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From accounting information to distributed financial intelligence: the road to blockchain

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This comprehensive review examines the evolutionary trajectory of financial information systems from the 1670s to the present day, analyzing how technological innovations have fundamentally transformed financial reporting, auditing practices, and information accessibility. Through a bibliometric and conceptual analysis of seminal literature, this study identifies key technological inflection points including the emergence of structured bookkeeping systems, the institutionalization of financial publicity through the 1867 law, the development of sophisticated financial communication tools, and the recent integration of blockchain technology and data analysis capabilities. The review demonstrates that each technological wave has progressively enhanced data accuracy, real-time reporting capabilities, and audit efficiency while simultaneously introducing new challenges related to data security, regulatory compliance, and technological adoption barriers. Contemporary developments in distributed ledger technology and advanced analytics represent a paradigm shift toward autonomous financial reporting systems with unprecedented transparency and verification capabilities. The findings suggest that future financial information systems will be characterized by increased automation, enhanced predictive analytics, and seamless integration of blockchain-based audit trails. This evolution has profound implications for accounting professionals, regulatory frameworks, and corporate governance structures, necessitating adaptive strategies for stakeholder education and regulatory modernization.

KEYWORDS

financial information, accounting information, blockchain, financial knowledge, information

Introduction

Since the mid-1980s, the concept of "financial communication" has gradually gained currency in Morocco, replacing the more general terminology of "accounting and financial information". While some may see this as a simple evolution in terminology, we consider that this change reflects a significant shift in underlying intentions. Whereas accounting and financial information is often associated with a legal obligation, financial communication embodies a more proactive and strategic approach. It is no longer limited to the simple dissemination of accounting and financial information by companies, particularly those listed on the stock exchange, but raises essential questions as to its status: is it an information tool, or a knowledge-creation tool?

Blockchain technology has caused a significant boom in academic and professional circles, becoming a central topic of discussion in the fields of business process modernization, transparency, privacy and data security. In the field of accounting, this technology can bring revolutionary changes through the automation of record keeping, the immutability of financial records and the transparent exchange of data between all participants, thus strengthening trust and efficiency in accounting practices (Matejić et al., 2025). This revolutionary perspective finds particular resonance in the use of financial information, where blockchain not only secures data but also creates an ecosystem of shared trust among all actors in the financial system.

The 5.0 era has profoundly transformed accounting practices through the integration of advanced technologies, including artificial intelligence (AI), big data and automation. These technological advances improve the efficiency and accuracy of financial data processing and analysis; however, they also pose challenges for compliance with fundamental accounting principles such as transparency, integrity and accountability (Syakur et al., 2025).

In our view, the shift from accounting information to financial communication signals a genuine transformation in corporate objectives. Far from merely providing information, the company is seeking to shape the perception of its stakeholders, and in particular that of its shareholders, whether individual or institutional. This process reflects the gradual development of a management tool geared to managing relations with these stakeholders.

To explore this evolution, we have adopted a historical approach, tracing the origin and development of this management tool. A management tool can be defined as "a formalization of organized action", while David describes it as "a formalized device enabling organized action". Formalization, then, appears to be a central element in the characterization of the management tool.

The historical study of financial communication, although anachronistic to use the term for all the periods analyzed, dates back to the 1,670s. It was at this time that the first accounting media, the historical foundations of modern financial communication, began to be formalized. In order to grasp the changing status of financial communication, our research focused on the transformation of the components of this initial management tool. Gilbert defines a management tool as "any conceptual or material means endowed with structuring properties by which a manager, pursuing certain organizational goals in a given context, implements a management technique". This definition underlines the importance of four elements: the actor (the tool manager), the goal, the support (the management technique) and the environment. Our study analyzes the evolution of these elements over the period studied. Thus, the transition from accounting information to financial communication appears to be the result of the evolution of players, objectives and media. Today, a new stage seems to be taking shape with the introduction of blockchain technology into the process of recording, validating and disseminating financial information. By making data unforgeable, traceable and consultable in real time, blockchain contributes to a renewed form of "financial knowledge",reinforcing transparency and stakeholder confidence. This transformation is so marked that it would now be more appropriate to speak of "financial knowledge" rather than "financial information". The historical approach adopted in this article sheds light on how accounting information has gradually evolved to become a form of financial knowledge. We identify three main phases in this evolution: first, the construction of accounting information, then its evolution towards financial information, and finally its culmination as financial knowledge.

This review employs a bibliometric and conceptual analysis approach to examine the evolution of financial information systems. The methodology encompasses: systematic literature review of peer-reviewed articles and historical documents from 1,670 to 2024, bibliometric analysis using citation patterns and keyword frequency analysis, conceptual mapping of technological developments and their impact on financial reporting practices, and historiographic analysis to identify key inflection points in the evolution of financial information systems.

1. Financial communication: Dissemination of information or knowledge?

To fully grasp the nuances between the notions of information and knowledge, it is essential to distinguish them clearly. We will begin by examining Hayek's approach to these fundamental concepts (A). Then, our research will focus on the transition from accounting information to financial knowledge, requiring a distinction between three essential terms: data, information and knowledge (B). This distinction will then enable us to examine whether financial communication can be considered as a process triggered when an individual seeks to disseminate financial information and/or knowledge (C).

A-Information and knowledge in Hayek's thought

Hayek's work already highlights the ambiguity that can exist between the use of the terms information and knowledge. Hayek uses the word "knowledge" to translate both information and knowledge, which is not without its problems (Hayek, 1986). In fact, the term "knowledge" covers two realities: on the one hand, a flow that circulates between individuals, in other words, information. The second meaning of "knowledge" is knowledge (Hayeka). This refers to a theory of perception which holds that each individual can only have a fragmented perception of his or her environment: according to Hayek, reality does not exist, but simply a certain number of individuals with different perceptions of the same event.

Another dimension of Hayek's work deserves our attention: the concept of the division of knowledge: each individual has his or her own perception, so no one is in a position to access the knowledge of others. Knowledge is divided between individuals, and no single individual is able to coordinate individual knowledge. We therefore need to find another way of coordinating this knowledge. Hayek notes: "Clearly, we have here a problem of the division of knowledge that is relatively analogous to, and at least as important as, the problem of the division of labor".

In our view, the distinction between information and knowledge, and the idea of the division of knowledge, are directly applicable to the history of accounting and, more broadly, of financial communication.

B-Data, information, knowledge

The notions of data, information and knowledge are, in our view, intrinsically linked. Lebraty (IBID) states that "the integration of the concepts of data and knowledge in the study of information seems generally accepted". Drawing on the work of Mélèse (Mélèse, 1995), which highlights "the need to consider information through its complex relationships with the individual, the organization and its environment", Lebraty sets out to model the informational process, i.e., "the various stages in the transformation of the intangible asset that is information".

According to Lebraty, the information process starts with the individual "information user", who is the central actor in the system. Lebraty (Lebraty, 2001) considers that this individual is a decision-maker belonging to an organization, and that as such "he will have to take into account the interests of his organization, interests defined by its leaders". Taking its source in the "real world", the informational process thus leads to the creation of knowledge: after a phase of observation, the real world is transformed into data, which after interpretation becomes information, which in turn, following a mechanism of cognition, becomes new knowledge. According to Lebraty, the concepts of Data, Information and Knowledge can be defined as follows:

- Data: "An observation of reality made using symbols that can be understood by human beings".
- Information: "Information originates from data. The transition from one to the other results from a mechanism of interpretation of the data by a person or a group that will lead to adding meaning to the data".
- Knowledge: "The transition from information to knowledge takes place through a mechanism of information cognition".

According to Lebraty, the information circulation phase is where communication mechanisms emerge. Indeed, Lebraty maintains that "circulating meaning implies that participants reach a level of mutual understanding, which can only be achieved through a process of co-construction". Communication, in Lebraty's sense, is also achieved through the circulation of knowledge. Thus, one of the key aspects of the informational process described by Lebraty is that "communication is a process that is triggered when an individual wishes to circulate information or knowledge".

C-Financial communication as a means of disseminating knowledge

The above considerations suggest that communication comes into play when the individual, as the central actor in the system, seeks to disseminate financial information or knowledge. Roth (Roth, 2004) observes a significant shift from the notion of information to that of knowledge. This shift reflects an evolution in rationality models, from information-based rationality to cognitive rationality (Figure 1), which finds its application in the transformation of financial communication.

Thus, "beyond mere information content, communication now aims to restore the confidence of the company's partners." Roth emphasizes that "the added value of financial communication lies in its ability to transform information, giving it an extra dimension designed to attenuate, modify or amplify the perception that its reception may engender." As a result, today's companies are striving to influence their partners' perceptions of the information they communicate, by integrating a subjective dimension. Fransman (Fransman, 1994) distinguishes this approach by noting that, while information is objective, knowledge is subjective.

Guimard (Gilbert et al., 1998) points out that "while financial information is made up of objective data, the transition to financial communication introduces a field dominated by subjective data". In this sense, financial communication is not limited to objective data alone, but selects certain themes to the detriment of others. This subjectivity implies that financial communication emerges primarily in the context of the circulation of knowledge, rather than simply the transmission of information. It would therefore be more appropriate to speak of financial knowledge rather than financial information in the context of financial communication. This observation is reinforced today by the emergence of technologies such as lockchain, which not only automate the sharing of information in real time, but also guarantee its integrity without depending on a central authority. In this respect, blockchain not only disseminates information, it transforms it into shared, verifiable and contextualized proof. This would lead to a redefinition of the latter as a body of financial knowledge - or, more broadly, corporate knowledge - disseminated at the initiative of companies.

2. From the 1670s to the 1880s: The construction of accounting information.

In this section, we'll look at how the technical support for a management tool was designed with objectives that were not initially geared towards communicating information to third parties. Three essential characteristics are considered here if accounting support is to form a solid basis for financial reporting: the existence of accounting systems that are kept at a constant frequency, apply comparable methods (i.e., on a regular basis) and are sufficiently generalized. We will attempt to understand how, between the 1670s and the 1880s, accounting gradually acquired these three characteristics.

By "regular", we mean two things: on the one hand, bookkeeping did not follow strict rules, and on the other, it was carried out at variable intervals. Not all "businesses" kept books of account, but that does not mean that none of them did. The ordinance of 1,673 seems to represent a first step towards more formalized accounting information. This ordinance had two major impacts: firstly, it made it compulsory to keep accounting books, which became a means of proof in the event of litigation before the courts, with the potential sanction of the death penalty, although the actual effects of this measure were limited. Secondly, the ordinance prompted the publication of books dealing with bookkeeping, written by authors who had contributed to its development, such as Savary (Savary et al., 1675) or Irson (Irson, 1678).

On the other hand, we believe that the 1880s marked the culmination of this process: accounting, although not yet completely generalized, had already become widespread among companies. What's more, at this time, accounting was kept on a regular basis, i.e., with a constant periodicity. This period also symbolizes the end of a series of events that attest to the emergence of accounting as an essential function: first with the

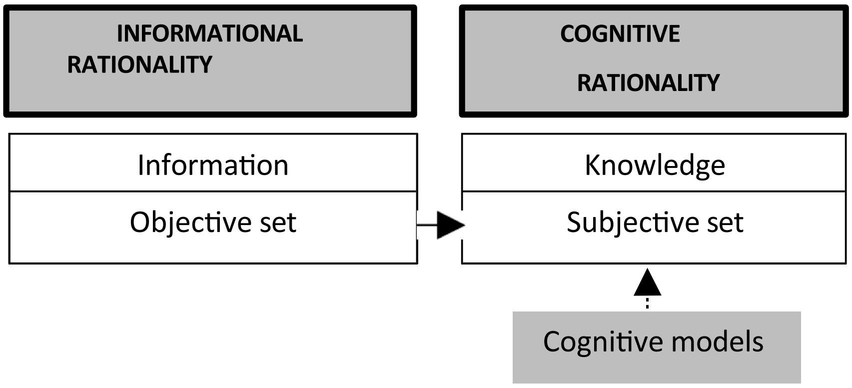

FIGURE 1
From informational rationality to cognitive rationality according to Roth [2004, p.6].

1867 law, which obliged companies wishing to be listed on the stock exchange to disclose accounting information, then with the inclusion of accounting in the school curriculum in 1886. Finally, Léautey and Guilbault's work was recognized, right up until the First World War, as an essential reference in the field. Between these two periods, two major developments took place: on the one hand, accounting began to be kept at more frequent intervals, and on the other, it began to follow established models, thus becoming comparable. The accounting medium existed before 1,673, but it was the émergence of the actor (the bookkeeper) that transformed this medium (A), and it was the evolution of objectives that led to its gradual standardization (B).

This statement deserves to be verified. This ordinance had two major consequences: first, it made the keeping of accounting books mandatory, which became a means of proof in case of litigation before the courts, punishable by death, although the actual effects of this measure were limited.

A-A new character: the bookkeeper

The central role in our analysis is that of the bookkeeper, a key figure in the commercial model of bookkeeping, as described by Barrême (Barrême, 1721) and Lemarchand (Lemarchand, 1993), as opposed to the financial model specific to the royal administration. This character emerges in a notable way at the beginning of the 18th century.

With the rise of big business in the 18th century, the need to account for transactions grew, leading to the emergence of a new function: that of clerk, bookkeeper or account keeper. Although less prestigious than that of the accountant in the Royal Administration, this function was essential. The bookkeeper was a subordinate, but the 18th century marked a period of transition when this function gradually evolved into a true profession. Lemarchand's work illustrates this evolution: while only 14 occurrences of bookkeeping are recorded in the 17th century, this number rises to 58 in the 18th century, with a clear acceleration in the second half of this century.

For bookkeeping to become a profession, it had to employ at least one person full-time. Regular bookkeeping, characteristic of the 18th century, was therefore a central element. The production of an annual inventory, common practice at the time, contributed to this professionalization. Carrière (Carrière and Négociants marseillais au XVIIIème siècle, 1973) provides numerous examples of accounting organization among Marseille merchants, where accounting work was either carried out by the associates themselves, or by trusted clerks in the larger structures. However, specialized bookkeepers recruited for their accounting skills remain rare. Even when such a role did exist, it only covered part of the accounting tasks. It was not until 1775 that the Compagnie de Saint-Gobain officially created the position of bookkeeper, a decision that did not provoke significant debate.

In smaller companies, the boss often performs the accounting tasks himself, implicitly overseeing external relations. In large companies, on the other hand, where a bookkeeper is in place, knowledge is dispersed, echoing Hayek's work on the division of knowledge. The increase in company size, and therefore in the accounting workload, leads associates to delegate some of their prerogatives, while seeking to maintain control over operations. This process gives rise to specific know-how, the first step towards regularization of accounting activity.

Around 1815, a first characteristic of accounting information began to emerge: regular periodicity, which accompanied the institutionalization of the role of bookkeeper. However, a second feature, which would develop in the 19th century, was still lacking: the keeping of accounts according to rules standardized across different companies. In fact, until 1815, although there was one actor and one support, the objectives of bookkeeping still varied considerably from one organization to another, as evidenced by the various purposes of accounting, ranging from dividend distribution at Saint-Gobain until the end of the 18th century to personnel monitoring at Plantin in the 16th century, not to mention the legal obligations arising from the 1,673 ordinance.

B-L 'unification des supports

After 1815, a significant transformation took place: numerous accounting treatises appeared, a proliferation partly attributable to the publishing boom of the 19th century. This period saw the emergence of accounting that extended beyond large-scale structures to more modest entities, as illustrated by the proliferation of agricultural accounting treatises from the 1840s onwards.

The initial aim was to extend the application of accounting to all sectors of the economy: agriculture, commerce, industry, banking, insurance, etc. Accounting began to establish itself as a complex and regular system. Accounting began to establish itself as a complex and regular system, as shown by the case of Saint-Gobain, whose archives reveal elaborate and regular accounting as early as the 1840s. These accounts served a dual purpose: to report to third parties, such as associates, and to enable better internal control.

The decade of the 1860s seems to mark a significant break in this expansion of the accounting field. Accounting publications applied to various sectors multiplied. From 1815 to 1860, works dealing with several accounting systems were rare, as shown by the work of Payen and Mézières (Mézières, 1842). However, from 1860 onwards, new publications followed the pattern of general works, such as those by Barlet (Barlet, 1861), Heudicourt (Heudicourt, 1862) and Beauchery (Beauchery et al., 1864). The latter, vigorously criticizing the simplified accounting methods in use until then, heralded a major turning point in accounting practices from the 1860s onwards. Another factor contributing to the standardization of accounting was the Law of 1867, which, by imposing financial reporting requirements, forced accounting systems to converge in the presentation of accounts.

However, the 1860s marked only the beginning of this trend. In companies more recent than Saint-Gobain, such as Crédit Lyonnais, accounting is characterized by variable presentations from 1 year to the next. From 1878 (the date of the first occurrence of an income statement in the Crédit Lyonnais archives) to 1903, the profit and loss accounts evolved steadily before stabilizing. Other factors seem to accompany or explain this change, such as the introduction of accounting into the school curriculum.

Thus, by the end of the 19th century, the accounting tool had acquired three essential characteristics, enabling it to be used for more than just bookkeeping: regularity in terms of periodicity, consistency in the reconciliation of financial statements, and the widespread dissemination of the accounting model. As a result, this medium became structured around the invention of a specific actor and a precise objective.

It then becomes relevant to examine this movement over nearly two centuries: accounting has established itself as a genuine management tool, with a clearly asserted actor and purpose. The process of dividing up knowledge, leading to the delegation of tasks, is counterbalanced by the affirmation of the ultimate objective: accountability. In the end, this objective leads to a return to the accounting medium itself. Thus, the question of knowledge division seems to be at the heart of the creation of structured accounting information.

3. From the 1860s to the 1960s: Construction of financial information.

In our view, a significant turning point in the information process came in 1867. It was at this time that financial publicity, defined as all regulated financial information, came into being. This emergence marks a crucial stage for several reasons: the introduction of new players such as boards of directors and statutory auditors (A), the appearance of a new medium, namely, the annual report or accounts report (B), and the establishment of a new objective aimed at reducing information asymmetries with a view to protecting savings (C). This change illustrates a significant evolution in the management tool discussed in the previous section.

A- New players enter the scene

According to de Teyssier, the promulgation of the law of 24 July 1867 on joint-stock companies was a decisive step in the evolution of capitalist enterprise (De Teyssier, 1998). He points out that this law, adopted at a time of strong economic expansion when savings played a central role, was explicitly aimed at directing this capital towards the business sector, while protecting savers from any personal liability. This period, marked by a clear distinction between ownership and management, has led to a situation where shareholders, although true owners of the company, have gradually withdrawn from its management. As a result, they now confine themselves to periodically validating major decisions, while day-to-day management is entrusted to their agents - the Board of Directors and the Chairman and CEO - who exercise their functions in a stable manner. What's more, as holders of decision-making power, these representatives are the only ones to have access to all the information concerning the company's operations. Heurteux points out that, under article 34 of the 1867 law, the Board of Directors is required to prepare a report for the shareholders, detailing the company's management during the past financial year. This article also stipulates that companies must publish this report after their Board of Directors meeting (Heurteux, 1961a).

In addition, the legislator has expressed the need for directors to be subject to control by statutory auditors. Thus, "article 32, paragraph 1, of the law of 1867 assigns to the statutory auditors the task of verifying the company's accounts as well as the financial information transmitted by the boards of directors to the shareholders". However, it was only with the decree-laws of 8 August 1935 and 31 August 1937 that "the legislator took the first steps towards guaranteeing the practical effectiveness" of the control exercised by the statutory auditors, with the aim of ensuring their independence.

B- Annual report

At the time, the annual report was a fundamental pillar of financial reporting, although financial newspapers remained an essential means of dissemination. However, despite its widespread use within companies, the financial information conveyed by this medium remained largely descriptive and relatively static. Indeed, companies limit themselves to describing themselves at a given moment, without addressing their future development, prospects or overall strategy. For example, at Saint-Gobain (Author Anonymous, 1953), until 1953, the annual report was essentially reduced to a document on the accounts, comprising only the report of the board of directors, that of the statutory auditors, the balance sheet, the profit and loss account, and the resolutions adopted at the general meeting.

What's more, financial information at the time was not very segmented. The annual report was aimed indiscriminately at individual shareholders, institutional investors and the financial press, which was very active at the time (at the end of the 19th century, almost 200 financial titles were published in Paris) (Author Anonymous, 2025). It was not until the second half of the 20th century that information media began to adapt to different target audiences.

It is also important to note that information is disseminated passively. While the annual report is made available to shareholders at the Annual General Meeting, outside this framework, financial information is only accessible to those who wish to collect it. Companies have not yet taken the initiative to approach investors.

Although perceived as a constraint by companies (this publication generates costs), this obligation represents a significant step forward in the evolution of financial communication as we know it today.

B- The desire to reduce informational asymmetries

It is now appropriate to consider the objectives pursued by the various players involved. It would appear that these objectives emanate mainly from the State. Indeed, if the legislator has made the intervention of two categories of actors mandatory, namely, the board of directors and the statutory auditors, it is with a view to protecting shareholders and guaranteeing a uniform decision-making process for all. In line with the agency theory evoked by Roth (2004), the asymmetry of information between shareholders and management, arising from the different positions held by each, generates costs (monitoring, clearance, opportunity costs) which it is essential to reduce. The legislator therefore intervenes on several occasions to ensure this cost reduction, notably by pronouncing on the effectiveness of the control exercised by the statutory auditors, an issue that remains at the heart of current concerns.

This objective of protecting and informing shareholders was also pursued with the creation, in 1967, of the Commission des Opérations de Bourse (COB). The COB is entrusted by with the mission of ensuring the proper functioning of financial markets, and more specifically, the quality of information provided to shareholders. According to article 1 of the 1967 ordinance, “the Commission des Opérations de Bourse, an independent administrative authority, ensures the protection of savings invested in financial instruments and all other investments giving rise to public offerings, investor information and the smooth operation of financial instrument markets”.

In parallel with the constant efforts of the legislator, some companies have already grasped the crucial importance of clear and precise shareholder information. Going beyond legal obligations, they have developed a new management tool: financial communication.

4. From the 1950s to the present day: Building financial knowledge.

In our view, the cognitive mechanism was integrated into the “informational process” as early as 1949, marking a period when companies began to recognize the crucial importance of maintaining relations with the public. This awareness led to the adoption of increasingly sophisticated means of developing these relationships, resulting in a substantial evolution of the existing management tool. This evolution is characterized by a growing complexity of supports (A), an increased specialization of the actors involved (B), and a redefinition of the objectives pursued (C), while ensuring an improvement in the quality of information (D).

A-The sophistication of media

The annual report remains an essential tool for financial communication, as emphasized by Guimard (Guimard, 1998a) (1998, p. 57). However, unlike in the late 19th century, today’s document is more sophisticated, going beyond mere legal requirements to include the dissemination of voluntary information. It’s worth noting, however, that the trend towards voluntary disclosure is not new. As far back as 1961, Heurteux (Heurteux, 1961b) identified three main categories of annual report. This typology, distinguishing between what we call discrete reports, embellished reports and elaborate reports, can be presented as follows:

- Discretionary report: This first category comprises reports containing only “the accounting records, the auditors’ reports, the text of the resolutions adopted by the meeting, and a summary and discreet report from the Board of Directors”.
- Embellished report: This category of annual reports differs from the previous one “by a more attractive presentation” of the reports. “Numerous photographs reproduce, on several pages, the range of different products manufactured by the company”.
- Elaborate report: This last category includes “the few annual reports which provide, in an extremely clear form, exhaustive information on the progress of corporate affairs”. “Going far beyond legal requirements, some companies strive to inform their shareholders as fully as possible”.

The third category of reports is of particular importance, as it reveals that even at that time, some companies were already going beyond legal disclosure requirements. Although this voluntary information-giving behavior, analyzed by Depoers (Depoers, 2000) (2000), has mainly been observed over the last two decades, it seems that financial communication began to structure itself as soon as companies sought to meet the information needs of the public, in particular shareholders.

Since the early 1950s, other means of communication have also been developed. Companies have actively engaged with their various stakeholders, notably through information meetings held in Paris and the provinces, as well as through written media such as letters to shareholders, shareholder guides, and electronic media (Guimard, 1998a). This proactive approach to voluntary dissemination is no longer confined strictly to financial information, but extends to the transmission of financial knowledge.

Since the 2020s, some companies have been experimenting with the use of blockchain to record financial events, publish automated reports or certify financial data. These “blockchainized” media, still in their infancy, pave the way for continuous, secure and tamper-proof communication. The logic is thus evolving from the transmission of a document to the provision of a stream of data that can be consulted in real time and cannot be forged.

Several organizations have successfully implemented blockchain solutions for financial reporting and auditing. IBM's blockchain platform enables real-time transaction verification and audit trails, while EY (Ernst & Young) has developed blockchain-based audit services that provide continuous monitoring and verification of financial data. For instance, EY's blockchain analyzer allows auditors to verify cryptocurrency transactions and smart contract interactions, significantly reducing audit time while improving accuracy. Similarly, JPMorgan's JPM Coin facilitates instantaneous settlement of payments between institutional clients, demonstrating practical applications of distributed ledger technology in financial operations.

B-Specialization of players

According to Heurteux (1961c), the most sophisticated annual reports are produced either by the internal public relations departments of these companies, by specialized organizations, or by the managers themselves. In this context, the following paragraphs will focus on exploring the emergence and development of public relations as well as specialized organizations.

In France, public relations began to develop in 1949. However, interest in these practices lagged behind that of American companies, which had already integrated public relations into their structures. Indeed, the United States appears to have been the forerunner in this field (Lougovoy and Huisman, 1981). Prost (1967) places the birth of public relations in France after the Second World War. According to him, the first companies to adopt these techniques were "quite naturally, the big American companies with subsidiaries in France, particularly the major oil companies".

It was not until 1949 that we saw what Prost describes as "the true birth of public relations in France". Saint-Gobain set up a public relations department in 1953. Memos reveal that this department was responsible for drafting letters to shareholders, organizing information meetings for the press, particularly the financial press, and for shareholders. In addition, since 1954, the newspaper "La Vie française" has awarded prizes for the best annual reports (Heurteux, 1961d), underlining the importance for companies of carefully drafting their annual reports.

The specialist organizations mentioned are probably financial communications agencies. Articles in the magazines *Médias* and *Stratégies* list the main agencies specializing in this field (Pailley, 1987). With the exception of AGP, "almost a hundred years old" and mainly dedicated to the publication of legal announcements, the first specialized agency, Entep, was founded in 1956. We can deduce that French companies were already using specialized agencies at that time, marking a significant step in the development of public relations in France. Today, more than fifty financial communications agencies are based in Paris.

The profession of financial informant has gradually evolved into a distinct profession, differentiating itself from the more general role of public relations officer. This evolution was marked by the creation, in 1961, of the Société Française des Analystes Financiers (SFAF). According to de Waël (De Waël, 1986), the quality and quantity of information, particularly that intended for financial analysts, have developed considerably. At the same time, new financial communication media rapidly emerged, diversifying according to target audiences.

Karyotis (Karyotis, 1997) also highlights the establishment of the first financial rating agency in 1986, ADEF (Agence d'évaluation financière), which was bought out a few years later by Standard & Poor's, one of the leading American rating agencies, alongside Moody's.

C-The desire to reduce cognitive dissonance

At present, the objective of the management tool developed in this way no longer emanates from the State, but from companies themselves. Disseminating financial information is now a voluntary process for companies. They start communicating to gain the confidence of their partners. In fact, according to Guimard (Guimard, 1998b), "the company makes choices about what it wants to say, what it wants to emphasize or, on the contrary, what it wants to relegate to the background, even though it is providing the information".

Considering that "financial communication differs from information precisely because it is conceived as an opinion lever", Roth (Roth, 2004) highlights the cognitive aspect of financial communication. The author points out that "in order to precisely dose this additional element, which constitutes the lever of opinion, it is first necessary to identify the targets". The more diversified the information disseminated, the more pronounced the cognitive aspect. The adaptation of the medium to different targets, which was absent at the turn of the century, is gradually being implemented by companies. According to Guimard, "this adaptation of the product to the customer's needs is evident right from the start, when the message is developed, and is tailor-made for the target audience". This is why, according to Guimard "listening constantly to your interlocutors is one of the very first roles of the financial informant". The aim is to take into account the partners' value systems, in order to adapt the information they receive. Thus, according to Roth, "taking into account the partners' value system, i.e., its cognitive dimension, leads *de facto* to the act of communication". So, the aim is no longer simply to reduce information asymmetry, but to reduce cognitive dissonance, in order to create trust and complementarity in action, and reduce uncertainty.

The evolution of accounting information towards financial knowledge is now being extended by technological innovations, at the forefront of which is blockchain. By eliminating intermediaries, guaranteeing data authenticity and embedding information in a distributed space, blockchain redefines the conditions for the emergence, validation and sharing of financial knowledge. It's no longer just a question of producing information to interpret it, but of creating an environment of natively reliable data. This shift could well herald a fourth historical phase: that of "artificial intelligence in finance".

Recent scholarly research has provided empirical evidence of blockchain's transformative impact on financial reporting and auditing practices. Danach et al. (2024) (Danach et al., 2024) conducted a comprehensive assessment demonstrating that blockchain technology significantly enhances audit efficiency through automated verification processes and immutable transaction records. Their study reveals that organizations implementing blockchain-based financial reporting systems experience a 40% reduction in audit completion time while achieving 95% improvement in data integrity verification. This research reinforces the theoretical framework presented earlier, showing that distributed ledger technology not only addresses traditional challenges of financial transparency but also establishes new standards for real-time auditability and stakeholder confidence.

D- Improving the quality of financial information

In line with the technological developments that have marked the transformation of financial information, data analysis, like blockchain technology, plays an active role in improving its quality. By conducting in-depth analysis and drawing conclusions on any anomalies, these tools offer more accurate, reliable and contextualized information on customers and their Operations. In an environment characterized by growing complexity and exponential data volume, managers cannot inspect each transaction individually; data analysis, enhanced by blockchain, can filter out those that raise questions. This approach is not limited to using financial data to identify anomalies; it also draws on non-financial data, contributing to a more holistic and integrated view of the company's economic environment. The company's entire environment, activity and structure are fully taken into account in this analysis. As the volume and diversity of information increases, the precision of results and the relevance of analytical models improve, facilitating the early identification of weak signals. This approach helps professionals to gain a deeper and better understanding of the results of analysis, and contributes to a finer reading of the overall context in which the company operates.

With this in mind, blockchain not only guarantees data integrity and traceability: it also promotes a substantial improvement in the qualitative dimensions of financial information. Improving quality is therefore not limited solely to the intrinsic aspects of data reliability orconsistency: blockchain speeds up verification processes, particularly audits, making them both more efficient and less costly.

Conclusion

The evolution of financial reporting cannot be understood without a dynamic reading of the technological, economic and institutional transformations that have shaped it over time. Once centered on traditional accounting and periodic financial statements, financial reporting has gradually opened up to new challenges: those of responsiveness, transparency, reliability and decision-making usefulness. This evolution has accelerated with the rise of digital technology, the explosion in data volumes and the need to anticipate in an environment that has become highly uncertain.

In this context, the integration of data analysis marked a first major turning point. It has enabled us to enrich the mechanisms for interpreting information, to better detect anomalies, to cross-reference financial and non-financial dimensions, and to produce finer, more contextualized and therefore more relevant readings of the company's economic reality. Analysis is no longer simply descriptive or retrospective: it becomes predictive, proactive and, above all, at the service of strategic decision-making.

But it's with the emergence of blockchain that a more profound paradigm shift is taking place. By providing new guarantees of traceability, immutability and decentralized validation, this technology is revolutionizing the very foundations of trust in financial information. It gives financial information a dimension of security, transparency and autonomy that goes beyond traditional tools. By eliminating the risk of manipulation, speeding up the exchange of information and automating operations via smart contracts, blockchain not only corrects the flaws in existing systems, it also offers a new model for the circulation and management of information in its many dimensions.

Improving the quality of financial information is no longer simply a matter of compliance with standards or accounting requirements. It has become a global process, based on data mastery, technological innovation and the ability to produce useful, comprehensible, reactive and secure information. This dynamic is part of a wider transformation of financial practices, in which technology plays the role of architect of trust and catalyst of performance.

This observation paves the way for more in-depth reflection on the conditions for implementing these technologies, the challenges of regulation, organizational resistance, but also the opportunities they offer for rewarding information governance in an integrated and forward-looking logic. This article has explored these adoption challenges and demonstrated how emerging technologies continue to reshape financial information systems while creating new paradigms for transparency, efficiency, and stakeholder engagement.

Author contributions

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