Accounting in a challenging world

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Accounting has always been a fundamental tool for managing the complexities of the business world. In mercantile Italy of the 1400s, when modern double-entry bookkeeping was developed, the need to manage business partnership arrangements led to the definition of methods and tools for recording business events and calculating profits. Double-entry bookkeeping had responded to the specific needs of a business world characterized by the spread of new payment systems, the role of external lenders, the internationalization of trades, and the specialization of roles within the value chain. Luca Pacioli gathered the knowledge in accounting that had gradually consolidated, defining its method and tools in his famous book.

The world has kept changing over the centuries, and accounting has sought to evolve and respond to the new needs emerging at different times. As a response to the increased complexity caused by the rise of the industrial system (Fleischman and Tyson, 2006), there is a gradual separation between accounting for internal management purposes and accounting for external use. Later, with the development of large American companies (Chandler, 1962), we see the emergence of the fundamental characteristics of management accounting, from standard costs to variance analysis, and the development of planning and programming tools (Sloan, 1964).

Similarly, management accounting responded to the changing competitive environment and the spread of new models of industrial production at the end of the last century (Johnson and Kaplan, 1987), with the performance movement (Eccles, 1991) and the shift in focus to the non-financial dimension incorporating a strategic perspective (Bergamin Barbato, 1991; Kaplan and Norton,1992). Along with that, globalization phenomena were pushing for an internationalization of accounting, whose rules were gradually becoming supranational (Nobes, 2014).

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Nowadays, the arena in which significant changes occur has widened, crossing the enterprise's borders involving the whole world community. The enterprise must act within a context of significant transformations forced to react and adapt. Technological evolution, particularly digitalization, potentially disrupts the management accounting domain by changing the organization's landscape and affecting accounting and the role of the controller and overall financial management (Möller, Schäfer, and Verbeeten, 2020). Digitization changes the role and activities of controllers by significantly affecting the skills required, radically changing the role of repetitive and standardized tasks (Pargmann, Riebenbauerm, Flick-Holtsch, and Berding, 2023).

Of great importance is also the impact of the wide availability of data and information on the processes of business performance management and evaluation (Agostini, Chiucchi, and Giuliani, 2020). The paper by Culasso, Giacosa, Crocco, and Giordino contributes to this theme, investigating how computer information systems have transformed the management accountant profession. The authors draw on hundreds of job postings featuring management accounting positions across Europe to identify a set of critical competencies and tasks employers require for modern-day accountants. Applying topic modeling, a statistical model for discovering hidden semantic assemblies in textual data, the authors assess the role of reporting in daily tasks, the alignment between employer expectations and accounting education, and the importance of IT literacy among the competencies of modern accountants. The study gives management accountants a comprehensive overview of expected competencies and tasks. It also offers educators and policymakers insights into the current job market, aiding them in refining educational and professional programs. Also dealing with the issue of technological transformation, Berardi and Mook investigate how new technologies may help Social Economy Organizations (SEOs) fulfill their Social Impact Assessment (SIA) needs. With a systematic literature review, the authors analyze the intersection of SIA and digitalization within the context of SEOs. The paper discusses the state of the art of research in this field: the paper identifies emerging themes and trends in this area and proposes suggestions for further research.

At the same time, the natural environment poses the challenge of sustainability to businesses and Society, forcing companies to revise their performance measurement models by incorporating environmental externalities directly into the evaluation of results. The United Nations' Sustainable Development Goals (SDGs) definition has structured a shared vision of the multidimensional notion of sustainability. The issue of sustainability has been expanded to include the social dimensions and, on the other hand, setting a working agenda the enterprises must follow. The impact on performance reporting, measurement, and evaluation systems is substantial (Bebbington and Unerman, 2020). The conceptual framework defined by SDGs has generated a great deal of attention from scholars who see it as a clear reference for constructing performance measurement and assessment systems. Mio and Oranges Cezarino investigate the skills and competencies accountants require to successfully deal with Sustainable Development Goals (SDGs) disclosure and reporting. Employing the Delphi method (a qualitative research technique that seeks a consensus regarding a specific definition or concept), the authors analyze the answers of a sample of experts composed of senior accountants of Brazilian municipalities involved in projects related to SDGs. Results are presented following a model that describes the competencies required according to four variables: Knowledge, Skills, Attitudes, and Purposes. For each variable, the required competencies are discussed. Besides identifying required competencies, the authors propose an educational model for public accountants that can contribute to improving SDG performance, disclosure, and reporting.

Within the same domain, but with a clear focus on Data Science and Artificial Intelligence as enabling technologies, Demartini and Pagliei aim to examine the quality and reliability of ESG data provided by companies and the accuracy of ESG ratings produced by sustainability rating agencies (SRAs). Through a systematic literature review and bibliometric analysis, the authors identify eight relevant clusters of contributions concerning the source used to produce ESG information, the message's destination (e.g., responsible investors, financial providers), and the encoding/decoding process of ESG information.

The research then focuses on the relationship between ESG ratings and Artificial Intelligence (AI). Traditionally, ESG ratings were exclusively produced by human research analysts based on companies' disclosures and other released documents. However, the recent development of AI led to a novel type of ESG rating provider capable of collecting and processing a vast amount of data from internet sources. The integration of AI can enable efficient analysis of extensive data, holding crucial information for ESG investing. While computer algorithms can process data effectively, managers and investors need to understand the potential and limitations of AI. Additionally, scholars are urged to propose advancements for research in these areas.

Significant changes require complex and articulated responses, and integrated reporting (Dumay, Bernardi, Guthrie, and Demartini, 2016) represents a critical avenue to try to reinforce the role of reporting in providing a fair and complete view of business performance. Galeotti, Lombardi, Principale, and Sura examine the effects of the EU/2014/95 directive on corporate reporting practices and communication. The directive imposed to integrate financial and non-financial aspects like environmental, social, and governance (ESG) issues in corporate reporting systems. Building on case studies, the paper investigates how integrated data management relates to corporate reporting and whether the Directive has influenced the adoption of integrated systems. Results show that the Directive's impact on corporate control and data management varies based on companies' prior sustainability reporting experience. The results show that integrated data management is necessary to collect and process qualitative and quantitative information. Moreover, the study provides evidence of the internal effects of non-financial reporting regulation. The study highlights the importance of an integrated approach in helping companies identify and manage risks, improve their decision-making processes, and enhance their reputation and stakeholder trust.

Changes appear interrelated among each other in a context of mutually interrelated effects. As summarized well with the so-called "butterfly effect" (Lorenz, 1963), connections within the ecosystem are unpredictable and small changes can be amplified. The environmental challenge calls for an energy crisis, which is also fueled by major geopolitical upheavals. Policymakers and regulators play an essential role in a market characterized by a low-price elasticity of demand (von Homeyer, Oberthür, and Jordan, 2021). Aliu investigates whether electric and gas utilities use regulatory information (i.e., the information the regulatory body asks all utilities to provide regularly) for their internal decision-making and control processes. The paper builds on data from questionnaires and complementary interviews with Italian electric and gas utilities. Findings reveal different behaviors according to the size and operating activity of the firms. On the one hand, large utilities and energy distributors use regulatory information for performance monitoring, benchmarking analysis, and investment prioritization strategies. On the other hand, small utilities and energy traders produce the information solely for regulatory compliance and do not use it in their day-to-day activities. The study also finds that coercive pressure from the regulatory environment affected the MCS of energy utilities either radically or incrementally, underlining the role of ARERA (the Italian market regulator) as a driver for controlling and improving performance.

As an example of connections between different phenomena, health crises, propelled by globalization and aging society, pose a significant challenge that, as demonstrated by the SARS-COV-2 pandemic, can rapidly overwhelm the entire planet. Paoloni, Manzo, and Procacci address the issue of digitalization of Small and Medium-sized Enterprises (SMEs) and how the COVID-19 pandemic affected their digitalization process. The authors employ a twofold approach to address this issue. First, with a structured literature review, they analyze the extant literature on the effects of the COVID-19 pandemic on the digitalization process of SMEs. Second, focusing on Italy, where the digital transition is constrained by the structural limits of its conservative entrepreneurial environment, the authors analyze two case studies to understand (1) the needs arising in different firms to address the pandemic and (2) how the digitalization process evolves in these circumstances. Results show that the pandemic crisis positively impacted the digitalization of SMEs, inducing a more intense use of available technologies and acquiring new technological tools. The needs arising from the COVID-19 pandemic refer to flexibility, security, and connectivity. The study shows that the digitalization process followed to address these needs depends on the business model adopted, such that companies active in the same sector may show differing development needs and digitalization processes.

In these change processes, the issue of scarce resources is more critical. Accounting must enforce its role in driving public choices in a world increasingly crowded with an aging population.

Candio deals with the relationship between cost-effectiveness and accounting. Cost-effectiveness refers to the achievement of optimal allocation of limited resources, and its ultimate purpose is to support rational decision-making. While cost-effectiveness principles are fundamental to financial reporting and managerial accounting frameworks, semantic issues and norms can hinder their explicit characterization within accounting literature.

The review by Candio reveals that Cost-effectiveness principles have been invoked in both financial and managerial accounting research. However, only a limited number of empirical studies have quantified evidence of cost-effectiveness and formally applied its analytical methods. The article highlights a research gap that pertains to the need for interdisciplinary frameworks and analytical methods capable of formally integrating the concept of cost-effectiveness and cost-benefit analyses into accounting research.

Finally, Cardoni, Parisi, and Hiebl remind us that the development of theory and the evolution of managerial practices do not always follow parallel paths. Their structured literature review provides an up-to-date overview of the existing scholarly literature concerning the implementation phase of management accounting in Small and Medium-sized Enterprises (SMEs). The authors highlight a decline in the publication frequency of theoretical contributions related to management accounting implementation. The review highlights that over the past fifteen years, the structural gap between theoretical concepts and practical application in implementing management accounting in SMEs seems to have widened. As a result, smaller companies lack practical academic guidance and proposals to address the emerging challenges in management control. These results underscore the need for more robust academic support to assist SMEs in navigating the evolving landscape of management accounting.

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