accounts. However, they do not give relevance to the complementarity use and applicability of these two accounts, to meet all stakeholders and enhance the firm's performance. For accountants in Portugal, management accounting is a complement to the firm's performance, not being relevant to financial performance and being less important than financial accounting. With great disparities in the importance attributed, there are even accountants who consider that MA is not important for the organizational firm's performance.

In terms of limitations of the present study, there is the margin of error (10%), when trying to generalize the results of this SEM, because of the sample (91 respondents) for a significance level of 95%. The total population of accountants in Portugal, are currently around 60,000. This sample also presented several multicollinearity problems, having to exclude items from the analysed constructs.

As suggestions for future research, we recommend a study with a larger sample that guarantees a 5% margin of error, as well as a more detailed analysis of which aspects should be promoted among accountants, to have more knowledge in terms of importance of MAto the firms and its utility for organizational performance.

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