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ORIGINAL ARTICLE

Design Science Across Disciplines: Building Bridges for Advancing Impactful Business Research

Christoph Seckler · René Mauer · Jan vom Brocke · Marvin Hanisch · Stephanie Schrage · Orestis Terzidis · Barbara E. Weißenberger

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Abstract Design science offers a powerful yet underutilized approach for generating practically relevant and rigorous knowledge in business research. Although design science has strong disciplinary roots and has received renewed attention across fields such as information systems, strategy, business ethics & sustainability, entrepreneurship, and accounting, it often remains confined within disciplinary silos. This paper addresses that issue by presenting a comparative, interdisciplinary analysis of design science across five core fields. To foster a broad and inclusive understanding, we draw on the Bridge Model of Design Science, which positions design science as playing a vital bridging role between explanatory business research and business practice. We then examine how various disciplines engage in design science, highlighting unique strengths and shared challenges. By promoting an interdisciplinary dialogue, this paper contributes to a more interdisciplinary design science approach—one even better equipped to tackle the complex challenges

The Authors J. vom Brocke, M. Hanisch, S. Schrage, O. Terzidis and B.E. Weißenberger contributed equally to the manuscript.

✉ Christoph Seckler · René Mauer
ESCP Business School, Berlin, Germany
E-Mail: cseckler@escp.eu

Jan vom Brocke
University of Münster, Münster, Germany

Marvin Hanisch
University of Groningen, Groningen, The Netherlands

Stephanie Schrage
Kiel University, Kiel, Germany

Orestis Terzidis
Karlsruhe Institute of Technology—KIT, Karlsruhe, Germany

Barbara E. Weißenberger
Heinrich Heine University Düsseldorf, Düsseldorf, Germany

facing business and society today. We also envision a future for design science in business research and outline a path toward realizing it.

Keywords Design science · Business research · Impactful research · Interdisciplinary perspectives · Normative research · Prescriptive theorizing

1 Introduction

Across disciplines, the business research community is (again) recognizing the potential of design science to generate impactful solutions to real-world challenges. By design science, we refer to a rigorous scientific approach focused on addressing questions related to 'how things should be' and 'how they can be achieved' (e.g., Hanisch 2024; Hevner et al. 2004; Seckler et al. 2021; vom Brocke et al. 2020). These include practical challenges like: How to organize digital transformation? How to promote well-being in the workplace? How to educate the next generation of entrepreneurs? As well as more normative questions such as: What should responsible AI governance in organizations look like? The promise of design science lies in its ability to produce practically relevant knowledge while upholding the highest standards of scientific rigor (e.g., Hevner et al. 2004; Seckler et al. 2021; vom Brocke et al. 2020). It invites scholars not only to observe and explain the world as it is, but also to engage in shaping how it ought to be (Voss 2020).

Critically, this transformative potential cannot be fully realized within disciplinary boundaries alone. The grand challenges of our time—climate change, global inequality, digital disruption, and societal resilience—are systemic and complex, cutting across institutional, technological, and ethical domains (e.g., George et al. 2016). Or put differently, 'wicked' real-world problems (Rittel and Webber 1973) rarely yield to solutions developed in isolation. Addressing them demands interdisciplinary collaboration: The integration of diverse forms of expertise, methodological traditions, and normative perspectives. In this regard, design science offers a powerful unifying research approach, enabling scholars from different fields to co-create practically relevant, future-oriented solutions with scientific rigor (e.g., Hanisch 2024; Romme and Endenburg 2006).

However, for all this promise, current design science still falls short of its interdisciplinary potential. Despite vibrant design science activities within individual disciplines, there is a striking lack of integrative and comparative work that brings these efforts into meaningful dialogue. Opportunities for mutual learning, standard-setting, and cumulative theory-building across fields remain largely untapped. As discussions around design science remain largely confined to disciplinary silos, there is limited cross-fertilization and cumulative knowledge development. We argue that without a more integrative perspective, scholars risk 'reinventing the wheel' and missing valuable opportunities to learn from adjacent fields, share standards, and leverage the potential impact of design science (e.g., Fülbier and Weller 2008).

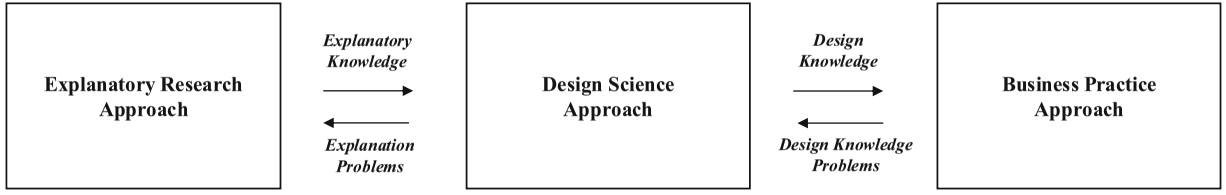
The purpose of this paper is to transcend disciplinary boundaries and offer a comparative, interdisciplinary perspective on the role of design science across five major business disciplines: Information systems, strategy, business ethics & sustainability,

entrepreneurship, as well as accounting and control. As a foundation, we draw on the Bridge Model of Design Science (Seckler et al. 2021) to establish a shared understanding of what we mean by design science in this article and to illustrate how it relates to—but remains distinct from—explanatory business research and business practice. We then examine how each discipline engages with design science, exploring why it is considered relevant, how it is currently practiced, and what challenges and opportunities lie ahead. Drawing on these disciplinary insights, we synthesize a comparative overview of the distinct 'flavors' of design science across fields using the dimensions of the Bridge Model, and propose concrete ideas for advancing its role in business research.

This paper makes three core contributions. First, we draw on the Bridge Model of Design Science (Seckler et al. 2021) as a conceptual framework to support interdisciplinary dialogue and facilitate a structured comparison of design science activities across disciplines. While the model has previously been introduced within the entrepreneurship discourse, we apply it here to provide a shared understanding of design science across fields and to show how design science can help combine scientific rigor with practical relevance (e.g., Kieser et al. 2015). Second, the paper provides a comparative analysis of design science traditions in five fields, mapping them along key dimensions of the Bridge Model to foster interdisciplinary learning and collaboration. Third, we propose concrete, scientifically grounded steps to strengthen the role of design science in business research. In doing so, we align with the Responsible Research in Business and Management (RRBM 2025) initiative's call for 'credible and useful' science, and we advocate for a more balanced research approach—one that is better equipped to address the complex challenges facing both business and society. This effort also resonates with growing institutional initiatives aimed at promoting practical relevance, including executive education, the United Kingdom's Research Excellence Framework (REF), and the 'third mission' of German universities.

2 The Bridge Model of Design Science

As a starting point, we draw on the Bridge Model of Design Science as a conceptual framework to clarify what we mean by design science and to situate it within the broader landscape of business research and practice (see Fig. 1; Seckler et al. 2021). The model builds on Bunge's Philosophy of Technology (Bunge 1989, 1999) and positions design science as an approach that operates between explanatory business research on one side and business practice on the other. The bridging function of design science is also visually depicted in Fig. 1 through the shaded areas connecting explanatory research and practice. It highlights how design science integrates the ultimate values of practice—emphasizing usefulness and social worth—with the methodological rigor of science through the application of the scientific method (Bunge 2003) as well as more scrutable specific methods (e.g., experiments). Specifically, the model characterizes the three approaches along five key dimensions: Their *ultimate value*, their *aim*, the *background knowledge* they are embedded in, the type of *problem* it addresses, and the *methods* it employs (Bunge 1996, 2003). We next



Example Question	Why are some leaders better than others?	How to educate good leaders?	How to lead my team well?
Ultimate Value	Truth	Usefulness & Social Worth	Usefulness & Social Worth
Aim	Contribution to Explanatory Knowledge	Contribution to Design Knowledge	Performing Context-specific Actions and Taking Decisions
Background Knowledge	Explanatory Knowledge	Design Knowledge	Practice Knowledge
Problem	Explanation Problem (Why, How, and What)	Design Knowledge Problem (How to Devise Action)	Practice Problem (How to Perform Action)
Methods	Scientific Method	Scientific Method & Technological Method	Experience and Intuition

Fig. 1 The Bridge Model of Design Science. Note: Adapted from Seckler et al. 2021. Published under open access (CC-BY)

discuss design science in relation to explanatory business research and business practice across five dimensions, which also form the analytical backbone for synthesizing and comparing the different 'flavors' of design science across disciplines in the discussion section.

2.1 Design Science as a Specific Scientific Approach

The Bridge Model conceptualizes design science as a scientific approach that fundamentally addresses 'how-to' questions such as: How to create a circular economy? How to make supply chains more resilient? How to design effective carbon accounting systems? The *ultimate value* of design science lies in producing knowledge that is useful. For example, an answer to the question of how to create a circular economy should be useful in helping practitioners move toward that goal. However, beyond offering useful instrumental knowledge, design science also invites normative reflection on the social worth of proposed means-end relationships, raising ethical questions about what ought to be done. For instance: AI-based recruitment tools may be *useful* in quickly screening large applicant pools and reducing hiring costs. Yet their *social worth* is questionable if they reproduce bias, exclude certain groups, or undermine fair access to employment opportunities. Design science, therefore, must attend not only to the usefulness of artefacts, but also to their broader moral and societal implications.

Importantly, the *aim* of design science is not merely to help practitioners perform context-specific actions, but to contribute to the scientific body of design knowledge—that is, knowledge that devises courses of action aimed at transforming existing situations into preferred ones (e.g., Baskerville et al. 2018; Holmström et al. 2009; Rothe et al. 2020; Simon 1969). This entails both discovering and inventing novel means—end relationships and evaluating them in terms of their usefulness and social worth (e.g., Baskerville et al. 2018; Holmström et al. 2009; Rothe et al. 2020). The *background knowledge* against which problems are formulated is the existing body of design knowledge (i.e., scientific knowledge), not the body of practice knowledge (i.e., non-scientific knowledge). For instance, while an entrepreneurship student's lack of familiarity with how to build a business model constitutes a practice problem, it does not necessarily indicate a gap in the academic literature on that topic (i.e., a design knowledge problem).

The general *method* by which design science develops knowledge is the scientific method (as well as the technological method)[1] (Bunge 1996, 2017). We adopt Bunge (2003) understanding of the scientific method as a general procedure applicable across all scientific disciplines. This procedure involves surveying the existing body of knowledge (e.g., through a literature review), identifying a specific problem within that body (e.g., a theoretical or empirical puzzle), applying an appropriate method to address the problem (e.g., experiments, interviews), generating a tentative solution (e.g., a theory, empirical findings, artefact, or design principles), and evaluating

[1] Bunge (1996) distinguishes between the scientific method and the technological method—both of which are characteristic of design science. Here we have placed greater emphasis on the scientific method, as it serves as the conceptual bridge between explanatory research and design science within the model.

that solution against the background knowledge (e.g., assessing coherence, rigor, or novelty). The process also entails iterative refinement, revisiting earlier steps and estimating the contribution of the new knowledge to the broader literature. It is this systematic application of the scientific method that qualifies design science as a legitimate scientific approach (Bunge 1996, 2017), and it is precisely this methodological foundation that design science shares with explanatory research in business disciplines.

2.2 Design Science at the Intersection of Explanatory Research and Business Practice

Design science is different yet interrelated with explanatory research and business practice. While design science shares the use of the scientific method with explanatory research, it differs along all other dimensions. Here, we define explanatory business research as a scientific approach which aims at describing, explaining, and potentially predicting phenomena or more generally (social) facts (e.g., Bunge 1989; Cornelissen et al. 2021, Shepherd Dean and Suddaby 2017). Typical questions in explanatory research include: Why are some leaders more effective than others? Under what conditions do employees thrive? The *ultimate value* of explanatory research—as we characterize it—is the pursuit of truth (e.g., Bunge 1989, Popper 2005), understood as knowledge claims that accurately represent reality (Bunge 1996). The *aim* of explanatory research is to contribute to the body of explanatory knowledge, by solving some kinds of problem within the body of explanatory knowledge (Seckler et al. 2021). Yet the explanatory research and design science are closely interrelated (see arrows between boxes): Design science draws on explanatory knowledge in diagnosing problems, informing the development of solutions (e.g., through kernel theories), and justifying interventions (e.g., vom Brocke et al. 2020). Conversely, the creation of novel artefacts in design science may reveal new explanatory puzzles—such as why a certain technique works in practice—thus feeding back into explanatory business research.

Design science differs from business practice, though it shares their *ultimate values* of usefulness and social worth. We define business practice as a goal-directed approach to action by practitioners (e.g., managers and leaders) in specific, real-world contexts. Typical questions include: How should I position my company in the market? How can I negotiate better deals with a client? While such 'how-to' questions resemble those in design science and should be guided by usefulness and social worth, the approaches diverge in all other dimensions. Practitioners *aim* to make effective decisions and implement context-specific solutions (Bunge 1989), not necessarily to contribute to the scientific body of knowledge. Related to that, practice problems reside in the *background knowledge* of practice, whereas design knowledge problems arise within the scientific literature. *Methods* also differ: Practice often relies often on experience and intuition, while design science applies the scientific method and scrutable, field-specific procedures (e.g., laboratory experiments). Still, the two are deeply interconnected: Practice frequently inspires design science by surfacing new, unresolved 'how-to' problems, and design science, in turn, informs

practice by offering theoretically grounded, empirically tested solutions to real-world problems (e.g., vom Brocke et al. 2020; Hevner et al. 2004).

3 Disciplinary Perspectives On Design Science

To capture how design science is understood, practiced, and institutionalized across fields in business research, we invited colleagues from information systems, strategy, business ethics & sustainability, entrepreneurship, and accounting and control to reflect on how design science manifests within their respective disciplines (see Table 1). Their perspectives are structured around three guiding questions: (1) Why is design science important for the discipline? (2) How is design science currently conducted in the discipline? and (3) What are the key challenges in advancing design science, and how can it be better integrated into academic programs, journals, and practice? We selected these broad questions to gain a general overview of how design science is perceived and applied within each field; the dimensions of the Bridge Model are then used in the discussion to compare and synthesize the disciplinary perspectives. The disciplinary perspectives were authored as follows: Information Systems by Jan vom Brocke, Strategy by Marvin Hanisch, Business Ethics & Sustainability by Stephanie Schrage, Entrepreneurship by Orestis Terzidis, and Accounting & Control by Barbara E. Weißenberger. The contributions are sorted alphabetically by the last name of the contributors.

3.1 Why: Why Is Design Science Important for the Discipline?

Understanding why design science matters within a specific discipline is essential for uncovering its intellectual roots, normative commitments, and perceived relevance. This question helps illuminate the discipline-specific motivations and traditions that shape how design science is valued—offering a foundation for comparing its roles and potential across fields.

3.1.1 Information Systems Perspective

Design science in information systems (IS)—commonly referred to as design science research (DSR)—is widely regarded as a means to improve business practices by developing and evaluating solutions and accumulating design knowledge to advance problem-solving and innovation capabilities. In IS research, the wide-ranging discourse on the goals and the potential impact of the IS discipline (e.g., Bichler et al. 2015; Grover and Lyytinen 2015; Nunamaker et al. 2017) has led to a broad understanding that IS research should contribute solutions to real-world challenges (e.g., Becker et al. 2015; Rai et al. 2017). The increasing digitization in all areas of the economy and society offers a special opportunity but also presents a responsibility for the area of IS (Watson et al. 2010; vom Brocke et al. 2013; Sarker 2023).

Consider artificial intelligence as a contemporary example: It offers vast opportunities but also entails significant responsibilities. Schoormann et al. (2025), for instance, in the field of digital sustainability, have identified tensions between the

Table 1 The Why, How, and What of Design Science (DS) Across Disciplines

	Information Systems (Jan vom Brocke)	Strategy (Marvin Hanisch)	Business Ethics & Sustainability (Stephanie Schrage)	Entrepreneurship (Orestis Terzidis)	Accounting & Control (Barbara E. Weißenberger)
Why is design science important for the discipline?	IS explicitly uses DS to develop and evaluate IT solutions	Strategy is inherently design-oriented because it involves identifying desirable goals and planning the actions needed to achieve them	Sustainability research is often normative and future-oriented	DS allows researchers to look *with* entrepreneurs rather than just *at* them. This fosters a deeper understanding of entrepreneurial processes	Accounting in itself is an institution and therefore the result of human design
	DS is well-established and recognized as a research approach	The discipline used to be more prescriptive, guiding decision-makers; today, descriptive studies dominate	Challenge: Developing theoretical contributions that are relevant, practical, and implementable	DS researchers can create artefacts that support entrepreneurs in their key tasks like searching for new value propositions, and innovative ways of value creation and value capture	As a consequence, design science (DS) in accounting has a long tradition, though being denoted 'normative research.'
	The goal is to design both technical and social solutions for digital challenges	DS could help strategy explicitly design desirable future states	Tension between rigor and relevance of research need both-and solutions that design science might deliver		DS can help develop innovative solutions for accounting and control, such as new accounting standards or management reporting systems

Table 1 (Continued)

	Information Systems (Jan vom Brocke)	Strategy (Marvin Hanisch)	Business Ethics & Sustainability (Stephanie Schrage)	Entrepreneurship (Orestis Terzidis)	Accounting & Control (Barbara E. Weißenberger)
How is design science being conducted in the respective discipline?	DS in IS is conducted through iterative design and evaluation of IT artefacts	DS can help strategy move beyond explaining the past to shaping future actions	Sustainability scholars research 'real utopias' as solutions to systemic problems	Established DS methods are used to develop grounded and validated artefacts for entrepreneurship	Financial accounting was strongly shaped by laws and/or securities/financial market regulations
	Various methods: Design Science Research Methodology (Peffers et al.), Action Design Research (ADR), eDSR	Need for new theorizing methods, e.g., normative, and instrumental theorizing	Sustainability scholars engage closely with companies through participatory methods such as action research or stakeholder co-creation	The core process involves analyzing the problem space, defining requirements, designing, and developing an artefact, validating the artefact, and communicating the results	The design of managerial accounting had been driven by the need to determine cost-based prices in early industrialized settings and to measure/manage profits in contractual regulations (B2B, manager owner, etc.)
	Example: Designing sustainable digital solutions through smart metering or AI	Use of Design Thinking to develop strategic concepts in companies	Theories often provide normative guidelines for companies, e.g., Stakeholder Theory or Political CSR	Example: Development of an Impact Due Diligence framework for sustainable startups	Potential method: 'Conditional-Normative Accounting Methodology' (CoNAM), which combines normative statements with empirical evidence
		Leverage action research, formal models, simulations, and experimental case studies to propose and test new approaches in the field and co-design solutions	Impact scholars as a subgroup of sustainability scholars conduct research to 'solve real-world problems.'		

Table 1 (Continued)

	Information Systems (Jan vom Brocke)	Strategy (Marvin Hanisch)	Business Ethics & Sustainability (Stephanie Schrage)	Entrepreneurship (Orestis Terzidis)	Accounting & Control (Barbara E. Weißenberger)
What are key challenges within the discipline, and how can design science be better integrated?	Challenge: Transparent documentation and publication of DS processes for better reproducibility	Strategy should re-emphasize prescriptive approaches to actively shape desirable futures	Challenge: Theory-practice divide, as academic publications are often not visible for practice	Challenge: Fully realize in the community that design science is a core component of entrepreneurship research	Challenge: Accounting research is overly empirical and neglects design science approaches. Design of accounting standards is mainly solved by standard setters and consultants
	Solution: Development of open platforms to support DS research (e.g., DSR Academy)	Challenge: Research designs that enable 'positive performativity.'	Potential: DS can help scholars to engage companies directly in developing sustainable solutions	Solution: Discuss design science methods as part of scientific practice and cultivate adequate outlets, programs, and conferences	Solution: Promoting interdisciplinary and normative research in accounting
		Solution: Combining descriptive and prescriptive research	Wish: Better integration of impact criteria in academic career evaluations		

bright and dark side of digital technology, distinguishing between intended and unintended as well as desired and undesired outcomes of managing digital sustainability (Schoormann et al. 2025). Design science will create the knowledge of how to use AI for the good of people, organizations, and societies. And it will also generate knowledge of how to not use AI, what risks are associated and how to mitigate these risks. AI as a class of solutions will not only lead to productivity increases, but also to more sustainable and resilient processes; it can be used to address diverse classes of problems. Design science will investigate the multi-faceted relations between these classes of problems and solutions in context. As this is anything but static, design science takes place in iterative processes that are very finely tuned to the relevant application areas.

It has to be noted, though, that very few research papers would have solved grand societal challenges and (even with the help of AI) we would not expect that to happen any time soon. We should consider design science, like any other research, as a collaborative effort. Sir Isaac Newton (1676) famously said, "If I have seen further, it is by standing on the shoulders of giants." So, research is a collaborative, evolutionary endeavor—and it is no different with design science, which builds upon existing design knowledge and creates new design knowledge to pass on to future projects (vom Brocke et al. 2021). Aiming at grand societal contributions, design science should make small and transparent steps towards such a bigger vision, rigorously crafted. The discourse on research impact (Benbya et al. 2025) proposes to more specifically plan and communicate impact: Beyond the broad impact area (e.g. environmental, social or economic) to explicate specific impact objectives (e.g., lessen the carbon emission), the impact level (e.g., individual or organizational behavior), specific impact criteria (e.g., energy consumed), against which the impact extent can be assessed in a specific impact context (e.g., student dorm in Berlin in summer 2024). Impact transparency on a more fine-grained level will support progress through design science.

3.1.2 Strategy Perspective

For strategy scholars, one of the benefits of design science is its ability to create innovative solutions to complex problems, such as grand challenges (George et al. 2016), which can be difficult to solve with traditional explanatory paradigms. By bringing together diverse perspectives and encouraging collaboration between academics and practitioners, design science can help to iteratively create solutions that are both theoretically sound and practically applicable. This blend not only enhances the relevance and impact of scholarly work but also ensures better business practices. Design science enables strategy researchers to address pressing issues with creativity and thoroughness, drive purposeful change, and lay the foundations for a more sustainable and equitable future.

Strategy research can particularly benefit from design science (e.g., Glaser 2017; Rindova et al. 2021). Strategy is fundamentally about identifying pathways to achieve desirable goals (Hambrick and Fredrickson 2001), which requires an understanding of both the goals themselves and the methods to attain them. Yet, in much of the literature, these goals and methods often remain implicit rather than

explicitly articulated. Strategy research typically builds on entrenched assumptions about what constitutes a 'good goal' and concentrates on evaluating the effectiveness of existing means to achieve it. For example, firm performance is a central focus in strategy research, but the concept of 'performance' carries implicit normative assumptions—namely, that it is inherently desirable and should be pursued through specific strategic actions. More specifically, strategy scholarship often prioritizes norms such as efficiency and fit, which are closely tied to outcomes such as profitability. This prevailing performance orientation can obscure other potentially valuable and relevant outcomes, such as an organization's societal contributions or ecological impact. Design science encourages scholars to surface and critically examine these underlying assumptions. It challenges us to reflect more explicitly on what goals we pursue in strategy and how we seek to achieve them, opening the door to more holistic, responsible, and context-sensitive approaches to strategic decision-making.

Strategy research has a strong (although implicit) design science foundation, often using prescriptive frameworks to identify what a firm's goals should be and how to achieve them (e.g., Barney 1986; Porter 1980). In fact, there used to be a vibrant and fruitful scholarly discourse on these normative and instrumental questions. For example, the Friedman doctrine that a firm's social responsibility lies in increasing its profits was called into question by stakeholder theory, which emphasized the importance of considering the interests of all stakeholders, not just shareholders (Freeman 1999; Jones 1995).

A paradigmatic example of design-oriented strategy thinking is Porter's (1991) article, *Towards a Dynamic Theory of Strategy*. While Porter does not use the term 'design science', the paper exemplifies its principles by developing structured, practice-oriented frameworks for strategic choice. Porter outlines how firms can achieve and sustain competitive advantage not simply by analyzing outcomes, but by making informed managerial choices that shape firm activities, configurations, and competitive positions over time. For instance, he proposes that 'the essence of strategy is choice' (p. 101) and stresses the role of frameworks—such as the value chain—in enabling managers to systematically identify, design, and align activities with strategic goals. In this sense, he moves beyond description and explanation to actively guide practice, fulfilling the central ambition of design science.

In recent years, however, there seems to have been a decline in prescriptive theories that help to establish, reorient, defend, or challenge normative premises and prevailing social behaviors. Alongside this decline, an emerging conversation around 'shaping' has gained momentum, particularly in strategy research and practice (e.g., Gavetti et al. 2017; Ranganathan et al. 2025; Rindova et al. 2021). While not always framed in design science terms, this shaping discourse reflects the core ambition of design-oriented theorizing: To actively construct futures rather than merely act in the present. For instance, Hagel et al. (2008) describe shaping as the proactive creation of new business ecosystems, platforms, and institutions through intentional strategic interventions. Their account emphasizes the design of 'shaping platforms' and 'shaping views', which enable distributed innovation and coordinated action at scale, echoing the creation and diffusion of designed artefacts in design science. Similarly, Jarzabkowski (2008) conceptualizes 'shaping strategy' as a socially embedded

process in which top managers influence the trajectory of strategic action through both procedural and interactive means. This aligns closely with design science's concern for embedding artefacts in real-world contexts, recognizing that successful implementation depends not only on technical coherence but also on shaping organizational meanings, routines, and structures. Taken together, these perspectives suggest a growing recognition that *strategy itself is increasingly seen as a design activity* (Rindova et al. 2021). In this sense, shaping represents a contemporary revival of design science principles in the strategy discipline.

Revisiting the rich prescriptive and normative tradition in strategy can make our work more relevant in today's public discourse. By leveraging these approaches, we can theorize in ways that not only suggest desirable goals but also innovate the methods to achieve them. For example, in strategy, we can broaden our understanding of performance and success by incorporating ecological, social, and technological impacts along with our understanding of financial metrics. Additionally, design science encourages a proactive stance, allowing scholars to directly tackle and 'shape' contemporary strategic challenges. This way, we can develop strategies that are not only theoretically robust but also practically relevant and ethically grounded.

3.1.3 Business Ethics & Sustainability Perspective

Sustainability requires firms to make intertemporal trade-offs (Bansal and DesJardine 2014): It requires balancing short-term economic objectives with more long-term social and environmental objectives (Slawinski and Bansal 2012). As sustainability and business ethics scholars our research interests are often those highly urgent and practically relevant problems that we like to term the 'grand challenges' (George et al. 2016) or 'wicked problems' (Reinecke and Ansari 2016) of our time, such as addressing climate change or severe poverty, analyzing how corporations interact with them. In that, our research is often future-oriented and (especially for business ethics) also normative in nature.

Yet, when we as scholars derive our results, we often develop two different outcomes of our research. One is a scientific paper that is ready for peer review at an international journal. The other is a workshop presentation or report for our empirical research partners, i.e., the informants involved in the empirical study. Often, these two outcomes contain two entirely different sets of results: For the scientific community, we develop theoretical explanations and reasoning that provide theoretical contributions aiming to advance (explanatory) theory in our area (see also explanatory research in Bridge Model). However, most often these theoretical advancements are too incremental and far from practice in order to be interesting for empirical research partners. Hence, as part of the reports for empirical research partners, we develop much more practical and hands-on guidance, 'translating' research findings for empirical partners (Bansal and Sharma 2022), offering pragmatic solutions to their sustainability problems, which, in turn, might not be 'new' enough to offer a classical theoretical contribution. In that, the two outcomes are often disconnected.

This presents sustainability and business ethics scholars with a tension between rigor vs. relevance (Sharma and Bansal 2020): On the one hand, our research has to be so rigorous that it fits templates for mainstream theoretical models and applies

state-of-the-art methods in order to be publishable in top-tier international journals. On the other hand, we aspire to provide practically relevant insights, making a real difference on the complex sustainability challenges organizations are facing. Especially emerging scholars who often feel like they have to sacrifice relevance for the sake of rigor, putting much more time and effort into the scientific manuscript than into the hands-on practical insights for practitioner partners. We need both-and solutions to these tensions (Smith and Lewis 2011), in order to leverage sustainability as a normative, practical outcome of our research.

This is what makes design science interesting for sustainability scholars—with the help of design science, scholars can build in a targeted, purposeful and impactful manner toward sustainability as an outcome (vom Brocke and Seidel 2012), developing theory that holds both contributions to current literature *and* practically relevant insights for how business should be conducted in the future, supporting intertemporal value creation (Bansal and DesJardine 2014). By involving empirical research partners early on and throughout the research process, design science approaches in sustainability and business ethics research can bridge the rigor-relevance divide (Bansal and Sharma 2022; Schaltegger et al. 2019; 2013). Engaging practitioner partners in theoretical debates and throughout processes of data collection and analysis helps sustainability and business ethics scholars to create outcomes that are both impactful in practice and theoretically rigorous. Instead of analyzing sustainable business conduct of firms in the past, design science approaches help scholars to identify current, real-world problems and develop future-oriented insights for both academia and practice. In that, design science sustainability and business ethics research develops artefacts that are theoretically rigorous *and* of practical use, fostering real-world sustainability, such as new technological solutions (vom Brocke and Seidel 2012), living wage calculations (Schrage and Rasche 2022; Schrage et al. 2025), or sustainable business models (Randles and Laasch 2016; Schoormann et al. 2016). We need more of these design science applications to sustainability and business ethics research questions that aim to develop theory that is both rigorous and relevant.

3.1.4 Entrepreneurship Perspective

Design science in entrepreneurship offers a unique approach that allows researchers to look with entrepreneurs rather than merely look at them (e.g., Dimov 2020). This perspective fosters a deeper understanding of entrepreneurial phenomena and leads to the creation of practically useful artefacts (Dimov et al. 2023). By engaging directly with entrepreneurs, design science researchers can develop tools and frameworks that support key entrepreneurial tasks, such as identifying new value propositions and innovative methods of value creation and capture (e.g., Seckler et al. 2021), the tasks of entrepreneurship educators (e.g., Campos et al. 2017), or the tasks of corporate entrepreneurs (e.g., Petzolt and Seckler 2025).

The integration of theoretical, empirical, and design knowledge within design science enriches both scientific understanding and practical mastery of entrepreneurship (e.g., Eckerle and Terzidis 2024). Theoretical knowledge provides a foundation for understanding the principles and dynamics of entrepreneurship, while empirical

research validates these theories through observation and experimentation. Design knowledge focuses on creating practical solutions and artefacts that address real-world challenges faced by entrepreneurs.

This interaction between different forms of knowledge advances the academic study of entrepreneurship and enhances the practical capabilities of entrepreneurs. By developing and validating artefacts, design science researchers contribute to the entrepreneurial ecosystem, providing tools that help entrepreneurs navigate complex environments and achieve their goals more effectively.

In summary, design science in entrepreneurship is important because it bridges the gap between literature and practice (e.g., Dimov et al. 2023; Seckler et al. 2021), fostering a collaborative environment that enhances both academic research and practical application. It enables the creation of valuable artefacts that support entrepreneurial activities and enriches the overall understanding of entrepreneurship through the integration of diverse forms of knowledge.

3.1.5 Accounting & Control Perspective

The ultimate purpose of any research has been described by the German sociologist Niklas Luhmann (1970, p. 235): 'Science must keep the world open for society by increasing knowledge of what is possible.' In accounting and control, but also the larger area of business research, this purpose is on the one hand related to positivist questions and empirically testable predictions ('what is/what will be')—what we have captured as explanatory research in the Bridge Model. But as virtually all hypotheses in accounting and control research concern institutions, i.e., social artefacts designed by human choice, any positivist question is inextricably intertwined with a normative perspective ('what should be') and the resulting critical implications ('how can be achieved what should be').[2]

Still, within the accounting and control discipline, the use of design science—applied or normative research, as oftentimes denoted—is not 'en vogue' anymore. Since the 1990s, top-tier accounting journals increasingly restricted themselves to fundamental research (Kaplan 2019; Fülbier and Weller 2008), publishing nearly exclusively of positivist empirical studies. This marks a sharp contrast to the normative tradition that characterized earlier accounting and control research, which focused on conceptual or technical design issues, e.g., advancing accounting standards or management accounting systems. In a way, many of these early papers were aiming pragmatically less at understanding institutions but rather at improving them (Fülbier and Sellhorn 2023; Ewert and Wagenhofer 2007).

But even though today's positivist approaches are considered—to a large extent rightly—as more rigorous or 'scientific' (Merchant 2010) than earlier normative or conceptual papers, a large 'research-practice-gap' can still be observed (Federsel et al. 2024). Put very simply, practitioners ignore research findings (Fülbier and

[2] We also note that, in addition to positivist and normative traditions, the field includes a strong interpretive stream—particularly evident in journals such as *Accounting, Organizations & Society*—which emphasizes understanding social meaning and institutional processes. However, interpretive research typically also refrains from engaging in design-oriented inquiry.

Sellhorn 2023). And as a result, transfer journals increasingly change their former scope from providing them with new academic 'food for thought' to provide instead researchers with a better understanding of business practice (Kieser et al. 2015).

This does not fit Luhmann's dictum. But the remedy is not simply to motivate practitioners or students to read academic journals or train them to use advanced empirical methods, as the real problem is elsewhere. Positivist research in accounting and control is unbalanced in the sense of relevance if normative (or design) consequences are ignored. Social science is not only about human behavior, but also about human action (Rosenberg 2018). So, to get the balance right, positive science must be complemented by design science for three reasons.

First, if positive variables describe actions (or results of actions), this always implies choice and thus a normative component that cannot be derived from positivist observations alone (Hume's so-called naturalistic fallacy). For example, even if we find that a particular accounting or control practice is empirically related to maximum profitability, we cannot simply transform such a cause-effect relationship into a means-end recommendation, which would be a tautology, but must assess the desirability of effect, means and also include risks and side effects in this judgment, as well as the impact of typical controls, e.g., capital-market orientation, ownership structure or firm size, which matter in the real world application.

Second, not everything that can be done has already been done and can therefore be found through positivist research designs. Also, inefficient institutions may persevere (Masschelein and Moers 2020), so design science is becoming increasingly important as major challenges and megatrends of our time call for radically new solutions in accounting and control practice (Fülbier and Sellhorn 2023).

And third, positivist science, even if this is not intended, nevertheless shapes human behavior because it is performative regarding theories and world views of researchers. It has been shown that rational choice theory or the idea of opportunism in principal-agent-relationships become social reality in firms not just per se, but also because managers behave according to these views (Gond et al. 2016; Ghoshal and Moran 1996). In that notion, positivist results alone may have detrimental consequences that can only be identified if their design consequences are evaluated from a normative perspective, which then is an indispensable antecedent for both rigorous and relevant accounting and control research.

3.2 How: How Is Design Science Currently Conducted in the Discipline?

Exploring how design science is conducted within each discipline sheds light on the methodological choices, research designs, and institutional practices that shape its application. This question is particularly insightful as it reveals the varied levels of methodological maturity, the tools and processes in use, and the extent to which design science is integrated into the discipline's research culture. Understanding these differences is crucial for identifying best practices, uncovering gaps, and advancing a more coherent and cumulative approach to design science across the business research community.

3.2.1 Information Systems Perspective

Design science in IS is understood as an approach aimed at generating design knowledge through the iterative design and evaluation of innovative solutions to real-world problems (Hevner et al. 2004; vom Brocke et al. 2020). IS scholars have suggested that a wide range of proficiencies is required, including (1) to analyze the problem space, (2) to capture extant knowledge in the solution space, (3) to plan and control the DSR process sensitive to contextual changes and progression of learning, (4) to build innovative design artefacts using state of the art technology and methodology, (5) to measure the satisfaction of research goals with rigorous evaluation, and (6) to contributing to science and practice (Hevner and vom Brocke 2023).

A number of methods have been proposed in information systems on how to conduct design science research, and these all shed light on important aspects of design science, such the Design Science Research Methodology (DSRM) by Peffers et al. (2007) identifying key types of activities, namely (1) to identify the problem, (2) to define objectives of the solution, (3) to design and develop, (4) to demonstrate, (5) to evaluate and (6) to communicate results (Peffers et al. 2007). Action Design Research (ADR) foregrounds the emergent nature of design knowledge, through an iteration of (1) problem formulation, (2) building, intervention and evaluation, and (3) reflection and learning as well (4) eventual formulation of learning (Sein et al. 2011); which Mullarkey and Hevner (2018) extended towards progressive stages of ADR, namely (1) diagnosis, (2) design, (3) implementation, and (4) evolution (Mullarkey and Hevner 2018). To support problem solving in complex environments, eDSR was proposed—the echolonised DSR method (Tuunanen et al. 2024). eDSR breaks down complex design research into smaller, self-contained—and validated—units, which can be contributed and published in a component-oriented manner, supporting the accumulation of knowledge across multiple projects and publications.

A first set of echelons and validation criteria have been proposed, which are oriented towards the main types of design science activities: (1) The problem analysis echelon, contributing validated problem statements, (2) the objectives and requirements definition echelon, contributing validated design requirements, (3) the design and development echelon, contributing validated solution designs, (4) the demonstration echelon, contributing validated proofs of concepts, and (5) the evaluation echelon, contributing validated proofs of value. Beermann et al. (2024) presented research crafting a validated problem statement grounded in the case of a real estate management firm to promote sustainable practices in over 1000 student apartments, each equipped with smart metering technology, across two buildings in Berlin, Germany (Beermann et al. 2024). The case shows more thorough research can be conducted by focusing on specific echelons, in this case to understand the problem through several iterations of applying empirical research methods. The validated problem can now be taken up by other researchers to develop possible solutions.

The methods outlined above offer a rich and well-established toolbox for design researchers in Information Systems to plan, conduct, and publish a DSR project. While these methods reflect the field's particular emphasis on socio-technical systems and iterative artefact development, they are also applicable in other disciplines.

However, the key to truly effective design science lies in the ability to freely plan design science activities to meet the individual constraints and opportunities in a given research context (vom Brocke et al. 2021; Hevner et al. 2024). In fact, the most suitable research process is often not known from the outset but should evolve and be adapted as knowledge advances. Two important criteria apply here: (1) Process transparency and (2) process rationale. The concept of journaling the design science process has been proposed (vom Brocke et al. 2021) to be able to keep track of the various activities conducted. Tools have been developed to support such journaling and to also share selected journal entries with colleagues, reviewers, editors, and readers, and to give a rationale why they decided to conduct their research accordingly (vom Brocke et al. 2017), such as the open access tool (see: https://mydesignprocess.com). Journaling the design science process has been found to be an important element of research transparency (Hevner et al. 2024).

3.2.2 Strategy Perspective

Traditional academic training in strategy emphasizes describing and understanding organizational phenomena, focusing on key 'why' and 'how' questions and thus adhering to an overarching 'explanatory research approach' (see Bridge Model). This perspective often takes the world 'as is' for granted, without deeper reflection on how the business world should be and how to achieve such desired change. This orientation also prevails in many PhD programs, where students are primarily trained to formulate compelling explanations and investigate existing phenomena, while receiving little to no exposure to design science methodologies. This methodological gap potentially limits advances in this area of study.

Design science in strategy. Design science approaches remain (perhaps surprisingly) underrepresented in contemporary strategy and management research. While early work in strategy included a strong tradition of design-oriented, prescriptive theorizing—aimed at articulating desirable goals and providing actionable guidance for achieving them (e.g., Grandori 1984; Hedberg et al. 1976)—this orientation has increasingly given way to what van Aken (2004) refers to as *'descriptive'* theorizing. In this broader usage, *'descriptive'* encompasses not only explanatory and predictive models that address 'why' and 'how' questions but also categorizing forms of theorizing such as typologies and taxonomies that aim to organize rather than explain phenomena (Cornelissen 2017), as seen in the explanatory research of the Bridge Model. This shift has led to a dominant focus on analyzing and theorizing past or existing management practices, rather than engaging proactively in shaping future ones through normative and instrumental theorizing. While explanatory contributions remain foundational to academic strategy research, revisiting design-oriented approaches can complement this paradigm by equipping scholars to address pressing societal challenges in a more actionable and forward-looking manner.

Theory Building. Design science requires new forms of theorizing, shifting away from the traditional study of existing states and phenomena to envisioning desired states. Hanisch (2024) proposes a practical framework for enhancing the rigor behind normative and instrumental theorizing, two key components of prescriptive theories:

First, normative theorizing begins with a definition of desirable goals. This might seem tricky—how can we know which goal is good? The answer is surprisingly straightforward: Any goal can be proposed, and the task is to defend that choice. To defend our choices, we can draw from long-standing debates in moral philosophy. For instance, one approach is *consensual reasoning*, which justifies a goal through broader acceptance based on discourse analysis and weighing arguments for and against it. Another is *consequential reasoning*, inspired by Immanuel Kant's writings, assessing the potential impact of generalizing a norm into a universal law. A third approach is *comparative reasoning*, where desirable goals are transferred from one context to another, identifying context dependency. While these three reasoning approaches can be used independently, combining them typically strengthens the argument.

Second, instrumental theorizing considers existing tools and methods or develops new solutions. From a theorizing perspective, it is crucial that tools meet four criteria: They must be *effective* (i.e., they must work), *efficient* (i.e., they must not waste resources), *feasible* (i.e., they must be practical), and *proportionate* (i.e., they must not cause excessive harm). While these reasoning approaches are not exhaustive, they provide a solid starting point for developing robust and actionable design principles for interventions and managerial tools.

Empirical Design Methods. To advance empirical design science, scholars can use various approaches. Schlagwein et al. (2025) provides a useful overview of possible methods for studying future-oriented phenomena, including scenario planning, imaginaries, and backcasting. A complementary method that can also be used in teaching activities is *design thinking*, which has its roots in engineering (Brown 2008). This approach starts with a problem statement, usually focused on desirable service or product characteristics. Participants then work through a series of prototypes, gather feedback, and make improvements to develop new solutions. These innovation techniques can also be applied to strategy development, with the added benefit that solutions are crafted from the perspective of those directly involved and affected. Researchers can also leverage methods such as action research (Coghlan 2011), formal models and simulations (Makadok 2022), and experimental case studies (Romme and Endenburg 2006) to propose and test new approaches in the field and co-design solutions. A more conservative approach might blend descriptive and prescriptive elements. For example, Couture et al. (2023) identified weaknesses in the governance of multistakeholder initiatives around environmental problems and based on this analysis, developed informed prescriptions for improved governance practices.

Design Science and Wicked Problems. By their very nature, design science approaches face important challenges when applied to strategic issues, and it is crucial to clarify certain misconceptions. First, design science is not about promoting utopian blueprints or morally lofty ideals but offers a reasoned, defensible approach to developing norms and tools that are practically relevant to management. Second, while strategic problems are often 'wicked' (Rittel and Webber 1973) in the sense that they are ill-structured, involve conflicting stakeholder interests, and resist definitive solutions (Camillus 2008; Simon 1973), this does not preclude design science from engaging with them. On the contrary, early strategy research explicitly viewed

strategy as a response to such wicked problems (Mason and Mitroff 1981). However, rather than assuming the feasibility of grand solutions, scholars need to be mindful of the limitations of top-down prescriptions (Horner et al. 2024). Accordingly, it is important to emphasize that while the goals (ends) of design science can be ambitious, the solutions (means) should be iterative, adaptive, and provisional—emphasizing *learning, feedback*, and *reversibility* over finality. This stance aligns with what Simon (1973) identified as the need to work with evolving problem spaces in which solutions and problem definitions co-develop over time, and with Camillus's (2008) notion that wicked strategy issues must be tamed through experimentation and stakeholder engagement rather than solved outright. Design science thus contributes not by offering deterministic prescriptions, but by enabling researchers and practitioners to co-develop situated responses that evolve in light of new knowledge and changing conditions. In this way, design science complements rather than contradicts the reflective, contextualized ethos advocated by Horner et al. (2024), bringing epistemic humility and practical engagement into the heart of strategy scholarship.

3.2.3 Business Ethics & Sustainability Perspective

For business ethicists and sustainability scholars, the normative and instrumental orientation of design science is not foreign. Business ethics research is often normative and conceptual, applying philosophical perspectives to real-world problems, developing frameworks and concepts that give prescriptive guidance to firms. Yet, due to its lacking empirical nature, there is often very little exchange between business ethics scholarship and the firms and industries under study. One could make the case that business ethics research tends to take place in the 'ivory tower.'

By contrast, research in the area of sustainability is often out in the field and empirical, qualitative, and quantitative. Sustainability research is often but not always prescriptive and normative—in many cases it simply takes questions of corporate sustainability as a research context, describing and explaining how firms have handled sustainability demands in the past, hence relying on 'historical' data (Bansal and Sharma 2022). Yet, from this it often produces empirical results or best practices that can help corporations in taking sustainability decisions.

Putting the keywords of 'design science' or 'design-oriented research' as search terms into sustainability and business ethics relevant journals, e.g., *Journal of Business Ethics, Business Ethics Quarterly, Organization & Environment*, and *Business & Society*, one finds barely any results. Yet, design science does play a role in the fields of business ethics & sustainability—it is simply not referred to as such. For instance, within the Academy of Management division ONE (Organization and the Natural Environment) there is a growing community calling themselves 'Impact Scholars' and describing themselves as a 'community for early-career research scholars who want to connect research to impact' in order to 'solve real-world problems', defining impact as '(1) chang(ing) how organizations and decision makers think and act; and (2) (…) use(ing) our position as academics to foster positive change beyond our immediate research insights' (see www.impactscholarcommunity.com; Wierenga et al. 2024). This community calls for impactful, transdisciplinary research, for instance on the basis of stakeholder co-creation (e.g., Bansal and Sharma

2022; Schaltegger et al. 2013, 2019; Sharma and Bansal 2020). This is very much in line with the design science approach and has derived from the sustainability research community.

One can say that the design science approach is evident in business ethics and sustainability research in at least three ways: (a) Business ethics and sustainability scholars often analyze what Gümüsay and Reinecke (2024) refer to as 'real utopias'—and these are more than mere best practice examples but systemic solutions to large-scale questions of how business can be organized sustainably in the future, for instance, circular business models or social enterprises. (b) Innovative and participatory methodological approaches such as action research (see for instance Lüscher and Lewis 2008) or ethnography (e.g., Hengst et al. 2020) allow researchers to dive into deeper exchange with their empirical research context, necessarily fostering knowledge exchange between academia and firms, as well as closer proximity of theory and practical insight. Adopting such participatory methods, researchers are likely to go beyond 'translating' their research findings for empirical partners, toward 'co-creating' and 'performing' research with partners (Bansal and Sharma 2022; Schaltegger et al. 2019; 2013). This requires defining research problems together, as well as collaborating as a transdisciplinary team throughout the entire research process (Schaltegger et al. 2013). (c) Business ethics and sustainability scholars often apply theories that are normative and prescriptive in nature such as Stakeholder Theory (Parmar et al. 2010), Political CSR (Scherer and Palazzo 2011) or Paradox Theory (Smith and Lewis 2011). All are examples of theories that give very clear guidance on how firms *should* behave.

Both business ethics and sustainability research get inspiration from design science approaches: Both fields hold potential to develop prescriptive theory that gives normative guidance to firms. Both fields address timely and practically relevant questions. Adopting design science approaches can help business ethics and sustainability scholars to make sure that their theory is developed in exchange with business practitioners and that results find their way back into the firms and industries that actually address the sustainability issues under study.

3.2.4 Entrepreneurship Perspective

Design science is an increasingly embraced approach in the field of entrepreneurship, though it remains relatively new and still evolving in terms of its methodological development and institutional integration. Early contributions laid a foundational basis for positioning entrepreneurship as a domain well-suited to design science, but clear guidance on how to plan, conduct, and evaluate design science research in this context is still emerging.

A key early voice in this space was Sarasvathy (2003), who, drawing on Herbert Simon's *The Sciences of the Artificial* (1969), proposed viewing entrepreneurship as a form of design science. Building on this idea, Dimov (2016) argued that entrepreneurship phenomena are inherently future-oriented and therefore align well with a design perspective. He emphasized the distinctiveness and pragmatic orientation of design knowledge. These ideas were further developed in a special issue on design and entrepreneurship curated by Berglund et al. (2018), which framed

design knowledge as a pragmatic, action-oriented body of knowledge that may help bridge the persistent gap between theory and practice. Within this issue, Romme and Reymen (2018) proposed a framework for conceptualizing entrepreneurship as a discipline situated at the interface of science and design, thereby helping to chart a path forward for the systematic development of design science in entrepreneurship research.

Building on these foundations, design science has since gained significant traction in the entrepreneurship field. A notable milestone was the launch of the *Journal of Business Venturing Design (JBVD)*—a sister journal to the *Journal of Business Venturing*, one of the field's flagship outlets—dedicated specifically to design science in entrepreneurship (Berglund 2021). In its early issues, *JBVD* has showcased methodological advancements (e.g., Seckler et al. 2021), the development of design artefacts such as the Impact Due Diligence framework for sustainable startups (Eckerle and Terzidis 2024), and studies addressing complex challenges such as conflicting normative settings in internal corporate venturing (Schmidt and Scheidgen 2025), or systemic innovation through tools such as the Circular Systems Sandbox (Müller and Remke 2025). A second notable milestone was the editorial in *Entrepreneurship Theory and Practice*—another flagship journal—calling for greater integration of design science in entrepreneurship research (Dimov et al. 2023). Similarly, *Technovation* has issued an editorial advocating for more design science in innovation and entrepreneurship research, offering specific guidance on how to conduct such studies (Romme and Holmström 2023).

Beyond growing journal interest, several institutional developments signal the emergence of a vibrant design science community within the entrepreneurship field. A key development has been the establishment of a dedicated conference track on design science in Entrepreneurship and Innovation at the *Design Science Research in Information Systems and Technology (DESRIST)* conference, providing a regular platform for scholarly exchange at the intersection of design science and entrepreneurship. These efforts are closely connected to the initiatives of the community around the *Center for Design Science in Entrepreneurship (DS:E)*, which has become a hub for researchers developing design-based approaches to entrepreneurial phenomena. Complementing these developments, design science has also gained visibility at the Academy of Management (AOM) Conference, where scholars increasingly engage with design-oriented perspectives across divisions. Finally, institutional support for capacity building is growing, as exemplified by the design science PhD course jointly offered by Eindhoven University of Technology and ESCP Business School. This course introduces early-career researchers to the theoretical foundations, methodological practices, and practical relevance of design science in entrepreneurship, contributing to the long-term institutionalization of the approach.

3.2.5 Accounting & Control Perspective

Design science in business research has lost its relevance compared to design science in other non-business disciplines such as medicine, engineering, law, or education (Fraser and Sheehy 2020). To regain it, the academic accounting and control community must shift attention back from focusing on generalized empirical (ir)regularities

towards discovering and testing applied knowledge for managers and/or accountants (Rajgopal 2021; Sunder 2021), thus channeling efforts into rigorous, relevant research that may even contribute to solving today's grand societal challenges (Fülbier and Sellhorn 2023).

Rajgopal (2021) has identified numerous causes for this loss of relevance. However, there are two major challenges which, if addressed, will mitigate other causes such as, e.g., the lack of professional incentives, no tuition funds or non-publicability of normative research. The first problem is finding viable research strategies for normative questions. In this vein, some disciplines within business research advocate for 'engaged scholarship.' For example, in strategic management, Drnevich et al. (2020) assert that design science should be flanked with informed basic research and collaborative as well as action research. This claim is echoed in the accounting and control community and reinforced by calls for evidence-based research (Leuz 2018). Other researchers are more skeptical. Kieser et al. (2015) highlight the lack of understanding regarding how scientific knowledge is transformed in the utilization process in management. For example, accounting and control information will be used in one of three ways (Mikes 2009): Instrumentally (to solve decision-problems at hand), conceptually (to provide a general view of the world), or symbolically (to justify policies already decided upon or to influence other actors). Particularly, the latter is a significant issue. For example, behavioral accounting information is distorted from its true values to influence a decentralized agent's decision-making or capability-building in a desired way (e.g., Grafton et al. 2010). Given that most instruments in accounting and control are not used in isolation but as part of a larger accounting or control system, a principles-based analysis following rigorous standards is essential. This is a far more robust approach than ad hoc modelling of limited problems, but, as a result, engaged scholarship is only part of the solution.

The second problem is the obvious lack of rigorous standards for normative research in the academic community, which is highly detrimental and leads to the observed loss of validity (Fülbier and Weller 2008). As in any other discipline, accounting researchers are reluctant to fundamentally criticize the past work of their academic predecessors because, as the popular quote says, they are 'standing on their shoulders.' But a recent study of policy analysis in the field of degrowth (Savin and van den Bergh 2024) provides stark empirical evidence that when researchers are not forced to submit themselves to rigor which is indeed characteristic for many accounting and control papers until the 1990s, pure opinion replaces scientific analysis, evidence provided is limited to anecdotal accounts, policy recommendations are made on an ad hoc basis and lack evaluation, as well as integration with related fields.

In the accounting and control domain, the strongest rigorous standards for normative (or design) science exist in the field of jurisprudentially oriented financial accounting research, as the interpretation of existing or development of new laws follows a rigorous process of hermeneutic interpretation of legal texts. Mattessich (1995) generalized this method to a 'conditional-normative accounting methodology', or CoNAM. First, researchers must explicitly state all underlying value statements, such as accounting principles. Then, they must identify potential means-end relationships and empirically test them for effectiveness and side effects.

However, CoNAM is not without its flaws. For example, which values are valid starting points? The normative goal of business activities is difficult to grasp, particularly in contrast to other applied disciplines (Dahl and Lindblom 1953). Profit maximization, a common goal in economic modeling, may be in contradiction with the overall social legitimacy of a firm and hamper its social license-to-operate (Schaltegger and Hörisch 2017). Applying design thinking as a research method (Dorst 2011) is a potential solution. This approach actively integrates the perspectives of different stakeholders into normative research projects, enabling a more profound understanding of their needs and motivations affected by a given business problem. Similarly, design thinking supports abductive problem-solving that not only tests well-known means but also discovers innovative solutions (Bastian and Caputo 2024).

The CoNAM framework also faces the challenge of identifying undesirable side effects. Thorngate (1976) postulated that no theory of social behavior can simultaneously provide generalizable, parsimonious, and accurate means-end-relationships. Lindenberg's (1992) method of reducing abstraction could be a solution here, as it integrates sociological and psychological reasoning into economic theory by supplementing the core of a theory with separate bridging assumptions, providing an anchoring point for applied design solutions.

3.3 What: What Are the Challenges of Design Science and how Can They Be Overcome?

Identifying the key challenges in advancing design science within each discipline provides critical insight into the institutional, cultural, and methodological barriers that may hinder its wider adoption. By examining how design science can be better integrated into academic programs, journals, and professional practice, this section highlights opportunities for structural change and strategic support. These reflections are essential for translating the potential of design science into lasting impact—both within scholarly communities and in addressing real-world problems.

3.3.1 Information Systems Perspective

Given the huge potential of design science to contribute to real-world problem solving, it will be important to conduct more design science in the future. This will be very beneficial for society and for businesses, and this will also be very beneficial for the various academic disciplines conducting this research as they will be able to demonstrate their relevance, attract students, obtain funding, and expand their field. For the field of business research, Seckler et al. (2023) have proposed very specific fields of action, (1) to reward design science scholarship, (2) revise publishing criteria, and (3) encourage interdisciplinary collaboration (Seckler et al. 2023).

An important aspect of promoting design science contributions is that we should attend more to the role of design science education. We need to include design science more in academic training at all levels: Bachelor, Master, PhD as well as post-doc and at executive level. First contributions investigated challenges teaching

design science on PhD level (Hevner 2021), as well as on principles of course design to meet related challenges both on Master and PhD level (Winter and vom Brocke 2021). The design science proficiency model proposed by Hevner and vom Brocke presents references and exemplary teaching material for all six proficiencies, and it also presents reference syllabi geared towards different student groups, including Master, PhD, and Executive education (Hevner and vom Brocke 2023). One promising movement among design science researchers is the establishment of an open DSR Academy. Funded by the European Union (EU) and in cooperation with the European Research Center for Information Systems (ERCIS), a platform is being established to provide and grow open educational resources for design science (see https://dsr-academy.org).

The DSR academy offers open access design science courses at different levels—ultra-light, light and advanced, and it provides learning resources that can be used in the classroom to deliver high quality courses at a feasible effort. In addition, a collection of interviews with influential figures in design science is provided which can be used to engage students. The interviews bring a personal element to the course, e.g., some interesting reflections from the authors on what they consider to be the key messages of their seminal work (see https://dsr-academy.org/node/14).

3.3.2 Strategy Perspective

Strategy research has long prioritized descriptive and explanatory scholarly approaches, often reinforcing existing norms rather than challenging or reshaping them. However, addressing complex strategic challenges often requires a shift in norms and approaches where design science can play a vital role. To realize its full potential, this approach must be more systematically integrated into academic programs, journals, and industry collaborations. This section explores how design science can complement traditional approaches, foster stronger academic-practitioner engagement, and gain broader legitimacy within the field.

Transcending Descriptive Limitations. If strategy research relies solely on descriptive or explanatory approaches, we risk entrenching implicit, perhaps unjustified, norms such as efficiency and effectiveness, with limited scope to challenge these norms and propose alternatives. Our theories and studies interact with the practical world through our teaching and consulting. Thus, it is imperative that our studies of the world 'as it is' do not inadvertently reinforce harmful practices. This means we need a positive conception of 'good' practices. Moreover, studying management practices only retrospectively misses the chance to proactively shape them for the better, which is the essence of an applied discipline such as management.

Co-Design and Active Engagement. There are valuable opportunities for scholars to 'co-design' and act as change agents rather than just passive observers. The term 'co-design' is used here because effective solutions require academics to engage with stakeholders outside academia. By understanding their perspectives and concerns, we can exchange ideas and implement changes collaboratively. This ensures our proposed solutions are grounded in real-world contexts and address actual needs.

Legitimizing Design Science Approaches As design science approaches gain a stronger foothold in strategy research, we can dispel the notion that these approaches are 'too practical' or 'unscientific.' The rigor and curiosity of scientific discovery are equally present in design science approaches, and they deserve equal recognition in our disciplines. Design science combines the curiosity and rigor of traditional research with the innovative and practical aspects of applied research, making it a powerful tool for addressing contemporary challenges.

Shaping the Future of Business Practices Design science can play a central role in shaping the future of business practices. Using design science, we can develop frameworks and strategies that are not only theoretically robust but also practically relevant. This dual focus can enhance the impact of our research, ensuring it contributes meaningfully to both academic knowledge and real-world applications.

Realizing Full Potential Ultimately, embracing design science can help us reimagine and redefine the role of management scholars. We can move beyond merely interpreting and explaining existing practices to actively shaping and improving them. By incorporating forms of design science, we can address the complex challenges facing organizations today, from sustainability and ethical governance to technological advancement and geopolitical tensions. This proactive approach can transform our discipline, making it more dynamic, relevant, and impactful.

Integration into Academic Programs To advance design science in strategy, academic programs should incorporate specific methodological training in normative and instrumental theorizing, design thinking, and other co-creation approaches such as action research. Doctoral programs particularly should expand beyond descriptive/explanatory research paradigms to include design science methodologies, which prepares future scholars to engage with complex societal problems.

Journal Integration Strategies. Academic journals can promote design science through special issues and sections dedicated to design science and prescriptive approaches, revised review criteria that acknowledge design science work, and mixed editorial boards that include practitioners alongside academics. These initiatives would create legitimate publication outlets and the necessary institutional incentives for scholars who engage in design science.

Practice-Academia Bridges Structured opportunities for academic-practitioner collaboration through research centers, collaborative grants, and industry partnerships can facilitate co-design processes essential to design science. These bridges enable knowledge flow between theory and practice, which enhances both research relevance and practical application.

In conclusion, the advancement of design science presents a significant opportunity for scholars to actively shape the future of management practices. Through design science, scholars can contribute to the development of more sustainable, equitable, and effective organizational strategies. Embracing this approach ensures that academic inquiry extends beyond theoretical contributions to drive meaningful, real-world impact, ultimately bridging the gap between research and practice.

3.3.3 Business Ethics & Sustainability Perspective

As scholars, we need to address the theory-practice divide as academic publications are often not visible and meaningful for practices. Design science can help scholars to engage companies directly into developing sustainable solutions. So, it is clear what design science calls us to do: We have to build theories that can not only explain the past and the present but also indicate and realize desirable futures. And in order to have real impact, researchers have to make the time and take the space to communicate our results to business practitioners, developing solutions together with them that are inspiring new, relevant theories.

This manifests in one wish: If the business research community aspires to have an impact on sustainable business conduct in practice, we need to design for impactful academic careers. This means that impact-related criteria such as practitioner engagement, i.e., research translation into practical tools and instruments, research co-creation and performance with practitioners (Bansal and Sharma 2022), as well as knowledge dissemination to outside academia and media relations should be much higher valued in tenure criteria and academic appointment decisions. This would give an incentive, added value and time necessary for the practitioner workshops and reports or LinkedIn posts, press interviews, and journalistic writing that drive impact. Even though research projects often deliver valuable practical results, we mostly do not prioritize communicating these to outside academia as we are not incentivized to do so.

Instead, tenure and appointment criteria ask for more and more A+ rated journal publications and measurable amounts of third-party funding that pay little to no attention to how the knowledge acquired in projects is disseminated into or was developed with business practice. Even if we engage in both-and attempts (Sharma and Bansal 2020) of stakeholder co-creation and transdisciplinary research (Bansal and Sharma 2022; Schaltegger et al. 2013, 2019), research findings tend to stay with specific practitioner partners involved in a certain project, instead of being disseminated to the wider public. This is why we need to create career paths for design scientists, who are incentivized to deliver rigor and relevance at the same time. Otherwise, this would be like the folly of rewarding one thing, while hoping for the other (Kerr 1975).

3.3.4 Entrepreneurship Perspective

A key challenge within the discipline of entrepreneurship research is the full recognition of design science as a core component. Design knowledge complements practice and explanatory contributions, making it a potent third form of knowledge. To address this challenge, it is crucial to discuss design science methods as part of scientific practice and to cultivate adequate outlets, programs, and conferences dedicated to design science in entrepreneurship.

By fully integrating design science into entrepreneurship research, the understanding of entrepreneurship phenomena and the support of entrepreneurial processes and practices can be significantly enhanced. This integration leads to the development

of innovative artefacts that address real-world challenges and contribute to the advancement of both academic knowledge and practical applications.

Moreover, let me make a historic remark related to the historical dimension of the theory of knowledge. Today, the dichotomy between theory and practice is prevalent, as reflected for instance in the names of well-known journals. However, ancient philosophy, particularly Aristotle's *Metaphysics* (Book VI, Chap. 1), mentions a third form of knowledge apart from theoretical and practical knowledge, which is often overlooked. Aristotle speaks of 'poietic' knowledge (or techne), which refers to the type of knowledge involved in making or producing things. Poietic knowledge is creative, focusing on bringing something into existence that did not exist before. I suggest following this historic trace in our modern debate and considering design knowledge as an important third form of knowledge.

In summary, when design science is applied, it complements more traditional explaining approaches by designing approaches. This approach can become a fruitful way for entrepreneurship research, enriching the overall understanding and fostering the creation of valuable artefacts that support entrepreneurial activities.

3.3.5 Accounting & Control Perspective

Academic researchers are financed by the hard-earned taxpayers' money and must therefore be held to the highest standards of accountability, taking their societal purpose seriously. This means going beyond scientific vanities and breaking up limiting path dependencies.

As a consequence, researchers must understand the limitations of positivist approaches in the social sciences. To deal with normative issues, comprehensive scientific methodological expertise in positivist research is not sufficient, as the transformation of cause-effect theories into normative means-end-relationships is much more than just a tautological issue. As a result, a second and indispensable prerequisite for design science is profound professional domain expertise. In accounting and control, such expertise comprises knowledge of an intricate and complex set of institutional regulations, practices, and instruments, which cannot be derived from a principles base. To gain 'street credibility' in accounting and control practice as an academic requires a significant initial investment of time, estimated at 10,000 h (Kahneman and Klein 2009) or around five full-time working years. Furthermore, domain expertise must be maintained and continuously updated by lifelong exposure and/or training, also to prevent cognitive entrenchment and remain mentally agile (Dane 2010). As a consequence, early career researchers must be given time and resources to obtain and practice such expertise in accounting and control. This can be done by including high-quality practice papers in tenure decisions. On a very positive note, the German accounting community has recognized this and today not only rates scientific journals but also transfer publications and commentaries (VHB Online 2024).

Second, a discussion on the establishment of rigorous standards for engaged scholarship and design science in accounting and control must be established. This is a crucial issue for bridging the research-practice gap mentioned above: It is not just about supply side research quality and communication; it is also about busi-

ness practice demand. There is no such thing as a Say's law in business research: Whereas researchers must follow the Mertonian norms for good science, which include common ownership and collective collaboration of all knowledge created (Merton 1973), firms, on the other hand, have proprietary incentives to keep superior knowledge to themselves to reap residual profits. This significantly reduces their motivation to engage with academia and instead leads them to turn towards consultancy firms (Drnevich et al. 2020). But there are ways to alleviate such tensions. The common and fruitful cooperation between engineering academics and technology firms resulting in the solution of technical problems, e.g., in R&D departments or manufacturing, shows this (Rajgopal 2021).

Still, achieving such interaction is a long-term endeavor, as it is not an antecedent but rather a consequence of high-quality design science. One way to initiate this process is by forming and strengthening professional non-profit associations where business practitioners and academics can collaborate. In Germany, the Schmalenbach-Gesellschaft für Betriebswirtschaft e. V. serves as an excellent example. Its conferences and working groups foster networks between academia and professional practice in the field of management accounting and control—and beyond—thereby laying important groundwork for advancing design science.

4 Discussion

This interdisciplinary dialogue is premised on the idea that rebalancing business research—from a predominant focus on descriptive and explanatory approaches toward greater engagement with design science—can yield substantial benefits. The aim of this paper is to seize that opportunity by offering a comparative, interdisciplinary perspective on the role of design science across five major business disciplines. Building on a shared understanding of design science, we explored the distinct 'flavors' of design science within each field. In the following, we present a synthesized interdisciplinary comparison of these approaches, structured along the dimensions of the Bridge Model. We then draw on discipline-specific challenges and insights to propose an overarching agenda for rebalancing business research toward stronger engagement with design science.

4.1 Looking Back: A Synthesized Interdisciplinary Comparison

To move from disciplinary perspectives toward a more integrated understanding of design science in business research, we now turn to a synthesized comparison across fields. Drawing on the Bridge Model, Table 2 maps the distinct 'flavors' of design science in five major disciplines—information systems, strategy, business ethics & sustainability, entrepreneurship, and accounting & control—across five key dimensions: *Ultimate value, aim, background knowledge, problem*, and *methods*. This comparative view allows us to identify both the unique strengths and shared foundations of each discipline, uncovering opportunities for mutual learning, cross-fertilization, and interdisciplinary collaboration.

Table 2 Design Science Across Business Disciplines: A Comparative Mapping via the Bridge Model Dimensions

Discipline Dimension	Information Systems	Strategy	Business Ethics & Sustainability	Entrepreneurship	Accounting & Control
Ultimate Value	Emphasis on usefulness	Emphasis on usefulness, but also important orientation towards social worth	*Business ethics*: Emphasis on social worth *Sustainability*: Both usefulness and social worth	Emphasis on usefulness	Emphasis on normative questions
Aim	Development of validated information systems artefacts and design knowledge	Identifying pathways to achieve desirable firm goals	Applying philosophical perspectives to real-world problems, developing frameworks and concepts that give prescriptive guidance to firms	Creation of artefacts that guide entrepreneurial behavior	Advancing accounting standards or management accounting systems
Background Knowledge	Strong roots in computer science as well as behavioral sciences	Strong roots in economics, sociology, and psychology	Business ethics has strong roots in broader philosophical/ethical discourses. Sustainability is influenced by diverse base disciplines interested in the topic of sustainability	Diverse base disciplines interested in the topic of entrepreneurship. Most strongly from economics and psychology	Diverse influences. Normative accounting has strong roots in legal reasoning and jurisprudence
Problem (Example of AI related design science research question)	How can a machine learning—based decision support system be designed to improve organizational decision-making transparency and explainability?	How can firms design AI governance frameworks that enable effective control over AI systems while contributing to sustainable competitive advantage?	How can AI systems be designed to align with sustainability and ethical values, such as fairness, inclusivity, and environmental responsibility?	How can AI-powered tools be designed to support early-stage entrepreneurs in identifying opportunities and scaling responsibly?	How can AI-supported auditing systems be designed to enhance transparency and compliance while adhering to ethical standards?
Methods	An elaborate repertoire of design science methods and standards has been developed (e.g., DSRM, ADR, eDSR, FEDS)	No dominant standards. Budding approaches such as prescriptive theorizing, desirable future research, and design thinking	No dominant standards, multiple research methods used such as action research, stakeholder co-creation, and qualitative and quantitative empirical approaches to study 'real utopias.'	It currently draws from the methodical repertoire of the IS field, and some initial methodologies are currently being developed	Lack of rigorous standards for normative research. CoNAM as one path forward

Ultimate Value Across all five fields, usefulness and social worth are ultimate values in design science, though each discipline emphasizes them differently. In information systems, design science is framed around practical relevance, particularly in solving complex digital and socio-technical challenges. Strategy combines usefulness with an explicit orientation toward shaping desirable futures, often addressing systemic challenges and long-term organizational goals. In business ethics & sustainability, social worth takes precedence, with design science viewed as a means of addressing grand societal challenges and promoting ethical business conduct. Entrepreneurship, meanwhile, centers on supporting entrepreneurial action in dynamic environments, where usefulness is closely tied to opportunity recognition, innovation, and value creation. Lastly, in accounting and control, design science is historically rooted in normative work aimed at guiding the development of accounting standards and frameworks, with a strong emphasis on institutional accountability and regulatory structures.

Aim Although all fields share the broad aim of producing design knowledge, the types of contributions they prioritize vary. In information systems, the focus lies on the rigorous development and evaluation of artefacts—including systems, models, and design principles—that address real-world socio-technical problems. Strategy employs design science to envision goals and develop instrumental pathways to achieve them, especially in response to complex and uncertain environments. In business ethics & sustainability, the aim is to produce prescriptive theories and practical tools that support systemic transformation, often grounded in empirical insights and visionary 'utopias.' Entrepreneurship emphasizes the development of artefacts—such as canvases, decision tools, and frameworks—that guide entrepreneurial behavior and learning, typically rooted in iterative and practice-oriented processes. In accounting and control, the focus is on developing normative frameworks that guide professional practice and regulatory policy, with a particular emphasis on institutional context.

Background Knowledge The types of background knowledge—understood here as the foundational disciplinary knowledge informing design science—differ significantly across fields. In information systems, design science draws from both technical domains—such as computer science and systems theory—and behavioral sciences, combining explanatory and design-oriented insights to address socio-technical challenges. Strategy primarily draws on economic theory, sociology—particularly institutional theory—and psychology to deepen understanding of strategic phenomena. While philosophical debates, especially those rooted in moral and political philosophy, remain largely peripheral, some recent work suggests their potential to enrich discussions around performativity, desirable futures, and the design of organizational practices. In business ethics & sustainability, design science is informed by a wide array of philosophical, normative, and empirical theories, often grounded in moral reasoning, and dedicated to addressing systemic societal issues. Entrepreneurship integrates background knowledge from economics, psychology, and increasingly, engineering-inspired design logics, reflecting the field's applied and problem-solving orientation. In accounting and control, design science is deeply

influenced by jurisprudential and hermeneutic traditions, particularly those rooted in the interpretation of institutional and regulatory frameworks.

Problem The nature of problems addressed through design science varies in scope, complexity, and application across disciplines. In information systems, design science often focuses on well-scoped system innovation and digital transformation challenges, combining technical precision with socio-organizational complexity. In strategy, the focus is on complex goal-setting and organizational design, particularly under conditions of uncertainty. Business ethics & sustainability deal with wicked, systemic problems such as climate change and social inequality, requiring interdisciplinary stakeholder engagement. In entrepreneurship, design science addresses practically grounded, dynamic problems related to venture creation and growth. Lastly, accounting and control engages with institutional and policy-relevant problems, such as standard setting and financial transparency.

Methods Methodologically, the maturity and standardization of design science vary considerably across disciplines. Information systems leads the way with a well-established suite of design science methods, including the Design Science Research Methodology (DSRM; Peffers et al. 2007), Action Design Research (ADR; Sein et al. 2011), eDSR (Tuunanen et al. 2024), and other structured approaches for artefact development, testing, and refinement. Strategy is still evolving methodologically, with promising developments in prescriptive theorizing, design thinking, and backcasting, though formalized frameworks remain limited (Hanisch 2024). In business ethics & sustainability, scholars often use participatory methods such as action research and ethnography—frequently with strong normative underpinnings—alongside conceptual work and empirical approaches related to 'real utopias.' Entrepreneurship draws heavily from IS-based methodologies but is beginning to establish its own methodological repertoire, tailored to the dynamic, practice-driven contexts of entrepreneurial activity. Lastly, in accounting and control, design science methods are less developed, though notable exceptions exist, such as the Conditional-Normative Accounting Methodology (CoNAM), which integrates normative reasoning with empirical validation.

Taken together, this interdisciplinary comparison illustrates that while design science is united by its ultimate values of usefulness and social worth, it assumes distinctive 'flavors' across disciplines. These variations reflect not only the epistemic traditions and methodological design science maturity of each discipline but also the types of problems they prioritize, the background knowledge they draw upon, and the institutional contexts in which they are embedded. Recognizing this diversity is critical for fostering mutual understanding, encouraging methodological pluralism, and identifying opportunities for interdisciplinary learning. At the same time, the shared foundational dimensions—particularly regarding ultimate values and aim—offer a strong platform for collaborative growth and the development of a more coherent and impactful design science community within business research.

4.2 Looking Forward: Envisioning a Future and a Path to Realize It

In line with the spirit of this paper, we believe it is not enough to simply describe and explain the current state of design science in business research; we must also envision how it ought to evolve—and how that evolution can be realized (see Table 3). Building on the motivations presented by the five disciplines and inspired by RRBM (2025), we first outline a vision for a more balanced, relevant, and impactful business research, which we refer to as Vision 2030. We then draw on the theory of planned behavior, as well as discipline-specific insights into overcoming current challenges, to propose a pathway for achieving this vision.

We invite you to imagine the following Vision 2030 (see first row in Table 3): Imagine a world in which, by the year 2030, business professors contribute relevant and credible insights to solving pressing business problems (e.g., How to transform our business to become more sustainable?), seizing novel opportunities (e.g., How to use AI to improve the future of work?), and addressing complex normative questions (e.g., Should we move our business out of aggressor states?). We believe that complementing explanatory research with design science can inform and empower businesses—not only to respond to challenges, but to become a force for positive change. Importantly, design science has the potential to guide managers, leaders, and policymakers in shaping more sustainable and equitable futures.

Our call to action is this: Help transform the business research ecosystem to achieve this vision by 2030. With a little less than five years to go, significant change is needed—not only in the academic landscape, but across all stakeholder groups. We need research that addresses business-relevant challenges with scientific rigor. And we need shifts in incentives and publication culture to promote and support responsible, impactful research. Voice your support by advocating for this vision. This is a call to action for the entire business research ecosystem to embrace its role in shaping the future of business and society for the better.

To advance Vision 2030, we draw on the theory of planned behavior, along with insights from the disciplines on how to overcome the challenges associated with design science adoption (see rows two and three in Table 3). The theory of planned behavior, a well-established psychological theory, explains how individuals form intentions and take action based on three key factors: (1) Attitudes toward the behavior, (2) subjective norms, and (3) perceived behavioral control (Ajzen 1991). We use these categories to structure our recommendations for how the business research community might re-balance its approach—shifting from a dominant focus on explanatory research toward greater engagement with design science. To provide practical grounding for the Vision 2030 agenda, we have also indicated which key stakeholders—such as university leaders, journal editors, senior scholars, or program directors—are in a position to initiate the respective practices listed (see row four in Table 3).

First, drawing on the theory of planned behavior, fostering more design science requires cultivating a positive attitude toward design science. Attitude here refers to 'the degree to which a person has a favorable or unfavorable evaluation or appraisal' (Ajzen 1991: 188) of design science. The logic is straightforward: Scholars who view design science positively are more likely to engage in it. In our view, the panelists

Table 3 How to Realize Vision 2030

Vision 2030	*Imagine a world in 2030 in which business professors contribute relevant and credible insights on solving important business problems (e.g., how to transform our business to be more sustainable?), seizing novel opportunities (e.g., how might we use AI to improve the future of work?), and tackling relevant normative questions (e.g., should we move our business out of aggressor states?)*		
Levers	1. Foster a positive attitude toward design science	2. Establish relevant social norms for design science	3. Increase scholars' competence to plan, conduct, and publish design science
Practices	Highlight design science's ability to address real-world, normative, and future-oriented problems	Revise hiring, promotion, and tenure criteria to value design science contributions	Embed DS in PhD curricula, including design science methodologies, and normative theorizing
	Emphasize scholars' societal responsibilities (e.g., taxpayer-funded research)	Encourage journal editors to include associate editors, and reviewers with DS expertise	Support open access to design science educational resources
	Promote success stories and cases where design science created impact	Incorporate DS contributions in research performance evaluations and rankings	Foster interdisciplinary and practice-oriented research groups or task forces provide answers to real-world problems
Key Stakeholders	Senior scholars, journal editors, professional associations (e.g., Academy of Management, VHB), PhD supervisors	University leadership, deans, editorial boards of journals, ranking bodies (e.g., FT), accreditation bodies (e.g., AACSB), professional academic association (e.g., Academy of Management, VHB)	PhD program directors, funding agencies, research centers (e.g., ERCIS, DS:E), scholars offering educational initiatives (e.g., DSR Academy, or courses as part of VHB ProDok)

provided numerous reasons why scholars within the business research community might consider design science beneficial.

We would like to emphasize two overarching themes that emerged. One key reason is that design science addresses problems directly relevant to practitioners. While practitioners also face purely cognitive challenges in understanding or explaining phenomena, the more frequent challenges in practice are instrumental and normative ones—those concerning 'how-to' achieve a goal—and determining whether a particular goal or the means of achieving them are indeed socially desirable. Therefore, we believe that engaging in design science has the potential to enhance the practical relevance of business research, a concern that has been raised for some time (e.g., Hambrick 1994; Kieser et al. 2015).

Additionally, the contributors emphasized the broader responsibilities of business scholars. For example, Jan vom Brocke highlighted the responsibility felt by Information Systems scholars to provide guidance on critical issues such as AI. Similarly, Barbara E. Weißenberger argued that 'academic researchers are financed by the hard-earned taxpayers' money, and must therefore be held to the highest standards of accountability, taking their societal purpose seriously. These examples, along with the other contributions, reflect a shared sense of duty to produce research that is both relevant and credible. Business research does not exist in a vacuum; it significantly shapes organizational practices and societal well-being. While scholars enjoy considerable freedom and resources, these privileges arguably (Bunge 1989) entail a responsibility to address pressing real-world challenges through research that informs and improves practice.

Second, the theory of planned behavior (Ajzen 1991) suggests that scholars are more likely to engage in design science when relevant subjective norms are in place. By subjective norms, we refer to 'the perceived social pressure to perform or not to perform the behavior' (Ajzen 1991, p. 188), or in our case, certain types of research. Here, we identify a key issue in rebalancing research toward greater consideration of design science. The more junior panelists particularly expressed how they feel constrained to work on projects that can be published in traditional A+ journals, which currently tend to favor descriptive or explanatory research. With the tenure clock ticking, it is crucial to address this challenge.

We believe that hiring practices, promotion criteria, and tenure evaluations need to be rethought. We should ensure that design science scholars are considered on equal footing with those pursuing more traditional explanatory research. This involves revising evaluation criteria for journal articles and appointing senior editors and reviewers with expertise in design science methods and approaches. By implementing these changes, journal editors can help maintain the quality and integrity of the review process for design science submissions, ensuring that their unique contributions are properly evaluated. Additionally, we suggest that institutional research performance evaluations and rankings should place greater emphasis on contributions to solving real-world problems. Without changing these subjective norms, we risk falling into the trap of rewarding one type of research while hoping for another (Kerr 1975).

Third, the theory of planned behavior suggests that increased engagement in design science may be rooted in the perceived behavioral control of scholars. By

perceived behavioral control, we refer to 'the perceived ease or difficulty of performing the behavior, which is assumed to reflect past experience as well as anticipated impediments and obstacles' (Ajzen 1991).

We suggest that enhancing the ease of conducting design science can be achieved in several ways. First, we suggest that the PhD curriculum should be expanded to include courses on design science, focusing on instrumental problem-solving as well as normative theorizing. Jan vom Brocke has pointed to many initiatives to collect open educational resources to foster DSR education capacities (see also Hevner and vom Brocke 2023). Second, as PhDs, business researchers should be familiarized with effectively engaging with business practice and society. This includes cultivating an interest in real-world challenges and developing the ability to maintain ongoing dialogue with diverse stakeholders. Third, we should systematically educate scholars to work in interdisciplinary collaborations to solve real-world problems. To achieve that we believe it makes sense to institutionalize research groups or research centers that are organized around real-world issues rather than traditional business research disciplines. A variation of this approach could involve establishing what Gümüsay (2023) has called 'deep engagement task forces', which are research clusters across universities focusing on a societal concern over an extended period.

5 Conclusion

To conclude, we believe that many scholars in the business research community share the idea that research has an important role to play in changing the world for the better; one solution at a time. While descriptive and explanatory research is important for better understanding some current practices and challenges, it is our view that design science may be one way to think about solutions to unresolved and socially complex challenges. In this paper, we have argued for a more balanced approach—one that acknowledges and addresses the fact that understanding a problem is only halfway to solving it (van Aken 2004).

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