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The nexus of business sustainability and organizational learning: A systematic literature review to identify key learning principles for business transformation

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Abstract

Companies play a central role in the quest for sustainable development. Organizational learning theories have been utilized to explain sustainability-related change processes in firms. However, implications from studies at the nexus of business sustainability and organizational learning are highly dependent on varying conceptualizations. The objective of this study is to provide clarity on the plurality of conceptual underpinnings in research and to uncover principles that are associated with deeper organizational change processes, that is, business transformation. Building on insights from a systematic literature review, we develop a sustainability learning typology, from which we distill three learning principles for business transformation: (1) the deutero learning mode, (2) the societal learning scope, and (3) the cooperative advantage objective. We formulate needs for future research to further elaborate on the learning principles associated with business transformation and suggest implications for practice.

KEYWORDS
business transformation, organizational change, resource-based view, sustainable development, typology

1 | INTRODUCTION

Companies play a central role in the academic and societal debates around sustainable development (Schaltegger & Wagner, 2011). Scholars have suggested the need for substantial changes in organizational culture in order for firms to become more sustainable (Linnenluecke & Griffiths, 2009). Such changes are the outcome of evolutionary processes in organizational attitudes and responses (Hubbard, 2009). This evolution of business sustainability (BST) has increasingly been associated with processes of organizational learning (OL; Fortis, Maon, Frooman, & Reiner, 2018; Molnar & Mulvihill, 2003). The OL concept has been identified as a promising lens to frame an organization's capability to process knowledge (Lee & Klassen, 2016) and to help understand the multidimensionality of sustainability-related change processes in firms (Fortis et al., 2018). Over the past two decades, OL has been applied to theorize and analyze change processes related to sustainability efforts in firms and industries (Quartey & Wells, 2020; Wijethilake & Upadhaya, 2020). Concepts such as sustainability-focused OL have become established (Dicle & Köse, 2014; Espinosa & Porter, 2011; Jamali, 2006; Molnar & Mulvihill, 2003; Toma, 2012). However, conceptualizations in literature dealing with the overlaps of BST and OL are diverse and underlying definitions of both concepts vary widely. While partly using the same terminology, sustainability in business refers to a range of

organizational behaviors from legal compliance to stakeholder engagement all the way to transformative strategies. At the same time, OL approaches are employed to describe processes varying widely in depth and transformative potential. The link between both concepts has been conceptualized in many different ways, making it difficult for research and practice to work with the existing research base effectively (Fortis et al., 2018). Although the original intention to bring both concepts together is to better understand "the transformation of business to sustainability" (Nattrass & Altomare, 1999, p. 5) and "the paradigm shift" (Molnar & Mulvihill, 2003, p. 168) associated with such a transformation, the transformative claim has varied widely in conceptual underpinnings. We thus identified the need to bring more clarity into the link between both concepts with a focus on learning principles associated with business transformation. We first conduct a systematic literature review of how concepts of BST and OL have been linked and studied in the past. For a consolidated overview, we then develop an ideal-typical typology at the nexus of both concepts from which we distill those learning principles that we find to be associated with business transformation. Our systematic literature review is guided by three questions regarding (1) the link between BST and OL (*why* bringing them together), (2) the different conceptualizations of sustainability-related learning (*what* is the learning subject), and (3) different learning dimensions (*how* is learning conceptualized). Our objective is to provide a tool and point of departure for future conceptual and empirical research concerned with business transformation.

Section 2 is dedicated to the *theoretical underpinning and framework* of BST and OL. Section 3 provides an overview of methodological steps that lead us to *findings from the literature review and crafting a transformative learning typology* in Section 4. Under Section 5, we discuss findings from the review and elaborate on the learning principles that we draw from our typology. We also critically reflect on our study and propose pathways for future research. The article closes with concluding remarks.

2 | BST AND OL: THEORETICAL UNDERPINNING AND FRAMEWORK

2.1 | Business sustainability

Over the past decades, the societal perception of the responsibilities of firms has broadened from a focus on its shareholders toward a wider group of societal stakeholders. Elkington (1994) introduced the widely received concept of the triple bottom line as a new business objective, thus broadening the understanding of the responsibilities of business beyond economic value creation. Further concepts such as corporate social responsibility (CSR), corporate citizenship, sustainable entrepreneurship and business ethics have been coined to refer to "a more humane, more ethical and more transparent way of doing business" (Van Marrewijk, 2003). Due to the plethora of concepts and applications, Lockett, Moon, and Visser (2006) have described CSR research as "research field with highly permeable boundaries" (p. 117). Other scholars criticize sustainability-related concepts as being too broad in scope to be relevant for organizations (Banerjee, 2008). Firms have emphasized sustainability as a strategic goal (Bansal & Roth, 2000), but the effectiveness of responses in tackling sustainability challenges remained insignificant (De Lange, Busch, & Delgado-Ceballos, 2012). Understandings of corporate sustainability have too often focused on the business case (Dyllick & Hockerts, 2002; Ehrenfeld, 2012) and have too rarely taken into account larger human, social, and global concerns (Banerjee, 2008; Landrum, 2017). Based on these insights, Dyllick and Muff (2016, p. 158) criticize the academic debate for having failed in the past to "effectively inform management practice about sustainable development." In response to this criticism, they develop a typology in order to clarify the meaning of BST and to increase the potential of research to effectively engage in business transformation. They distinguish three essential shifts in business that go along with different levels of BST: (1) a shift in the business concern, (2) a shift in the value created, and finally (3) a shift in the organizational perspective (Table 1). It is this third shift in the organizational perspective from inside-out (i.e., how can we reduce the negative impact of what we do, and how can we benefit from that?) to outside-in (i.e., which societal challenges are guiding our strategic decisions, and how does the organization contribute to addressing them?) that they associate with serious internal change, that is, with business transformation. We identified Dyllick and Muff (2016)'s framework as a useful guiding instrument for our objective to clarify the conceptual underpinnings of BST and to identify learning principles associated with a business transformation.

2.2 | Organizational learning

Cangelosi and Dill (1965) were the first scholars to introduce OL to management. Since then, the concept has been applied in a wide variety of organizational contexts. Argyris and Schön (1978, 1996) define OL as a process in which the organization and its members change their behavior due to a change in underlying norms and values. However, they distinguish different types of *learning modes*, in which a deeper revision of the underlying theory in use, that is, the implicit reasons and assumptions underlying organizational behavior, only occurs in a learning mode that they refer to as double-loop learning. In contrast, more shallow learning processes stay at the level of error detection and correction, therefore remaining in a mode-one or single-loop learning mode. Drawing on Gregory Bateson (1958), Argyris and Schön (1978) introduce a third type of learning—*deutero learning*—as a form of higher order learning relative to the other two modes. It describes an organization's ability to constantly adapt to changing contexts, in other words its ability "to learn how to learn" (Argyris & Schön, 1978, p. 27). Senge (1990) has referred to the latter as the learning organization that "discover[s] how to tap people's commitment and capacity to learn at all levels" (Senge, 1990, p. 4).

A second dimension in OL research refers to different *levels or scopes of learning*. Many authors distinguish the individual from the organizational level and have varying views on how these two are

TABLE 1 Business sustainability typology with key shifts between the different levels of business sustainability (Dyllick & Muff, 2016)

Business sustainability typology	Concerns	Values created	Organizational perspective
Business as usual	Economic concerns	Shareholder value	Inside-out
Business sustainability 1.0	Three-dimensional concerns	Refined shareholder value	Inside-out
Business sustainability 2.0	Three-dimensional concerns	Triple bottom line (stakeholder)	Inside-out
Business sustainability 3.0	Starting with existing challenges	The common good	Outside-in
Key shifts involved	First shift: broadening the business concern	Second shift: expanding the value created	Third shift: changing the organizational perspective

interlinked or influence each other. Crossan, Lane, and White (1999) first introduced the often-applied "4I framework" presenting OL as four processes that connect the individual, the group, and the organizational levels. However, Crossan et al. (1999) did not include learning processes that occur beyond organizational boundaries. In the context of learning for sustainability, Benn, Edwards, and Angus-Leppan (2013) thus extended the framework, stressing that learning at the individual and at the group level also occurs in interorganizational or networked Communities of Practice.

A third dimension in OL research focuses on the *learning objective*. OL in business is traditionally rooted in the resource-based view (RBW) advocating knowledge as an organizational resource driving business performance (Belle, 2017). The RBW can be traced back to Penrose (1959) and to later works by Wernerfelt (1984) and Barney (1991). A central motivation of acquiring, managing, and adapting knowledge is to get ahead of competitors. The central objective thus is achieving a competitive advantage.

2.3 | Linking sustainability and OL

Duarte (2017) traces back the trend of linking the concepts of sustainability and OL to Meppem and Gill (1998) being among the first authors who examined learning processes used in organizations to enhance sustainability planning. Nattrass & Altomare (1999, p. 5) postulated that "the understanding and practice of the organizational learning disciplines will be the indispensable prerequisite of a successful transformation to sustainability." Molnar and Mulvihill (2003) then describe concepts of sustainability in business and OL as parallel trends showing signs of increasing convergence. They coin the term "sustainability-focused organizational learning" (SFOL) and forecast that "SFOL appears to be gathering momentum as a catalyst for change" (p. 175). In the following decade, research on linking both concepts has increased under a variety of labels. Many authors draw on Molnar and Mulvihill (2003)'s SFOL (Dicle & Köse, 2014; Espinosa & Porter, 2011; Jamali, 2006; Toma, 2012); others refer to "sustainability-oriented organizational learning" (Müller & Siebenhüner, 2007; Siebenhüner & Arnold, 2007), environment-related OL (Roome & Wijen, 2006), and environmentally oriented OL (Zhu, Sarkis, & Lai, 2012). Not only labels but conceptualizations of BST and OL vary resulting in different ways to (a) link both concepts, (b) define BST as subject to learning, and (c) characterize learning modes, scopes, and objectives. Despite the many efforts to link BST and OL, a systematic consolidation is missing up to date. We are providing such a consolidation by first reviewing and analyzing the existing literature, by second condensing our findings in a learning typology, and by finally filtering out key learning principles for business transformation.

3 | METHODOLOGY

We conducted a systematic literature review at the nexus of BST and OL research. The review was guided by the overarching research question how both concepts were linked in research to date. Based on this review, we developed a typology for sustainability learning in business. The typology allowed us to identify learning principles associated with business transformation. For the literature review, we broadly followed the research protocol by Luederitz et al. (2015) to identify the relevant literature (Table 2). We then analyzed the identified set of articles using content analysis. First, we consulted two scientific databases: Web of Science as a broad research database and Business Source Ultimate by EBSCO as a management-focused database. Based on a previous scan of literature and a first search for relevant articles, the search string in both databases combined keywords connected to OL (*organizational learning* OR *learning organization* OR *corporate learning* OR *learning corporation*) and sustainability (*sustainab* transition* OR *sustainab** OR *socio-ecologic** OR *corporate responsibility* OR *corporate social responsibility* OR *triple bottom line* OR *corporate environmentalism*). The first keyword search was reduced to title, keywords, and abstracts of the articles published in academic journals and written in English language by April 2020. The search in Web of Science resulted in 264 articles, and the search in Business Source Ultimate in 402 articles in total. Sixty-five articles were duplicates within or between databases. The titles, abstracts, and keywords of all articles were scanned regarding the explicit relevance of OL and sustainability in the corporate and organizational context. In order to retrieve the articles relevant for further analysis, three selection criteria were applied: the articles needed to address the relevance of OL, the relevance of sustainability, and the corporate context. Therefore, an article was excluded from the further analysis if either (1) OL was only mentioned but not relevant for the study itself (e.g., OL

TABLE 2 Overview of review process

Steps	Procedure	Results
1. First literature research	First (unsystematic) search of literature at the nexus of BS and OL	Identification of useful frameworks & keywords for further analysis
2. Data gathering	Database search on web of science and business ultimate	597 potentially relevant articles excluding 65 duplicates
3. Data screening	Review of titles and abstracts guided by the questions: (1) Does the organizational/ business context play a role? (2) Is business sustainability applied as a concept? (3) Is organizational learning applied as a concept?	99 articles identified as relevant for further analysis
4. Data scoping	Download of all papers classified as potentially relevant	99 articles downloaded in full text
5. Paper classification	Screening of potentially relevant articles according to guiding questions in 3, to clarify whether or not the article serves the study purpose.	85 articles left for further analysis after sorting out 17 more and taking on three via snowballing
6. Paper review	Analysis of papers classified as relevant guided by the questions: 1) what is the rationale for bringing both concept together? (2) How is business sustainability conceptualized? (3) How is organizational learning conceptualized?	Matrix of dataset with 20 review categories
7. Content analysis	Each if the questions under 6 were assessed in depth by use of various subcategories. Subcategories were defined based on our initial literature review and the frameworks as described in the theory section	Final data set of 85 analyzed articles (described further under findings)

mentioned as potential outcome but not studied as a concept) or (2) sustainability was only mentioned but not relevant for the study itself or if it was conceptualized as economic sustainability only (e.g., "sustainable competitive advantage") or (3) the topic was too far away from the corporate organizational context (e.g., natural resource management in national parks).

Among the excluded articles, 57 articles did not fulfill any of the three criteria at first sight and were dismissed immediately. Of all others, many dealt with OL as a concept but treated sustainability from an economic perspective only, which was not sufficient to be taken into account. Fewer articles were sorted out because of the missing conceptualization of OL that only mentioned OL (e.g., as one potential outcome or as suggestion for further research) without analyzing it further. Other articles were excluded because of the missing link to the corporate context.

Of all articles excluding duplicates, 99 articles were identified as relevant for further in-depth analysis. Using snowball technique, three additional articles were identified as relevant during the analysis and added to the list. At the same time, 17 articles were excluded after this second round of analysis, as they did not fulfill the above-mentioned criteria after all. Of all 85 remaining articles, 26 were of conceptual nature, and 59 conducted empirical studies. Of the latter, a total of 22 employed quantitative methods, 30 employed qualitative methods, and 7 employed a mixed methods approach. The most represented journals were *Business Strategy and the Environment* and *Learning Organization* (seven articles each), followed by the *Journal of Cleaner Production* (six articles), the *Journal of Business Ethics* (five articles), and *Sustainability* (four articles) as well as by *Management Decision*, *Management Learning* and *Organization & Environment* (three articles each).

The content analysis of the 85 articles was based on the full article and guided by our three research questions concerning (1) the rationale for linking BST and OL (*why* bringing both concepts together), (2) conceptualizations of BST (*what* is the subject of learning), and (3) different learning dimensions (*how* is learning conceptualized). For the conceptualization of BST, we employed Dyllick and Muff (2016)'s typology as a guiding framework. For the conceptualization of OL, we considered three key dimensions as identified earlier in the literature: the learning mode, the learning level, and the learning objective.

In a second step of analysis, we built on the findings from the literature review by conceptualizing a sustainability learning typology extending Dyllick and Muff (2016)'s BST typology with an OL perspective. Our aim was to provide ideal-typical categories, that is, "distinct characterizations of a particular meaning scheme" (Fuenfschilling & Truffer, 2014, p. 777) that allowed us to condense the variety of sustainability-related learning conceptualizations found in the literature. A second objective was to further unpack the link between conceptualizations of BST and OL, showing that shifts in the business concern, the organizational perspective, and the values created are associated with shifts in learning modes, learning scopes, and learning objectives. Finally, sorting our findings into this learning-extended version of the BST typology allowed us to identify those

learning principles that we found to be associated with the third shift in BST, that is, with business transformation.

4 | FINDINGS FROM LITERATURE AND CRAFTING A TRANSFORMATIVE LEARNING TYPOLOGY

First, we present the findings from our systematic literature review in direct reference to the three guiding research questions (Table 3). In a second step, we present our sustainability learning typology and identify those principles that we found to be associated with business transformation.

4.1 | Findings from the systematic review

4.1.1 | The relation between BST and OL

From all articles we reviewed, we identified three prevalent perspectives on the relation between BST and OL.

The first perspective refers to *OL as a precondition for sustainability in firms* (e.g., Jamali, 2006; Leonidou, Leonidou, Fotiadis, & Aykol, 2015; Lozano, 2014; Neale, 1997). They postulate a "proper learning context" (Espinosa & Porter, 2011, p. 64) or an organization "skilled at creating, acquiring, and transferring knowledge" (Puplampu & Dashwood, 2011, p. 476) as antecedents of BST. Learning and development processes are described as key on the path toward sustainable development (Müller & Siebenhüner, 2007). Jamali (2006) describes the intentional use of learning processes and the adoption of characteristics of a learning organization as essential preconditions for improving sustainability performance, and Leonidou et al. (2015) see OL as organizational capability driving environmental performance.

The second perspective refers to *sustainability as catalyst and direction for OL* (e.g., Duarte, 2017; Kasim, 2015; Sambasivan, Bah, & Jo-Ann, 2013). For Siebenhüner and Arnold (2007, pp. 341–342), sustainability serves as "guideline for the direction of the learning and change process." For Gond and Herrbach (2006, p. 359), organizational reporting about social responsibility can serve as "learning tool." Tollin and Vej (2012, p. 626) frame sustainability as presupposing OL, as it generates new products and processes that challenge existing values and practices. Duarte (2017, pp. 4–5) refers to sustainability learning as "specific type of organizational learning that involves the systematic and continuous creation of knowledge to ensure the responsible management of natural resources." Zhang and Zhu (2019) find OL to result from stakeholder pressure toward green innovation and product development.

The third perspective sees *OL and BST as mutually reinforcing*. Molnar and Mulvihill (2003, p. 172) describe "the integral link between the two streams of activity [as] both require a challenge to mental models, fostering fundamental change, engaging in extensive collaborative activity and, in some cases, revisiting core assumptions about business and its purpose." For Jamali (2006, p. 814), the basic ingredients of OL, that is, "an openness to change and the conception of change as a profound evolutionary process," are the same ingredients needed in BST and need to be nurtured. Accordingly, Manring and Moore (2006, p. 896) state that "sustainable development practices and organizational learning theory have an important objective in common: to achieve a state of generativeness of the system or organization [that] requires a new paradigm of consensus building through collaboration."

4.1.2 | Conceptualization of BST

The analysis showed a variety of framings for BST. Many articles refer to CSR (Burchell & Cook, 2006; Carter, 2005; Cruz & Pedrozo, 2009; Godkin, 2015; Trong Tuan, 2013; Zou, Xie, Meng, & Yang, 2019). Often used in combination with the CSR approach is the triple bottom line concept (e.g., Langenus & Dooms, 2018; Pourdehnad & Smith, 2012; Wilson & Beard, 2014). Furthermore, the plurality of concepts ranges, for example, from corporate responsibility (Li & Toppinen, 2011) and corporate sustainability (Grewatsch & Kleindienst, 2018; Iarossi, Miller, O'Connor, & Keil, 2011) to a more ecological focus in environmental management (Kasim, 2015; Kim & Han, 2012; Roome & Wijen, 2006). Whereas Antal and Sobczak (2004, 2014) refer to a global responsibility of the firm, Karadzic, Antunes, and Grin (2013) draw on resilience research, and Cantino, Devalle, Cortese, Ricciardi, and Longo (2017) frame their research with a commons perspective.

Assessing conceptualizations through the lens of Dyllick and Muff (2016)'s framework, the majority of articles frame BST from an *inside-out* perspective. Whereas some define it in light of a broadened business concern that can increase financial performance and competitiveness (Blackman, Kennedy, & Quazi, 2013; Kim & Han, 2012; Lin, 2012; Tollin & Vej, 2012; Velazquez, Esquer, Munguía, & Moure-Eraso, 2011), others focus on an extended value creation by referring to the importance of stakeholder dialog and stakeholder integration (Dashwood, 2012; De Palma & Dobes, 2010; Li & Toppinen, 2011; Pourdehnad & Smith, 2012) or to "boundary-spanning activities" (Hoffmann, 2007). Cruz, Pedrozo, and Estivalete (2006) focus on a required shift in the organizational perspective in form of a "transition process from a financial-economic logic to a sustainable logic" (p. 881) that "create[s] a movement of change in society as a whole" (p. 887). They refer to the need for an outside-in perspective as they state that "a basic question for reflection emerges: Do organizations today exist to satisfy individuals' and societies' objectives as a whole, or do individuals and society exist as a whole to allow for the reaching of organizational objectives? This kind of question leads to a reflection about the role that the organizations perform in society" (p. 878). The central concern is solving societal challenges, and the organization is seen as a vehicle to do so. Likewise, Martinuzzi and Krumay (2013) postulate that a firm with a transformational CSR approach potentially contributes to a transformation of economic and political framework conditions, and Siebenhüner

TABLE 3 Overview of content analysis with main categories, subcategories, codings, and exemplary references

Main categories of analysis	Description of link between BST and OL		Conceptualization BST (framework: Dyllick & Muff, 2016)			Conceptualization OL (framework: modes, levels, and objectives of learning)		
Subcategories	Label	Relationship	Broadened business concern	Expanded value created	Changing organizational perspective	Learning modes (Argyris & Schön, 1996)	Learning levels (Crossan et al., 1999)	Learning objectives (Barney, 1991)
Coding/ keywords	References to BST-related learning	Description of link between both: for example, trigger, relationship, link, mutual, precondition, capability	BST as driver of economic performance: for example, financial performance; competitiveness	BST as integration of, for example, stakeholder, new forms of capital, triple-bottom-line	BST as changing logics, for example, addressing societal challenges; global responsibility; solving sustainability challenges	Single-loop learning, double-loop learning, deutero learning	Individual, organizational, interorganizational, societal learning	Resource-based view; competitive advantage, cooperative advantage
Example references	Environment-related learning (e.g., Roome & Wijen, 2006) Sustainability-focused organizational learning (e.g., Molnar & Mulvihill, 2003) Societal learning (e.g., Cruz et al., 2006)	OL as precondition (e.g., Leonidou et al., 2015; Lozano, 2014); BST as direction (e.g., Duarte, 2017; Kasim, 2015) Mutually reinforcing (e.g., Jamali, 2006; Manring & Moore, 2006)	Increasing financial performance (e.g., Lee & Klassen, 2016; Velazquez et al., 2011) Increasing competitiveness (e.g., Oelze et al., 2016; Zollo et al., 2013; Kim & Han, 2012)	Integrating stakeholder concerns (e.g., Zhang & Zhu, 2019; De Palma & Dobes, 2010) Integration of the triple-bottom-line (e.g., Wilson & Beard, 2014; Pourdehnad & Smith, 2012)	New sustainable logic (Cruz et al., 2006) Responding to societal challenges (Siebenhüner & Arnold, 2007) Global responsibility (Antal & Sobczak, 2004) Addressing the risk of system collapse (Cantino et al., 2017)	From single- to double-loop learning (e.g., Richards & Zen, 2016; Cramer, 2005) Deutero learning (e.g., Langenus & Dooms, 2018; Manring & Moore, 2006)	From intraorganizational to interorganizational (e.g., Zou et al., 2019; Borghei & Magnusson, 2018; Oelze et al., 2016; Arya & Salk, 2006) Societal learning scope (e.g., Martinuzzi & Krumay, 2013; Cruz et al., 2006; Antal & Sobczak, 2004)	Competitive advantage (Kim & Han, 2012) Cooperative advantage (Cantino et al., 2017) Learning networks (Manring, 2007) Transformation of societal values (Martinuzzi & Krumay, 2013)

and Arnold (2007) see firms in the responsibility to address societal challenges with their business approach.

4.1.3 | The different learning dimensions and their characteristics

When considering learning modes, a key reference is the seminal work of Argyris and Schön (1978, 1996) and their different modes of learning (single-loop, double-loop, and deutero learning) (Banerjee, 1998; Cramer, 2005; Cruz & Pedrozo, 2009; Cruz et al., 2006; Karadzic et al., 2013; Nybakk & Panwar, 2015; Richards & Zen, 2016; Toma, 2012). Scholars seem to agree that learning related to sustainability requires a double-loop learning mode in order for organizational values and norms to adjust to new challenges. However, the depth of learning, that is, the values that are to be adjusted in a double-loop process, is dependent on assumptions concerning the required shift. Some authors describe double-loop learning more functionally as everyday practice of (new) procedures, potentially supported by employee training and coaching (Sambasivan et al., 2013) or as the outcome of local experimentation and testing (Espinosa & Porter, 2011). Others stress the need for a higher order learning on the organizational level, that is, the ability "to learn how to learn" (Argyris & Schön, 1978, p. 27). Puplampu & Dashwood (2011, p. 477), for example, define learning as "ongoing, dynamic process requiring the ability to adapt to evolving societal expectations and norms."

Focusing on the learning scope, many articles in this review stick to the traditional scope of learning within organizational boundaries. However, scholars also include interorganizational collaboration into their assessment but mostly see them as triggers for learning processes on the organizational level. Examples here include stakeholder engagement (Burchell & Cook, 2006; Oelze, Hoejmose, Habisch, & Millington, 2016) and interfirm relationships (Arya & Salk, 2006; Lin, 2012; Zou et al., 2019), from which organizations learn (individually). Manring and Moore (2006), Manring (2007), and Langenus and Dooms (2018) go further in framing interorganizational networks (IONs) as inter-OL entities in the North Carolina textile industry, in sustainable local ecosystem management, and in the European ports industry, respectively. Similarly, Cantino et al., (2017) move the learning focus from within to between organizations with their "cooperative advantage" concept (see learning objectives) in local fishery.

With respect to the learning objectives, a prevalent framing related to learning objectives is the RBV, seeing sustainability knowledge as an organizational resource driving competitive advantage (e.g., Belle, 2017; Bilan, Hussain, Haseeb, & Kot, 2020; Carter, 2005; Zhang, Sun, Yang, & Li, 2018). Yang and Park (2016) conclude that from a competitive standpoint, external knowledge exchange negatively impacts a firm's achievement of sustainable innovation. In contrast, Zollo, Cennamo, and Neumann (2013, p. 244) criticize the instrumental logic of the RBV, stating that learning for sustainability has to go beyond motivations of competitive advantage. Cantino et al. (2017, pp. 3–4) take on a similar perspective, studying fishery from a commons perspective. In the face of sustainability challenges, they warn that "outperforming all competitors may become a useless achievement." They in turn suggest the need for a new objective of "cooperative advantage" that will help in tackling those challenges that no business alone can solve.

4.1.4 | Crafting a transformative learning typology

Drawing on the three learning dimensions, we developed a sustainability learning typology extending Dyllick and Muff (2016)'s BST typology (Table 4). With this ideal typical abstraction, we further unpack the link between conceptualizations of BST and OL. From our literature review, we found both concepts to be strongly interrelated—different foci on required shifts in business (concern, value, and organizational perspective) went along with similar conceptualizations of OL (mode, levels, and objectives). From a learning perspective, we see a first shift in the learning mode as most authors conceptualize learning even in very early stages of BST as going beyond correction and error. We see a second shift in the learning scope, moving away from organizational centricity and including learning across organizations. In the third shift, the learning objective switches from a deeply rooted logic of competitive advantage to one of cooperative advantage. This fundamental shift goes along with further development in the other dimensions, that is, the societal learning scope and a deutero learning mode. It is on this third level of our learning typology that we move away from "SFOL" to what we call "transformative learning." The three principles of transformative learning (*cooperative advantage*, *societal learning scope*, and *deutero learning mode*) are strongly associated with the third stage in BST, that is, with business transformation.

5 | DISCUSSION AND PATHWAYS FOR FUTURE RESEARCH

5.1 | The link between of BST and OL

We found three prevalent types of linking BST and OL. The link between the two strongly depends on the specific conceptualizations of BST. Those describing *OL as a precondition* for sustainability in business view sustainability as one "trend" that is being taken up among others, therefore mostly employing a definition of BST as the need to widen the business concern. When BST is framed as directionality for OL, it follows that the higher the ambition toward business transformation, the deeper the effect of the sustainability-related learning process in changing deeply rooted norms and values. Finally, scholars perceiving *BST and OL as being mutually reinforcing* provide the most dynamic description: this perspective takes the assumptions of the former two as a given: that a general responsiveness and normativity underlying sustainability-related change processes are necessary preconditions. It is focusing on the co-evolutionary dynamic between the two, thus providing a description of how we perceive our learning

TABLE 4 Moving beyond Dyllick and Muff (2016)'s business sustainability typology toward a transformative learning typology

Business sustainability typology	Concerns	Values created	Organizational perspective	Learning outcome	Learning scope	Learning mode	Sustainability learning typology
Business as usual	Economic concerns	Shareholder value	Inside-out	Competitive advantage	Intraorganizational	Single loop	Reactive/ compliance
Business sustainability 1.0	Three-dimensional concerns	Refined shareholder value	Inside-out	Competitive advantage	Intraorganizational	Single/ double loop	SFOL 1.0
Business sustainability 2.0	Three-dimensional concerns	Triple bottom line (stakeholder)	Inside-out	Competitive advantage	Interorganizational	Double loop	SFOL 2.0
Business sustainability 3.0	Starting with existing challenges	The common good	Outside-in	Cooperative advantage	Societal	Deutero	Transformative
Key shifts involved	First shift: broadening the business concern	Second shift: expanding the value created	Third shift: changing the organizational perspective	Third shift: changing the learning objective	Second shift: expanding the learning scope	First shift: switching the learning mode	Key shifts involved

typology. Change processes do not work out as one-time shifts from one "stage" to the next, but changes might be more subtle: a shift in one of the columns (which each resembles a continuum in reality) might make way for another shift in one of the others. Adding the learning dimension to the BST typology therefore provides a more detailed frame of analysis for research and practice on BST: an evolution in BST is inevitably connected with shifts toward novel ways of OL. A higher level of BST will not be reached, if there is not enough responsiveness on the learning end. On the other hand, learning is not an end in itself, but it is interlinked with a normative direction, in this case those norms and values interlinked with each of the BST levels. As we found most articles to refer to BST from an inside-out perspective, the directionality of learning in the articles reviewed is one of widening the business concern and increasing stakeholder engagement. It is mostly not a transformative one in the sense of aiming for a shift in organizational perspectives and a proactive response to sustainability challenges. However, it is especially such a transformative perspective that we are trying to understand with the three learning principles for business transformation that we distill from our typology.

5.2 | The three learning principles accompanying business transformation

The different learning stages we identified in our typology are ideal typical abstractions. From a conceptual point of view, these categories provide the vantage points for further investigation. From an empirical point of view, making principles explicit can help to assess organizational shifts along the BST continuum. It may also help to find more detailed leverage points to trigger transformative change processes in business. The learning principles we identify as going along with business transformation—a deutero learning mode, a societal learning scope, and a cooperative advantage objective—can play an essential role here. These principles encompass the ones on lower learning levels; that is, deutero learning is meant to facilitate double-loop learning, a societal learning scope encompasses learning at the organizational and the interorganizational levels, and a cooperative advantage does not exclude the occurrence of competitive advantage. We will discuss the different principles more in detail in the following.

1. Considering "Deutero learning," scholars have argued for quite a while for the benefits of the learning organization. Senge (1990) points out early on that sustainability is fostered through "a culture that embraces and fosters learning" (p. 535). Although this finding does not come as a big surprise, we find it important to stress the relevance of directionality in this context. Generally, modes of learning such as double-loop and deutero learning do not imply a learning direction. It is only in relation with the normative positioning that learning can develop its transformative potential. To that end, the learning mode is directly related to the scope and objective of learning. Whereas some sort of responsiveness to societal changes is given also at lower levels of BST, it is in connection with a societal learning scope and a cooperative advantage logic that learning how to learn can support truly sustainable outcomes. In this context, deutero learning refers to an explicit responsiveness of an organization that not only adapts to but that actively takes on sustainability challenges in its environment.
2. Regarding the "societal learning scope," firms are part of a larger context, and no individual organization can become more sustainable while ignoring their economic, environmental, and social contexts (Loorbach & Wijsman, 2013). A central finding from our literature review is that relationships beyond organizational boundaries (networks, alliances, and partnerships) are often referred to as an important source of acquiring knowledge yet the learning processes and outcomes are still conceptualized within the scope

of the individual organization. Those that do conceptualize learning at the interorganizational level mostly consider geographically distinct ecosystems or industry sectors, thus stressing the role of geographical proximity as to be found in studies of collaboration, for example, in industrial ecology (e.g., Walls & Paquin, 2015) or local innovation ecosystems (Granstrand & Holgersson, 2020). Few articles make the interconnection between business organizations and their societal context explicit. As Cruz et al. (2006) argue from an evolutionary perspective, a managerial strategy can be seen as a social practice that evolves, shapes, and is shaped by the values, norms, and logics that exist inside and outside organizational boundaries. Hence, a societal learning scope makes explicit the idea of co-evolutionary change and suggests a shift in the firm's awareness to its systemic context. This includes concerns of macrolevel changes and planetary boundaries (Whiteman, Walker, & Perego, 2013) as well as considering a much larger group of stakeholders than traditional stakeholder theory suggests (Schaltegger, Hörisch, & Freeman, 2017).

3. The "cooperative advantage objective" goes far beyond striving for more cooperation. It addresses a fundamental shift in logics underlying business practice. We found that in the majority of articles, sustainability learning is aiming for the competitive advantage of the individual organization rather than jointly striving for a more systemic objective. As described under learning scope, interorganizational cooperation is a relevant concern; however, cooperation is mostly framed as a useful tool for transferring knowledge and best practices. Rooted in the traditional RBW, the motivation for sustainability-related learning is outperforming competitors. Opposing such a competitive viewpoint in light of systemic sustainability challenges, Cantino et al. (2017) suggest a reframing of the triggering mechanism for sustainability learning being cooperation and the outcome being a *cooperative advantage*. As shown in our typology (Table 4), the shift in learning objectives from competition to cooperation is complementary to the one in the organizational perspective: both cases require a shift from an organization-centered viewpoint (i.e., the organization engages in cooperation to gather knowledge for internal processes) to a systemic viewpoint (i.e., the organization engages in cooperation as part of a larger systemic entity). The framing of cooperative advantage can still be regarded as a RBW but as a redefined version: one of the resources is cooperation, and knowledge sharing is aimed at thriving in a highly complex world full of challenges that are not to be solved by single organizations. Such a shift in logics includes a mental repositioning of the organization, now defining itself as part of a web of collaborators pursuing a common objective. A step that seems indispensable for effective transformative action.

5.3 | Limitations and pathways for future research

We set out to consolidate key principles at the nexus of BST and OL. A systematic literature review provided the ground for crafting a learning typology as an extension to Dyllick and Muff (2016)'s BST framework. We consider this typology as a useful heuristic to approaching the link between BST and OL. Nevertheless, it is important to keep in mind its ideal-typical character. First, whereas the typology is organized in distinct categories for the sake of simplification, framings in research and in business practice are less clear-cut and rather need to be pictured along a messy continuum. The same is true for Dyllick and Muff (2016)'s framework that we have built upon. Although it served as a useful instrument for this work, we do see the limitations of this framework. For example, it brings up the question of when a "societal challenge" classifies as such so that addressing it truly qualifies as shift in organizational perspectives. In line with Aggerholm and Trapp (2014), we hence call for critical reflection of static frameworks, when addressing dynamic shifts in BST. We see our novel contribution in identifying key learning principles for shifts in organizational perspectives, that is, business transformation. By this, we hope to provide a starting point for further conceptual debate and empirical analysis. For example, it appears relevant to study business research but also business practice for the concrete underlying learning mechanisms, triggers, and structures that enable these particular types of learning in a business (ecosystem) and in relation to the different BST levels. Furthermore, in this study, we focused on the specific learning theory of OL as an established approach in organizational and management studies. As there do exist further learning theories, it seems promising to conduct a similar analysis with other fields of learning research, for example, drawing on social learning theories.

In the following, we suggest three additional avenues for future research to enrich the understanding of the identified learning principles for business transformation.

5.3.1 | Local learning structures beyond organizational boundaries

We found shared local ecosystems to be a common denominator when conceptualizing learning beyond organizational boundaries. The notion of cooperative advantage (Cantino et al., 2017) as well as studies on learning networks (Manring & Moore, 2006) referred to the collaborative management and learning processes in shared resource bases. Transferring insights from these studies to the shared sociogeographical context, the role of place may be further taken into account. Scholars have pointed to the positive effect of place attachment on sustainability orientation in firms (Shrivastava & Kennelly, 2013). Future research could address the particular role of place as a catalyst for a local learning environment that firms feel attached to and responsible for. Places may function as "boundary objects" (Benn et al., 2013) for local collaboration. Studying transformative learning effects in local collaboration and networks could entail formal and informal business networks, cross-sector alliances, and interorganizational communities of practice.

5.3.2 | Further unpacking fundamental shifts—The role of institutional logics

We also suggest to complement research at the nexus of BST and OL with an institutional logics lens, adding more explanatory power to "what is the subject of learning" from a systemic perspective. We found that references to double-loop learning in sustainability-related processes are widespread. However, the actual degree of changing the theory in use depends on the aspired level of sustainability. Building on Cruz et al. (2006) who refer to a required shift in the organizational perspective as "transition process from a financial-economic logic to a sustainable logic" (p. 881), we see a need for further research on the dynamics in corporate missions. For example, Laasch and Pinkse (2019) recently provided insights about processes of integrating a new "responsibility logic" into the dominating commercial logic in business. Thus, we see synergy potentials when combining a learning perspective on BST with studying shifts in institutional logics. It would be interesting to especially draw on types of businesses that start out with logic other than the dominant commercial logic, such as social enterprises (which by definition take on an "outside-in" perspective), sufficiency-based companies, and nongrowing firms.

5.3.3 | Understanding co-evolutionary dynamics: Drawing on transition theory

The learning principle of "societal learning scope" includes the idea of a co-evolutionary dynamic between societal and organizational change. Companies that are aware of this dynamic are much more capable of responding to societal change and to proactively engage in change. Loorbach and Wijsman (2013) refer to such businesses as "frontrunner businesses" (p. 23) for societal transitions. We see a more systemic framing of the nexus of BST and OL in light of co-evolutionary change processes as a promising pathway for better understanding the role of business in sustainable development. Scholars from the field of sustainability transition research have likewise identified the need to integrate learning theories, in particular OL, into their studies of BST transitions (Van Mierlo & Beers, 2020).

6 | CONCLUSION

In this study, we presented a typology for sustainability learning and distilled three learning principles associated with business transformation: a deutero learning mode, a societal learning scope, and a cooperative advantage objective. Although we see the contribution of our study as being in the conceptual realm of research, we conclude with implications for research and practice. The learning typology with the three transformative learning principles provides leverage points for triggering transformative change processes in firms: by implementing structures and platforms for continuous learning and reflection within and across organizational boundaries (deutero learning); by explicitly reframing managerial strategy as practice that evolves, shapes, and is shaped by the values, norms, and logics that exist inside and outside the organization (societal learning scope); and by actively seeking collaboration and reframing it as an invaluable resource for jointly thriving in addressing sustainability challenges (cooperative advantage objective). There remains a need to further investigate the incentives and structures that can foster the implementation of measures associated with transformative learning in firms.

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REFERENCES

Aggerholm, H., & Trapp, N. (2014). Three tiers of CSR: An instructive means of understanding and guiding contemporary company approaches to CSR? *Business Ethics: A European Review*, *23*, 235–247. https://doi.org/10.1111/beer.12050

Antal, A. B., & Sobczak, A. (2004). Beyond CSR: Organizational learning for global responsibility. Discussion Paper, Wissenschaftszentrum Berlin für Solzialforschung.

Antal, A. B., & Sobczak, A. (2014). Culturally embedded organizational learning for global responsibility. *Business & Society*, *53*, 652–683. https://doi.org/10.1177/0007650313476673

Argyris, C., & Schön, D. (1978). *Organizational learning*. Reading, Mass: Addison-Wesley Pub. Co.

Argyris, C., & Schön, D. (1996). *Organizational learning II: Theory, method, and practice*. University of Michigan: Addison-Wesley Publishing Company.

Arya, B., & Salk, J. E. (2006). Cross-sector Alliance learning and effectiveness of voluntary codes of corporate social responsibility. *Business Ethics Quarterly*, *16*, 211–234. https://doi.org/10.5840/beq200616223

Banerjee, S. (2008). Corporate social responsibility: The good, the bad and the ugly. *Critical Sociology*, *34*, 51–79. https://doi.org/10.1177/0896920507084623

Banerjee, S. B. (1998). Corporate environmentalism: Perspectives from organizational learning. *Management Learning*, *29*, 147–164. https://doi.org/10.1177/1350507698292002

Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, *43*(4), 717–736.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*, 99–120. https://doi.org/10.1177/014920639101700108

Bateson, G. (1958). *Naven: A survey of the problems suggested by a composite picture of the culture of a New Guinea tribe drawn from three points of view*. Stanford: Stanford Univ. Press.

Belle, S. M. (2017). Knowledge stewardship as an ethos-driven approach to business ethics. *Journal of Business Ethics*, *142*, 83–91. https://doi.org/10.1007/s10551-015-2710-5

Benn, S., Edwards, M., & Angus-Leppan, T. (2013). Organizational learning and the sustainability Community of Practice: The role of boundary objects. *Organization & Environment*, *26*, 184–202. https://doi.org/10.1177/1086026613489559

Bilan, Y., Hussain, H. I., Haseeb, M., & Kot, S. (2020). Sustainability and economic performance: Role of organizational learning and innovation. *Engineering Economics*, *31*, 93–103. https://doi.org/10.5755/j01.ee.31.1.24045

Blackman, D., Kennedy, M., & Quazi, A. (2013). Corporate social responsibility and individual resistance: Learning as the missing link in implementation. *Management Learning*, *44*, 237–252. https://doi.org/10.1177/1350507612444392

Borghei, B., & Magnusson, T. (2018). Niche aggregation through cumulative learning: A study of multiple electric bus projects. *Environmental Innovation and Societal Transitions*, *28*, 108–121. https://doi.org/10.1016/j.eist.2018.01.004

Burchell, J., & Cook, J. (2006). Assessing the impact of stakeholder dialogue: Changing relationships between NGOs and companies. *Journal of Public Affairs*, *6*, 210–227. https://doi.org/10.1002/pa.229

Cangelosi, V. E., & Dill, W. R. (1965). Organizational learning: Observations toward a theory. *Administrative Science Quarterly*, *10*, 175. https://doi.org/10.2307/2391412

Cantino, V., Devalle, A., Cortese, D., Ricciardi, F., & Longo, M. (2017). Place-based network organizations and embedded entrepreneurial learning: Emerging paths to sustainability. *International Journal of Entrepreneurial Behavior & Research*, *23*, 504–523. https://doi.org/10.1108/IJEBR-12-2015-0303

Carter, C. R. (2005). Purchasing social responsibility and firm performance: The key mediating roles of organizational learning and supplier performance. *International Journal of Physical Distribution and Logistics Management*, *35*, 177–194. https://doi.org/10.1108/09600030510594567

Cramer, J. (2005). Company learning about corporate social responsibility. *Business Strategy and the Environment*, *14*, 255–266. https://doi.org/10.1002/bse.432

Crossan, M. M., Lane, H. W., & White, R. E. (1999). An organizational learning framework: From intuition to institution. *The Academy of Management Review*, *24*, 522–537. https://doi.org/10.2307/259140

Cruz, L. B., & Pedrozo, E. A. (2009). Corporate social responsibility and green management: Relation between headquarters and subsidiary in multinational corporations. *Management Decision*, *47*, 1174–1199. https://doi.org/10.1108/00251740910978368

Cruz, L. B., Pedrozo, E. A., & Estivalete, V. F. B. (2006). Towards sustainable development strategies: A complex view following the contribution of Edgar Morin. *Management Decision*, *44*, 871–891. https://doi.org/10.1108/00251740610680578

Dashwood, H. S. (2012). CSR norms and organizational learning in the mining sector. *Corporate Governance: The International Journal of Business in Society*, *12*, 118–138. https://doi.org/10.1108/14720701211191373

De Lange, D. E., Busch, T., & Delgado-Ceballos, J. (2012). Sustaining sustainability in organizations. *Journal of Business Ethics*, *110*, 151–156. https://doi.org/10.1007/s10551-012-1425-0

De Palma, R., & Dobes, V. (2010). An integrated approach towards sustainable entrepreneurship—Experience from the TEST project in transitional economies. *Journal of Cleaner Production*, *18*, 1807–1821. https://doi.org/10.1016/j.jclepro.2010.07.025

Dicle, Ü., & Köse, C. (2014). The impact of organizational learning on corporate sustainability and strategy formulation with the moderating effect of industry type. *Procedia - Social and Behavioral Sciences*, *150*, 958–967. https://doi.org/10.1016/j.sbspro.2014.09.108

Duarte, F. d. P. (2017). Sustainability learning challenges in a Brazilian government organization. *International Journal of Organizational Analysis*, *25*, 562–576. https://doi.org/10.1108/IJOA-02-2015-0842

Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Business Strategy and the Environment*, *11*, 130–141. https://doi.org/10.1002/bse.323

Dyllick, T., & Muff, K. (2016). Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & Environment*, *29*, 156–174. https://doi.org/10.1177/1086026615575176

Ehrenfeld, J. (2012). Beyond the brave new world: Business for sustainability. In P. Bansal, & A. Hoffman (Eds.), *The Oxford handbook of business and the natural environment* (pp. 611–619). New York, NY: Oxford University Press.

Elkington, J. (1994). Towards the sustainable corporation: Win-win-win business strategies for sustainable development. *California Management Review*, *36*, 90–100. https://doi.org/10.2307/41165746

Espinosa, A., & Porter, T. (2011). Sustainability, complexity and learning: Insights from complex systems approaches. *The Learning Organization*, *18*, 54–72. https://doi.org/10.1108/09696471111096000

Fortis, Z., Maon, F., Frooman, J., & Reiner, G. (2018). Unknown knowns and known unknowns: Framing the role of organizational learning in corporate social responsibility development: Unknown knowns and known unknowns. *International Journal of Management Reviews*, *20*, 277–300. https://doi.org/10.1111/ijmr.12130

Fuenfschilling, L., & Truffer, B. (2014). The structuration of socio-technical regimes—Conceptual foundations from institutional theory. *Research Policy*, *43*, 772–791. https://doi.org/10.1016/j.respol.2013.10.010

Godkin, L. (2015). Mid-management, employee engagement, and the generation of reliable sustainable corporate social responsibility. *Journal of Business Ethics*, *130*, 15–28. https://doi.org/10.1007/s10551-014-2149-0

Gond, J.-P., & Herrbach, O. (2006). Social reporting as an organisational learning tool? A theoretical framework. *Journal of Business Ethics*, *65*, 359–371. https://doi.org/10.1007/s10551-006-6405-9

Granstrand, O., & Holgersson, M. (2020). Innovation ecosystems: A conceptual review and a new definition. *Technovation*, *90–91*, 102098. https://doi.org/10.1016/j.technovation.2019.102098

Grewatsch, S., & Kleindienst, I. (2018). How organizational cognitive frames affect organizational capabilities: The context of corporate sustainability. *Long Range Planning*, *51*, 607–624. https://doi.org/10.1016/j.lrp.2017.03.004

Hoffmann, E. (2007). Consumer integration in sustainable product development. *Business Strategy and the Environment*, *16*, 322–338. https://doi.org/10.1002/bse.577

Hubbard, G. (2009). Measuring organizational performance: Beyond the triple bottom line. *Business Strategy and the Environment*, *18*, 177–191. https://doi.org/10.1002/bse.564

Iarossi, J., Miller, J. K., O'Connor, J., & Keil, M. (2011). Addressing the sustainability challenge: Insights from institutional theory and organizational learning. *SSRN Electronic Journal*, *10*, 76–91. https://doi.org/10.2139/ssrn.1839802

Jamali, D. (2006). Insights into triple bottom line integration from a learning organization perspective. *Business Process Management Journal*, *12*, 809–821. https://doi.org/10.1108/14637150610710945

Karadzic, V., Antunes, P., & Grin, J. (2013). "How to learn to be adaptive?" An analytical framework for organizational adaptivity and its application to a fish producers organization in Portugal. *Journal of Cleaner Production*, *45*, 29–37. https://doi.org/10.1016/j.jclepro.2012.07.016

Kasim, A. (2015). Environmental management system (EMS): Postulating the value of its adoption to organizational learning in hotels. *International Journal of Contemporary Hospitality Management*, *27*, 1233–1253. https://doi.org/10.1108/IJCHM-01-2014-0045

Kim, S., & Han, C. (2012). The role of organisational learning in the adoption of environmental logistics practices: Empirical evidence from Korea. *International Journal of Logistics Research and Applications*, *15*, 147–161. https://doi.org/10.1080/13675567.2012.709228

Laasch, O., & Pinkse, J. (2019). Explaining the leopards' spots: Responsibility-embedding in business model artefacts across spaces of institutional complexity. *Long Range Planning*, *53*, 101891. https://doi.org/10.1016/j.lrp.2019.101891

Landrum, N. (2017). Stages of corporate sustainability: Integrating the strong sustainability worldview. *Organization & Environment*, *31*, 1–27. https://doi.org/10.1177/1086026617717456

Langenus, M., & Dooms, M. (2018). Creating an industry-level business model for sustainability: The case of the European ports industry. *Journal of Cleaner Production*, *195*, 949–962. https://doi.org/10.1016/j.jclepro.2018.05.150

Lee, S., & Klassen, R. (2016). Firms' response to climate change: The interplay of business uncertainty and organizational capabilities. *Business Strategy and the Environment*, *25*, 577–592. https://doi.org/10.1002/bse.1890

Leonidou, L. C., Leonidou, C. N., Fotiadis, T. A., & Aykol, B. (2015). Dynamic capabilities driving an eco-based advantage and performance in global hotel chains: The moderating effect of international strategy. *Tourism Management*, *50*, 268–280. https://doi.org/10.1016/j.tourman.2015.03.005

Li, N., & Toppinen, A. (2011). Corporate responsibility and sustainable competitive advantage in forest-based industry: Complementary or conflicting goals? *Forest Policy and Economics*, *13*, 113–123. https://doi.org/10.1016/j.forpol.2010.06.002

Lin, H. (2012). Cross-sector alliances for corporate social responsibility partner heterogeneity moderates environmental strategy outcomes. *Journal of Business Ethics*, *110*, 219–229. https://doi.org/10.1007/s10551-012-1423-2

Linnenluecke, M., & Griffiths, A. (2009). Corporate sustainability and organizational culture. *Journal of World Business*, *45*, 357–366. https://doi.org/10.1016/j.jwb.2009.08.006

Lockett, A., Moon, J., & Visser, W. (2006). Corporate social responsibility in management research: Focus, nature, salience and sources of influence. *Journal of Management Studies*, *43*, 115–136. https://doi.org/10.1111/j.1467-6486.2006.00585.x

Loorbach, D., & Wijsman, K. (2013). Business transition management: Exploring a new role for business in sustainability transitions. *Journal of Cleaner Production*, *45*, 20–28. https://doi.org/10.1016/j.jclepro.2012.11.002

Lozano, R. (2014). Creativity and organizational learning as means to foster sustainability: Creativity and organizational learning. *Sustainable Development*, *22*, 205–216. https://doi.org/10.1002/sd.540

Luederitz, C., Brink, E., Gralla, F., Hermelingmeier, V., Meyer, M., … Von Wehrden, H. (2015). A review of urban ecosystem services: Six key challenges for future research. *Ecosystem Services*, *14*, 98–112. https://dx.doi.org/10.1016/j.ecoser.2015.05.001

Manring, S. L. (2007). Creating and managing interorganizational learning networks to achieve sustainable ecosystem management. *Organization & Environment*, *20*, 325–346. https://doi.org/10.1177/1086026607305738

Manring, S. L., & Moore, S. B. (2006). Creating and managing a virtual inter-organizational learning network for greener production: A conceptual model and case study. *Journal of Cleaner Production*, *14*, 891–899. https://doi.org/10.1016/j.jclepro.2005.11.033

Martinuzzi, A., & Krumay, B. (2013). The good, the bad, and the successful—How corporate social responsibility leads to competitive advantage and organizational transformation. *Journal of Change Management*, *13*, 424–443. https://doi.org/10.1080/14697017.2013.851953

Meppem, T., & Gill, R. (1998). Planning for sustainability as a learning concept. *Ecological Economics*, *26*, 121–137. https://doi.org/10.1016/S0921-8009(97)00117-1

Molnar, E., & Mulvihill, P. R. (2003). Sustainability-focused organizational learning: Recent experiences and new challenges. *Journal of Environmental Planning and Management*, *46*, 167–176. https://doi.org/10.1080/0964056032000070990

Müller, M., & Siebenhüner, B. (2007). Policy instruments for sustainability-oriented organizational learning. *Business Strategy and the Environment*, *16*, 232–245. https://doi.org/10.1002/bse.481

Nattrass, B. F., & Altomare, M. (1999). *The natural step for business: Wealth, ecology, and the evolutionary corporation*. Gabriola Island, BC: New Society Publishers.

Neale, A. (1997). Organisational learning in contested environments: Lessons from Brent Spar. *Business Strategy and the Environment*, *6*, 93–103. https://doi.org/10.1002/(SICI)1099-0836(199705)6:2%3C93::AID-BSE95%3E3.0.CO;2-U

Nybakk, E., & Panwar, R. (2015). Understanding instrumental motivations for social responsibility engagement in a micro-firm context. *Business Ethics: A European Review*, *24*, 18–33. https://doi.org/10.1111/beer.12064

Oelze, N., Hoejmose, S. U., Habisch, A., & Millington, A. (2016). Sustainable development in supply chain management: The role of organizational learning for policy implementation: The role of organizational learning for RSCM policy implementation. *Business Strategy and the Environment*, *25*, 241–260. https://doi.org/10.1002/bse.1869

Penrose, E. (1959). *The theory of the growth of the firm*. Oxford: Basil Blackwell.

Pourdehnad, J., & Smith, P. A. C. (2012). Sustainability, organizational learning, and lessons learned from aviation. *The Learning Organization*, *19*, 77–86. https://doi.org/10.1108/09696471211190374

Puplampu, B., & Dashwood, H. S. (2011). Organizational antecedents of a mining Firm's efforts to reinvent its CSR: The case of golden star resources in Ghana. *Business and Society Review*, *116*, 467–507. https://doi.org/10.1111/j.1467-8594.2011.00393.x

Quartey, S. H., & Wells, S. (2020). Sustainability-oriented learning: Evidence from Eyre Peninsula's fishing industry in Australia. *Environment, Development and Sustainability*, *22*, 2477–2496. https://doi.org/10.1007/s10668-018-00302-3

Richards, C., & Zen, I. S. (2016). From surface to deep corporate social responsibility: The Malaysian no plastic bags campaign as both social and organizational learning. *Journal of Global Responsibility*, *7*, 275–287. https://doi.org/10.1108/JGR-04-2016-0010

Roome, N., & Wijen, F. (2006). Stakeholder power and organizational learning in corporate environmental management. *Organization Studies*, *27*, 235–263. https://doi.org/10.1177/0170840605057669

Sambasivan, M., Bah, S., & Jo-Ann, H. (2013). Making the case for operating "Green": Impact of environmental proactivity on multiple performance outcomes of Malaysian firms. *Journal of Cleaner Production*, *42*, 69–82. https://doi.org/10.1016/j.jclepro.2012.11.016

Schaltegger, S., Hörisch, J., & Freeman, R. E. (2017). Business cases for sustainability: A stakeholder theory perspective. *Organization & Environment*, *32*, 1–22. https://doi.org/10.1177/1086026617722882

Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: Categories and interactions. *Business Strategy and the Environment*, *20*, 222–237. https://doi.org/10.1002/bse.682

Senge, P. M. (1990). *The Fifth discipline: The art & practice of the learning organization*. New York: Doubleday Business.

Shrivastava, P., & Kennelly, J. J. (2013). Sustainability and place-based Enterprise. *Organization & Environment*, *26*, 83–101. https://doi.org/10.1177/1086026612475068

Siebenhüner, B., & Arnold, M. (2007). Organizational learning to manage sustainable development. *Business Strategy and the Environment*, *16*, 339–353. https://doi.org/10.1002/bse.579

Tollin, K., & Vej, J. (2012). Sustainability in business: Understanding meanings, triggers and enablers. *Journal of Strategic Marketing*, *20*, 625–641. https://doi.org/10.1080/0965254X.2012.711347

Toma, S.-G. (2012). A pilot study on the relationships among organizational learning, change, and sustainability in a responsible Romanian higher education institution. *Amfiteatru Economic*, *32*, 420–435.

Trong Tuan, L. (2013). Leading to learning and competitive intelligence. *The Learning Organization*, *20*, 216–239. https://doi.org/10.1108/09696471311328460

Van Marrewijk, M. (2003). Concepts and definitions of CSR and corporate sustainability: Between agency and communion. *Journal of Business Ethics*, *44*, 95–105. https://doi.org/10.1023/A:1023331212247

Van Mierlo, B., & Beers, P. J. (2020). Understanding and governing learning in sustainability transitions: A review. *Environmental Innovation and Societal Transitions*, *34*, 255–269. https://doi.org/10.1016/j.eist.2018.08.002

Velazquez, L. E., Esquer, J., Munguía, N. E., & Moure-Eraso, R. (2011). Sustainable learning organizations. *The Learning Organization*, *18*, 36–44. https://doi.org/10.1108/09696471111095984

Walls, J. L., & Paquin, R. L. (2015). Organizational perspectives of industrial symbiosis: A review and synthesis. *Organization & Environment*, *28*, 32–53. https://doi.org/10.1177/1086026615575333

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, *5*, 171–180. https://doi.org/10.1002/smj.4250050207

Whiteman, G., Walker, B., & Perego, P. (2013). Planetary boundaries: Ecological foundations for corporate sustainability. *Journal of Management Studies*, *50*, 307–336. https://doi.org/10.1111/j.1467-6486.2012.01073.x

Wijethilake, C., & Upadhaya, B. (2020). Market drivers of sustainability and sustainability learning capabilities: The moderating role of sustainability control systems. *Business Strategy and the Environment*, *29*, 1–13. https://doi.org/10.1002/bse.2503

Wilson, J., & Beard, C. (2014). Constructing a sustainable learning organization: Marks and Spencer's first Plan A learning store. *The Learning Organization*, *21*, 98–112. https://doi.org/10.1108/TLO-08-2012-0056

Yang, D., & Park, S. (2016). Too much is as bad as too little? Sources of the intention-achievement gap in sustainable innovation. *Sustainability*, *8*, 712. https://doi.org/10.3390/su8080712

Zhang, F., & Zhu, L. (2019). Enhancing corporate sustainable development: Stakeholder pressures, organizational learning, green innovation. *Business Strategy and the Environment*, *28*, 1012–1026. https://doi.org/10.1002/bse.2298

Zhang, Y., Sun, J., Yang, Z., & Li, S. (2018). Organizational learning and green innovation: Does environmental proactivity matter? *Sustainability*, *10*. https://doi.org/10.3390/su10103737

Zhu, Q., Sarkis, J., & Lai, K. (2012). Internationalization and environmentally-related organizational learning among Chinese manufacturers. *Technological Forecasting and Social Change*, *79*, 142–154. https://doi.org/10.1016/j.techfore.2011.08.018

Zollo, M., Cennamo, C., & Neumann, K. (2013). Beyond what and why. *Organization & Environment*, *26*, 241–259. https://doi.org/10.1177/1086026613496433

Zou, H., Xie, X., Meng, X., & Yang, M. (2019). The diffusion of corporate social responsibility through social network ties: From the perspective of strategic imitation. *Corporate Social Responsibility and Environmental Management*, *26*, 186–198. https://doi.org/10.1002/csr.1670

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