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EDITORIAL

Transparency in an Age of Digitalization and Responsibility

Georg Reischauer · Thomas Hess · Thorsten Sellhorn · Erik Theissen

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1 Transparency and Its Main Drivers

Transparency has become a major concern and increasingly used construct in several business research fields, amongst them management (Albu and Flyverbom 2019; Bernstein 2017; Schnackenberg and Tomlinson 2016), accounting and finance (Barth and Schipper 2008; Rosenfeld and Denice 2015), and sustainability reporting (Donau et al. 2024). It thus comes with little surprise that transparency is understood and applied differently. Following Albu and Flyverbom (2019), this complexity can be tackled by differentiating between two approaches to transparency.

On the one hand, studies pursing the "verifiability approach" conceptualize transparency as "the perceived quality of intentionally shared information from a sender" (Schnackenberg and Tomlinson 2016, p. 1788). Specifically, transparency is considered to be a construct that consists of the three dimensions information disclosure as well as (perceived) clarity and accuracy (Schnackenberg et al. 2020). Accordingly, an increase in transparency is often associated with positive effects, such as higher trust or higher efficiency (Bernstein 2012; Schnackenberg and Tomlinson 2016).

On the other hand, studies following the performativity-approach (Albu and Flyverbom 2019) conceptualize transparency as a social process and examine its in-

WU Vienna University of Economics and Business, Vienna, Austria

E-Mail: georg.reischauer@wu.ac.at

Johannes Kepler University Linz, Linz, Austria

Leuphana University Lüneburg, Lüneburg, Germany

Thomas Hess · Thorsten Sellhorn

University of Munich (LMU), Munich, Germany

Erik Theissen

University of Mannheim, Mannheim, Germany



tended as well as unintended consequences, conflicts, as well as the link between transparency and secrecy (Christensen and Cheney 2015; Costas and Grey 2014; Heimstädt and Dobusch 2020; Reischauer and Ringel 2023). Both views have their merits. While scholarship in the tradition of the verifiability approach has provided a deeper understanding of factors shaping information disclosure, studies orienting based on performativity approach provided nuances and turned to blind spots that come with assuming a sender-receiver relationship with respect to information disclosure.

Transparency is not just a plural construct; it is also an old one. While transparency used to be mainly used in politics and political science (Hood 2006), in recent decades scholars in various disciplines, including business research, have increasingly been applying the concept in their work. Two trends that are also increasingly converging (Reischauer and Fuenfschilling 2023) may have been key driving forces of this development. The first is the digitalization of firms and industries and the growing research on the many phenomena associated with these fundamental processes (Bernstein 2017; Fiedler et al. 2023; Flyverbom 2022). As Bernstein (2017, p. 217) vividly put it, "[f]ifty years ago, a typical manager might have tracked production, revenue, and expenses against budget and periodically observed workers during in-person audits [...]. Today, advances in technology, from smart cameras to wearable tracking devices, make possible a kind of real-time 'Super-Vision'." As costs for digital technologies decrease and their application usages increase, business scholars are increasingly interested in how digital technologies and new forms of algorithmic management (Jarrahi et al. 2021) reshape and alter supply chains and firms that used to be organized in the spirit of the Chandlerian ideal of a firm, i.e., a multi-divisional, vertically integrated firm that combines resources into products or product-service bundles (Reischauer and Hoffmann 2023; Reischauer et al. 2024). In addition, in recent years we have witnessed digital platforms as new organizational forms (McIntyre et al. 2021; Reischauer and Mair 2018) that made full transparency and observational control of work a reality (Kellogg et al. 2020). Likewise, recent debates on the use of artificial intelligence and algorithmbased tools in firms increasingly revolve around transparency of the workings of these tools and their outputs (Walmsley 2021).

The second driver of the growing interest in transparency might be the calls to enhance the *responsibility* of firms. While scholarship on corporate social responsibility harks back to a long tradition (Aguinis and Glavas 2012), calls to devote scholarly attention to grand challenges (Fülbier and Sellhorn 2023; Perri and Rocha 2024; Seelos et al. 2023) and the United Nations' Sustainable Development Goals (SDGs) (Howard-Grenville et al. 2019; Reischauer et al. 2025) have intensified in recent years. As these calls are characterized by a "strong social purpose and urgence" (Figenschou et al. 2024, p. 1), they "have the potential to rapidly open power and identity boundaries between actors" (ibid.). Transparency is both, a key means to tackle these challenges and pursue SDGs, as well as one way of measuring progress towards them. Perhaps most illustrative is the environmental, social and governance (ESG) approach to reporting, which includes transparency as a key dimension (Cort and Esty 2020). In fact, policy makers around the world are increasingly using "targeted transparency" (Weil et al. 2013) to foster corporate sustainability through



disclosure mandates—including, for example, via the "Green Deal," a major package of EU sustainability policy.

2 Transparency in Business Research

This special issue called for submissions from all fields in business research in order to take stock and further advance interdisciplinary business research on transparency. Before we provide to key findings of papers, we briefly elaborate on key insights and topics related to transparency in three fields within business research.

2.1 Accounting and Finance

In accounting and finance (including the emerging field of sustainability reporting), research has focused on the (lack of) transparency of companies' economic and financial—as well as, increasingly, environmental and social—position and performance from the perspective of investors and other stakeholders. Although a unified definition is elusive and a host of related concepts exists, the view by Barth and Schipper (2008, p. 173) who understand "financial reporting transparency as the extent to which financial reports reveal an entity's underlying economics in a way that is readily understandable by those using the financial reports"—which also reflects the understanding of Schnackenberg and Tomlinson (2016) referenced above—, seems to capture a common understanding.¹

The transparency of the corporate information environment is shaped by mandatory and voluntary corporate disclosures (Beyer et al. 2010). Viewed from the perspective of information recipients, transparency can be said to decrease in these users' information processing costs, which drive their awareness, acquisition, and integration of information (Blankespoor 2019; Blankespoor et al. 2020). Transparency is further hampered by bias introduced into corporate financial reporting via, for instance, earnings management (Healy and Wahlen 1999), and its equivalent in corporate sustainability reporting: greenwashing (Delmas and Burbano 2011). In terms of consequences, higher corporate transparency has been linked to reduced cost of capital and other financial market benefits (Leuz and Verrecchia 2000) as well as a host of "real effects" on companies' own investment decisions (Roychowdhury et al. 2019), higher operating safety (Christensen et al. 2017), and other activities, including ESG-related performance (Fiechter et al. 2022).

2.2 Management

Another vivid field in business research that examines transparency is organization and management theory. One major topic of interest here is the openness of firms within and beyond their boundaries. While the role of transparency has been studied

¹ Similar concepts in accounting and sustainability reporting include disclosure level (Botosan 1997; Leuz and Verrecchia 2000), earnings quality (Dechow et al. 2010), and ESG-related transparency, "the availability of sustainability-related information in firms' disclosures" (Donau et al. 2024).



in many functional domains of the firm, the intensity of foregrounding the construct varies. Scholarship on open innovation has not put transparency center stage (Bogers et al. 2017; Chesbrough et al. 2018; Heimstädt and Reischauer 2018). A similar observation can be made for open innovation in the public sector (Figenschou et al. 2024). In contrast, the growing scholarship on open strategy considers transparency as key dimension to better understand and explain new strategy processes and practices (Hautz et al. 2017; Langenmayr et al. 2024). This sentiment is shared by the emerging scholarship on open organizing (Griffith et al. 2023; Splitter et al. 2022).

Another topic of interest for management and organizational scholars is the relationship between secrecy and transparency. Studies of secrecy, defined as "the ongoing formal and informal social processes of intentional concealment of information from actors by actors in organizations" (Costas and Grey 2014, p. 1423), have showcased the usefulness to distinguish between formal secrecy (as exemplified by strategic plans, pay secrecy, or client confidentiality) and informal secrecy (where information is not disclosed vis-à-vis co-workers or superiors) (Bernstein 2017; Costas and Grey 2014). Others have examined practices to navigate secrecy and transparency and associated firm-level consequences (Ohlson and Yakis-Douglas 2019; Reischauer and Ringel 2023) as well as dilemmas and tensions resulting from the introduction of transparency (Kornberger et al. 2017).

A further interesting line of management and organizational research is concerned with the interrelationship between transparency and society. Reminding us that "observation has always been a foundational element of management and, indeed, of daily life" (Bernstein 2017, p. 217), scholars have turned to blind spots and challenged dominant assumptions, such as that more transparency is per se positive. Nearly 30 years ago, Tsoukas (1997, p. 827) warned us that "[m]ore information may lead to less understanding; more information may undermine trust; and more information may make society less rationally governable." Likewise, Flyverbom (2022) emphasizes that data-driven forms of transparency that we see today increasingly are not enlightening how organizations and stakeholders communicate but that communication can become "overlit": "[w]hen people's lives and other social phenomena are datafied; i.e. turned into data points and sorted out via automated forms of categorization, new forms of visibility emerge and these have consequences for the workings of organizations and for social ordering" (Flyverbom 2022, p. 3). Other studies explore power implications and varieties of transparency across organizations (Arellano-Gault and Lepore 2011; Hansen and Weiskopf 2019).

2.3 Information Systems and Operations

A further business field with a history of studying transparency is scholarship on operations and information systems.

The potential of new digital technologies for extending transparency is regularly examined in the area of information systems. For many years, the emergence of the Internet and the solutions based on it have shaped the discussion regarding transparency. The transparency of a customer that has become possible with the Internet (Zhou et al. 2018) as well as the question of the handling of personal data were examined intensively (Smith et al. 2011). This discussion has expanded to



include the handling of employees' personal data and thus the transparency of their behavior (Gierlich-Joas et al. 2022).

The methodology for developing application systems is also a major topic in information systems. Regarding transparency, it has been argued that machine learning methods bring new challenges (Mettler 2023). A central issue here is the creation of transparency about results (Schmidt et al. 2020). This is seen as an important prerequisite for trust in such systems. Another related topic of interest is the transparent design of information systems. Especially the rise of artificial intelligence (AI) and algorithm-based tools has sparked interest in how to make these systems more transparent (Walmsley 2021). For instance, Felzmann et al. (2020) proposed a "Transparency by Design"-approach and developed a model that covers three phases that contain different principles (Felzmann et al. 2020, p. 3344f): (1) design of systems, including general requirements to enhance transparency when developing new systems, (2) information provision on data processing, decision-making routines, and risks, and (3) accountability, which covers aspects like inspectability, responsiveness and reporting routines.

A major topic of interest in operations research is transparency of supply chains (McGrath et al. 2021; Montecchi et al. 2021). One important distinction in that respect pertains to how firms consider transparency as means to improve their supply chains. Those with a control orientation view technology as tool to gather better sustainability data on supplier practices. In contrast, firms with a relational orientation use technologies to "to help build social relations and improve dialogue and collaboration on sustainability throughout the supply chain" (McGrath et al. 2021, p. 67).

A further line of research is dedicated to operational transparency and studies how customers and stakeholders respond to and navigate transparency of work routines. Bray (2020) finds that customers are particularly sensitive to the end of operations, which they tend to observe more closely. Buell et al. (2016) show that operations made transparent to selected stakeholders with visuals generate a positive feedback loop that creates value for involved stakeholders.

3 Papers in this Special Issue

To provide a systematic overview of the six papers of this special issue, we relate to the aforementioned discussion. Accordingly, we highlight in which business research field a paper is mainly grounded and the main driver of transparency of the phenomena explored in a paper. Table 1 provides an overview.

Four papers are from scholars in the domain of accounting and finance, showcasing the relevance of the ongoing quest for improvement in the corporate information environment and thereby become a more responsible firm. Many of these studies emerge from the notable TRR 266 Accounting for Transparency² and focus on

² The TRR 266 is a large-scale collaborative endeavor involving roughly 100 scholars in financial accounting, management accounting, sustainability reporting, and corporate taxation, funded by the German Research Foundation (*Deutsche Forschungsgemeinschaft*, DFG).



Table 1 Tapers of this special issue		
	Transparency driver	
Research field	Responsibility	Digitalization
Accounting and fi- nance	Berninger (2024); Bischof et al. (2024); Flagmeier and Müller (2024); Müller et al. (2024)	-
Management	-	Albu and Thøger Christensen (2024)
Information systems and operations	-	Oehlschläger et al. (2024)

Table 1 Papers of this special issue

the intersection of financial reporting and taxation. Whereas Flagmeier and Müller (2024) investigate the determinants of firms' voluntary public reporting of tax information (about the usability of any tax loss carryforwards they might have) as part of the regulated financial statements, Müller et al. (2024) analyze the consequences of increased mandatory private (to fiscal authorities) disclosure of geographic breakdowns of companies' key financial and tax data ('Country-by-Country Reporting', or CbCR). At first glance, both papers seem to be investigating highly specialized disclosures in arcane settings, with little generalizability to other areas of transparency research and practice. However, two broadly relevant insights emerge. First, the study by Flagmeier and Müller (2024), while showing that "that managers enrich the information environment with voluntary disclosure that caters to expected investors' needs" (abstract), leaves open the question whether these enrichments via tax loss carryforward disclosures do indeed leave investors better off. Second, Müller et al. (2024) show that the introduction of the CbCR disclosure mandate decreased companies' incentives to provide voluntary information, potentially reflecting concerns about revealing their competitive positions. This insight suggests that voluntary disclosure and mandatory disclosure are substitutes, and that, where voluntary disclosure is perceived to be below its social optimum, calls for mandatory disclosure, while intuitive, may not necessarily lead to overall improvements in the corporate information environment.

The paper by Bischof et al. (2024) uses the sender/receiver transparency approach to examine how accounting, taxation, and their regulation interact with transparency, generating three key insights: (1) firms seem to use tax literacy and tax advice as substitutes for coping with signals from tax regulators; (2) trade-offs between tighter management controls and employee motivation lead firms to design hybrid work environments that facilitate the intra-firm exchange of information; (3) managerial perceptions of how financial statement users benefit from disclosures makes their assessment of disclosure regulation more sensitive to the salience of disclosure costs. Overall, these insights indicate that transparency in the context of accounting is situationally specific and comes with ambiguous outcomes.

The paper by Berninger (2024) studies a complementary institution that is also designed to shape corporate transparency, the German financial reporting enforcement system introduced in 2004. Based on 213 announcements of corporate financial reporting errors between 2006 and 2019, the study finds that while regulatory error announcements consistently elicited significant negative market reactions, the nature



of these reactions evolved over time, highlighting investors' growing sophistication in interpreting the qualitative aspects of error disclosures.

The paper by Albu and Thøger Christensen (2024), a contribution to *management* scholarship on transparency, enhanced our understanding of the scope and practices of digitally driven transparency. In particular, the paper puts the spotlight on privacy breaches, power dynamics, and civil liberties encroachment as vibrant digitally driven transparency challenges. It also discusses drivers and counter-strategies in the face of these challenges. The paper further details current practices of digitally driven transparency across organizations and their downsides, which entails open data initiatives, collaborative platforms or intranets (e.g., Slack), and transparency portals.

Within the field of *information systems and operations*, the paper by Oehlschläger et al. (2024) is linked to the path in information systems on exploring the potential of new technologies for transparency. The focus is on digital twins. Digital twins are a new technical solution that aims to represent the real world in the data world as completely as possible and whose application and implications have so far been little investigated. The paper deals with the use of digital twins in the area of customer management. Among other things, it shows the positive effect on customer responsiveness and outlines the necessary development of capabilities.

4 Avenues for Future Research

While the papers of this special issue advance our understanding of transparency in an age of digitalization and responsibility, open questions remain and future research is warranted. Below, we elaborate on some of them across the business research fields discussed above.

Overall, corporate transparency is shaped by a complex and dynamic interplay of mandatory reporting requirements, voluntary reporting disclosures, complementary public and private institutions, as well as stakeholders' information processing costs and capabilities. *Accounting and finance* research in this multifaceted area will continue to inform capital market participants, policy makers, and the business world for many years to come. This is particularly true for the growing field of corporate sustainability reporting, with its evolving regulatory landscape and the understudied information needs and preferences of non-investor stakeholders like employees, customers, and NGOs. An additional mega-trend relates to information users' rapidly evolving processing capabilities, with AI-assisted large-scale data analyses complementing—or perhaps substituting—the traditional human reader of corporate reports.

Relatedly, there are several interesting routes to take when it comes to *management* research on transparency. For instance, while institutional theory is one of the vibrant theories in organization theory (Greenwood et al. 2017), not many studies have leveraged the various institutional perspectives to examine the rise and fall of transparency within and across fields and organizations, especially over time and relating to the drivers digitalization and increased calls for responsibility. Another interesting avenue would be to examine transparency as dedicated principle



for organization design, similar to established principles like standardization, formalization, and specialization, and how this interacts with knowledge creation and diffusion (Reischauer et al. 2021; Ringel et al. 2014). Such endeavors benefit from studying and comparing old and new forms of organizing, thus including firms, online communities, platform organizations, and others. It would also be fruitful to examine under which conditions and how radically transparent organizations, may they virtual or locally embedded, thrive over time. Likewise, it seems promising to closer investigate how transparency is shaped by stories, narratives, analogies, and metaphors that actors develop and promote, both within and between organizations (Reischauer 2017).

Future research on the role of transparency for *information systems and operations* is also needed. Of particular interest in information systems are new management concepts, which systematically include the availability of personal data. A first example is the use of the concept of inverse transparency (Gierlich-Joas et al. 2024). Technical developments will also raise new questions here. In this sense, for example, the question of transparency arises in the context of virtual worlds (Schulmeyer et al. 2024). Likewise, it would be interesting to examine how firms navigate the tensions of linking transparent supply chains with transparent internal operations.

Promoted especially by digitalization and increased calls for responsibility, transparency has become a prominent construct in business research. We hope that this special issue is one more step towards the complex, yet rewarding, journey of investigating how digitalization and responsibility shapes transparency and vice versa.

Conflict of interest G. Reischauer, T. Hess, T. Sellhorn and E. Theissen declare that they have no competing interests.

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