Hybrid controller: main competences and skills

Controller híbrido: principales competencias y habilidades

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Abstract
Purpose: To identify in the scientific literature the main technical competences and professional skills associated with the technical bean counter and managerial business partner controller profiles.

Methodology: A literature review was conducted, indexed to the Web of Science and Scopus databases, using the Chartered Association of Business Schools 2018 ranking to select scientific articles published in high-quality journals in the last 10 years. The process resulted in a sample of 11 articles, on which content analysis was applied. The analysis was guided by 30 categories based on the consulted literature (theory-driven categorization). 558 codes were collected, and through them, the main competencies and skills needed by the hybrid controller were identified.

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Results: The technical profile presents as its main competence the financial accounting and reporting competence, which concentrated more than 50% of the profile codes. The managerial profile presents managerial accounting competence and the interpersonal and communication skills as the main ones, together comprising less than 50% of the profile codes. The managerial profile identified is close to the hybrid controller profile, little explored in the literature, which fluctuates between the technical and managerial polar profiles due to contextual and cultural factors.

Contributions of the Study: The study contributes to academia by deepening discussions on the hybrid profile, pointing out their main competencies and skills, and identifying which contextual and cultural factors influence the professional profile. By highlighting the main competencies and skills, the study contributes to practice, which can be supported by these findings to better conduct selection processes, for example, in addition to highlighting the necessary alignment between organizational context and culture and the desired profile for the controller.

Keywords: Professional profile. Management accountant. Hybrid profile. Contextual factors. Cultural factors.

Resumen
Objetivo: Identificar en la literatura científica las principales competencias técnicas y habilidades profesionales asociadas a los perfiles de *controller* técnico *bean counter* y gerencial *business partner*.

Metodología: Se realizó una Revisión Bibliográfica, indexada a las bases de datos Web of Science e Scopus, siendo utilizado el ranking Chartered Association of Business Schools 2018 para seleccionar artículos científicos publicados en revistas de alta calidad en los últimos 10 años. El proceso resultó em muestras de 11 artículos, sobre los cuales se aplicó análisis de contenido. El análisis fue guiado por 30 categorías construida a partir de la literatura consultada (categorización *theory-driven*). Se recopilaron 558 códigos y, a través de ellos, se identificaron las principales competencias y habilidades que necesita el *controller* híbrido.

Resultados: El perfil técnico presenta como principal competencia la Contabilidad y Reporte Financiero, que concentró más del 50% de los códigos del perfil. El perfil gerencial, presenta la competencia Contabilidad Gerencial y la Habilidad Interpersonal y de Comunicación como las principales, concentrando en conjunto menos del 50% de los códigos del perfil. El perfil gerencial identificado es cercano al perfil del *controller* híbrido, poco explorado en la literatura, que fluctúa entre los perfiles polares técnicos y gerencial debido a factores contextuales y culturales.

Contribuciones del Estudio: El estudio contribuye a la academia al profundizar las discusiones sobre el perfil híbrido, señalando sus principales competencias y habilidades e identificando qué factores contextuales y culturales influyen en el perfil del profesional. Finalmente, al resaltar las principales competencias y habilidades, el estudio contribuye a la práctica, que puede ser apoyada por estos hallazgos para conducir mejor los procesos de selección, por ejemplo, además de resaltar la necesaria alineación entre el contexto, la cultura organizacional y el perfil deseado para el *controller*.

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Palabras clave: Perfil profissional. Management accountant. Perfil híbrido. Factores contextuales. Factores culturales.

Resumo

Objetivo: Identificar na literatura científica as principais competências técnicas e habilidades profissionais associadas aos perfis de *controller* técnico *bean counter* e gerencial *business partner*.

Metodologia: Foi realizada Revisão da Literatura indexada às bases de dados Web of Science e Scopus, sendo utilizado o ranking Chartered Association of Business Schools 2018 para selecionar os artigos científicos publicados em periódico de nível de qualidade elevado dos últimos 10 anos. O processo resultou em amostra de 11 artigos, sobre os quais foi aplicada análise de conteúdo. A análise foi guiada por 30 categorias construídas com base na literatura consultada (categorização *theory-driven*). 558 códigos foram coletados e, por meio deles, identificadas as principais competências e habilidades necessárias ao *controller* híbrido.

Resultados: O perfil técnico apresenta como principal competência a de Contabilidade financeira e relatório, que concentrou mais de 50% dos códigos do perfil. O perfil gerencial apresenta a competência Contabilidade gerencial e a habilidade Interpessoal e de comunicação como principais, juntas concentrando menos de 50% dos códigos do perfil. O perfil gerencial identificado se aproxima do perfil híbrido de *controller*, pouco explorado na literatura, que flutua entre os perfis polares técnico e gerencial em razão de fatores contextuais e culturais.

Contribuições do estudo: O estudo contribui com a academia ao aprofundar as discussões sobre o perfil híbrido, assinalando suas principais competências e habilidades e identificando que fatores contextuais e culturais influenciam no perfil do profissional. Ao destacar as principais competências e habilidades, o estudo contribui com a prática, que pode se apoiar nestes achados para melhor conduzir processos seletivos, por exemplo, além de salientar o necessário alinhamento entre contexto e cultura organizacionais e o perfil desejado para o *controller*.

Palavras-chave: Perfil profissional. Management accountant. Perfil híbrido. Fatores contextuais. Fatores culturais.

1 Introduction

Among the definitions discussed by Nocetti and Lavarda (2019) for the controllership, the one that characterizes the area as an operational, economic, financial, and asset knowledge grouping focused on the control of organizational processes stands out. Despite the wide definition, it proves to be adequate since the controllership follows the company's management evolution and may even manifest itself formally in the structure (as a sector or department) or through a person responsible for the execution of tasks associated with the area (Amorim & Silva, 2019).

This professional responsible for performing the tasks of the controllership is called a management accountant or controller, which is the one usually used in Brazil (Amorim & Silva,

2019). The controller's attribution consists in providing useful information to management, in order to subsidize the decision-making process (Endenich & Trapp, 2020). In this study, the understanding of Amorim and Silva (2019) is followed as to the denomination commonly used in Brazil for this profession, thus the term "controller" is used to designate the controllership professional.

Henttu-Aho (2016) points out that, for over 70 years, research has been dedicated to solving ambiguity problems in the area, seeking to identify some universal parameters to be respected or a professional profile that the controller should present. In this sense, Goretzki, Strauss, and Weber (2013) identified significant differences in the exercise of the profession when comparing German, Anglo-Saxon English, and North American contexts, noting differences even in the professional's denomination. Doron, Baker, and Zucker (2019) discussed the impact that the 1929 US market crisis had on the controller profile, shifting the profession to activities of a supervisory nature over management activities.

The 1929 crisis and its effects on the controller (Doron et al., 2019) contributed to the formation of what is now understood as the controller's "traditional profile" (Goretzki et al., 2013), a profile that focuses on technical and formal aspects, aiming at information compliance (Anderson, Maks, & Klaassen, 2019). Goretzki et al. (2013) and Horton and Wanderley (2018) found that this profile, commonly referred to as bean counter, has been associated in the literature as something negative, as "old", whereas the "contemporary profile" – business partner profile – is seen as the desirable, as "new". This second profile accumulates functions of managerial nature, focused on analysis and accounting management (La Paz, Gracia, & Vásquez, 2020). Thus, each profile focuses on activities that demand competencies and skills to be performed, both hard and soft skills, as discussed in Paulsson (2012).

When it comes to competencies and skills, the International Accounting Education Standards Board (IAESB) – a board maintained by the International Federation of Accountants (IFAC) – is responsible for issuing pronouncements aimed at standardizing accounting education around the globe (International Standard-Setting Boards [ISSB], [2021-]). Among these pronouncements are International Education Standards (IES) 2 and 3, which deal with technical competencies (hard skills) and professional skills (soft skills), respectively, to be developed by future accounting professionals, such as controllers, during their education (IAESB, 2019).

Contrary to the debate about which of the profiles is the "correct" one, whether technical or managerial, Paulsson (2012) argues in favor of an intermediate profile, which is revealed through a controller hybridization process. This hybrid professional, then, must present both technical knowledge (hard skills) and managerial skills (soft skills) to be used due to cultural (Hadid & Al-Sayed, 2021) and contextual (Paulsson, 2012) factors that present themselves. In line with the above, Caicedo, Martensson, and Hallstrom (2018) reveal the occurrence of this hybridization movement when the technical controller expands his functions to managerial activities. However, the inverse also occurs: by contracting his managerial functions and focusing on technical aspects, a process of professional "de-hybridization" occurs (Caicedo et al., 2018).

In general, discussions focus on the transformation from the traditional bean counter technical profile to the modern business partner managerial profile, as observed in Horton and Wanderley (2018), focusing on the competencies and skills of these two profiles. Thus, few studies are perceived as dedicated to the hybrid profile, such as those by Paulsson (2012) and Caicedo et al. (2018). Paulsson (2012) and Caicedo et al. (2018), however, do not delve into the competencies and skills of the hybrid profile, a gap presented in the literature.

In view of this little-explored hybrid profile that carries both technical and managerial aspects, the following research question arises: **what are the main competencies and skills to be presented by the hybrid controller?** In order to answer it, this study aims at identifying in the scientific literature the main technical competencies and professional skills associated to the bean counter technical controller and managerial business partner profiles. Thus, the literature on the theme was reviewed in search of phrases that linked the competencies and skills listed in IES 2 and 3 to one or another of these two profiles, a process guided by content analysis (Bardin, 2016).

In line with the need for studies dedicated to the changes in the controller professional profile (Endenich & Trapp, 2020) and the little discussion about the hybrid controller profile (Janin, 2017), this study is justified in face of the hybridization (Paulsson, 2012) and de-hybridization (Caicedo et al., 2018) processes, which modify the professional profile and, consequently, change the competencies and skills to be presented by the professional. Thus, this study contributes to academia by furthering discussions about the hybrid controller profile and identifying what are the main competencies and skills of this profile.

Identifying the main competencies and skills also contributes to the practice, guiding managers, for instance, when conducting selection processes since they will have greater clarity in identifying the appropriate candidates. This study also highlights the need to evaluate contextual and cultural factors related to the organization so that there is alignment between the company's objectives and the profile to be presented by the controller. This hybrid profile recognition also contributes to the practice by highlighting that there is not a "correct" profile for the controller but the need for this professional to be flexible to contextual and cultural changes in the business environment.

Following this introductory Section, the next one presents and discusses the theoretical framework consulted. The third Section is dedicated to the explanation of the methodological framework and procedures used. The fourth Section presents the analysis and interpretation of the results obtained, and, closing this study, the final considerations are presented, consolidating the research findings and pointing out opportunities for subsequent research.

2 Theoretical Framework

This Section is subdivided into Section 2.1, which aims at presenting the role of the IAESB in accountants' education, and the competencies and skills dealt with in IES 2 and 3. Section 2.2 discusses controller professional profiles, particularly the technical bean counter and managerial business partner profiles, as well as recent understandings regarding the existence of hybrid profiles intermediate spectrum to these two extremes.

2.1 International Accounting Education Standards Board

The IAESB is one of four ISSBs maintained by the IFAC, which support the global economy and financial markets by issuing worldwide standards for accounting in the areas of audit and assurance, accounting education, professional ethics, and public sector accounting (ISSB, [2021-]). In addition to financial resources, through IFAC, the four boards receive the necessary aid in terms of human capital, facilities, and administrative support (ISSB, [2021-]). IFAC's members comprise organizations representing accounting professionals (IFAC, 2019), having been founded in October 1977 by 63 such professional bodies from 51 different countries, including the Brazil Independent Audits Institute (IBRACON) (IFAC, 2021).

Regarding IAESB pronouncements, the board issues IES, which are periodically revised and currently number eight pronouncements. In this research, two of these pronouncements are used: IES 2 and IES 3, both updated in 2019 and whose changes became effective in January 2021 (IAESB, 2019). While IES 2 lists technical competencies (TCs), IES 3 rosters the professional skills (PSs) needed by the future accountants, among whom are the future controllers.

According to the IAESB (2019), TCs refer to the ability to apply professional knowledge to perform the work of an accountant, meaning that they relate to putting accounting technical knowledge into practice. PSs relate to subjective professional aspects required of the accountant, which are integrated with TCs to demonstrate professional ability (IAESB, 2019). Together, TCs and PSs add up to 15 learning areas (Table 1).

Table 1
IAESB relate areas to the technical competencies and professional skills

IES	Area
IES 2 – Technical Competencies (TC)	(a) Financial accounting and reporting
	(b) Management accounting
	(c) Finance and financial management
	(d) Taxation
	(e) Audit and assurance
	(f) Governance, risk management and internal control
	(g) Business laws and regulations
	(h) Information and communication technologies
	(i) Business and organizational environment
	(j) Economics
	(k) Business strategy and management
IES 3 – Professional Skills (PS)	(a) Intellectual
	(b) Interpersonal and communication
	(c) Personal
	(d) Organizational

Source: *produced from IAESB (2019).*

For each of the 15 areas, the accounting student should present, at the end of the education process, the results listed in IES 2 and 3. Given the research objective, the TCs and PSs were used in the analysis process, and the learning findings were used to support this process, as presented in Section 3.

2.2 Controller Professional Profile

The initial debate proposed by Amorim and Silva (2019) reveals that the routines performed by the controller are somehow influenced by the context that presents itself before organizations; more than that, the very activity to be controlled can influence the professional's profile. In this sense, Dobroszek (2020) analyzed job offers for supply chain controllers and logistics controllers, identifying that, among the various competencies and skills associated with the controller profession in general, some were more present for those two specific positions. Furthermore, even though the supply chain and logistics areas are close, when analyzing the job descriptions, Dobroszek (2020) was able to identify differences in the requirements for controllers in each one of them.

Besides contextual issues, cultural factors are also relevant to controller's professional profile construction, since the requirements to practice the profession and the professional name

itself differ (Goretzki et al., 2013). Goretzki et al. (2013) identified differences between the professions practiced in Germany, in the United Kingdom (UK), and in the United States of America (USA). While in Germany there was no need for certification and the professional in the area was called a controller, in the UK and in the USA, the professional was called a management accountant, requiring specific certification for professional performance (Goretzki et al., 2013).

Regardless of the name, it is true that the activities assigned to the controller are renewed in the long run (Amorim & Silva, 2019), an understanding reaffirmed by Doron et al. (2019), who discussed the gain in relevance of the controller after the Wall Street Crash of 1929, when executives were pressured by the enactment of the Securities Act of 1933 and the Securities Exchange Act of 1934 for the economic and financial statements published to be reliable representations of the financial position of companies. As a consequence, the controller started to monitor internal routines with greater rigor, particularly those of an economic and financial nature, thus conferring greater quality to the process of accountability to society and investors (Doron et al., 2019).

Goretzki et al. (2013) point to this fiscal position as the controller's traditional position, commonly referred to in the literature as the bean counter profile – or variations such as watch dog, corporate police officer, and number crusher (Paulsson, 2012). Andreassen (2020) emphasizes the professional technical nature of this profile, performing activities involving bookkeeping and measurement processes. Complementarily, Anderson et al. (2019) highlight the focus on past information, seeking formal aspects that ensure it conformity. In this way, a bean counter controller is seen as an external agent, an inspector who monitors the work of unit managers, being perceived as a figure close to that of an internal auditor (Anderson et al., 2019).

Among other factors, new corporate trends (Paulsson, 2012), technological advances (Lantto, 2014), and the globalization process (Caicedo et al., 2018) have pushed the controller away from technical activities as new activities focused on the decision-making process have been incorporated (Andreassen, 2020). This profile of strategic character within organizations is usually referred to as business partners, with its focus on accounting analysis and management (La Paz et al., 2020). Unlike the previous profile, here the focus is on present information and projections for the future, for which the controller acts as a member of management, an internal agent (Anderson et al., 2019). Caicedo et al. (2018) highlight the analyst and consultant roles of the business partner controller, which evolve with the business strategy, complement Horton and Wanderley (2018).

Both profiles can be considered controllers stereotypes (Andreassen, 2020), representing a dichotomy between them (La Paz et al., 2020). Thus, Lambert and Sponem (2012) stress the need to look at subjective and contextual aspects of the profession, as reinforced by Dobroszek (2020, p. 510): "There is no one model of controller because there are many different types of controllers." In line with the above, ter Bogt, van Helden, and van der Kolk (2016) argue about a possible "spectrum of profiles" for the controller, from the one more aligned with the bean counter profile – technical profile – to the one more aligned with the business partner profile – managerial profile.

Goretzki et al. (2013) and Horton and Wanderley (2018) identified that, while the bean counter technical profile is discussed in a stigmatized way in the literature, associated with negative words such as "old", the business partner managerial profile is described in a positive way, as "new" and desired by organizations. Goretzki et al. (2013, p. 42s) highlight the role of institutions in this process, indicating that "members of professional associations, academics, consultants, and influential professionals themselves support the diffusion of the discourse of the 'business partner' [controller's] role at the macro [country] level."

Horton and Wanderley (2018) are equally opposed to the "old vs. new" approach since the controller's profile can be influenced by multiple factors at intra- and inter-organizational levels, including professional identity ones (as studied by Goretzki et al., 2013), which makes it difficult to establish an ideal profile. For Paulsson (2012), what actually occurs with the professional is what he calls a "hybridization process", where the traditional controller adds to his technical competencies (hard skills) other skills (soft skills). Consonant with the above, Caicedo et al. (2018) advocate that the controller should present himself as a flexible professional, capable of "floating" between these two polar profiles in a spectrum of profiles, correlating with ter Bogt et al. (2016) discussion.

This flexibility discussed by Caicedo et al. (2018) is added to the hybridization process (Paulsson, 2012) in the sense that the opposite process also occurs, which the authors call the "de-hybridization process". For Caicedo et al. (2018), the controller professional transformation process is not unidirectional and deterministic, from the bean counter profile to the business partner profile. According to these authors while in hybridization the technical controller assumes managerial activities and expands his/her attributions, the inverse process of de-hybridization concerns the movement of returning the focus to technical activities in which the controller reduces his/her attributions, moving away from those of managerial character (Caicedo et al., 2018). This understanding is supported by the discussions of Andreassen (2020) when pointing out the technology effect in reverting the controller's orientation back to the quantitative and measurement focus, which opposes the argument that technology would stimulate the managerial profile raised by Lantto (2014).

3 Methodology

Due to the research objective, which is to identify the main technical competencies and professional skills of the bean counter and business partner controller profiles, a qualitative and descriptive study was conducted, using the literature review technique for data collection.

To conduct the review, the search term <"management account*" AND "role"> was defined and searched within the Web of Science (WoS) and Scopus databases (Figure 1). The choice of the term management account* and not controller is justified by the fact that the former better delimits the search in relation to the theme. The databases choice was due to the coverage and quality of the documents indexed and their relevance in the management area. The bases returned 79 (WoS) and 116 (Scopus) documents. The search was conducted in April 2021, and the time limit was applied to the last 10 years in order to maintain the findings' contemporaneity. Within the Scopus database, 49 duplicate documents were identified and eliminated. Then, 17 items were discarded from the WoS and 33 from Scopus that were not classified as scientific journal articles by the databases (other documents), but as book chapters, editorials, articles from scientific events, and others. Thus, sample A was composed, comprising 96 documents.

As a way to filter the research published in scientific journals of higher quality, the Chartered Association of Business Schools (ABS) ranking 2018 classification, prepared by the Academic Journal Guide (AJG), was used, which assigns quality level to journals dedicated to studies focused on business and management areas. The quality levels of the ranking are, from highest to lowest: 4*, 4, 3, 2, and 1. It was applied the ISSN or eISSN from journals informed by databases to search for journals within the ABS ranking. As inclusion criteria, only articles published in journals ranked in the first three positions of the ABS ranking were taken into the analysis. Thus, 25 articles published in non-ranked journals and 51 others classified at levels 1 or 2 were identified and eliminated.
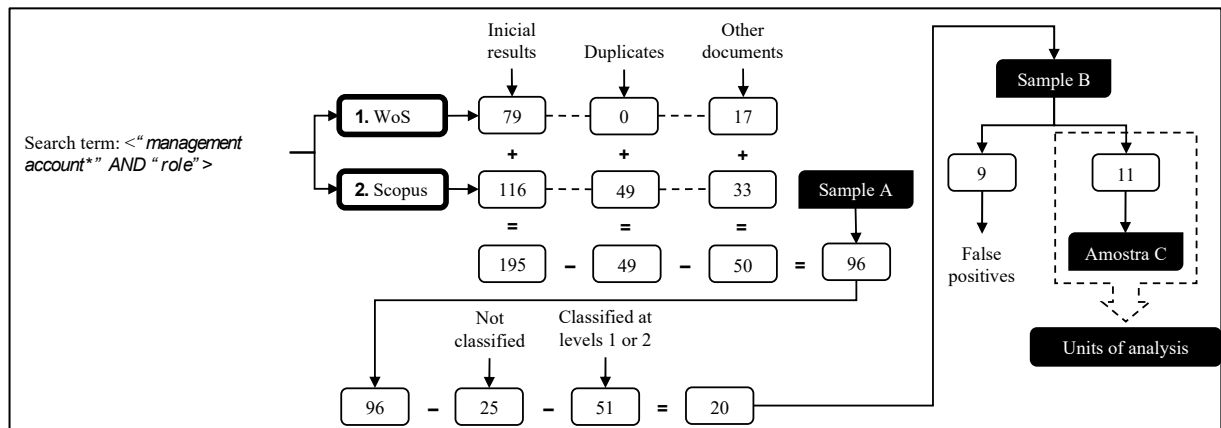
Figure 1 *Search process synthetize*
Source: *Research data.*

The 20 remaining elements comprised sample B, whose abstracts were read in order to identify their relevance to the theme. Thus, nine articles that were dedicated to themes other than those pertaining to the controller's professional profile and his/her attributions were identified and disregarded (false positives). Therefore, sample C was composed, containing 11 scientific articles (units of analysis) that were submitted to content analysis (Bardin, 2016). Information from these 11 articles can be found in the Appendix.

The content analysis was performed with the help of NVivo 12 software. The code (unit of record) established for the analysis was "phrase", evaluated from its semantic value (themes), since the "thematic analysis consists of discovering the 'nuclei of meaning' that make up the communication and whose presence, or frequency of appearance, may mean something for the chosen analytical objective" (Bardin, 2016, p. 135s).

The categories used for grouping the codes were built based on the 15 TCs and PSs of the IAESB (Table 1) and on the two polar profiles of technical and managerial controller discussed in the literature: theory-driven categorization, which totaled 30 distinct categories. When a phrase dealt with circumstances related to the technical competence within the area (a) – TC(a) – **Financial accounting and reporting** –, associating it with the managerial controller profile (Man), this phrase was associated with the code ManTC(a). If the association was related to the technical controller profile (Tec), then the category would be TecTC(a). The 30 categories, built according to the examples, are presented in Table 2.

Table 2
Categories used in the content analysis

Technical profile (Tec)	
IES 2: Technical Competence (TC) – Area	**Code**
TC (a) – Financial accounting and reporting	TecTC(a)
TC (b) – Management accounting	TecTC(b)
TC (c) – Finances and financial management	TecTC(c)
TC (d) – Taxation	TecTC(d)
TC (e) – Audit and assurance	TecTC(e)
TC (f) – Governance, risk management and internal control	TecTC(f)
TC (g) – Business laws and regulations	TecTC(g)
TC (h) – Information and communication technologies	TecTC(h)
TC (i) – Business and organizational environment	TecTC(i)
TC (j) – Economics	TecTC(j)

TC (k) – Business strategy and management	TecTC(k)
IES3: Professional skill (PS) – Area	**Code**
PS (a) – Intellectual	TecPS(a)
PS (b) – Interpersonal and communication	TecPS(b)
PS (c) – Personal	TecPS(c)
PS (d) – Organizational	TecPS(d)
Managerial profile (Man)	
IES 2: Technical competence (TC) – Area	**Code**
TC (a) – Financial accounting and reporting	ManTC(a)
TC (b) – Management accounting	ManTC(b)
TC (c) – Finances and financial management	ManTC(c)
TC (d) – Taxation	ManTC(d)
TC (e) – Audit and assurance	ManTC(e)
TC (f) – Governance, risk management and internal control	ManTC(f)
TC (g) – Business laws and regulations	ManTC(g)
TC (h) – Information and communication technologies	ManTC(h)
TC (i) – Business and organizational environmental	ManTC(i)
TC (j) – Economics	ManTC(j)
TC (k) – Business strategy and management	ManTC(k)
IES 3: Professional Skill (PS) – Area	**Code**
PS (a) – Intellectual	ManPS(a)
PS (b) – Interpersonal and communication	ManPS(b)
PS (c) – Personal	ManPS(c)
PS (d) – Organizational	ManPS(d)

Source: *Produced based on IAESB (2019).*

There were situations in which the same unit of record (sentence) dealt with more than one competence (TC) and/or skill (PS), relating it to one of the profiles or both. In these cases, the same sentence was categorized in as many different categories as there were identified, that is, the same unit of register had repercussions in more than one category. Such occurrences do not wound the principle of mutual exclusion that "stipulates that each element cannot exist in more than one division" (Bardin, 2016, p. 149s), since "the criterion of cutout [unit of record] is always of semantic order, although sometimes there is some correspondence with formal units" (Bardin, 2016, p. 134s).

The categorization process was aided by the learning outcomes associated with each of the areas of each competency and skill contained in IES 2 and 3 (IAESB, 2019). To facilitate the visualization of the results of this process, Excel spreadsheet software was used to develop tree maps.

4 Analysis and Results

The content analysis results applied to sample C are presented in this section, subdivided into three parts. Section 4.1 discusses the results on the technical profile, followed by Section 4.2, dedicated to the managerial profile. Finally, Section 4.3 presents discussions on the hybrid controller profile.

At the end of the categorization process, a total of 558 codes were identified and distributed among the 30 categories shown in Table 2. From these 558 codes, 80 were present in technical profile categories and 478 in managerial profile categories, respectively 14% and 86% of the total codes. The disproportion between observations may be associated with the understanding that the managerial profile is the desired one (Goretzki et al., 2013; Horton & Wanderley, 2018), added to the temporal cutoff, which favored the managerial profile. Despite

the disproportion between 14% and 86%, the analyses did not undergo distortions since the categories dedicated to each profile were analyzed independently.

4.1 Mainly Technical Profile Competencies and Skills

Initially, the tree map of the categories dedicated to the technical profile is presented (Figure 2). The 80 codes are exposed here, highlighting that none were classified in the categories TecTC(d) – **Taxation**; TecTC(e) – **Auditing and assurance**; TecTC(j) – **Economics**; and TecPS(b) – **Interpersonal and communication**.
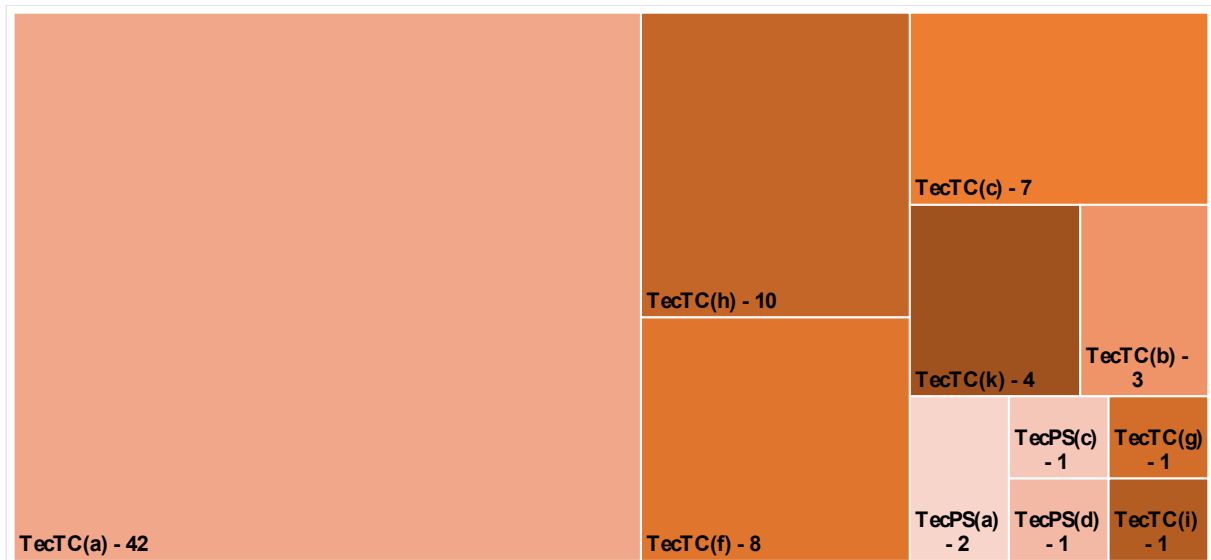
Figure 2 *Technical profile competencies and skills tree map*
Source: *Research data.*

In general, technical competencies prevail over professional skills. Of the 80 observations associated with the profile, only four occurred in professional skills categories. According to Janin (2017, p. 6), "The literature highlights the strong technical and analytical skills of the bookkeeper management accountant [bean counter] – someone often described as methodical and rigorous, individualistic and detached from organizational reality."

As a main highlight, the map detaches the competence prevalence TC(a) – **Financial accounting and reporting**, which gathered 42 of the 80 codes, more than 50% of the total. This competence focuses mostly on economic and financial statement aspects, such as applying principles to evaluate transactions, using International Financial Reporting Standards (IFRS), and preparing and interpreting financial and non-financial reports (IAESB, 2019). This finding follows Anderson et al. (2019) discussion about the attention this profile devotes to past information, such as the financial statements.

As other standouts, the map also reveals the competencies TC(h) – **Information and communication technologies**, with 10 observations; TC(f) – **Governance, risk management and internal control**, with eight observations; and TC(c) – **Finance and financial management**, with seven observations. Regarding the first ones, Goretzki et al. (2013, p. 51) point out that:

Until the mid-1990s, managerial accountants [controllers] played a subordinate role within the company and were responsible for providing data and information, as well as

for the information systems technical maintenance. To program the reporting software, controllers had to master the most relevant programming languages.

In the interviews they conducted, Goretzki et al. (2013) were able to identify that programming activities, associated with the TC(h) competency, made the controller a figure centered on reports and information compliance, distancing him from the other sectors of the organization. This finding corroborates the non-observance of codes in the TecPS(b) category. Regarding the TC(f) competence, Lambert and Sponem (2012) state that the technical profile typically focuses on reporting compliance and organizational internal control, following the understanding that the technical controller approaches an internal auditor figure, as presented by Anderson et al. (2019).

As for TC(c) competency, Hadid and Al-Sayed (2021) had already identified that organizational culture influences the controller profile. If the organizational culture is result-oriented, management is evaluated according to its achievement of result targets, and the controller is responsible for providing the necessary numerical information (Hadid & Al-Sayed, 2021). Caicedo et al. (2018, p. 247) reinforce that stating that "several interviewees provided examples of situations where MAs [management accountants], who remained using quantitative targets, became highly authoritarian in daily operations."

One notices that, somehow, the controller's technical profile is related to the distancing from the other sectors of the organization, which may be adequate in face of the supervisory role of this profile. In this position, seen as an external figure to the organization, skills such as communication are less relevant, even because the proximity between the controller and the supervised (managers) would not be correct, as greater independence is healthy (Paulsson, 2012). In this sense, the alignment between the desired profile for the controller and the organizational culture becomes a key factor. Returning to Hadid and Al-Sayed's (2021) example, demanding communication and involvement from the controller in a result-oriented organization would not be efficient, since it would be up to the controller to present neutral numbers for management performance evaluation.

4.2 Mainly Managerial Profile Competencies and Skills

This section also starts by presenting a tree map, now for the managerial profile (Figure 3). In all, 478 codes were identified, almost six times the quantity observed in the previous profile. Differently from what was observed in the technical profile, in the managerial profile it was possible to identify a greater dispersion of codes in the categories. While in the former, the codes were distributed among 11 of the 15 profile categories, in the latter, a slightly greater variety was observed since the codes were distributed among 13 of the 15 categories.

Similarly, whereupon it was observed in the technical profile, in the management profile competences related to taxation and auditing – TC(d) and TC(e) – were not present, which may indicate that they are not truly relevant for the controller professional. Furthermore, the communication skill expressiveness within the managerial profile stands out from the technical one, given its lack of observation in the technical profile and the emphasis it received in the managerial profile.
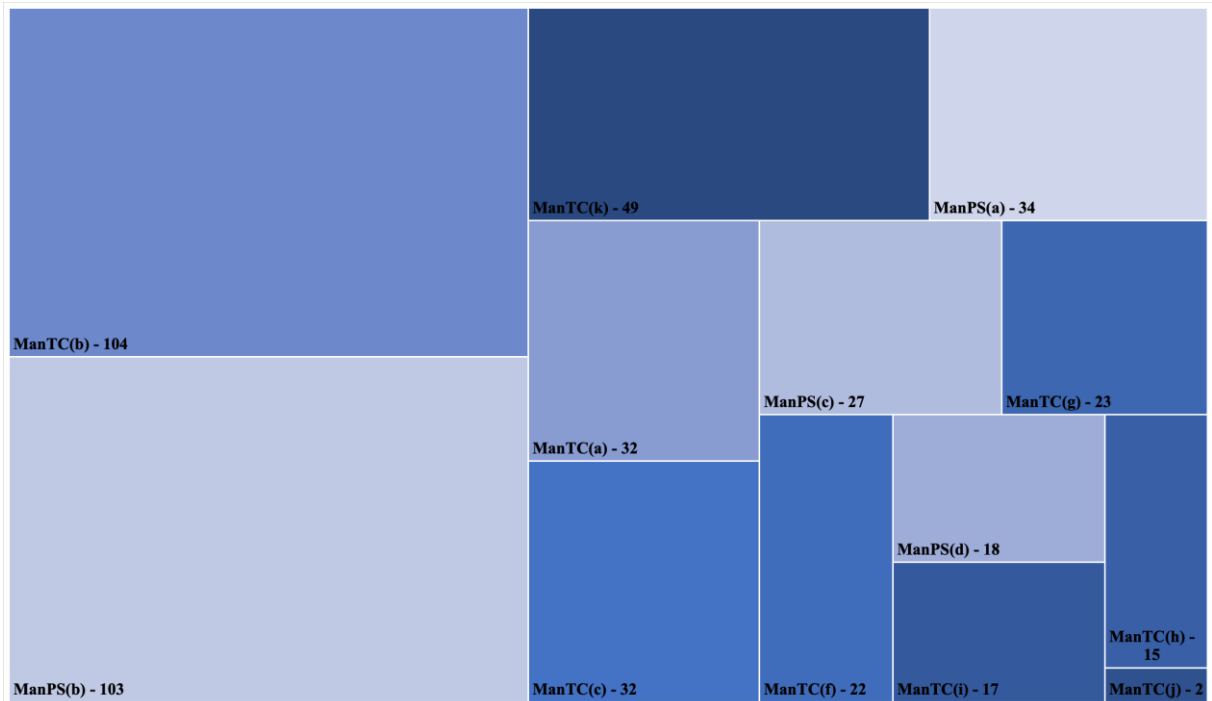
Figure 3 *Management profile competencies and skills tree map*
Source: *Research data.*

Of the 478 codes, 182 occurred in categories focused on professional skills and 296 on technical competencies, with a concentration of codes in the categories GerTC(b) – **Managerial accounting** and GerPS(b) – **Interpersonal and communication**, with 104 and 103 codes, respectively. Compared to the technical profile, the other 271 codes were better distributed among the other categories. Furthermore, the identification of 32 codes in competency TC(a) – **Financial accounting and reporting** (the main competence associated with the technical profile) suggests that the managerial profile referred to in the literature is, in fact, a hybrid profile that unites hard skills and soft skills, as presented by Paulsson (2012).

In addition to competencies TC(b) and TC(a), competencies TC(k) – **Business strategy and management**, with 49 codes; and TC(c) – **Finance and financial management**, with 32 codes, also stood out. About competencies TC(k), Endenich and Trapp (2020) reinforce the managerial controller attribution to stimulate employee's alignment with the organization's strategic objectives, encouraging managers to work for the company's best interest. Thus, Goretzki et al. (2013, p. 50) understand that the controller "must be an all-rounder [presenting multiple competencies and skills] with a broad perspective of the company, coordinating operational and strategic processes."

Although technical, the TC(c) competence relates to activities beyond quantification, such as comparing different forms of financing, analyzing the company's cash flow, and applying budgeting techniques (IAESB, 2019). For that matter, Paulsson (2012, p. 392) lists activities that follow under managerial controller demand, such as "forecasting, budget and execution monitoring, and financial reporting." According to Lambert and Sponem (2012), the relevance loss of these technical activities may be associated with technological advancement, which encourages the decentralization of work routines and would bring the controller closer to the business units. However, this argument is contested by Andreassen (2020), who advocates the opposite: That technology brings the controller closer to technical functions.

Besides communication, the skill PS(a) – **Intellectual** – focused on evaluating the veracity of information, critical thinking, and knowing how to deal with multifaceted problems (IAESB, 2019) – is also presented as the main one in the managerial profile, adding up to 34 codes. Lambert and Sponem (2012) and Goretzki et al. (2013) advocate about the effect of Enterprise Resource Planning (ERP) systems in moving controllers away from programming-oriented jobs, forcing them to develop new capabilities, such as creativity and analytical skills. Again, an effect of technologies on the professional profile. Caicedo et al. (2018, p. 246), who studied the case of a Swedish insurance company, and exemplify the rise of this skill by associating it with changes in the demands on the professional:

> In short, MAs [management accountants] authority to provide clear and concise advice has changed as the demand for elaborate calculations of production data has decreased, along with the increased demand from top management for customer satisfaction ratings, which are more difficult to produce and more complex to analyze.

As the last spotlight of this profile, the skill PS(c) – **Personnel**, is brought in with 27 codes. This skill relates to continuing education, setting high personal and monitoring standards, and keeping an open mind to new opportunities (IAESB, 2019). Regarding this skill, the case study presented by Goretzki et al. (2013) is instructive. Their study discusses deeply the controller movement towards readjusting the professional profile of the entire company's controllership where he worked. Playing the Chief Financial Officer (CFO) role, the controller in question invested heavily in his own professional education and that of his subordinates in order to internalize the business partner profile in the organization.

What is observed in this profile, which differs from the previous one, is related to competencies and skills intertwine. While in the technical profile it is necessary for the controller to step aside and supervise independently (Paulsson, 2012), the managerial profile demands that multiple competencies and skills operate simultaneously, making the controller's involvement with the other sectors of the organization beneficial (Lantto, 2014). Janin (2017, p. 13) can identify, in the managerial profile, the relationship between the competency TC(f) – **Governance, risk management and internal control** and the skill PS(b) – **Communication:** "Dialoguing in the process of classifying crisis scenarios is important, since the DNCG [the supervisory body in the context of the research] asks the president to guarantee financial assistance if the agreed-upon crisis scenario materializes."

This managerial profile competencies and skills simultaneity is also exemplified in Lantto (2014), a study that deal with adaptation process to IFRS standards, and a relationship was identified between skill PS(b) – **Communication** and competence TC(g) – **Business laws and regulations**, in this case, the internalization of IFRS regulations. To align accounting records to IFRS, "Depending on the case, controllers discussed with divisional experts (operational and business) and/or with other divisional controllers to together clarify the characteristics of transactions and events" (Lantto, 2014, p. 347) that required classification.

4.3 Hybrid Profile

As discussed by Paulsson (2012), the controller's attributions have diversified, expanding beyond those traditionally focused on inspection and adding managerial aspects to the professional's routines. This technical-managerial controller profile is named by Paulsson (2012) as a "hybrid controller", a professional who adds to traditional technical competencies new skills, such as communication, which was identified as being strongly associated with the managerial profile. "In general, studies on the requirements of MAs [management accountants]

show that MAs with bean counter orientation can rely only on 'hard skills', while MAs with business partner orientation need both 'hard' and 'soft skills'" (Paulsson, 2012, p. 385).

Lantto (2014) points out that technological advances and new software have contributed to the reduction of manual work, thus decreasing the propensity for errors and encouraging controller analytical skills to manifest, as the example of ERP systems that Goretzki et al. (2013) demonstrates. It is also worth recalling Andreassen (2020) regarding the reverse effect to that described by Lantto (2014) and Goretzki et al. (2013), in which new technologies may cause the controller to reproach supervisory activities associated with the bean counter profile. Despite the apparent contradiction, when one adds to the discussion the de-hybridization process advocated by Caicedo et al. (2018), and remembering that technologies are work tools, technological factors are little explanatory of the changes in the controller's profile: either from technical to managerial, or from managerial to technical.

At this stage, discussions about macro- and micro-level contextual and cultural aspects are particularly relevant to explain the dual effect of technologies. Micro-level factors, such as the result-oriented organizational culture (Hadid & Al-Sayed, 2021), may be related to the use of technological tools in favor of controlling numbers, stimulating the technical profile. Equally, macro-contextual factors may explain this double effect since they impact the routines developed by the controller (Amorim & Silva, 2019), stimulating either profile regardless of the tools the professional uses. An example is the 1929 crisis in the US, which forced the alignment of controllers to the technical profile, regardless of tools they used (Doron et al., 2019).

Bearing in mind this hybrid profile advocated by Paulsson (2012) and Caicedo et al. (2018), considering macro and micro levels for cultural and contextual issues as well as the results discussed in Sections 4.1 and 4.2, it was possible to list the competencies and skills that should be presented by the controller so that he/she can perform his/her functions when a more rigorous technical-supervisory character is demanded and when it occurs in the opposite direction, towards the managerial character. The main competencies and abilities, then, are highlighted as those that gathered the highest number of codes in each of the technical and managerial profiles (Figure 4).

Given the spectrum of profiles that the controller may be required to perform (ter Bogt et al., 2016), two competencies and one skill were identified as the main ones to be presented by the controller so that he/she remains a flexible professional, capable of performing both polar and opposing technical (bean counter) and managerial (business partner) profiles (Caicedo et al., 2018). Thereby, when required to oversee internal processes in search of organizational information compliance, performing functions aimed at technical rigor, the main but not the only competence to be presented by the controller would be TC(a) – **Financial accounting and reporting**, which advocates issues related to economic and financial statements, such as principles and standards application and report preparation and interpretation (IAESB, 2019).

| TecTC (a) – Financial accounting and reporting | ManPS (b) – Interpersonal and communication | ManTC (b) – Management accounting |
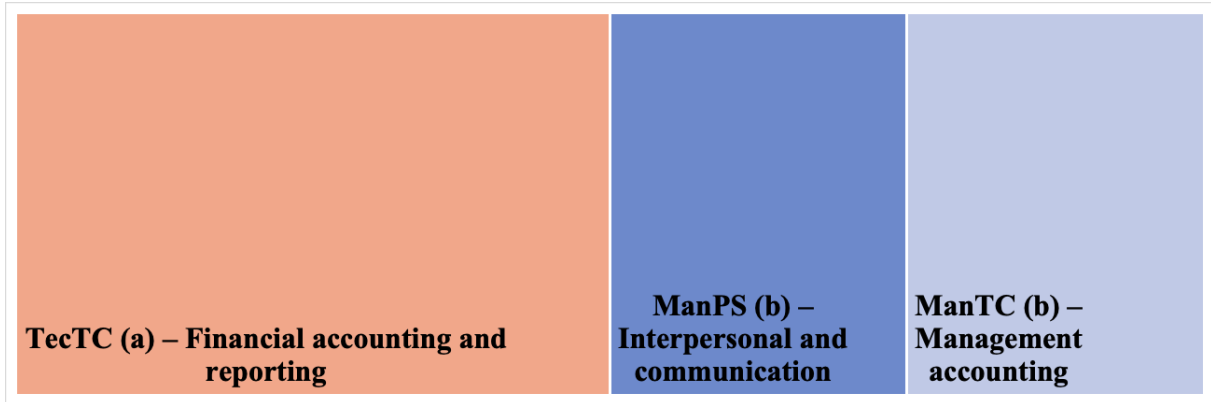
Figure 4 *Hybrid profile competencies and skills tree map*
Source: *Research data.*

When the demand is for a profile closer to the managerial, one notices the hybridization that Paulsson (2012) deals with, in which hard and soft skills are demanded. In this profile, the main competencies and skills to be presented are TC(b) – **Management accounting** and PS(b) – **Interpersonal and communication**. While the TC(b) competency focuses on providing information to assist management, the PS(b) skill presents itself as a "master skill" with the intention of promoting a greater managerial profile and the controller's involvement in other organizational routines (Lantto, 2014). The controller's involvement in financial routines is noted by Horton and Wanderley (2018) when discussing its effects on his/her ability to innovate, be creative, and be open-minded, as advocated by the PS(c) skill – **Personal** (IAESB, 2019), which added up to 27 codes in the managerial profile analyses, as discussed in Section 4.2.

Horton and Wanderley (2018, p. 48) state that "managerial accountants [controllers] in roles that require greater involvement are more predisposed to collective strategic behavior (...), carrying greater potential to impact organizational practices." An example is shown by Janin (2017), who discussed the controllers' contribution in negotiating and approving the budget scheme with the surveillance body. Horton and Wanderley (2018) understand that a balance is needed between controller involvement and independence, although it is difficult to achieve, warn Lambert and Sponem (2012).

A solution to the managerial controller's daily dilemma, which occurs due to his/her proximity to the manager whom he/she may come to supervise (Lambert & Sponem, 2012), may lie in the controller's structure within the organization. As identified by Lantto (2014), a controllership structure that is partly centralizing (focused on technical and supervisory aspects) and another that is decentralized through business unit controllers (BU controllers) (focused on support activities for managers) could solve the conflict between technical and managerial profile attributions. In the case of IFRS adoption that Lantto (2014, p. 353) studied, through communication – PS(b) –, BU controllers contributed to the central controller and the business units aligned demands, ensuring that everyone "thought and spoke the IFRS language." The same movement of centralizing technical and supervisory activities in a central controller, decentralizing managerial functions to BU controllers, could be identified in Goretzki et al. (2013).

Therefore, it can be seen that the managerial profile discussed in the literature, which is qualified as "new" and "contemporary", in fact approaches the hybrid profile advocated by Paulsson (2012) and Caicedo et al. (2018). The managerial profile as well as the technical profile are models and stereotypes, as Andreassen (2020) suggests. This hybrid profile

corroborates ter Bogt et al. (2016) discussions as to the existence of a spectrum of profiles for the professional, where, at the extremes, are the technical bean counter profile at one pole and, at the opposite pole, the managerial business partner profile. As the main competencies and skills to be presented by the controller, who should preserve this hybrid and flexible character advocated by Paulsson (2012) and Caicedo et al. (2018), it was possible to identify the competencies TC(a) – **Financial accounting and reporting** and TC(b) – **Managerial accounting**, together with the skill PS(b) – **Interpersonal and communication**.

5 Concluding Remarks

This study aimed at identifying in the scientific literature the main technical competencies and professional skills associated to the bean counter technical controller and managerial business partner profiles. To achieve this goal, a literature review was conducted to collect data. The sample comprised 11 studies published in the last 10 years in scientific journals classified among the first three quality levels of the ABS ranking. Through content analysis, the sample was deeply reviewed, and the main competencies and skills listed in IES 2 and 3 were identified, which were associated with the technical and managerial controller profiles.

Through the analysis, it was identified that the managerial profile discussed in the literature is similar to the hybrid controller profile studied by Paulsson (2012) and Caicedo et al. (2018). The technical and managerial profiles evoked in the literature are opposite to each other, extremes of a professional profile spectrum that a controller can assume (ter Bogt et al., 2016). Focusing on these extremes, it is possible to identify the main competencies and skills to be presented by the controller in each of these positions and, consequently, which the hybrid controller should present, since a profile closer to one or the other pole may be required due to contextual and cultural factors at macro (country level) (Goretzki et al., 2013) and micro (organizational level) (Hadid & Al-Sayed, 2021). It is noteworthy that there is no "correct" profile, and organizations should look for professionals who are flexible in the business environment and capable of performing both technical and managerial functions.

Associated with the technical profile, competence TC(a) – **Financial accounting and reporting** proved to be the main one, with over 50% of the codes in this profile linked to this category. In the managerial profile, unlike the technical one, one competence and one skill were the main ones: TC(b) – **Managerial accounting**, and PS(b) – **Interpersonal and communication**. Also in the managerial profile, the concentration of codes perceived in the technical was not observed, since the categories GerTC(b) and GerPS(b) concentrated less than 50% of the codes associated with the managerial profile. Then, the hybrid controller should present as the main, but not the only, competencies TC(a), TC(b), and the skill PS(b). Controller selection processes, as the one analyzed by Dobroszek (2020), can take advantage of this finding to better conduct the selection, ensuring professional hiring balanced between the technical controller and the "internal consultant" information provider, considering organizational context and culture.

Horton and Wanderley (2018) pointed out that the controller professional profile is influenced by multiple internal and external organizational factors, so it cannot be pointed to one or another profile as "correct". The controller must be a flexible professional, capable of adjusting his profile between the technical and the managerial (Caicedo et al., 2018). These posture adjustments are particularly associated with contextual and cultural factors, which operate as profile drivers for the controller. Organizations should be attentive to these, seeking to align the company's objectives with the appropriate controller profile.

Among contextual factors, professional-identity issues could be identified (Lambert & Sponem, 2012; Goretzki et al., 2013). As an example, Goretzki et al. (2013) pointed out the role played by class organizations and academia in stimulating a professional alignment of the controller towards the managerial profile. Another contextual factor concerns changes in laws, as occurred in the US in the post-crisis 1929 (Doron et al., 2019), and changes in regulations, such as the adoption of the IFRS standard (Lantto, 2014). Future research dedicated to building a list of the main contextual and cultural factors that influence the controller's professional profile would contribute to the literature on the subject, which remains little explored. Quantitative studies aimed at identifying the cause-consequence relationship between contextual and cultural factors, and the controller's profile would be useful to better understand and identify key factors in this factor vs. profile dynamic.

Along these lines, it was possible to identify, as a macrocultural factor, the legal requirements for certificates in the cases of the US and the UK so that professionals could perform the controller position while such a requirement is not present in Germany (Goretzki et al., 2013). As a microcultural factor, the organization's internal culture itself proved to be relevant. Hadid and Al-Sayed (2021) noticed that in result-oriented organizations, managers demand more numerical information from controllers since management evaluation is based on these numbers. This argument is complemented by Caicedo et al. (2018), who identified, from the interviewees' statements, that controllers focused on quantitative goals have become highly authoritarian. In other words, organizational culture clearly has the potential to influence the controller's professional profile. This also opens up the opportunity for new studies to search for more cultural factors at macro and micro levels, which can be analyzed in terms of their relationship and influence on the professional profile of a controller.

One should observe controller's position dilemma, in which he may be required to supervise, or to work as a partner with the manager (Lambert & Sponem, 2012). The solution may lie in the controller's structure: preserving a main technical-supervisory body and splitting it up into business units through a BU controller (Lambert & Sponem, 2012; Goretzki et al., 2013). Once more, one can perceive a cultural factor influencing the professional profile, since the central unit controllers preserve a technical profile and the unit controllers operate as management assistants, maintaining a managerial profile. This solution identified in the literature contributes to professional practice since it points to a solution to the controller's impasse: to supervise and, at the same time, to work as a partner with the manager.

In relation to the influencing factors on the controller's profile, it is necessary to understand the role of technology in stimulating one profile or another, and in what circumstances, since there are divergent arguments (Lantto, 2014; Andreassen, 2020). Finally, it is important to understand PS(b) – **Interpersonal and communication** in controller profession context. This skill was identified several times linked to other skills and competencies, and in this study, it was perceived as a sort of "master skill" to be expressed by the controller. If acknowledged as such, a readjustment of accounting training course curricula should be evaluated, giving emphasis to communication skills in the training of accounting professionals, including controllers.

Besides the precision of the analyses developed, this study has limitations. By prioritizing the contemporaneity and quality of the reviewed papers, the resulting sample was reduced. Even so, 558 codes were identified and classified into the constructed categories. Also, WoS and Scopus database selection – despite the volume and quality of documents indexed to them – restricted the findings. For that matter, future research contemplating other databases as well as other quality measures would be useful to compare results, confirming or contradicting the findings of this research.

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Appendix – Units of analysis submitted to content analysis

Authors	Year	Title	Objetive of the research
Caicedo, M. H., Martensson, M., & Hallstrom, K. T.	2018	The development of the management accountant's role revisited: An example from the Swedish Social Insurance Agency	To present how the role of operational controllers in a Swedish assurance company was changed to an assistant's function, to support rational teams to accomplish managerial accounting tasks.
Endenich, C., & Trapp, R.	2020	Ethical Implications of Management Accounting and Control: A Systematic Review of the Contributions from the Journal of Business Ethics	To structure and summarize the existing literature on controllership and business ethics published in the journal of Business Ethics.
Goretzki, L., Strauss, E., & Weber, J.	2013	An institutional perspective on the changes in management accountants' professional role	To analyze how actors can stablish institutionalization drivers of a new role for controllers in an organization.
Hadid, W., & Al-Sayed, M.	2021	Management accountants and strategic management accounting: The role of organizational culture and information systems	To contribute to the contingency theory literature on strategic management accounting practices and in the role of controllers.
Hartmann, G. G., & Mass, V. S.	2010	Why Business Unit Comptrollers Create Budget Slack: Involvement in Management, Social Pressure, and Machiavellianism	To investigate the tendency of business unit controllers to create budgets with "slacks".
Horton, K. E., & Wanderley, C. A.	2018	Identity conflict and the paradox of embedded agency in the management accounting profession: Adding a new piece to the theoretical jigsaw	To expand the institutional change literature by exploring the identity conflicts role as agency critical drivers among professional controllers.
Janin, F.	2017	When being a partner means more: The external role of football club management accountants	To explore the extent that each controller can play an active role regarding to know how their organizations interact with the external environment.
Lambert, C., & Sponem, S.	2012	Roles, Authority and Involvement of the Management Accounting Function: A Multiple Case-study Perspective	Not informed.
Lantto, A. M.	2014	Business Involvement in Accounting: A Case Study of International Financial Reporting Standards Adoption and the Work of Accountants	To describe how IFRS expects information processors to take more responsibility for reporting than domestic accounting standards.
Paulsson, G.	2012	The Role of Management Accountants in New Public Management	To discuss controller's role in New Public Management context and the corresponding knowledge and skill requirements.
Victoravich, L. M.	2010	When Do Opportunity Costs Count? The Impact of Vagueness, Project Completion Stage, and Management Accounting Experience	Experimentally test the prediction that managerial accounting experience mitigates the tendency to ignore opportunity costs with respect to two factors: opportunity cost imprecision and project completion stage. Also investigates whether meeting opportunity costs impacts the decision to continue the project.