▪ Advances in Scientific and Applied Accounting, ▪ ISSN 1983-8611 ▪ São Paulo ▪ v.18 n.1 ▪ p. 120-133 ▪ Jan. / April 2025
ASAA
▪ DOI: 10.14392/asaa.2025180105

Adoption and Use of Digital Technologies: Implications for the Role of the Finance Function

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Edited by:
Ana Paula Capuano da Cruz

Abstract

Objective: Understand how digital technologies impact the role of finance function in different companies through a framework adapted from Weber (2011), that analyzes gains in efficiency and effectiveness in activities.
Method: A qualitative methodology was adopted through semi-structured interviews with 15 professionals from the financial function in different organizations. We used content analysis to achieve contextual understanding of the cases through pattern matching coding, which compares empirical data based on their similarities, differences, and frequency.
Results: We identified two key determinants that impact the finance function: the format of digital technologies chosen during its adoption (in-house development or outsourced solutions); and how the finance leadership appropriates the efficiency and effectiveness gains generated by these technologies. We observed that efficiency and effectiveness gains are appropriated according to the priorities set by the leadership of each finance function, meaning digital technologies serve as reinforcing mechanisms for the existing role already played by the area.
Contributions: This study contributes to the literature by showing that digitalization is a heterogeneous phenomenon with different repercussions depending on the context. We highlight the need for accounting professionals to develop both digital competencies and interpersonal skills. For practice, the study provides guidance for decision-making related to the adoption and use of digital technologies.

Keywords: Digital Technologies. Accounting. Automation. Analytics.

How to Cite:

Mancebo, V., & Mucci, D. (2025). Adoption and Use of Digital Technologies: Implications for the Role of the Finance Function. *Advances in Scientific and Applied Accounting*, 18(1), 106–119/120. https://doi.org/10.14392/asaa.2025180105

Submitted: 05 June 2024
Revisions required on: 11 April 2025
Accepted: 26 June 2025

Introduction

Information Technology (IT) has been a driving force for processing accounting information since the emergence of Enterprise Resource Planning (ERP) systems in the 1990s (Rom & Rohde, 2007). From that point, the fields of accounting and IT became increasingly intertwined within organizational environments. In the following decades, increased computing power spurred the adoption of new digital tools, enhancing the potential of the finance function in organizational management (Rieg, 2018).

With the widespread availability and accessibility of digital tools, the relationship between technology, the finance function, and accounting practices has gained recognition in both academic and professional spheres. Specialized consulting reports and professional magazines advocate for the use of digital tools, citing evidence that these technologies enhance organizational competitiveness (Deloitte, 2021; Eklund et al., 2018; Jiles, 2020; Lawson & Hatch, 2020), while academic research focuses on the resulting changes in the function's activities and the role of accounting professionals (Appelbaum et al., 2017; Bhimani & Willcocks, 2014; Möller et al., 2020; Oesterreich et al., 2019).

In the context of digital transformation and the abundance of data, the adoption of digital technologies in the finance function marks the beginning of a new era (Guerreiro et al., 2023). The integration of technology into organizational processes not only fosters reliability, agility, and predictability in activities but also increases the production of actionable insights by accounting information systems (Jiles, 2020; Nielsen, 2018). For that, traditional tasks performed by accounting professionals must adapt to a digital environment, encompassing everything from process redesign to the development of new competencies and skills (Fähndrich, 2023).

However, the current literature presents conflicting evidence about the implications of digitalization for the finance function. On one hand, Andreassen (2020), through a case study, identified that digitalization may reinforce a narrower, specialized role, limiting the function's contribution to technical task execution. On the other hand, other empirical data suggest that digital technologies have the potential to reposition the finance function as a strategic business partner, expanding its scope and organizational influence (Fähndrich & Pedell, 2025; Wanderley & Horton, 2024). Given these divergent findings, it remains unclear how digitalization impacts the role of the finance function so differently and, at times, contradictorily across organizations.

To address the existing gap in the literature, this study draws on interviews conducted across multiple organizational contexts. The objective is to understand how digital technologies influence the role performed by the finance function in different companies. To this end, we propose to investigate this phenomenon using the theoretical framework of Weber (2011), which examines changes in the finance function through improvements in efficiency and effectiveness in activities—in this case, driven by the use of digital technologies.

This study contributes to the academic literature in several ways. First, it addresses conflicting findings about the implications of digitalization for the finance function by recognizing that digitalization is a heterogeneous phenomenon with a contingent and context-specific nature in each organizational setting. Similarly, the study contributes to discussions about the evolution of the finance function and accounting in the present day, particularly in the context of digitalization (Möller et al., 2020). It also reinforces the need for professionals in the field to develop digital competencies alongside social and communication skills to work in increasingly multidisciplinary teams (Wanderley & Horton, 2024; Fahndrick, 2025; Arnaboldi et al., 2017). Finally, applying the theoretical framework of Weber (2011) to a context focused on digital technologies offers a novel perspective on phenomena related to digitalization.

For practice, the study offers contributions to finance professionals by highlighting the impacts of adopting different formats of digital technologies in distinct contexts, as demonstrated by the study. Depending on each context's needs, the discussion in this article supports informed decision-making regarding long-term investments in digital technologies. Similarly, this study provides reflections on how the use of digital technologies should be aligned with the digital strategy, ensuring that efficiency and/or effectiveness gains are appropriated in a manner consistent with the finance function's objectives at that time.

2 Literature Review

2.1 Digital Technologies

The term Digital Technology (DT) is broad, encompassing a range of techniques, software, and tools with diverse applications and objectives (Hanelt et al., 2021). In the context of this research, Digital Technologies refers to any technological tool used in a digital environment that supports the finance function in performing its activities.

Based on this understanding, any software, including sets of instructions, data, or programs used to operate and execute specific tasks on a computer, can be classified as a Digital Technology. According to Aguiar et al. (2021), in the field of accounting, digital technologies include RPA (Robotic Process Automation), AI (Artificial Intelligence), Blockchain, Business Intelligence (BI), IoT (Internet of Things), Big Data, API (Application Program Interface), Cloud Systems, and Chatbots.

The frequent emergence of new technological tools, combined with increased computing power, enables organizations to optimize their handling of digital data, thereby improving decision-making through data exploration (Provost & Fawcett, 2013). In this context, digital environment technological tools are used as a competitive advantage in organizations (Gupta et al., 2020) through data analysis techniques (analytics). Beyond their application in other organizational areas, data analytics has proven to be a critical practice for accounting and the finance function (Araujo et al., 2024; Boerner et al., 2025).

Increasingly, the creation of dedicated digital transformation departments is becoming common (Möller et al., 2020), particularly in large companies with resources to employ specialized professionals or hire external consultants (Oesterreich & Teuteberg, 2019), resulting in the adoption of digital tools that foster multidisciplinary teams and greater collaboration between professionals in a specific field of knowledge—such as accounting—and specialists in technology and related areas—such as programming or data analysis.

2.2 Scope of the Finance Function's Activities

The term "finance function" used in this study emphasizes controllership and accounting. There are different formats that the controllership area can occupy within the organizational structure (Frezzati et al., 2009), as well as its respective scope of activities, which depends on the informational needs of each organization.

Controllership is responsible for supporting management through planning and control, leveraging the performance and maintenance of control systems and distributing information to managers (Oesterreich et al., 2019). This study considers the finance function to encompass the responsibilities of corporate, tax, and managerial accounting, which include serving external stakeholders, such as suppliers, investors, and tax authorities, and internal stakeholders, such as organizational managers and directors.

The scope of the finance function's activities varies by organizational context, but according to Frezzati et al. (2009), it generally includes: standardizing reports; assessing the company's economic performance; supporting risk measurement and management processes; analyzing the economic feasibility of investment projects; advising other organizational areas on financial matters; addressing external audits; preparing financial statements; and fulfilling ancillary tax obligations. Additionally, Fähndrich (2023) considers controllership also responsible for budgeting; strategic planning and scenario forecasting; data management; cost control; profitability improvement, among other activities.

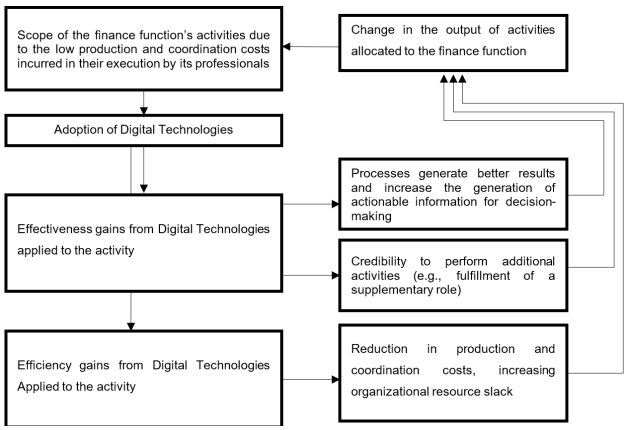
2.3 Theoretical Framework

The work of Weber (2011) argues that improvements in the execution of finance function activities stem from the learning and experience of the professionals performing them. The theoretical framework adopted in this study considers the adoption of digital technologies as a central factor in investigating these improvements, through increased efficiency and effectiveness in processes.

On one hand, increased efficiency in an activity reduces its production and coordination costs, consuming fewer resources in the process. Thus, the adoption of digital technologies will decrease the consumption of other employed resources, generating organizational resource slack. In the context of the finance function, increased efficiency means that organizational resources (professionals' working hours) can be reduced through digital technologies that promote the automation of repetitive tasks.

On the other hand, increased effectiveness in an activity enhances the alignment between the process's objectives and its outcomes, allowing the same applied resources to yield better results. In the context of the finance function, increased effectiveness represents an improvement in the generation of actionable information for managers and internal decision-makers. Figure 1 illustrates the dynamics of the theoretical framework.

Figure 1
Theoretical Framework



Source: Adapted from Weber (2011)

The improvement of individual activities does not guarantee, however, an immediate change in the area's performance. Therefore, we propose to understand how the efficiency and/or effectiveness gains resulting from the application of digital technologies are being leveraged.

3 Methodology

Este estudo adota uma abordagem qualitativa de This study adopts a qualitative, multiple-case approach, collecting data through interviews with CFOs, controllers, managers, and accountants from various organizations. The methodology involves a cross-sectional field study with in-depth data from cases derived from a convenience sample. This approach seeks to balance the breadth of surveys and the depth of a case study (Lillis & Mundy, 2005).

This design is suitable for innovative research areas or those with scarce qualitative evidence, as is the case with the literature on digitalization in accounting and controllership (Möller et al., 2020). The multiple-case approach is present in various studies on digitalization in managerial accounting (Kokina & Blanchette, 2019; Rikhardsson & Dull, 2016; Santos & da Silva, 2023). Through qualitative evidence, it is possible to explore specific details pertinent to the function and the format of digital technologies, allowing individual contexts to be compared based on their similarities and differences.

3.1 Data Collection

The data collected include 15 semi-structured interviews conducted in the second half of 2022, totaling approximately 10 hours of recorded content. The interviews were conducted via a virtual platform, which allowed for audio and video recording and enabled the participation of professionals from different Brazilian regions. Professionals active in the finance function were contacted through LinkedIn and invited to participate in the study (Table 1). The selection criteria for participants included: (i) professional background and prior experience, encompassing roles in accounting and controllership, as well as demonstrating minimal familiarity with digital technologies; (ii) the participant's current company, being at least medium-sized or in industries with high digital maturity, such as financial services and startups.

The interview script comprised three thematic blocks: Interviewee Identification, which focused on the professional's responsibilities, roles, and activities (Graham et al., 2012; Souza et al., 2020); Organizational Context and Finance Function, which sought to identify characteristics of the company's context and the scope of the finance function's activities (Brescovici et al., 2022; Weber, 2011); and finally, Digital Technologies in Activities, which explored the characterization of digital technologies, their respective roles, their production/coordination costs, and the perceived benefits of their use (Aguiar et al., 2021; Kokina & Blanchette, 2019; Weber, 2011). As semi-structured interviews, there was flexibility to focus on different aspects in each case, depending on their relative relevance to the context in question.

A Informed Consent Form was presented to participants to formalize guarantees for them, such as interview anonymity and restricted data access, granted only to the researchers involved in the study. There were no objections regarding the presented Informed Consent Form, which was accepted by all research participants. We considered data collection sufficient upon reaching theoretical saturation—the point at which additional data no longer represented novel observations. The interviews were conducted to achieve contextual understanding of each finance function

and its respective activities, thereby providing meaning and aiding in the interpretation of the collected data.

Table 1 - Data Collection

Participant			Organization		Interview (min)
ID	Role	Education	Size	Industry	
1	CFO	Accounting	> 400	Biotechnology	30
2	CFO	Engineering	> 4,000	Financial Institution	21
3	Specialist	Accounting/ Economics	> 10,000	Distributor	26
4	Controller	Accounting	> 150	Advertising	31
5	Controller	Accounting	> 1,000	Food	22
6	CEO	Law	> 25	Financial Institution	30
7	Specialist	Accounting	> 4,000	Financial Institution	30
8	Supervisor	Accounting	> 500	Vehicle Rental	43
9	Controller	Accounting	> 300	Textile	60
10	Supervisor	Computer Science	> 350	Agribusiness	61
11	Manager	Accounting	> 50,000	Financial Institution	51
12	Manager	Accounting	> 250,000	Industrial	42
13	CFO	Accounting	> 100	Food	62
14	Manager	Accounting	> 10,000	Military	32
15	Manager	Accounting	> 50,000	Financial Institution	50

Source: Authors' Elaboration

3.2 Data Processing

This study relies on audio data as extended discourse—a sequence of spoken words (Saunders et al., 2019)—with a focus on the relevance of mapping keywords and concepts. The interview data were revisited multiple times, both for transcription and content analysis using MaxQDA software. The use of the software facilitated the organization and analysis of the data through the coding process (Hoque et al., 2017).

To categorize the data, we utilized the pattern-matching technique proposed by Yin (2015) during the coding process. The analysis compares transcribed interview data, and when patterns converge in the empirical data, results emerge, and conclusions can be inferred (Yin, 2015). The types of patterns considered in the data analysis include similarities, differences, and frequency of concepts addressed in the interviews (Saldaña, 2009), which enabled the categorization of digital technology formats and their roles in the finance function's activities, and facilitated the analysis of their perceived efficiency and/or effectiveness gains. Pattern matching enhances the study's validity, as it allows for the comparison of observed data with evidence raised by prior studies (Yin, 2015). The available literature was used as a reference for this comparison, particularly case studies related to digitalization in accounting (Andreassen, 2020; Korhonen et al., 2021).

4 Analysis of Results

The data analysis procedure was conducted across three main categories: Utilization of Digital Technologies; Finance Function Activities; and Role of the Finance Function. Through these groupings, we were able to understand how the adoption and use of digital technologies occur in areas with different roles and activities.

The format of digital technology adoption emerged as a significant theme for interviewees, as it determined how the technologies behave in their respective organizational contexts, with some interviewees prioritizing flexibility and agility in tool usage, while others required greater adherence to internal controls and corporate governance.

Digital technologies were analyzed alongside the activities and role of the area within its organizational context, to understand how different types of tools impact the area's operations, as we identified variations in the motivation for use and the types of technologies implemented.

In subsection 4.1, we discuss the format and types of technologies identified. Subsequently, we relate these technologies to the theoretical framework through the analysis of efficiency gains (subsection 4.2) and effectiveness gains (subsection 4.3).

4.1 Formats and Roles of Digital Technologies

Digital technologies applicable to the organizational environment encompass tools with diverse applications in each context (Hanelt et al., 2021). Despite the literature promoting the use of specific tools in managerial accounting, such as Robotic Process Automation and Business Intelligence (Jiles, 2020; Moffitt et al., 2018), the evidence from this study suggests that digital technologies manifest in a wide variety of formats, potentially playing different roles in each context. We identified two primary roles for digital technologies applied to the finance function: automation and analytics. Automation focuses on repetitive, low-complexity processes, while analytics refers to the application of advanced data analysis and statistical modeling techniques to extract actionable insights from datasets.

Table 2 - Roles of Digital Technologies in the Finance Function

Roles of Digital Technologies	Analytics	Automation & Activity Redefinition	Automation & Professional Reallocation
Manifestation	Cases 1, 8, and 15	Cases 1, 2, 7, 8, 9, 11, and 12	Cases 5, 10, and 13

Source: Authors' Elaboration

Table 2 presents the main applications of digital technologies in the finance function, with most interviewees reporting that their areas focus on process automation (10 occurrences). The automation of repetitive processes demonstrates an impact on the scope of activities in two distinct ways: (i) Activity Redefinition, where finance function professionals can dedicate themselves to activities not previously performed or enhance the quality of the existing scope (effectiveness gain); and (ii) Professional Reallocation, where professionals—typically junior—are reassigned to other areas or activities, not necessarily within the finance function (efficiency gain).

The adoption of digital technologies in the finance function adheres to the concept of equifinality—when the same objective can be achieved through different means (Weber, 2023). For example, a single organizational process can be automated in various ways: through an RPA process, an external purpose-specific software, or a BI environment. Similarly, the use of analytics can also manifest through different distinct formats.

Heterogeneity is noted between the format and function of these tools in each context, demonstrating the capacity to achieve similar results in different ways (equifinality). Interviewee 9 highlights that "[...] (the most used tools are) the ERP, a proprietary system created by the company itself, and Excel, which is a fundamental tool for analysis and report generation." Meanwhile, Interviewee 2, a professional at a fintech, comments:

> We are robotizing and automating some repetitive functions, which are naturally candidates for this kind of thing. (...) From a BI perspective, the company basically works with three types, and the idea now is to reduce this, as we've grown in every direction, and you start wanting to seek a bit more synergy to cut costs. (Interviewee 2, CFO, Medium-Sized Financial Institution)

The statement from Interviewee 2 demonstrates that different tools can perform distinct and even conflicting functions within the same organization, and the types of digital technologies used are subject to changes and updates. Interviewee 10 emphasizes the central role of the ERP and its interaction with BI:

> The data source is the ERP used daily to generate invoices and record sales, while the controllership team reads the data extracted from the ERP and makes the necessary adjustments for the management process, which is conducted in the BI environment. (Interviewee 10, Supervisor, Medium-Sized Agribusiness)

The organizations of Interviewees 9 and 10 have dedicated programming teams that develop their own in-house solutions, whether for automation, process improvement, or tools for data analysis and visualization. In the case of Interviewee 9, the proprietary information system allows for a higher degree of customization, and the finance function's activities are enhanced through support from programmers and Information Technology professionals.

Interviewee 12, on the other hand, is in a multinational organization subject to external audits and information systems with multiple security layers, governed by compliance guidelines from the foreign headquarters. In this scenario, the data extracted from the information system undergo minimal interventions, and data processing occurs in environments external to the information system through satellite tools. Preserving the information system against changes is a way to prevent compromising internal controls and maintain the standardization of the information system.

In this scenario, data processing occurs across various environments and software external to the information system (satellite tools):

> (I use) Excel, definitely; PowerPoint; SAP (enterprise management system); VBA (programming language); Mastersaf (for ancillary tax obligations), and various other online applications outside the ERP. (Interviewee 12, Manager, Large Industrial Company)

It was noted that in-house developed solutions typically manifest through modifications made directly to the organizational information system (as in Interviews 9 and 10), often based on suggestions from users (e.g., accounting analysts) to the Information Technology team. For this type of implementation, coordination among various professional groups is necessary to deploy digital tools. Korhonen et al. (2021) state that the automation of work processes requiring technical expertise—such as accounting—demands significant support from IT infrastructure and domain knowledge, as highlighted by Interviewees 9 and 10.

Table 3 shows the relationship between the digital technologies adopted by the interviewees' current companies, divided into two groups: external vendors and in-house development. On one hand, outsourcing software typically includes support from its own developers, offering greater reliability for the tools, but in return, it creates medium- and long-term expenses for acquiring these tools. On the other hand, in-house development of digital tools provides greater customization for organization-specific processes and higher accuracy in meeting demands for process automation or analytics.

Table 3 - Digital Technologies Formats

Digital Technologies Formats	External Vendor			In-house Development		
	Purpose-Specific External Software	Business Intelligence	Robotic Process Automation	Programming Languages (VBA, Python, SQL)	In-House Developed Software	Information System (IS) Modifications
Manifestation	Cases 2, 3, 4, 5, 6, 9, 10, 11, 12	Cases 1, 2, 3, 5, 7, 10, 13, and 15	Cases 1 and 2	Cases 7, 12, and 15	Cases 3, 9, 10, 12, and 14	Cases 1, 2, 3, 8, 9, 10, 14

Source: Authors' Elaboration

Table 3 shows that different digital technologies operate in conjunction, with each context using them for different purposes. The most common formats among technologies sourced from external vendors are purpose-specific external software (9 occurrences) and the use of BI environments (8 occurrences). For in-house developed digital technologies, there are also solutions with similar purposes, such as BI environments and automations through modifications to Information Systems, where both formats—external vendor-originated or in-house developed—can perform comparable roles.

The manifestation of digital technologies through the enhancement and modification of the ERP or the use of satellite systems depends on various factors, such as maintenance costs and security, as highlighted by Interviewee 9.

> Everyone knows very well that working with SAP or Oracle provides security in terms of compliance and governance, but it ends up constraining the process due to those same compliance and governance rules. However, having an in-house software is much more flexible and less costly. (Interviewee 9, Controller, Medium-Sized Textile Industry)

Large companies (Interviewees 2, 5, and 12) or subsidiaries of a larger economic group (Interviewee 4) demonstrated a preference for outsourcing satellite tools (external software), as these organizations have control mechanisms that hinder the customization of the information system (ERP) and professionals have less autonomy to implement process improvements. On the other hand, Interviewees 1, 9, and 10—from medium-sized companies—demonstrated greater freedom to allocate their own resources to develop proprietary tools through ERP customization and the creation of satellite tools integrated into the information system.

4.2 Digital Technologies and Efficiency Gains

Within the scope of this study, effectiveness is understood as the relationship between objectives and the outcomes achieved; and efficiency is the relationship between the resources employed and the outcomes obtained. Thus, an effective process produces better results and addresses its objectives accurately, while an efficient process employs the least amount of resources possible to achieve the same result.

According to Weber (2011), the efficiency gain of an organizational area reduces the production cost (cost involved in executing subtasks) and the coordination cost (cost to coordinate the execution of subtasks and complete an activity) associated with an activity. On the other hand, the effectiveness gain enhances the product developed by the finance function: actionable information for internal decision-makers.

Empirical evidence indicates that efficiency gains are generated by the application of digital technologies linked to process automation. These promote the reduction of production and coordination costs by creating organizational resource slack, which, in turn, can be perceived and leveraged in different ways.

Digital technologies that enable activity automation operate in processes with defined rules, repetitiveness, predictability, and little variation (Lhuer, 2016). Within the scope of the finance function, these activities are related to tax routines, payroll routines, accounts payable, accounts receivable, accounting for routine economic events, and smaller subtasks in organizational processes.

Through the automation of repetitive activities, the time dedicated to their execution (production cost) is reduced. The finance function with automation tools gains resource slack (professionals' time) previously allocated to activities now automated. The way managers perceive and leverage this resource slack will be decisive for generating a change in the role performed by the finance function.

Based on Interviewee 9, the redistribution of activities to lower-level professionals was identified. These professionals begin to perform tasks of greater complexity. For this, it is highlighted that the team's manager demonstrated a leadership style prone to encouraging task delegation:

> I have a very junior team in terms of task distribution, as previously the activities were concentrated with the

> former accountant. He centralized everything for himself and avoided delegating tasks. I'm the opposite; I like to train and guide until the person can do it alone. To avoid work overload, technology comes in to assist with the execution time of activities. (...) Through task redistribution, the person feels better about their work, as they stop being a button-pusher and act more strategically. (Interviewee 9, Controller, Medium-Sized Textile Industry)

The automation of repetitive activities enabled junior-level professionals to perform more complex tasks; however, this was possible through a manager inclined to train and delegate new tasks to their team. In this way, the profile of the team's manager is important for task redistribution as a means of leveraging resource slack.

In this case, the resource slack used for redistributing activities from the junior sphere is leveraged by more experienced professionals or even the finance function's management, as junior professionals tasked with activities begin to perform tasks of greater complexity, which were previously executed by experienced professionals. This finding aligns with the literature that advocates the automation of repetitive activities as a way to create opportunities for professionals open to their own development in more complex work (Jiles, 2020; Moffitt et al., 2018).

It is considered that firms adopting task redistribution as a means of leveraging the resource slack generated by automation (efficiency gain) alter the scope of activities for the entire finance function team, also enabling the performance of new activities or an increase in the quality of existing activities (effectiveness gain).

According to Interviewee 7, without automation tools, the area would lose performance and reduce the quality of managerial reports:

> A task that could take 1 day is done in 1 minute. With this, I can have more analytical daily work, allowing the analyst to use their time more effectively and with higher quality. Generating reports is not enough; it's important that others can understand the report's content (Interviewee 7, Specialist, Medium-Sized Financial Institution).

The second form of leveraging resource slack is through professional reallocation, a phenomenon supported by Interviewees 5, 10, and 13. Lower-level professionals who performed activities were transferred to other areas of the organization or occupied positions that would have been filled by new hires.

Through professional reallocation, the efficiency gains from digital technologies that promote automation is leveraged by reducing the cost of executing activities, as operational roles can be eliminated. In this way, the finance function becomes more efficient through cost reduction, but without impacts on the role assigned to the area. Table 4 highlights the differences between task redistribution and professional reallocation.

Table 4 - Efficiency gains in finance function activities

Automation of Finance Function Activities				
Digital Technologies	Activities	Leveraging Resource Slack	Impacts	Scope of Activities
Robotic Process Automation (RPA), Business Intelligence (BI) environments, information system modifications, purpose-specific external software	Activities with defined rules, repetitiveness, predictability	Redistribution of more complex activities to junior professionals	Reduction in production and coordination costs of activities	Enables the absorption of new activities or improvement of existing activities
		Reallocation of professionals to other functions	Reduction in production costs of activities	No change

Source: Authors' Elaboration

Therefore, the automation of repetitive activities in the finance function generates greater efficiency, which, in turn, can be perceived and leveraged through the redistribution of more complex activities or through the reallocation of professionals to other functions. In this way, the automation of activities is not necessarily related to a strategic role by finance function professionals, as predicted by the literature (Fähndrich, 2023; Jiles, 2020), since the leveraging of automation gains may reflect only in cost reduction without an increase in effectiveness (professional reallocation). For an effectiveness gain through the absorption of new activities or improvement of existing activities, the area may prioritize task redistribution resulting from automation.

4.3 Digital Technologies and Effectiveness Gains

Effectiveness gains for finance function activities enable activities to generate better results, increasing the distribution of actionable information for internal organizational decision-making. In this study, the increase in effectiveness was identified through (i) the use of analytics and (ii) the redistribution of more complex activities as a means of leveraging

the resource slack generated by the automation of repetitive activities, as demonstrated in Table 2.

Interviewee 1 emphasizes the importance of the finance function generating consistent and reliable numbers, as only after a strong performance in the area's traditional responsibilities does the manager gain the confidence to engage in more strategic activities, such as supporting executive decision-making.

Interviewee 10 argues that they operate in a sector and region of high competitiveness, and due to this, the products generated by the finance function are perceived as strategic and highly valued, such that their organization invests resources to ensure the area can continue generating relevant information.

The gains tied to the use of digital technologies in strategic activities are related to the increased capacity to generate relevant information. For the cases of Interviewees 10 and 15, there are specialized teams in data analysis for generating relevant information. In this case, the finance function begins to utilize Data Science professionals—expertise beyond the traditional training of the area's professionals. Through statistical and data analysis techniques, these professionals start to generate information for data-driven decision-making.

This type of benefit is tied to what the Weber (2011) model refers to as an effectiveness gain, as digital technologies associated with strategic activities enhance the results obtained and, consequently, the information used for decision-making.

Based on the proposed theoretical framework, the effectiveness gain can lead to (i) improvement of results in processes, increasing the generation of actionable information for decision-making; or (ii) increased credibility to perform additional activities.

In the case of Interviewee 15, activities related to decision-making are under the responsibility, in part or entirely, of a data science team. This scenario fosters the so-called data-driven decision-making, where data scientists integrate with a knowledge area to analyze data and extract relevant information (van der Voort et al., 2021).

> There is a set of requirements that need to be met before a professional can work in the area. It is much less challenging to train a data scientist in accounting sciences than the other way around; however, the perfect match is the professional who masters both data science and accounting. (Interviewee 15, Manager, Large Financial Institution)

With the presence of data scientists in the structure of the finance function, advanced data analysis becomes possible. The type of information that emerges from this kind of analysis enables the simulation of future scenarios and the generation of information not traditionally produced by accounting professionals, thereby expanding the boundaries of the finance function's role.

However, it is important to emphasize that the expansion of the area's role through the use of data analysis may occur independently of the accountants themselves. In the case of Interviewee 10, the data analysis team consists solely of programmers, such that strategic activities are not entirely under the responsibility of the finance function's professionals. Due to the technical requirements for adopting digital technologies, these tools result in competition among different professional groups within the organization (Andreassen, 2020).

In traditional finance functions - with few activities tied to decision-making support - data visualization and analysis tools (such as Business Intelligence) still prove useful in other ways. Interviewee 1, in turn, states that they use BI for verifying taxes or fiscal incentives, such that the evidence shows that through BI, transactional activities begin to be viewed from a more strategic perspective.

Table 5 - Application of Analytics in the Finance Function

Application of Analytics in the Finance Function			
Digital Technologies	Activities	Demands	Scope of Activities
Business Intelligence (BI) environments, Programming Languages (VBA, Python, SQL), In-House Developed Software, or External Software	Data collection and analysis	Need for involvement of data scientists and programming in the scope of the finance function's activities	Increase in the generation of actionable information for internal decision-makers

Source: Authors' Elaboration

Table 5 demonstrates that the use of analytics in the finance function has different manifestations, with variations ranging from the use of BI, programming languages, to the use of software developed in-house or provided by external developers. However, this type of technology requires data analysis expertise that is not traditionally mastered by finance function professionals (accountants) and demands the involvement of other professionals, such as data scientists.

5 Discussion of Results

The empirical data used in this research demonstrate that the implications of digitalization for the finance function are not uniform. While some interviewees point out that digital technologies are applied to increase operational

efficiency and cost reduction, other cases take a different direction: the adoption and use of technologies foster the effectiveness of activities performed with a focus on value generation.

These findings align with the previous literature, which is sometimes contradictory. While digitalization acts as a catalyst for a finance function with a strategic role (business partnering) (Fähndrich & Pedell, 2025; Wanderley & Horton, 2024), in other scenarios, it also contributes to narrow, technical, and specialized roles (Andreassen, 2020). The results of the current study help to understand how the implications of digitalization for the finance function manifest, depending on its organizational context.

To understand the implications of digitalization for the finance function, we propose mapping elements that guide how digital technologies are incorporated and operationalized in the organizational context. Among these determinants, two analytical axes stand out: (i) the format chosen for the adoption of digital technologies and (ii) the mode of appropriation of the gains generated during the use of these technologies.

5.1 Adoption of Digital Technologies

The analysis of the results points to two main approaches regarding the format of adoption of Digital Technologies: in-house developed technologies or outsourced technologies (external vendors). Both formats have their own characteristics, each with different implications for the finance function.

In line with Table 3, some interviewees note that outsourcing digital technologies provides greater legitimacy with internal control and audit bodies, in addition to facilitating adherence to governance practices for these technologies. Process improvements and updates may be more time-consuming, as they involve users, local developers (the company's own Information Technology team), and external tool developers, and are associated with higher maintenance costs due to the need for licensing, support, and contractual dependency.

In contrast, the adoption of in-house digital technologies is linked to greater flexibility, autonomy, and lower long-term maintenance costs, especially when aligned with agile organizational dynamics. At the same time, this strategy is also perceived as generating greater operational risk, as such tools are subject to unapproved changes and, therefore, require greater effort in coordination and internal control.

In-house digital technologies or those developed by external vendors address different organizational demands. Lean and bold organizations in terms of risk propensity tend to opt for agile and easily adaptable technology formats, including startups (Interviews 1 and 2) and organizations in highly competitive sectors (Interviews 9 and 10). Such interviewees argue that in-house solutions allow greater timeliness to implement new projects.

On the other hand, multinationals (Interview 12) or companies with risk aversion (Interviews 4 and 5) may prefer technology formats that provide credibility and moderation through external vendors that require greater standardization and formality for changes and modification of their tools.

Regardless of the most appropriate format for each organizational context, it is notable that both the adoption and use of these technologies require cooperation and collaboration capacity among different organizational teams, which demands social and communication skills (Fähndrich & Pedell, 2025). This demand is corroborated by the literature even in different contexts, with no contradictions on this matter (Andreassen, 2020; Wanderley & Horton, 2024).

5.2 Use of Digital Technologies

The second axis identified relates to the way the gains provided by Digital Technologies are accommodated and internalized by the finance function, that is, their appropriation. Such appropriation does not occur neutrally but is influenced by the context in which the finance function operates, such that digital technologies act as mechanisms to reinforce the expected role of the finance function.

Based on the analysis of the results and the theoretical framework based on Weber (2011), we identified that the appropriate use of digital technologies provides efficiency and/or effectiveness gains in different ways across each finance function analyzed, and these gains translate into changes in the area's scope of activities. Regarding the repercussions for the performance and role of the finance function, changes are related to how each leadership appropriates the generated gains.

In cases where the area's performance emphasizes operational efficiency and cost rationalization, the gains arising from digitalization tend to be appropriated for increased operational efficiency, with a focus on task automation. This type of appropriation is anchored in the traditional performance of the finance function, focused on record-keeping and technical tasks, but without a strategic role.

These contexts manifested in the data through

subsidiaries of companies with foreign headquarters (Interview 4) or a franchising company (Interview 5), which encourage increased efficiency, but not necessarily effectiveness. This scenario resembles the discussion by Andreassen (2020), which describes how digitalization contributes to accountants with narrow and specialized roles, who compete for organizational space with other professions, such as data scientists, developers, or Information Technology professionals.

On the other hand, in contexts where the finance function envisions a more strategic and business-integrated position, the gains arising from digitalization are appropriated to expand the accountant's role as a business partner (Wanderley & Horton, 2024). In this scenario, digital technologies are perceived as tools capable of adding value through increased effectiveness, manifested by strategic performance alongside other organizational areas (Interview 9) and the executive body (Interview 15).

Based on the perspective of the theoretical framework based on Weber (2011), we identified that the use of digital technologies has the capacity to reduce execution and/or coordination costs for the finance function's activities and provides different forms of efficiency and effectiveness. Once these gains generate organizational resource slack, they are appropriated in different ways by each leadership. In this way, the efficiency and effectiveness gain, by itself, does not act as an agent of change, but reinforces the role previously performed by the finance function's leadership.

6 Conclusion

This study set out to understand how digital technologies influence the role performed by the finance function in different companies. Through a methodological design with multiple interviews, we were able to capture evidence about various organizational contexts. Fifteen professionals from different organizations were interviewed with content analysis via pattern matching that examines similarities and differences considering the theoretical framework based on Weber (2011).

We identified that the repercussions of digitalization on the role of the finance function manifest in two axes: at the moment of adopting digital technologies and during their use. Among the two forms of technology adoption—in-house development or outsourcing solutions through external vendors—each format proves more or less suitable depending on the context of each organization and its needs. At the same time, we found that the use of digital technologies provides efficiency and/or effectiveness gains in various ways. These gains have an impact on the role performed by the finance function in each organization through how managers decide to appropriate these gains, such that digital technologies become mechanisms that reinforce the existing role played by the area. In some firms, digital technologies can encourage a narrower and more technical performance, as observed by Andreassen (2020), or, on different occasions, bring the area and its professionals closer to business decision-making through the business partner role, as discussed by Fähndrich & Pedell (2025).

This study contributes to the academic literature in several ways. First, it offers a response to the contradictory findings about the implications of digitalization for the finance function, by recognizing that digitalization is a heterogeneous phenomenon with a contingent nature, varying according to the context of each company.

Additionally, the study advances discussions about the evolution of the finance function and accounting in the digital era (Möller et al., 2020), particularly by highlighting that this transformation requires not only the development of digital competencies but also social and communication skills on the part of the area's professionals, given the growing involvement in multidisciplinary teams (Arnaboldi et al., 2017; Fähndrich & Pedell, 2025; Wanderley & Horton, 2024). Another significant contribution lies in the application of the theoretical framework of Weber (2011) to a digital technology context, offering a novel perspective on phenomena related to digitalization.

In the practical field, the study provides valuable insights for finance professionals by addressing the impacts of adopting different formats of digital technologies. Depending on each context's needs, the discussion about adopting in-house developed technologies or those contracted from a third party supports informed decision-making regarding long-term investments in digital technologies and which tools are best aligned with the needs of each organization.

Finally, we offer important reflections on how the use of digital technologies should be aligned with the strategy of each finance function within its organization, enabling efficiency and/or effectiveness gains to be appropriated in a manner consistent with the finance function's objectives at each moment.

The current study has limitations that can be addressed by future research. First, the methodological design includes only one manager per case, who has perceptions and biases that do not necessarily reflect the reality of their context. As it involves a qualitative approach, the research findings are generalizable only from the developed theoretical perspective. Finally, the scope of the finance function is heterogeneous, and in this study, it was addressed broadly, making it impossible to

capture the managerial aspect of the finance function.

For future studies, it is suggested to use different methodological models that allow for a more in-depth examination of changes caused by the use of specific digital technologies. Additionally, the impact of digital technologies on the finance function can be observed from the managerial aspect of the area, as defined by the scope outlined by Fähndrich (2023), or even in individual instruments, such as the Performance Management System.

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