
Editorial

The Future of Accounting

Katrin Hummel and Patricia Ruffing-Straube

Accounting has a long-standing tradition of adapting to the evolving needs of businesses. From the first counting of goods in Mesopotamia and ancient Egypt, accounting practices have accompanied developments in trade across the globe (Frankopan, 2023). The first firm evidence of double-entry bookkeeping can most likely be traced back to a Florentine bank in 1211 according to the evidence presented in Sangster (2016). Initially developed for banks, the system was later adopted by merchants to record more complex transactions and help them meet their growing demand for credit (Sangster, 2016). This invention of double-entry bookkeeping is most prominently described in Luca Pacioli's *Particularis de Computis et Scripturis, In Summa de Arithmetica Geometria Proportioni et Proportionalita* (Pacioli, 1494). Another major development in accounting arose during the industrial revolution, which elicited the development of sophisticated cost accounting methods (Fleischman & Tyson, 1993; Johnson, 1981). As business transitioned to large-scale manufacturing, the accurate assessment and allocation of production costs became essential for managing and ensuring a company's profitability (AK Internes Rechnungswesen, 2017; Becker et al., 2021; Kaplan, 1984; Pfaff & Troßmann, 2016).

Today, we are once again at a pivotal stage when businesses need to adapt to radical changes in the world. These global radical changes encompass environmental, economic and societal challenges. Researchers refer to the concept of *grand societal challenges* to emphasize the need for coordinated and collaborative effort from multiple and diverse stakeholders to address these global problems (George et al., 2016). Arguably, the most universally recognized responses to grand societal challenges are the United Nations (UN) Sustainable Development Goals (SDGs): 17 goals and 169 targets set by 193 countries in 2015 to be achieved by 2030. These SDGs are now the most widely acknowledged responses to the grand societal challenges of our time (George et al., 2016). Achieving these goals is a multifaceted endeavor intricately tied to the actions of multiple groups of actors (Belal et al., 2013; George et al., 2016; Guthrie & Dumay, 2021), such as nonfinancial and financial companies, governments, standard setters, non-governmental organizations (NGOs), and the media. Accounting can play an important role by providing the transparency, language, and metrics necessary to coordinate the actions of these actors. However, such a role requires an adaptation of accounting to the needs of various stakeholders (Christensen et al., 2021; Fülhbier & Sellhorn, 2023).

As early as 1976, Anthony Hopwood emphasized that accounting plays “a vital role in the development of modern society” (Hopwood, 1976, p. 1) as a “formal means of collecting, analysing and communicating information on financial activities and performance of all forms of organizations” (Hopwood, 1976, p. 1). In a later speech, he highlighted the continuous evolution of accounting to accompany societal developments and the consequent need for accounting research to address these developments (Hopwood, 2007). Accounting links to economics and society through the provision of information

in the form of measures and qualitative disclosures and through incentives that arise from the information that the accounting system provides to its stakeholders. This role of accounting is often referred to as accounting being “the language of business,” and it was first described as such by Warren Buffett (Buffett, 1986). The quote underscores accounting’s essential role in communicating information about businesses to a wider audience. Through corporate external reporting, the accounting system provides a report on the financial performance and profitability of the firm. Stakeholders then decide on their own actions based on the reported information. These actual and anticipated stakeholder actions create reporting incentives that shape firms’ disclosures, which in turn have positive or negative implications on economic and social outcomes (Ewert & Wagenhofer, 2012; Leuz & Wysocki, 2016). Similar arguments can be advanced for internal reporting. Managers may tailor accounting information to the specific needs of stakeholders (Becker et al., 2021; Labro, 2019). Again, these incentives shape the information from the accounting system and therefore affect overall outcomes. Considering recent societal developments, accounting will have to show its ability to continuously map new and transforming business activities and their impacts onto corporate accounts. Achieving this goal will require substantial efforts from the accounting profession in the years to come.

To address the societal challenges outlined in the SDGs, accounting needs to facilitate the integration of sustainability considerations into corporate decision making. Initial efforts in the 1980s to consider environmental externalities (for an overview see Coenenberg & Kleine-Doecke, 1981; Schaltegger & Burritt, 2000) never gained widespread acceptance in accounting practices. Over time, companies gradually began adding sustainability information to their external reporting practices (Lin et al., 2024; Stolyow & Paugam, 2018). A significant milestone in this development was the establishment of the Global Reporting Initiative (GRI) following the adoption of the Kyoto Protocol in 1997. The GRI provided the first uniform set of sustainability reporting guidelines in 2001, and these were not renamed standards until 2016. However, these early sustainability reporting practices were often disconnected from both internal management accounting practices and external financial reporting. Typically, they were treated as separate disclosures rather than being integrated into financial reporting and often lacked the quality needed to provide a comprehensive, balanced and objective overview of a company’s sustainability performance (Michelon et al., 2022). With the Paris Agreement in 2015 and the adoption of the SDGs in the same year, sustainability considerations gained international momentum, which resulted in a stark increase in corporate sustainability reporting worldwide. At the same time, a growing trend towards sustainability reporting mandates emerged worldwide (e.g., Chalmers et al., 2023). While these mandates have the potential to substantially improve the quality of sustainability reporting in the future, their effectiveness depends on their specific design and implementation. Moreover, the increasing materialization of physical and transitional risks arising from climate change requires the consideration of climate-related risks and opportunities by decision-makers in businesses. Consequently, accounting now has an imperative to provide information on these topics.

The European Union (EU) is at the forefront of these developments with its stated goal of becoming the first carbon-neutral continent by 2050 through the European Green Deal. This includes a large body of regulatory initiatives, among which the adoption of several sustainability-related reporting mandates (for an overview see Hummel & Jobst 2024) and the introduction of a first set of EU-wide mandatory European Sustainability Reporting

Standards (ESRS) have the most notable implications for the future of accounting. In Switzerland, the Federal Council has opened the consultation process for stricter rules on sustainability reporting, including compliance with the ESRS or equivalent standards.¹

The main purpose of these developments in external sustainability reporting obligations is to force firms to consider their impacts and dependencies on the environment and society and thus enlarge their decision frameworks to incorporate broader accountability. Ultimately, this fostering of decision-useful sustainability information will support the development of solutions for the grand societal challenges. This regulatory framing requires a substantial integration of internal and external accounting practices and measurement schemes that allow progress on sustainability to be tracked. Companies need to establish adequate systems, processes, and structures to ensure that sustainability information is reliable and accurate. Setting up reliable data systems is challenging because the information required pertains to topics that are not directly related to traditional financial accounting. In terms of accounting systems for sustainability, the academic literature has only recently begun to offer specific approaches, albeit with a focus on carbon emissions. These expand on the existing greenhouse gas protocol (Kaplan & Ramanna, 2021; Reichelstein, 2024) but are far from being implemented at scale. Finally, the integration of internal and external accounting practices and of sustainability-related and financial topics demands more holistic conceptions of value that include the value created for all stakeholders (see for instance Freeman, 1984; Porter & Kramer, 2011; Schoenmaker & Schamrade, 2019).

At the same time, we are witnessing a significant backlash against these developments in certain countries and among certain stakeholder groups. These groups advocate for less stringent reporting requirements due to concerns over administrative burdens and costs, which these groups argue hamper the economic competitiveness of their companies or countries. In the EU, this debate has been stimulated by “The Future of European Competitiveness – A Competitiveness Strategy for Europe,” a report authored by Mario Draghi that was published in September 2024. The report calls for significant simplifications of the EU’s regulatory framework to reduce bureaucracy and thus foster a more conducive environment for business growth and innovation. In February 2025, the European Commission proposed two legislative packages (Omnibus I and Omnibus II) aimed at simplifying sustainability reporting regulations (European Commission, 2025). It is precisely in this context that accounting research is needed to substantiate the debate by assessing the potential positive and negative consequences of sustainability reporting mandates and their impact on business practices (Christensen et al., 2021).

Another important societal development that affects businesses and, consequently, accounting, is the increasing digitization of society. Digitization enables businesses to streamline their processes and become more efficient. Furthermore, digitization has substantially changed the way we communicate and interact with each other and thus has given rise to new business models and contributed substantially to globalization. However, rapid developments in digital transformation also places firms at risk of missing out on disruptive technologies, which may result in decreasing market shares. The recent surge in the availability of artificial intelligence (AI) solutions has already strongly affected businesses and accounting and is likely to continue to do so in the future. The role of AI

1 See the press release of the Federal Council on June, 26th, 2024: <https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen.msg-id-101585.html>.

in this sphere is twofold: First, it can help firms to streamline their processes (Davenport et al., 2023; Estep et al., 2024; Sundström, 2024), and second, it helps investors process information (Kim et al., 2024a, 2024b). The simultaneous development of sustainability and digitization presents an opportunity to leverage synergies through a combined approach known as “twin transformation” (EY & Fraunhofer FIT, 2023). On the one hand, digitization, offers the potential to overcome current challenges related to the availability, transparency, and integrity of sustainability data (de Villiers et al., 2021; de Villiers et al., 2023; Tiwari & Khan, 2020). On the other hand, a sustainable transformation can provide the framework for and purpose of digitization (EY & Fraunhofer FIT, 2023). Aligning digital initiatives with sustainability objectives can ensure that technological advancements contribute to broader sustainability-related goals. Again, accounting research is needed to better understand both the opportunities and risks arising from the use of these technologies.

This special issue focuses on the challenges that result from the need to run businesses more sustainably for the sake of the environment and of society and highlights the role of accounting information in meeting this need. Furthermore, the increasing role of digitization in the economy and society is addressed within this issue. The first four articles focus on the role of incentives within firms that result in real effects. In particular, they look into the real effects of compensation from both theoretical and empirical perspectives.

The first article by Ewert and Wagenhofer deals with the optimal selection of metrics for environmental, social and governance (ESG) related compensation. Based on classical agency models, the authors highlight that ESG metrics used in compensation contracts need to be designed to induce managerial effort. Agency theory also indicates that ESG metrics need to be precisely measurable to provide an incentive to management. Furthermore, these authors argue that weighting any metric within compensation contracts requires careful consideration of its relation to other metrics that are used within the compensation contract to ensure that each metric provides a differentiated incentive for the manager. If metrics all result in the same activities chosen by management, the focus should be on one of the metrics and not on all of them. This interrelation between targets may result in counterintuitive metrics being used within compensation contracts to align the incentives of the management effectively with the principal’s objective.

In the second article, Braun, Göx, Niggemann, and Schäfer analyze whether the public detection of managerial actions in the sustainability domain affects the optimal incentives that a principal can provide to a manager. Their model involves a management that is eager to signal its “green” ability to the market and can influence this signal either through greenwashing or through abatement actions. The manager may receive incentives to greenwash if abatement actions are more likely to be publicly detectable and vice versa. The results highlight the importance of carefully designing incentives schemes to induce managerial engagement in sustainable activities even in light of a market for managers that rewards “green” ability.

The third article by Eigruber, Haider, Pfeiffer, and Schmid describes recent trends and developments in executive compensation contracts in the largest public firms in Germany (DAX 40) from 2020 to 2023. Their focus is on ESG-linked compensation, clawback provisions, say-on-pay and relative performance evaluation. These elements are assumed to best describe current developments in corporate governance and link compensation to trends that arise from societal challenges. ESG-linked compensation is frequently used

in variable compensation. The same applies to clawback provisions, say-on-pay opportunities and relative performance evaluation. The paper supports the notion that compensation structures adapt to current market demands for corporate governance that arise from societal challenges.

The fourth article focuses on action controls, in particular behavioral constraints, pre-action reviews, action accountability, and redundancy. Weissenberger and Tica examine the concept of control system tightness and focus on action controls. The authors used a qualitative case study approach and conducted 15 semi-structured interviews at a German insurance company, an industry that is typically characterized by a tightly regulated environment. Findings from the interviews enhance our theoretical understanding of the attributes of tight action controls. Moreover, these findings suggest that employees perceive tight action controls less negatively than traditionally depicted in the literature. The article thus contributes to the theory of control system tightness by expanding its scope to action controls.

In the next paper, the focus shifts from the analysis of managerial incentives to the incentives for investors and the role of accounting information in capital markets in light of societal challenges. Wagner elaborates in the fifth article, on the role of AI in the information function of accounting for investors as the main stakeholder group. He describes how AI can facilitate information production and aggregation across various dissemination channels and highlights selected contributions to this literature. However, he cautions the reader that the use of AI to read accounting information may also lead to comparative disadvantages for investors with lower AI literacy. He concludes the paper with seven theses for the future of accounting resulting from AI.

Although the emergence of AI has transformed the way business communication is processed, the most significant change in corporate reporting in recent years has been the introduction of sustainability reporting mandates. Sustainability reporting allows firms to measure their sustainability performance and tie it to specific indicators that can be monitored across time. Furthermore, sustainability reporting aims to guide companies' decision-making towards green activities. Two papers in this special issue take a closer look at sustainability reporting requirements.

In the sixth article, Stefani and Gabor describe the introduction of the Corporate Sustainability Reporting Directive (CSRD, (EU) 2022/20464) and highlight selected issues of concern. Their focus rests on the CSRD's scope, which is far broader than that of the previous regulation in the EU; the amount of information to be disclosed as a result of the CSRD; reporting boundaries; and the balance of external reporting. The authors highlight the potential positive effects of such a regulation with an extensive literature review but also stress potential shortcomings of the CSRD, including incomplete regulation, inconsistent and imprecise definitions, and implementation issues. The paper stresses the challenge that the CSRD poses for corporate practice, which needs to apply the regulation starting in the reporting year 2024.

The challenges to corporate practice in applying the EU's sustainability reporting requirements are also stressed by Eberle and Leibfried. These authors discuss the approach to sustainability reporting taken in Switzerland and highlight both existing regulations and current proposals for the convergence of Swiss law with the CSRD. As senior mem-

bers of Swiss GAAP FER²—one author is the president of the Board of the Foundation and the other is the president of the commission preparing recommendations—they discuss the current proposal by Swiss GAAP FER, which aims to facilitate sustainability reporting for small and medium-sized companies.

A further question raised by the emergence of sustainability reporting and digitization is how to integrate these aspects in future accounting education at the tertiary level. The final paper in this special issue stresses the importance of rethinking current practices in accounting education: Passardi proposes an alternative to the classical approach to accounting teaching. In further sections, he argues that such current trends in accounting as sustainability reporting and digitization are important elements that need to be integrated in modern teaching of accounting.

Taken together, the articles presented in this special issue highlight the pivotal role of accounting in addressing grand societal challenges, in particular the transformations driven by sustainability and digitization. The contributions in this issue emphasize that accounting must evolve and adapt in a rapidly changing world. Collaborations and an ongoing dialogue between academics, practitioners, regulators and educators are crucial to ensuring that accounting remains “the language of business”.

Literature

- Arbeitskreis Internes Rechnungswesen der Schmalenbach Gesellschaft (Hrsg.) (2017). *Säulen der Kostenrechnung—Originalquellen und Kommentierungen zu den Grundfragen und Konstruktionsprinzipien der Kostenrechnung*, Vahlen Verlag.
- Becker, A., Pedell, B., & Pfaff, D. (2021). Management accounting developments in German-speaking countries: An overview and editorial reflections. *Journal of Accounting & Organizational Change*, 17(4), 457–470. <https://doi.org/10.1108/JAOC-03-2021-0046>
- Belal, A. R., Cooper, S. M., & Roberts, R. W. (2013). Vulnerable and exploitable: The need for organisational accountability and transparency in emerging and less developed economies. *Accounting Forum*, 37(2), 81–91. <https://doi.org/10.1016/j.accfor.2013.04.001>
- Buffet, W. (1986). *Berkshire Hathaway Inc. Shareholder Letter 1986*. <https://www.berkshirehathaway.com/letters/1986.html>
- Chalmers, A. W., Klingler-Vidra, R., Van der Lugt, C. T., van de Wijs, P. P., & Bailey, T. (2023). *Carrots & Sticks: Beyond Disclosure in ESG and Sustainability Policy. Annual Report*. University of Edinburgh, King's College London, Global Reporting Initiative (GRI) and the University of Stellenbosch Business School (USB). <https://www.carrotsandsticks.net/media/owwlefxh/2023-report-carrots-sticks.pdf>
- Christensen, H. B., Hail, L., & Leuz, C. (2021). Mandatory CSR and sustainability reporting: Economic analysis and literature review. *Review of Accounting Studies*, 26, 1176–1248. <https://doi.org/10.1007/s11142-021-09609-5>
- Coenenberg, A. D. & Kleine-Doecke, K. (1981). Sozialbilanzen. In E. Kosiol, K. Chmielewicz, & M. Schweitzer (Eds.), *Handwörterbuch des Rechnungswesens* (2nd ed., pp. 1498–1512). C.E. Poeschel.

2 Swiss GAAP FER represents an independent institution that further develops accounting and reporting standards for Switzerland (<https://www.fer.ch/en/about-us>).

- Davenport, T. H., Holweg, M., & Jeavons, D. (2023, März 2). How AI Is Helping Companies Redesign Processes. *Harvard Business Review*. <https://hbr.org/2023/03/how-ai-is-helping-companies-redesign-processes>
- de Villiers, C. de, Dimes, R., & Molinari, M. (2023). How will AI text generation and processing impact sustainability reporting? Critical analysis, a conceptual framework and avenues for future research. *Sustainability Accounting, Management and Policy Journal*, 15(1), 96–118. <https://doi.org/10.1108/SAMPJ-02-2023-0097>
- de Villiers, C., Kuruppu, S., & Dissanayake, D. (2021). A (new) role for business – Promoting the United Nations’ Sustainable Development Goals through the internet-of-things and blockchain technology. *Journal of Business Research*, 131, 598–609. <https://doi.org/10.1016/j.jbusres.2020.11.066>
- European Commission (2025). Proposal for a directive: Commission simplifies rules on sustainability and EU investments, delivering over €6 billion in administrative relief. 26 February 2025. https://finance.ec.europa.eu/publications/commission-simplifies-rules-sustainability-and-eu-investments-delivering-over-eu6-billion_en
- Estep, C., Griffith, E. E., & MacKenzie, N. L. (2024). How do financial executives respond to the use of artificial intelligence in financial reporting and auditing? *Review of Accounting Studies*, 29(3), 2798–2831. <https://doi.org/10.1007/s11142-023-09771-y>
- Ewert, R., & Wagenhofer, A. (2012). Earnings Management, Conservatism, and Earnings Quality. *Foundations and Trends® in Accounting*, 6(2), 65–186. <https://doi.org/10.1561/14000000025>
- EY, & Fraunhofer FIT. (2023). *Digital und nachhaltig die Zukunft sichern—Wie Unternehmen die Twin Transformation als Vorreiter meistern können*. https://www.ey.com/de_de/functional/forms/download/building-a-digital-and-sustainable-future-twin-transformation-study-volume-2
- Fleischman, R. K., & Tyson, T. N. (1993). Cost Accounting during the Industrial Revolution: The Present State of Historical Knowledge. *The Economic History Review*, 46(3), 503–517.
- Frankopan, P. (2023). *The earth transformed: An untold history*. Bloomsbury Publishing.
- Freeman, R.E. (1984). *Strategic Management - A Stakeholder Approach*. Cambridge University Press.
- Fülbier, R. U., & Sellhorn, T. (2023). Understanding and improving the language of business: How accounting and corporate reporting research can better serve business and society. *Journal of Business Economics*, 93(6), 1089–1124. <https://doi.org/10.1007/s11573-023-01158-4>
- George, G., Howard-Grenville, J., Joshi, A., & Tihanyi, L. (2016). Understanding and Tackling Societal Grand Challenges through Management Research. *Academy of Management Journal*, 59(6), 1880–1895. <https://doi.org/10.5465/amj.2016.4007>
- Guthrie, J., & Dumay, J. (2021). Wicked problems involve social justice, social change, climate change and the social economy, *Journal of Behavioural Economics and Social Systems*, 3(1). <https://doi.org/10.5278/ojs.bess.v3i1.6774>
- Hopwood, A. G. (1976). The Path Ahead. *Accounting, Organizations & Society*, 1(1), 1–4.
- Hopwood, A. G. (2007). Whither Accounting Research? *The Accounting Review*, 82(5), 1365–1374. <https://doi.org/10.2308/accr.2007.82.5.1365>
- Johnson, H. T. (1981). Toward a New Understanding of Nineteenth-Century Cost Accounting. *The Accounting Review*, 56(3), 510–518.
- Kaplan, R. S. (1984). The Evolution of Management Accounting. *The Accounting Review*, 59(3), 390–418.

- Kaplan, R. S., & Ramanna, R. (2021). Accounting for Climate Change: The first rigorous approach to ESG reporting. *Harvard Business Review*, 99 (November-December), 120–131.
- Kim, A. G., Muhn, M., & Nikolaev, V. V. (2024a). *Bloated Disclosures: Can ChatGPT Help Investors Process Information?* (SSRN Scholarly Paper No. 4425527). Social Science Research Network. <https://doi.org/10.2139/ssrn.4425527>
- Kim, A. G., Muhn, M., & Nikolaev, V. V. (2024b). *From Transcripts to Insights: Uncovering Corporate Risks Using Generative AI* (SSRN Scholarly Paper No. 4593660). Social Science Research Network. <https://doi.org/10.2139/ssrn.4593660>
- Labro, E. (2019). Costing Systems. *Foundations and Trends® in Accounting*, 13(3–4), 267–404. <https://doi.org/10.1561/14000000058>
- Leuz, C., & Wysocki, P. D. (2016). The Economics of Disclosure and Financial Reporting Regulation: Evidence and Suggestions for Future Research. *Journal of Accounting Research*, 54(2), 525–622. <https://doi.org/10.1111/1475-679X.12115>
- Lin, Y, Shen, R., Wang, Y., & Yu, Y. J. (2024). Global Evolution of Environmental and Social Disclosure in Annual Reports. *Journal of Accounting Research*, 62(5), 1941–1988. <https://doi.org/10.1111/1475-679X.12575>
- Michelon, G., Trojanowski, G., & Sealy, R. (2022). Narrative Reporting: State of the Art and Future Challenges. *Accounting in Europe*, 19(1), 7–47. <https://doi.org/10.1080/17449480.2021.1900582>
- Pacioli, L. (1494). *Particularis de Computis et Scripturis*, In *Summa de Arithmetica Geometria Proportioni et Proportionalita*. Paganino de Paganini.
- Pfaff, D., & Troßmann, E. (2016). Die Kosten- und Leistungsrechnung – Ein Blick auf mehr als 70 Jahre Vergangenheit und eine spannende Zukunft. *Die Unternehmung*, 70(4), 365–386.
- Porter, M. E., & Kramer, M. R. (2011). Creating Shared Value. *Harvard Business Review*, 89(1–2), 62–77.
- Reichelstein, S. (2024). Corporate carbon accounting: Balance sheets and flow statements. *Review of Accounting Studies*, 29(3), 2125–2156. <https://doi.org/10.1007/s11142-024-09830-y>
- Sangster, A. (2016). The Genesis of Double Entry Bookkeeping. *The Accounting Review*, 91(1), 299–315. <https://doi.org/10.2308/accr-51115>
- Schaltegger, S., & Burritt, R. (2000). *Contemporary Environmental Accounting: Issues, Concepts and Practice*. Routledge. <https://doi.org/10.4324/9781351282529>
- Schoenmaker, D., & Schamrade, W. (2019). *Principles of Sustainable Finance*. Oxford University Press.
- Stolowy, H., & Paugam, L. (2018). The expansion of non-financial reporting: an exploratory study. *Accounting and Business Research*, 48(5), 525–548. <https://doi.org/10.1080/00014788.2018.1470141>
- Sundström, A. (2024). AI in management control: Emergent forms, practices, and infrastructures. *Critical Perspectives on Accounting*, 99, 102701. <https://doi.org/10.1016/j.cpa.2023.102701>
- Tiwari, K., & Khan, M. S. (2020). Sustainability accounting and reporting in the industry 4.0. *Journal of Cleaner Production*, 258, 120783. <https://doi.org/10.1016/j.jclepro.2020.120783>

Katrin Hummel, Dr., is Professor of Accounting and Reporting at the Vienna University of Economics and Business.

Address: Vienna University of Economics and Business, Department of Finance, Accounting and Statistics, Accounting and Reporting Group, Welthandelsplatz 1, AT-1020 Wien, e-mail: katrin.hummel@wu.ac.at

Patricia Ruffing-Straube, Dr., is Senior Research and Teaching Assistant the University of Zurich.

Address: University of Zurich, Department of Business Administration, Accounting, Plattenstrasse 14, CH-8032 Zurich, e-mail: patricia.ruffing-straube@business.uzh.ch

