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Dogmatic, instrumental and paradoxical frames: A pragmatic research framework for studying organizational sustainability

Tulin Dzhengiz¹  | Kai Hockerts² 

¹ School of Business, Aalto University, Espoo, Finland

² Copenhagen Business School, Frederiksberg, Denmark

Correspondence

Tulin Dzhengiz, School of Business, Aalto University, Espoo, Finland.

Email: tulin.dzhengiz@aalto.fi

Abstract

Our purpose is to develop a comprehensive categorization of organizational sustainability frames. This is necessary because a unified approach that considers the organizational sustainability frames of different organizations (FPOs, NPOs and hybrids) is absent in the extant research. Towards this end, we undertake an integrative review of 158 articles and identify seven frames based on three objective functions: maximization of economic capital, maintaining natural capital and creating social impact. Of the seven, three are dogmatic, each accepting only one objective function as legitimate: economic, natural and social capital; three are instrumental, with one objective function as the ultimate goal and the others as necessary means; and the last one is paradoxical, where tensions between objective functions are accommodated simultaneously rather than eliminated. We contribute to the literature by introducing the ‘dogmatic frame’ category to the ongoing conversation on organizational sustainability frames. We also contribute by demonstrating that instrumental frames exist not only at for-profit organizations but also at non-profits and hybrid organizations. Consequently, we link the conversation in these areas with that of organizational sustainability frames. Finally, we problematize the growing attention on the paradoxical frame by discussing its suitability in different contexts and situations.

INTRODUCTION

There is continuing scholarly interest in studying frames that guide organizational sensemaking of sustainability challenges (Eberhardt-Toth & Wasieleski, 2013; Hahn et al., 2015; Hockerts, 2015a). Frames are cognitive filters that ‘enable individuals or groups or organisations to locate, perceive, identify, and label’ (Goffman, 1974, p. 21). The primary focus of this paper is to describe an organi-

zation’s shared assumptions about which objective function(s) it has to prioritize or optimize to maintain its activities. Historically, the assumption was that organizations only need to consider a single objective to remain sustainable (e.g. sustainable financial profit). A triple-bottom-line view has emerged over the past three decades that requires balancing economic, natural and social capital (Elkington, 1994, 2013). However, as we will show in this paper, views still differ about how organizations achieve this balance.

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We propose organizational sustainability frames as an umbrella term to describe this further. We define *organizational sustainability frames* as a set of situated collective assumptions, values and mental reference models that are used to justify an organization's (single or multiple) objective function(s) in relation to maintaining and/or growing economic, natural and social capital in their sphere of influence.

In the growing research on organizational sustainability frames, scholars have already discussed how frames impact sensemaking and decision-making on sustainability issues (Eberhardt-Toth & Wasieleski, 2013; Fassin et al., 2015; Hahn et al., 2015), while others have discussed the impact of organizational sustainability frames on business models (Laasch, 2018; Laasch & Pinkse, 2020); development of sustainability-oriented capabilities (Grewatsch & Kleindienst, 2018; Watson et al., 2018b); responsiveness to stakeholders (Bundy et al., 2012); and sustainability strategies (Branzei et al., 2000; Herremans et al., 2009; Joseph et al., 2019). Frames are also discussed outside the scope of corporate sustainability. For instance, they impact the mission drifts of hybrids such as social enterprises (Bruneel et al., 2020; Ramus et al., 2018; Siegner et al., 2018) and the legitimization strategies of sustainability entrepreneurs as they juggle competing frames (Dahlmann & Grosvold, 2017; Molecke & Pinkse, 2020). Finally, frames also affect the relationship between for-profit organizations (FPOs) and non-profit organizations (NPOs) since they impact partner selection (Dzhengiz, 2018) and the maintenance of partnerships (Ahmadsimab & Chowdhury, 2021; Ashraf et al., 2019; Klitsie et al., 2018; Zimmermann et al., 2021).

Many of these insights, however, remain disconnected. Even though there have been comprehensive reviews of the literature on frames in the context of management and organization studies (Cornelissen & Werner, 2014; Gray et al., 2015; Walsh, 1995), organizational sustainability frames are distinct and require further attention. Sustainability frames bring about additional complexity and normativity beyond what is studied in traditional reviews of organizational frame research due to the societal and environmental dimensions. 'Understanding organisations' sustainability frames is critical to understanding how and why they respond (Bundy et al., 2013) or do not (Slawinski et al., 2017) to these mounting challenges' (Mazutis et al., 2020, p. 2).

The current state of the art on organizational sustainability frames presents a lack of consensus regarding their categorization (Haffar & Searcy, 2019) because scholars have developed various categories and used different terminologies to label these frames. For instance, some compared the business case and paradoxical frames (Hahn et al., 2015), and others added business frames to this list (Sharma & Jaiswal, 2017). Still others differenti-

ated between instrumental and integrative (Gao & Bansal, 2013), traditional (commercial) and ecosystem (ecological) frames (Corbett et al., 2015; York et al., 2016). We hope that our review will provide an umbrella model that allows us to integrate these diverse approaches.

Taken as a whole, this growing scholarly discussion has generated important insights. However, a unified approach that considers the organizational sustainability frames of different organizations (FPOs, NPOs and hybrids) is absent in the research. This gap is the underlying motivation for our integrative review. Focusing on this gap is crucial, and not doing so would have two negative consequences. At one extreme, it may lead scholars to offer new labels for already existing frames, reducing the chance that pre-existing categories will mature. At the other extreme, it may lead scholars to treat these abstractions as material and concrete things. Finally, existing categorizations often do not consider the important category of dogmatic frames. As a result, this often leads scholars to solely view the business case and paradoxical frames as a dichotomy. When different organizational forms are considered, however, sustainability frame categories are more diverse and pluralistic than is possible in a dichotomy.

Overall, the purpose of our paper is to categorize organizational sustainability frames based on an integrative review while identifying understudied areas in the process, but also to propose a new research agenda for organizational sustainability frames. Rather than using the term 'corporate sustainability', which conjures up an implied focus on the organizational form of large (often publicly traded) corporations, we apply the term *organizational sustainability* to underline the fact that sustainability frames are by no means exclusive to corporations but can also be found in small firms, NPOs and hybrid organizations.

Our integrative review of 158 articles describes organizational sustainability frames, categorizing them as *dogmatic*, *instrumental* and *paradoxical*. As part of this process, we define *dogmatic frames* as mutually exclusive unitary frames assuming a win/lose (zero-sum) relationship between objectives; *instrumental frames* as means-end relationships between multiple objectives; and *paradoxical frame* as the simultaneous accommodation of tensions arising from multiple conflicting objective functions.

Our review contributes to the growing literature on frames that guide sensemaking of sustainability challenges at FPOs (Hahn et al., 2015), NPOs (Tomlinson & Schwabenland, 2009) and hybrids (Ebrahim et al., 2014). A key contribution of our paper is the explicit identification of what we call *dogmatic frames*, which in our view have been under-researched in recent years. Only by more heavily studying the degree to which (and why) such dogmatic frames are still present in many organizations can we hope to advance our understanding of

TABLE 1 Organizational frames: Terms, organizational form and illustrative references

Term	Organizational form	Illustrative references
Strategic frame	FPO	Eggers and Kaplan (2013), Kaplan (2008a), Narayanan et al. (2010)
Collective action frame	NPO	Benford (1993), Benford and Snow (2000)
Dominant logic	FPO	Engelmann et al. (2020), Penney (2018), Prahalad and Bettis (1986)
Organizational frames of reference	FPO	Shrivastava and Schneider (1984)
Technological frames	FPO	Orlikowski and Gash (1991, 1994)
Collective cognition	Organizations (general)	Langfield-Smith (1992), Mezas et al. (2001)

Abbreviations: FPO, for-profit organization; NPO, non-profit organization.

organizational sustainability frames and their evolution over time. Moreover, we also make visible the extraordinary preoccupation of scholars with the *instrumental* economic capital frame (often referred to as the business case) and the lack of rigorous study on instrumental natural capital and instrumental social capital frames, which tend to be more prevalent in social entrepreneurship and ecopreneurship. Finally, we problematize the implicit assumption of the superiority of the *paradoxical frame*.

The remainder of this paper is as follows. *Theoretical background* briefly reviews frames in the broader managerial and organizational cognition field before presenting our definition of organizational sustainability frames. *Methods* describes the process followed during the various stages of the review. *Findings* introduces our categorization of organizational sustainability frames. *Discussion* offers guidance for future research using gap spotting and problematization. *Conclusion* discusses the contributions of this review.

THEORETICAL BACKGROUND

The concept of frame, which is deeply engrained in the socio-cognitive psychology literature (Fiske & Taylor, 2013; Tversky & Kahneman, 1992), has been applied thus far to a large variety of fields such as social movements (Benford & Snow, 2000), media studies (Matthes & Kohring, 2008), linguistics (Tsur et al., 2015) and management and organization studies (for literature reviews, see Cornelissen & Werner, 2014; Kaplan, 2011; Walsh, 1995).

Frames are studied in three levels: micro-level cognitive frames, meso-level organizational frames and macro-level social frames (institutional logics) (Cornelissen & Werner, 2014; Walsh, 1995). In this paper we focus on the meso-level organizational frames, which can be defined as ‘a set of shared assumptions, values, and frames of reference that give meaning to everyday activities and guide how organisational members think and act’ (Rerup & Feldman, 2011, p. 578).

Table 1, which relies on seminal reviews on frames (Cornelissen & Werner, 2014; Walsh, 1995), provides a list of examples for terms used to refer to organizational frames, the organizational forms of interest and some illustrative references.

Organizational frames are not independent but develop in a relationship with micro- and macro-level frames (Gray et al., 2015) through intra-organizational mechanisms that include negotiations or contests between the cognitive frames of individuals (Kaplan, 2008b). They are also exposed to isomorphic pressures and hence influenced by macro-level institutional frames (logics of market, community, state and family) (Thornton et al., 2012, p. 154). At the organizational level, scholars ‘focus primarily on frames and their organisational consequences, ranging from technology implementation to the development of capabilities, and the mobilisation of activists’ (Cornelissen & Werner, 2014, p. 205).

Organizational frames often provide a normative understanding as they concern ‘interpretations of value which comprise the organising principles of what is valued and valuable’ (Kaplan & Murray, 2008, p. 2). Kaplan and Murray (2008, p. 6) highlighted that while ‘in the market sphere, the value of new technology will be associated with financial profit’, ‘in the civic sphere, the value may be in job creation or economic development’. Therefore, frames are socially constructed and contested. However, the clashes between different frames depend on the content and structure of the frames (Walsh, 1995). The content of a frame comprises the information environment that the frame represents; hence, what the frame constitutes (Walsh, 1995). The frame structure involves the degree of differentiation and integration in the frame’s dimensions (Walsh, 1995) and determines the frame’s complexity.

Based on the above, we define organizational sustainability frames (Le Ber & Branzei, 2011; Watson et al., 2018b) as: *a set of situated collective assumptions, values and mental reference models that are used to justify an organization’s (single or multiple) objective function(s) in relation to maintaining and/or growing economic, natural and social capital*

in their sphere of influence. The frames give meaning to sustainability challenges and guide action (Haffar & Searcy, 2019; Laasch, 2018; Le Ber & Branzei, 2011; Watson et al., 2018b) regarding the three bottom lines: economic capital generation, natural capital maintenance and social capital creation (Dyllick & Hockerts, 2002).

METHODS

We selected an integrative review method to help us develop new conceptual insights (i.e. categorization) that arise from a synthesis and critique of extant research (Elsbach & van Knippenberg, 2020). This method synthesizes qualitative, quantitative and theoretical articles using an analytical approach. We went through five stages: problem identification, literature search, data evaluation, data analysis and presentation (Whittemore & Knafl, 2005). In the problem identification stage, the research purpose was identified. Herein, our purpose is to categorize organizational sustainability frames using an integrative review and, in the process, identify understudied areas while simultaneously proposing a new research agenda for organizational sustainability frames.

Selection of studies

In the literature search stage, we used the EBSCO Business Source Premier and Web of Science databases to provide extensive coverage of academic journals (Dzhengiz & Niesten, 2020; Hakala et al., 2019). Unlike the study of frames in management and organization studies, research on organizational sustainability frames is an emerging area that is in need of initial synthesis. Therefore, this search required a broad literature search and selection, which is why we considered the various ways in which scholars might refer to organizational sustainability frames. First, we selected frames, cognition and logics as our main keywords to identify frame-related literature, since cognitive models and dominant logics are often used interchangeably with frames, as outlined in Table 1 (Cornelissen & Werner, 2014).

Second, we considered the overlap between the following mature fields: environmental management, corporate sustainability and corporate social responsibility, as they are 'discussed by some [scholars] as near-synonyms' (Strand et al., 2015, p. 2). As a result, in addition to sustainability, we also used 'green', 'environmental' and 'ecological' as keywords to account for environmental sustainability, and 'responsibility', 'social' and 'societal' to

account for social sustainability. Combining the frame and sustainability-related keywords with Boolean operators (AND/OR), we generated 21 search strings. We specifically searched the abstracts of academic peer-reviewed journals up to and including 2021 in these two databases. We assumed that the management and organization literature would integrate sustainability-related concerns in the early 1990s, since the term 'sustainability' was popularized after the publication of the Brundtland Report in 1987 (Barkemeyer et al., 2014). We found only one relevant article prior to 1995 that studied frames in the specific context of poverty (Iyengar, 1990), but the literature subsequently grew with the publication of foundational works by authors like Gladwin et al. (1995).

In the data evaluation stage, we screened the articles using the categories in the Science Citation Index and the Science Citation Index Expanded. We only included journals in the categories 'Business', 'Management', 'Environmental Studies' and 'Green & Sustainable Science & Technology', which is similar to the approach others use (Meier, 2011; Niesten & Jolink, 2020). Then, one of the authors conducted a review, applying the following exclusion criteria as a checklist: (a) 'frame', 'cognition' or 'logic' concepts are not used in line with the description presented in this article; (b) the article does not provide information about how frames impact an organization (FPOs, NPOs and hybrids); and (c) frames are not discussed in terms of sustainability challenges. In sum, we excluded articles that: referred to frames in a general social cognition background without referring to sustainability challenges; did not refer to the concept of the frame (or another term used interchangeably) as described in the Theoretical background section; and did not provide an understanding of how frames would impact FPOs, NPOs and hybrids. As a result of the screening, we identified 138 relevant articles from the databases.

One criticism of integrative reviews is the risk that they will exclude similar concepts in different domains (Alvesson & Sandberg, 2020). With this in mind, we applied a snowball approach that involved reviewing not only the reference lists of our 138 articles but also the articles citing them to identify relevant articles to add to the review that did not emerge in the initial database search (Butler et al., 2016; Keller & Sadler-Smith, 2019). This led to the inclusion of other articles that used concepts slightly different than frames, cognition and logic, for example mental models or schema (Fassin et al., 2015). We identified 20 additional articles using snowballing, which enhanced the coverage of our review. Table 2 lists the details of the search and screening phases.

TABLE 2 Search and screening stage

Stage	Criteria	Result	
		Web of Science	EBSCO
Searching	(cogniti* OR fram* OR logic*) AND (green* OR environment* OR ecolog* OR responsib* OR sustainab* OR social* OR societal*)	53 171	3392
	Peer-reviewed academic journal article, English language, up to 2021	12 704	3392
Screening	Inclusion criteria—journal review:	1867	478
	Journals included only if within the following Science and Social Science Citation Index Categories: Business, Management, Environmental Studies, Green & Sustainable Science & Technology		
	Exclusion criteria checklist: (a) frame, cognition and logic concepts were not used in line with the description presented in this paper; (b) the article did not provide information about how frames impact an organization (FPO, NPO, hybrid); (c) frames were not discussed in terms of sustainability challenges	127	67
	Merging databases:	138 (56 overlapped)	
Snowballing	Articles referred to concepts similar to frames such as templates, paradigms, sensemaking, world views or mental models	20	
Total		158	

Sample description

The sample contains articles published between 1990 and 2021. In the data evaluation phase, we coded the nature of the articles in terms of: theories and methods, term selection, organizational forms (FPO, NPO, hybrid) and level of analysis (Table A1 in the Appendix contains a complete list).

Scholars drew on various theoretical backgrounds, though the most prominent were institutional theory (28%), strategic cognition (22%), tensions and paradoxes (16%) and framing in social movements (9%). In terms of research method, there were 91 qualitative articles (58%), 45 theoretical (28%) and 21 quantitative (13%) and 1 mixed method. This shows that the field has yet to develop scales and proxies to measure organizational sustainability frames, signalling the emerging nature of the topic.

In our database, 92 studies (58%) focused on FPOs; 42 (27%) discussed FPOs, NPOs or hybrids simultaneously; 19 (12%) examined hybrids; and the remaining five (4%) solely looked at NPOs. In essence, most articles on organizational sustainability frames are primarily found in corporate sustainability scholarship and focus on FPOs. Organizational sustainability frames employed in other organizational forms (NPOs and hybrids) received notably less attention. When NPOs and hybrids were considered, they were mostly discussed in inter-organizational relationships, vis-à-vis FPOs.

Analytically, all the articles we included had meso-level (organizational) implications, though some only considered meso-level frames and others also included micro- or macro-level frames, or discussed the implications of micro-

or macro-level frames at the meso level. In total, 39% (61) of the studies only focused on meso-level frames; 28% (45) on macro-meso; 27% (43) on micro-meso; and 6% (9) on micro-meso-macro multilevel frame interactions. Among other things, the multilevel articles often discussed the micro- and macro-level antecedents of organizational sustainability frames (i.e. the meso level).

Coding process description

For our data analysis we used NVivo 11 software (city, state), which can be used both for manual and automated coding features. Using manual coding, we generated over 1900 codes in our three-stage coding process: in-vivo coding, axial coding and category development. In-vivo coding, which was applied to capture how scholars described sustainability frames, refers to coding a text without changing the actual language used by the original authors in the record (Saldana, 2009; Strauss, 1987). Next we used axial coding to identify category properties (Saldana, 2009), coding two: frame content and structure.

Frame content was coded in terms of the triple bottom line of sustainability (Elkington, 1998), that is maximizing economic capital, maintaining natural capital and creating social capital. Frame structure was coded in terms of the degree of interconnectedness between the three different bottom lines, reflecting the complexity of the frame (Hahn & Aragón-Correa, 2015) and differentiating between low complexity (unitarian, i.e. mutually exclusive zero-sum approach in which only one objective is considered as the legitimate organizational goal at the exclusion of the other

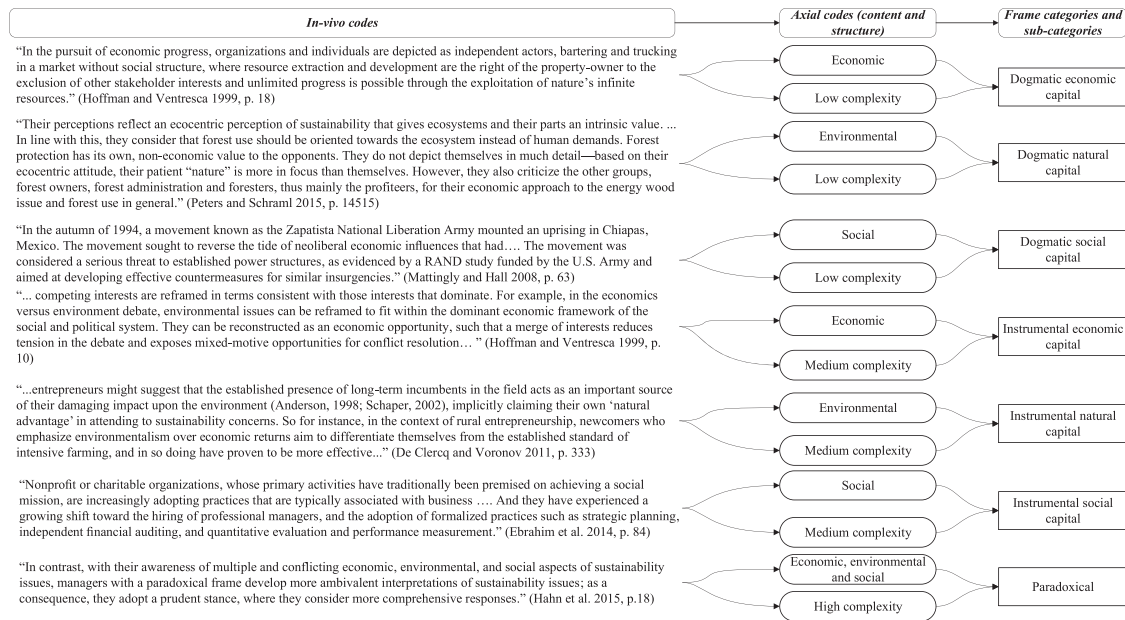


FIGURE 1 Stages of coding: In-vivo coding, axial coding and category development

two), medium complexity (means–end relationship, i.e. one objective is the ultimate goal and the others accepted as necessary means) and high complexity (simultaneity, i.e. tensions between objectives are accommodated rather than eliminated).

Initially, the first author assigned codes to each article, differentiating between primary codes when a code was central to the article and secondary codes when the code was only mentioned in passing. Thus, for example, an article about paradox frames (primary code) might, in a secondary paragraph, mention the existence of the instrumental economic frame without further discussing it in depth (secondary code).

Having only a single coder is a limitation for a systematic review process such as this. Thus, the second author independently coded a randomly chosen subset of 25 articles to assess our coding reliability. This process yielded an 84% intercoder reliability resulting from an 88% intercoder reliability on primary codes and 77% on secondary codes. Following this process, disagreements were discussed and the reasons for them identified. The first author went through all 158 articles to update codes in the few cases where necessary. Table A1 in the Appendix provides a detailed list of first and secondary codes for each article.

Figure 1 provides examples of the various coding stages. The final categories and sub-categories emerged as the combination of axial properties moving back and forth iteratively between the studied articles and the emerging categories. In labelling the resulting seven frames, we tried to stay as close as possible to the predominant language used in the articles, while simultaneously selecting monikers

that reveal both the frame's content and structure. Thus, for instance, instead of discussing the business case, we selected the instrumental economic capital frame label, making the means–end relationship explicit.

CATEGORIZATION OF ORGANIZATIONAL SUSTAINABILITY FRAMES

We identified seven organizational sustainability frames based on two criteria: (1) the frame structure (complexity in terms of low complexity in mutually exclusive unitary frames, medium complexity in means–ends frames and high complexity in simultaneity frames) and (2) the frame content in terms of its objective function (economic capital generation, natural capital maintenance and social capital creation).

Three main categories are observed based on the frame *structure* (complexity): dogmatic (low), instrumental (medium) and paradoxical (high). We conceptualize dogmatic frames as mutually exclusive unitary frames assuming a win/lose relationship between objectives. Instrumental frames identify a means–ends relationship in which two objectives are seen as intermediary means towards one ultimate objective. Moreover, the paradoxical frame juxtaposes all three objectives simultaneously, creating a complex tension.

Similarly, three categories are observed based on the frame *content*, referring to three different notions of capital: economic, natural and social (Balakrishnan et al., 2003;

Banerjee, 2001; Davidson, 2014; Dyllick & Hockerts, 2002; Gladwin et al., 1995; Hoffman & Ventresca, 1999; Ott et al., 2011; Paavola & Adger, 2005; Painter-Morland et al., 2017).

Economic capital refers to the financial reserves controlled by an organization (Dyllick & Hockerts, 2002), which means it is a private good. To ensure economic sustainability in the long term, an organization must maintain sufficient economic capital to ensure liquidity in times of economic risk and uncertainty (Dyllick & Hockerts, 2002).

Natural capital is the world's stock of natural resources (renewable and non-renewable), which is critical to providing society as well as other natural systems with free products and services such as in 'biological diversity, the ozone layer, and biogeochemical cycles' (Gladwin et al., 1995, p. 880). These ecosystem services make human life viable, which is why the sustainable use of natural capital requires an organization to consume natural capital below the natural reproduction rate or to develop substitutes (Dyllick & Hockerts, 2002).

Social capital refers to another public good, namely commodities and services that benefit society through 'the stimulation and utilisation of positive externalities' (van Tulder & Keen, 2018, p. 322). In other words, 'social capital contributes to human welfare and well-being' (Paavola & Adger, 2005, p. 363). Therefore, sustainable use of social capital requires that organizations maintain and generate rather than degrade social capital in local communities and society in general. For this paper, we conceive social capital as 'an instantiated informal norm that promotes co-operation between individuals' (Fukuyama, 2001, p. 7).

Dogmatic frames

Metaphorically dogmatic frames can be seen as a three-seated seesaw (Table 3), where gains on one side always cause corresponding losses to the two other sides, in our case objectives (and vice versa), assuming a win/lose (zero-sum) relationship between objectives. We chose to use the term 'dogma' to refer to beliefs that people accept without any doubts. Hence, dogmatic frames have a 'closed nature' and appear in those people that have a 'tendency to compartmentalise and isolate their beliefs and disbeliefs' (Davies, 1993, p. 692). Inspired by the literature on frames within socio-cognitive psychology (Bronstein et al., 2019; Davies, 1993; Korn & Giddan, 1964), we define dogmatic frames as the collective cognitive tendencies of actors to compartmentalize belief systems and isolate them to the extent of cognitive bias (Henry & Dietz, 2012).

Dominated by a polarized belief system, organizations with dogmatic frames only perceive a narrow portion of the information environment (Besharov & Smith, 2014; Kamat, 2004; Laasch, 2018; Slawinski & Bansal, 2015).

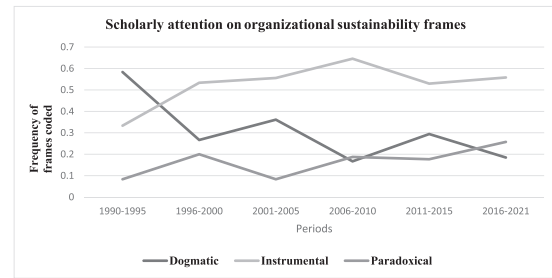


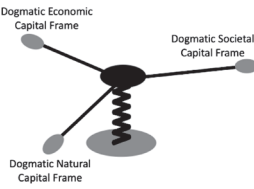
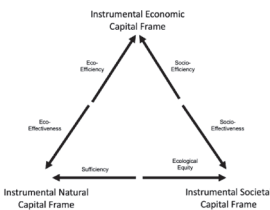

FIGURE 2 Frequency of coding for dogmatic, instrumental and paradoxical frame between 1990 and 2021

Consequently, economic, natural and social capital are conceptualized as mutually exclusive zero-sum games. In other words, in a dogmatic frame, an organization's sustainability (i.e. its ability to indefinitely maintain activities at a certain level) is dependent on only one contributing capital type. Past publications on organizational sustainability frames (Table 4) described what we label as dogmatic frames as: radical (Iyer, 1999, p. 13); 'exclusive, rigid, inelastic, and restricted [logic schisms]' (Hoffman, 2011, p. 240); 'polarised ideological lines' (Henry & Dietz, 2012); and 'narrowly defined mindsets' (Calton et al., 2013, p. 725). Organizations with dogmatic frames generally define clear sectoral (between private, public and voluntary sectors) boundaries; allocate different roles and responsibilities to each sector (Selsky & Parker, 2010); and tend to 'view the other with suspicion, even demonising the other, leading to strong resistance to any form of engagement, much less negotiation and concession' (Hoffman, 2011, p. 13). Hence, it is not likely to see organizations with these frames develop 'joint solutions through cooperative decision-making' (Hoffman, 2011, pp. 36–37).

Drawing on the literature on normative approaches to sustainability (Schuler et al., 2017; Shim et al., 2017; Zhang et al., 2018), we observed that dogmatic frames provide a normative orientation through their 'adherence to institutional rules, regulations, laws, and norms' (Chakrabarty & Erin Bass, 2013). While the objective function defines these rules, organizations with different dogmatic frames have in common that they maximize the application of moral principles rather than prioritizing implications or utility; thus, we propose that the approach of dogmatic frames to normativity is deontological. For instance, Ott et al. (2011) explicitly draw on the deontological roots of strong sustainability, which is associated with the dogmatic natural capital frame category that we develop.

While dogmatic frames were more frequently studied in the early phase of organizational sustainability frame research (Figure 2), this type has notably received the least scholarly attention in recent years compared to its instrumental and paradoxical counterparts.

TABLE 3 Characteristics of dogmatic, instrumental and paradoxical frames

	<i>Dogmatic frames</i>	<i>Instrumental frames</i>	<i>Paradoxical frame</i>
<i>Visual representation</i>			
<i>Metaphor</i>	<i>Three-seated seesaw</i>	<i>Causal triangle</i>	<i>Torus knot</i>
<i>Relationships between multiple objectives</i>	<i>Unitarian / mutually exclusive</i>	<i>Means-end relationship</i>	<i>Simultaneous accommodation</i>
<i>Frame complexity</i>	<i>Low</i>	<i>Medium</i>	<i>High</i>
<i>Normative position</i>	<i>Deontological</i>	<i>Utilitarian</i>	<i>Virtue ethics</i>

Source: Own illustrations; the causal triangle is a modification of Dyllick and Hockerts (2002).

TABLE 4 Alternative descriptions of dogmatic frames

Frame	Described by others as...	Example references
Dogmatic	Narrowly defined mindset Radical Rigid, inelastic, restricting Polarized	Calton et al. (2013) Iyer (1999) Hoffman (2011) Henry and Dietz (2012)
Dogmatic economic capital	Logic of capitalism Conservative view of corporate sustainability Homogenous commercial value logic Business frame	Mattingly and Hall (2008), Wright et al. (2013) Joseph et al. (2019) Laasch (2018) Sharma and Jaiswal (2017)
Dogmatic natural capital	Deep ecology Strong sustainability Hard environmentalism Extreme ecocentrism Biocentric framing Ecosystem logic	Byrch et al. (2007) Ott et al. (2011) Mitra and Buzzanell (2017) Gladwin et al. (1995) Byrch et al. (2007) Corbett et al. (2015)
Dogmatic social capital	Human well-being framing Development logic Social justice logic Social community logic	Angus-Leppan et al. (2010) Battilana and Dorado (2010) Nicholls and Huybrechts (2014) Ramus et al. (2017)

In the following we explore in detail the three sub-categories of dogmatic frames used in sustainability research: dogmatic economic, dogmatic natural and dogmatic social capital frames. Among the articles reviewed in this study, 39% discussed the dogmatic economic, followed by dogmatic natural (17%) and dogmatic social capital frames (13%). The fact that relatively few dogmatic

frames were found can be interpreted in two ways. First, perhaps few of today's organizations adhere to such dogmatic ways of viewing sustainability challenges. Second, perhaps management and organization researchers who focus on sustainability have not given sufficient scholarly attention to the dogmatic frames that guide sustainability perceptions.

Dogmatic economic capital frame

The dogmatic economic capital frame is a perception of sustainability with a narrow lens in which organizations exist exclusively for the interest of the economic capital provider with the sole objective function of economic profit and shareholder value maximization (George et al., 2016). While economic capital exists in many forms and is accrued by many actors, those guided by this frame argue that reducing the objective function to only capital providers is legitimate since they are the residual claimants who will only extract profit after all other claimants have done so (Orlitzky, 2011). Moreover, assuming free, transparent and efficient markets, all other claimants (e.g. workers, clients) will already have been satisfied since market transactions would not have been possible otherwise.

In this frame the market is the only legitimate social and economic order (Wright et al., 2013). Interdependencies between the economic capital objective function and alternative capital types (natural and social) are perceived as mutually exclusive and zero-sum relationships. Environmentalism and social impact schemes threaten these organizations (Haney, 2015; Hoffman & Ventresca, 1999), which are guided by the moral principle of freedom for economic actors, which is why they oppose environmental and social sustainability-related regulations that they perceive as hampering economic growth (Hoffman, 2011). The dogmatic economic capital frame considers organizational behaviour that prioritizes social or natural capital 'as theft and political subversion [taking] money and resources that would otherwise go to owners, employees, and customers – thus imposing a tax – and dedicat[ing] those resources to objectives that [...] have [been] selected in a manner that is beyond the reach of accepted democratic political processes' (Margolis & Walsh, 2003, p. 272).

Dogmatic social capital frame

In the dogmatic social capital frame, organizations are perceived to exist exclusively to meet the needs of society. In other words, social capital is the single objective function of organizations in this frame and becomes visible in relationship networks among the people who live and work in a particular society. Those guided by this frame assume that social capital enables society to function effectively and that organizations have the role of maintaining and creating social capital.

Organizations do this by focusing not on creating shareholder value but on societal value, by serving people who are vulnerable and marginalized, reducing extreme poverty and supporting fair and equal access to education and health services (Kamat, 2004). As a result, this frame

is often referred to as human well-being (Angus-Leppan et al., 2010), development (Battilana & Dorado, 2010), social justice (Nicholls & Huybrechts, 2014; Utami et al., 2021) and social community (Ramus et al., 2017).

Dogmatic economic and social capital frames share an anthropocentric assumption because the needs of humankind are at the centre of both (Byrch et al., 2007; Hoffman & Sandelands, 2004; Iyer, 1999). However, organizations adopting a dogmatic social capital frame question the belief that capitalist society is the only, or even main, conduit towards enhancing human well-being (Kamat, 2004). Instead, they subscribe to a fundamental critique of dogmatic economic capital frames. Moreover, they perceive the relationship between social capital on the one hand and economic capital on the other as zero-sum and mutually exclusive. In this frame, human well-being should be the only objective function organizations consider (Angus-Leppan et al., 2010; Byrch et al., 2007; Painter-Morland et al., 2017). Guided exclusively by moral principles of justice, equity and fairness (Byrch et al., 2007; Tomlinson & Schwabenland, 2009), these organizations differ from their instrumental counterparts in that they oppose the use of market mechanisms as a tool to overcome societal problems, refute the effectiveness of collaborations with corporates and question corporate philanthropy (Kamat, 2004).

Dogmatic natural capital frame

The dogmatic natural capital frame is a perception of sustainability with a narrow lens as existing exclusively to maintain the natural capital stock of the global ecosystem within its carrying capacity. This frame applies the traditional notion of capital preservation (consume the income, not the capital) to natural capital: to preserve the natural capital stock, organizations cannot consume more natural capital in a certain period than nature automatically recreates (Ott et al., 2011).

Rooted in naturalism, which 'defines man as one of the numberless facts of nature' (Hoffman & Sandelands, 2004, p. 14), this frame provides the polar opposite of anthropocentric views, since it views 'human well-being [as] a derivative function, secondary to the well-being of the earth' (Gladwin et al., 1995, p. 887). While the moral principles that guide this frame may also appear as justice, equity and fairness, they apply beyond humans to other species and nature (Ott et al., 2011).

Furthermore, organizations guided by this frame critique organizing society based on human well-being since this approach is viewed as the cause of environmental degradation (Byrch et al., 2007; Gladwin et al., 1995). The dogmatic natural capital frame is often associated with

deep ecology (Byrch et al., 2007), hard environmentalism (Mitra & Buzzanell, 2017), extreme ecocentrism (Gladwin et al., 1995) or strong sustainability (Ott et al., 2011), which can be conceptualized as a non-negotiable commitment to the fight against pollution and resource depletion with the central objective of maintaining the health of natural ecosystems. Organizations espousing a dogmatic natural capital frame include radical environmentalist non-governmental organizations (NGOs) focused on restoration ecology, bio-regionalism and steady-state economics (Gladwin et al., 1995). They aim to change existing socio-economic systems radically, openly criticise corporations and work to delegitimize their strategies (Šimunović et al., 2018) instead of working together to address these problems.

Instrumental frames

Metaphorically instrumental frames can be seen as a causal triangle (Table 3) representing the means–ends relationships. Instrumental frames are the collective cognitive tendencies of organizational actors to view one or two bottom lines of sustainability as a crucial means or tool for a primary end, that is the objective bottom line (Gao & Bansal, 2013; Hahn et al., 2016; Iyer, 1999). These organizations acknowledge the interdependence of economic, environmental and social systems and aim to utilize this interdependence for their own ends. To emphasize further, instrumental frames differ from dogmatic frames due to their conviction that objective functions are not mutually exclusive zero-sum games. Instead, they are assumed to be mutually reinforcing.

The normative position of instrumental frames can be described as utilitarian because they aim to achieve the greatest good for the greatest number, with a moral judgement that focuses on the utility of actions (Painter-Morland et al., 2017). However, utility is still evaluated based on only one objective function (the end). Siegner et al. (2018) unequivocally positioned instrumental economic capital frames with a utilitarian identity. Similarly, Hahn et al. (2017) also explicitly identified the normative position of an instrumental economic frame as utilitarian. Johnsen (2020, p. 2) argued that ‘the instrumental approach suffers from several limitations, particularly a tendency to naturalise a technical view of sustainability and thereby deprive the concept of its political and ethical dimensions’. While these limitations are appreciated in the extant literature on the instrumental economic capital frame, the utilitarian position of instrumental social/natural capital frames is not recognized.

Instrumental frames, the most frequent type in this review, were initially (1990–1995) non-existent but

research in this area has since far outpaced scholarly output on the dogmatic and paradoxical frame (Figure 2). There are three instrumental frames: economic, social and environmental (natural capital). In the 158 studies this review covers, the researchers chiefly focused on instrumental economic capital frames, which appear in 88% of the articles. Even though some scholars addressed instrumental social capital and natural capital frames explicitly (Dyllick & Hockerts, 2002), they were mostly described implicitly when discussing hybrid organizations and NPOs. Among the articles coded as addressing instrumental frames, 44% touched upon instrumental social capital frames and 29% instrumental natural capital frames. Notably, each of the three instrumental capital frames described below can be broken down into two sub-elements that refer to the reinforcing relationship between two of the three capital types. Past publications on organizational sustainability frames (see Table 5) also described what we label as instrumental frames as instrumental frames (Hahn et al., 2016), not to mention as utilitarian (Painter-Morland et al., 2017), reformist or incrementalist (Byrch et al., 2007) or means–ends frames (Jay, 2013).

Instrumental economic capital frame

The instrumental economic capital frame assumes that maintaining access to social and natural capital is a necessary means towards maintaining economic capital. This frame, which is most predominantly referred to as a business case (Hahn et al., 2015; Hockerts, 2015a) or a win–win scenario (Hahn et al., 2010; Van der Byl & Slawinski, 2015), has two sub-elements: eco-efficiency and socio-efficiency (Dyllick & Hockerts, 2002).

Eco-efficiency, which is best explained as a condition in which organizations can maximize profit with the smallest amount of waste/consumption of natural capital (Dyllick & Hockerts, 2002; Ehrenfeld, 2005), describes the assumption that efficient use of natural resources (e.g. energy and water efficiency or reduced waste generation) will automatically result in economic capital gains for firms (Dyllick & Hockerts, 2002). The notion of socio-efficiency describes the same mechanism applied to the relationship between social capital and economic capital (Dyllick & Hockerts, 2002), namely that firms can also increase their economic profits by fostering social capital.

The instrumental economic capital frame is driven by the optimistic assumption that, by maintaining or growing social and natural capital, firms will eventually maximize their economic capital. This frame suggests that FPOs use various tactics to achieve competitive advantages by risk reduction, efficiency gains, brand building,

TABLE 5 Alternative descriptions of instrumental frames

Frame	Described by others as	Example references
Instrumental	Instrumental	Hahn et al. (2016)
	Utilitarian	Painter-Morland et al. (2017)
	Reformist or incrementalist	Byrch et al. (2007)
	Mean–ends frame	Jay (2013)
Instrumental economic capital	Business case (eco-efficiency and socio-efficiency)	Hahn and Aragón-Correa (2015), Hockerts (2015a), Dyllick and Hockerts (2002)
	Win–win scenario	Hahn et al. (2010), Van der Byl and Slawinski (2015)
Instrumental natural capital	Weak sustainability framing	Ott et al. (2011)
	Soft environmentalist stance	Mitra and Buzzanell (2017)
	Natural case (eco-effectiveness or sufficiency)	Dyllick and Hockerts (2002)
Instrumental social capital	Social case (socio-effectiveness or ecological equity)	Dyllick and Hockerts (2002)

corporate reputation, identification of new markets, operational improvement, accessing new sources of capital and enhancing human resource management (Anderson & Bateman, 2000; Dyllick & Hockerts, 2002; Hahn et al., 2015; Hockerts, 2015a; Hoffman, 2004). For instance, companies in the food and beverage sector rely on water-footprinting methodologies to increase water efficiency to enhance their risk management and operations (Martinez et al., 2019).

Instrumental social capital frame

The instrumental social capital frame is a perception of sustainability as existing exclusively to maintain access to economic and natural capital as a necessary means of meeting the needs of people who are vulnerable and marginalized, also referred to as a social case through implementations of socio-effectiveness or ecological equity (Dyllick & Hockerts, 2002).

Socio-effectiveness, which prioritizes pursuing social objectives through market instruments (Hervieux & Voltan, 2016), often assumes that creating social capital is best achieved by creating social enterprises that use business-like approaches (Sanders & McClellan, 2014), whereby the generation of economic capital is a mere means of creating social impact (Nicholls & Huybrechts, 2014; Ramus & Vaccaro, 2017; Ramus et al., 2017).

The second sub-element of the instrumental social capital frame is ecological equity, which emphasizes pursuing social objectives through managing natural capital (Dyllick & Hockerts, 2002). This implies that organizations are best placed to maintain and create social capital by fairly allocating community access to natural resources (Pesqueira et al., 2020). For instance, this kind of frame

may prioritize community benefits through access to forest management schemes in sustainable forest management discourse (Šimunović et al., 2018). An example is Home Again, an NPO group formed to pursue the social mission of land development for the benefit of the indigenous community in South Africa by improving the region's biodiversity (Powell et al., 2018, p. 627).

Instrumental natural capital frame

The instrumental natural capital frame is a perception of sustainability as existing exclusively to maintain access to economic and social capital as a necessary means of maintaining the natural capital stock of the global ecosystem within its carrying capacity, also referred to as a natural case, which works through the sub-elements of eco-effectiveness and sufficiency (Dyllick & Hockerts, 2002).

McDonough and Braungart (1998, p. 31) used the term 'eco-effectiveness' in opposition to eco-efficiency, stating that 'long-term prosperity depends not on the efficiency of a fundamentally destructive system but on the effectiveness of processes designed to be healthy and renewable in the first place'. Consequently, eco-effectiveness is defined as any condition in which organizations maintain natural capital consumption below the natural reproduction rate or develop substitutes (Dyllick & Hockerts, 2002). In comparison to efficiency, which is only a relative measure aspiring to decrease the ratio of waste per profit created, effectiveness is defined as accomplishing a distinctly defined end state.

Eco-effectiveness assumes that the primary goal of keeping resource consumption within the biosphere's regenerative capacity is best achieved through entrepreneurship and innovation in market systems.

Thus, the term is best embodied in the notion of sustainable entrepreneurship or ecopreneurship (De Clercq & Voronov, 2011; Hahn et al., 2018; O'Neil & Ucbasaran, 2011). The optimistic assumption behind eco-effectiveness is that, with the market success of clean-technology ventures (such as Tesla's electric cars), demand for environmentally friendly alternatives will grow (Dyllick & Hockerts, 2002). For this reason, adherents of the instrumental natural capital frame expect this to push the whole system towards a more sustainable situation, for example as electrical charging stations emerge, consumer demand will grow; car makers will begin to innovate; power producers will be pushed in time to switch to more sustainable production methods.

The second sub-element of the instrumental natural capital frame is sufficiency. Herein, we adapt the definition of sufficiency as a 'focus on what is "really" relevant and needed for a good life such as limiting consumption by way of voluntary simplicity' not as a forced policy, 'but of the conscious choice (implying freedom)' (Schäpke & Rauschmayer, 2017, pp. 30, 32). Dyllick and Hockerts (2002) describe sufficiency as a frame where social capital is utilized (as a means) to create environmental change (ends) through consumption choices, boycotts and greenwashing campaigns against brands. A sufficiency frame guides organizations to align society and nature by organizing social movements to benefit the natural environment (Lounsbury et al., 2003) and by mobilizing society towards sustainable or ethical consumption (Maon et al., 2008; Siegner et al., 2018). For instance, social movements fuelled by Wal-Mart: The High Cost of Low Price triggered a legitimacy crisis in Wal-Mart and created societal awareness on how damaging low-price strategies can be for the natural environment (Scherer et al., 2013).

Paradoxical frame

Metaphorically, the paradoxical frame can be seen as a torus knot (Table 3), a two-dimensional representation of a three-dimensional object. Geometrically speaking, the torus knot is nontrivial, which means that it is impossible to untie without cutting it. This implies that the paradoxical frame assumes that the three objective functions are always interlinked, making it impossible to focus on one objective without affecting the other two (Hahn et al., 2015). Furthermore these interconnections are complex and non-intuitive, making it highly difficult for organizations to fully understand the interactions between the three dimensions (Hoffmann, 2018; Ivory & Brooks, 2017).

The paradoxical frame is a perception of sustainability as existing exclusively to maintain access to social, nat-

ural and economic capital by simultaneously accepting 'conflicting yet interrelated economic, environmental, and social concerns, rather than eliminating them' (Hahn et al., 2015, p. 21). Some studies explicitly use the term 'paradoxical', while others use 'blended', 'ambidextrous', 'hybrid', 'heterogeneous', 'sustaincentric', 'integrative', 'systemic' or 'holistic' in a similar way (Table 6) (Berger et al., 2007; Gao & Bansal, 2013; Gladwin et al., 1995; Gray & Stites, 2011; Haffar & Searcy, 2019; Hahn et al., 2016; Joseph et al., 2019; Laasch, 2018). Overall, 61% of the articles we reviewed discussed this frame.

This frame guides organizations towards a complex thinking style, both regarding the organization of time in terms of temporal depth (short vs. long term) and temporal focus (past, present, future) (Gao & Bansal, 2013; Liao, 2016), not to mention space in terms of orchestrating projects, teams and functions, as well as the interfaces between them (Hahn et al., 2017; Smith et al., 2010). In addition, this frame integrates economic, social and environmental bottom lines with a juxtaposition rationale, though without prioritizing one over another (Gao & Bansal, 2013; Ozanne et al., 2016; Sharma & Jaiswal, 2017).

Some scholars do not necessarily associate the paradoxical frame with a specific normative position, instead arguing that they only 'grapple with trade-offs, contradictions, and both/and alternatives' (Soderstrom & Heinze, 2019, p. 3). In their review of paradoxes and tensions of corporate sustainability, other researchers reckon that the paradoxical frame may align with that of virtue ethics (Van der Byl & Slawinski, 2015). Similarly, Sharma and Bansal (2017) associate the paradoxical frame with the creation of virtuous systems.

Overall, we argue that the paradoxical frame applies a virtue ethics approach. The paradoxical frame does not lead to moral judgements based on the maximization of a moral principle (deontology) or the utility of potential outcomes (utilitarianism). Instead, the implied language is one of 'continuous social improvement [...] as a reflection of [an organisation's] internal character and moral standing' (Chakrabarty & Erin Bass, 2013, p. 496). Furthermore, the paradoxical frame requires an ongoing negotiation between multiple objectives where the focus is constantly on (re)discovering how objective functions interlink with each other. Decision processes are thus 'collaborative and iterative in nature, focusing on continuous improvement and stakeholder feedback' (Haffar & Searcy, 2019, p. 24). The iterative nature of the paradoxical frame hints at the fact that they employ a virtue ethics approach in which the 'moral character [and] ethical intent' (Chakrabarty & Erin Bass, 2013, p. 496) of an organization are simultaneously refined and renegotiated with all stakeholders concerned.

TABLE 6 Alternative descriptions of paradoxical frame

Frame	Other descriptions	Example references
Paradoxical	Ambidextrous	Hahn et al. (2016)
	Integrative	Gao and Bansal (2013), Joseph et al. (2019), Van der Byl and Slawinski (2015)
	Systemic—systems	Fehrer and Wieland (2021), Maon et al. (2008), Mazutis et al. (2020)
	Holistic	Berger et al. (2007), Haffar and Searcy (2019), Zimmermann et al. (2021)
	Blended	O'Neil and Ucbasaran (2011)
	Hybrid	Ansari et al. (2013)
	Nexus	Dahlmann and Bullock (2020)
	Sustaincentricism	Gladwin et al. (1995)
	Pluralist—cognitively complex	Calton et al. (2013), Klitsie et al. (2018)
	Syncretic	Berger et al. (2007), Martinez et al. (2019)

TABLE 7 Overview of research opportunities

	Suggestions for future research
Dogmatic frames	Rejuvenation of research into dogmatic economic capital frames in FPOs Increased focus on dogmatic social and natural capital frames in NPOs
Instrumental frames	Avoidance of excessive attention given to instrumental economic capital frames Renewed attention on instrumental natural and social capital frames, particularly in hybrid organizations
Paradoxical frame	Clarification and extension of 'paradoxical' organizational sustainability frame research (e.g. dialectical vs. paradoxical frame; paradox as cognition, action or situation)
Social and natural capital frame relationships	How do natural capital and social capital frames interact with each other?
Frame antecedents	Study development and evolution of organizational sustainability frames
Frame/form relationship	How do different organizational forms affect organizational frame development, and how do different frames shape the choice of form?
Normative position and ethical, political and philosophical assumptions	Review the underlying ethical, political and philosophical assumptions of different organizational sustainability frames Empirically study underlying normative assumption of these frames
Methodological issues	Address lack of quantitative studies Develop measurement instruments (scale development and validation) Mixed samples and/or comparative studies (samples should include FPOs, NPOs and hybrids, not just one organizational form)

DISCUSSION

We will initially employ gap-spotting strategies in the discussion to identify which areas in the extant literature require extension, clarification and improvement (Sandberg & Alvesson, 2011). We are nonetheless also aware of the shortcomings of integrative reviews in terms of fostering sameness in a field instead of promoting plurality when reviewers only rely on gap spotting (Alvesson & Sandberg, 2020). For this reason we further employ problematization as a strategy to identify the assumptions of the reviewed literature (Sandberg & Alvesson, 2011), allowing us to enhance the criticality of our integrative review and make further recommendations to scholars who focus on organizational sustainability frames at FPOs, NPOs and hybrids (Table 7).

Gap spotting

Although implicitly, dogmatic frames were more frequently focused on in the early days of organizational sustainability frame research but have been under-studied in recent years (Figure 2). We suggest that *rejuvenation of dogmatic economic capital frame research* is needed. Learning how to spot dogmatic economic capital frames, explaining their antecedents and understanding their effect on organizational behaviour are regrettably still absent. Understandably, researchers prefer to study the optimistic narratives behind instrumental and paradoxical frames. However, this practice leaves scholars with little explanation when faced with corporate irresponsibility, scandals and conflicts. We are convinced that a re-energized study of dogmatic economic capital frames can help fill that void.

Moreover, as our review illustrates, dogmatic frames do not just exist concerning economic capital. We were rather surprised to find that scholars have not employed organizational sustainability frames to study Boycott Wall Street or the Earth Liberation Front, an NPO that employs ecoterrorism tactics (Leader & Probst, 2003). As a result, we encourage scholars to *increase focus on dogmatic social and natural capital frames in NPOs*. These frames are likely to predominate in anti-globalist and anti-capitalist activist organizations such as the Association for the Taxation of Financial Transactions and for Citizen Action (Ancelovici, 2002). Research must help to diagnose these frames to understand how they influence the effectiveness of these NPOs, which will help increase understanding of the debate between radical versus reformative NPOs and their strategies (Den Hond & De Bakker, 2007; Dzhengiz et al., 2021; Pesqueira et al., 2020), and even promote theorization on the differences between NPOs that advocate versus those that innovate (Shier & Handy, 2014).

As is likely obvious to even amateur scholars of sustainability frames, enormous scholarly attention has been put on instrumental economic frames (Carroll & Shabana, 2010; Hart & Ahuja, 1996; King & Lenox, 2001; Margolis & Walsh, 2003). While calling for a moratorium on research involving instrumental economic capital frames is probably unrealistic, we would like to point out the *excessive attention given to this type of frame*. As a result, we see little potential in further studying this frame. Instead, we call for *paying renewed attention to instrumental natural and social capital frames*. We feel that these two perspectives have significantly promising potential for the study of hybrid organizations that often draw on the assumption of a means–ends relationship between economic capital on the one hand (means) and natural and social capital on the other (ends) (Davies & Doherty, 2019; Doherty et al., 2014; Ebrahim et al., 2014; Hockerts, 2015b; Islam, 2020).

We observed that scholars often treat social (or environmental) enterprises as exempt from instrumentality due to their hybrid nature. At the extreme, this leads some scholars to confuse the sufficiency, socio- and eco-effective approaches of FPOs with the paradoxical frame. We put forward that hybrids would be more profitably studied as being as naïve as their colleagues who are addicted to business cases in the traditional business sector in terms of their instrumental optimism. This is not to say that instrumental social capital and instrumental natural capital frames cannot be productive, but we sincerely wish for a more critical reflection of the underlying assumptions of these frames.

We see a need for further *clarification and extension of 'paradoxical' organizational sustainability frame research*. Most paradox research to date has been either conceptual or based on early-stage inductive qualitative research.

Some scholars implied that this frame is superior to instrumental frames, though one of the most cited articles on this topic provides both the pros and cons of the paradoxical frame (Hahn et al., 2015). Some critical voices have highlighted how the paradoxical frame has been used as rhetoric (Gaim et al., 2019), reflecting the impression management efforts of organizations (Molecke & Pinkse, 2020). However, various scholars have associated the paradoxical frame with superior outcomes, for example, as illustrated by Hahn et al. (2018, p. 245): 'A paradox perspective has the potential to unshackle research on corporate sustainability from the hegemony of the business case. It provides the conceptual foundations [...] to achieve substantive business contributions to sustainable development'. Joining this sentiment, Todaro et al. (2019, p. 807) posited that 'organizations whose managers endorse a predominantly paradoxical frame are assumed to achieve a higher level of corporate sustainability performance thanks to their willingness to listen and attend to diverse prescriptions and pressure'.

We challenge scholars who study the paradoxical frame to provide systematic studies analysing this claim. Is the paradoxical frame always superior? Moreover, how can this assumed superiority be proven? If the paradoxical frame is not always superior, then in which context (and why) can instrumental or even dogmatic frames lead to superior outcomes? Equally important (if not even more so) is how organizations learn to deal successfully with the paradoxical frame. What are the path dependencies for organizations that want to graduate from the dogmatic or instrumental to the paradoxical frame?

There is also significant further theorizing needed within the paradox construct. There is an observable difference between dialectical and paradoxical frames, especially regarding the strategies in response to tensions (Miron-Spektor & Paletz, 2020). The difference between dialectical and paradoxical frames remains unresearched. While the dialectical frame aims to balance by integrating and harmonizing, the paradoxical frame both differentiates and integrates the contradictory elements (Miron-Spektor & Paletz, 2020). On reflection, most studies in our review (including our categorization) described the dialectical frame, yet they labelled them as paradoxical. Giving this difference and its potential significance attention will be essential.

With a few exceptions (e.g. Child, 2019; Sharma & Bansal, 2017), we observed a *lack of clarity between paradox as cognition, paradox as action and paradox as situation*. These distinctions need to be made clearer. One way to tackle this is to engage in methodological advancements developed in managerial and organizational cognition, such as repertory grid technique and collective cognitive mapping (Hodgkinson et al., 2017; Laukkanen, 1994;

Tegarden & Sheetz, 2003) or frame analysis (Goffman, 1974). Unfortunately, only a few scholars in our review utilized these types of approaches (e.g. Fassin et al., 2015). We note that deploying such methods would further advance the field and help scholars differentiate frames from their outcomes.

We also observe that the literature offers competing explanations regarding the *development of organizational sustainability frames*. For example, some scholars treat macro-level institutional frames (market, society, community logics) as antecedents of frames at the organizational level (Arena et al., 2018; Laasch, 2018). Others draw on the process of intra-organizational framing of sustainability champions as an antecedent (Girschik, 2018) or the impact of the cognitive complexity of CEOs (Gröschl et al., 2017; Joseph et al., 2019; Rousseau et al., 2014; Todaro et al., 2019) on organizational sustainability frames. Recently, some scholars argued that the development of organizational sustainability frames is place-dependent (Mazutis et al., 2020). It is necessary to explore the process of organizational sustainability frame development through longitudinal process research considering the influence of macro, micro, contextual, spatial and temporal dimensions.

We believe that a balanced view of organizations is necessary (Zhao et al., 2017) that considers both the top-down isomorphic pressures (Beckert, 2010; Dimaggio & Powell, 1983) and the active efforts of organizations to (de)construct meanings (Benford & Snow, 2000; Gray et al., 1985). However, while scholars critiqued the imbalanced view before (Gray et al., 2015; Miron-Spektor & Paletz, 2020), such complex explanations that consider top-down and bottom-up processes as antecedents of an organizational sustainability frame are largely absent, and future research should address this critical gap. Furthermore, regarding bottom-up explanations, scholars need to focus more on the question of whose frames dominate when frame contests take place, that is the role departmental silos play, and with a focus on power dynamics (D'Andreta et al., 2016; Kaplan, 2008b).

We also note that the field has yet to *develop scales and proxies to measure organizational sustainability frames* and only a few studies (e.g. Ashraf et al., 2019) took a quantitative approach. We see much potential for quantitative textual analysis to advance further the categorization built here. While we are aware of the possibility that texts may not always represent collective frames (Dzhengiz, 2018), we still see the benefits of engaging with mixed-methods frame analysis (Koenig, 2006), quantitative content analysis (Carver et al., 2013) and sentiment analysis (Dzhengiz et al., 2021; Recupero et al., 2015), especially to study the strategic framing of FPO, NPO and hybrid actors. We also encourage research into how our seven frames relate to

specific actions, practices and strategies followed or implemented by organizations.

With the growing space of hybridity, we observed that the *relationship between frames and organizational forms requires further attention*. Notably, as organizations move from dogmatic to instrumental and paradoxical, the relationships built between FPOs and NPOs become more complex (Ahmadsimab & Chowdhury, 2021; Nicholls & Huybrechts, 2014), leading to a diffusion of practices and a change of strategies. We generally believe future scholarly attention is necessary to capture how practices, strategies, responses and the approach to inter-organizational relationships are similar in organizations within the same frame category due to the potential of spillovers (which applies primarily to organizations with instrumental and paradoxical frames). In line with this, recent studies explained how responsibility becomes embedded at FPOs (Laasch, 2018; Laasch & Pinkse, 2020; Radoynovska et al., 2019). At the same time, critical scholars have emphasized how business case thinking also becomes embedded and increasingly normalized at NPOs (Tomlinson & Schwabensland, 2009). We highlight such a risk and emphasize that future research should strive to understand the heterogeneity of frames, not only in the context of FPOs but also at NPOs.

Finally, the *ethical* (Schaltegger & Burritt, 2015), *political* (Kourula & Delalieux, 2014; Wright & Nyberg, 2017), *philosophical* (Secchi, 2009) and *spiritual* (Hoffman & Sandelands, 2004; Martinez et al., 2019) *assumptions behind organizational sustainability frames* have received limited attention. We highlighted that one element that makes organizational sustainability frames distinct is their *normative positions* and offered *deontological* (for dogmatic frames), *utilitarian* (for instrumental frames) and *virtue ethics* (for paradoxical frames) positions to further explicate these frames. Future research should focus empirically on the normative positions of organizations with these frame categories.

Problematization

In the studies we reviewed, we also identified some assumptions that we further problematize. For example, scholars often assumed that the tensions were dichotomous between environmental/social and economic bottom lines, even treating them as moral versus immoral (Hoffmann, 2018). However, tensions can also be observed between interrelated issues such as biodiversity and climate change, in addition to being embedded in the same objective function. Nevertheless, such empirical explorations were exceptions (e.g. Siegner et al., 2018). Future scholars should be aware of such *social-environmental*

tensions and reflect them in their theorizing. For instance, recently, tensions between the water–energy nexus have been acknowledged and viewed through the paradoxical frame (Avidan, 2020), and represent the type of studies that can further our understanding.

We observed that the dogmatic natural capital frame category appeared more frequently in the studies we examined, while instrumental natural capital frames appeared less than social ones. This gives rise to the question as to whether we, as scholars, perceive environmentalism as more radical than demanding social progress. While several scholars have emphasized ecocentric management (Shrivastava, 1994, 1995a,b) and strong sustainability (Ott et al., 2011; Upward & Jones, 2016), the observations, as mentioned above, make us think that ecocentric views may even be marginalized within our scholarly community, possibly posing a threat to the pluralism of the field (Ergene et al., 2020).

The central assumption behind categorizing these frames is that they are somewhat stable and distinguishable. However, they may be issue-specific (Anderson & Bateman, 2000; Bundy et al., 2012; Grimm, 2020; Louche et al., 2019). For instance, an organization may view climate change with instrumental frames and biodiversity with dogmatic frames. Frames may also be situation-dependent (Sharma & Jaiswal, 2017) and, depending on their context, organizations may view sustainability through different frames (Joseph et al., 2020). Finally, frames may shift due to dialogical processes and inter-organizational interactions, as was the case for many organizations regarding climate change and conflict minerals (Ansari et al., 2013; Reinecke & Ansari, 2016). As Sharma and Bansal (2017, p. 343) point out, ‘a fixed template assumes that the frames are either paradoxical or not; there is no opportunity to bridge frames’. Therefore, we hope that future studies will focus more on *process-based studies* and *ethnographic studies* to show how and when organizational sustainability frames shift and in which direction.

By definition, sustainability requires combining economic prosperity, environmental quality and social equity (Dyllick & Hockerts, 2002; van Tulder & Keen, 2018). Some scholars argued that we should not ‘allow for any one of the components, economic capital, social capital, or ecological capital, to dominate the process of integration’ (Balakrishnan et al., 2003, p. 310). However, based on our review, most frames that guide sensemaking of sustainability dominate this integration process, as in instrumental or dogmatic frames. This raises several normative questions that the scholarly community should consider further. Should all organizations view sustainability through the paradoxical frame, or become hybrids to position themselves at the intersection of the triple bottom line? For FPOs, this may be interpreted as positive, since environmental and social

sustainability are becoming equally as important motives as the profit motive. However, some scholars question whether FPOs can truly view sustainability through the paradoxical frame, or if they present paradoxicality (as rhetoric) (Gaim et al., 2019), while in reality pursuing sustainability for the profit motive (Wright & Nyberg, 2017). For NPOs, however, should we (as scholars) encourage dogmatic social and natural capital frames since they push the FPOs and society to think about grand challenges in radical ways? Expecting and encouraging NPOs to view sustainability through instrumental or paradoxical frames could be equally problematic regarding checks and balances in the system’s transition towards sustainability.

CONCLUSION

This review reinterpreted the articles about organizational sustainability frames and described three frame categories (dogmatic, instrumental and paradoxical) that guide how FPOs, NPOs and hybrids view sustainability challenges. First, relying on implicit descriptions of the extant literature, we offered a new frame category in this paper: dogmatic frames.

Second, we explained that instrumental frames are not exclusively specific to the business case approaches of FPOs. We showed how instrumental social capital and natural capital frames might present themselves in FPOs, NPOs and hybrids. This opened the door to a better understanding of the cognitive roots of mission drifts as assumptions about means–ends relationships shift in organizations with instrumental frames (Ebrahim et al., 2014; Ramus & Vaccaro, 2017). Doing so, we expanded the notion of instrumentality from FPOs to other organizational forms and again contributed to the growing literature on sustainability frames.

Third, we discussed the potential of the paradoxical frame and identified the need to clarify further and extend this frame category, thus contributing to the paradox theory in the sustainability context (Hahn et al., 2017; Jay, 2013; Ozanne et al., 2016; Sharma & Bansal, 2017). We demonstrated that there is a clear difference between instrumental and paradoxical frames. While instrumental frames pose a means–ends relationship that guides a utilitarian normative position, paradoxical frames lack any clear prioritization whereby all ends (economic, environmental and social) are juxtaposed and guide organizations through a normative stance that can be described as virtue ethics. We note that the observations we made herein should be supported with future empirical research. Nevertheless, we believe that the normative positions of frame categories also shed new light on organizational sustainability frames and are a step towards answering Hahn

et al.'s (2017) call to explore normativity in different frame categories.

We conclude with a quote from the seminal work of Margolis and Walsh (2003, p. 297): 'Personal values and commitments will no doubt orient the theories we prefer and the research questions we ask. To honour those values and commitments, however, we must acknowledge and question them.' For us, this integrative review has been a helpful way of questioning our assumptions and normative positions. We hope it can encourage other scholars to theorize in this direction as well.

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ORCID

Tulin Dzhengiz  <https://orcid.org/0000-0001-7909-6612>

Kai Hockerts  <https://orcid.org/0000-0003-2543-2240>

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APPENDIX

TABLE A1 Organizational sustainability frame categories in reviewed articles

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Ahmadshimab and Chowdhury (2021)	IE, IS, P		Institutional logics, institutional complexity, partnerships	Qual.	Logic	Macro Meso	FPO NPO
Anderson and Bateman (2000)	IE, IN	P	Issue management, corporate environmental paradigm	Quant.	Issue framing, organizational paradigm	Micro Meso	FPO
Angus-Leppan et al. (2010)	IE, IS	DE, P	Sensemaking, stakeholder theory, tensions	Qual.	Organizational sensemaking	Micro Meso	FPO
Ansari et al. (2013)	P, IE, IN, IS	DE, DN, DS	Institutional logics, social movements	Qual.	Institutional logics, frames	Macro Meso	FPO NPO
Antal and Hukkinen (2010)	P	IS, IE	Human-environment interaction, cognition	Theo.	Cognition	Micro Meso	General
Arena et al. (2018)	IE, P	IS	Institutional logics, CSR strategies	Qual.	Logic	Macro Meso	FPO
Ashraf et al. (2017)	IE, IN	DE, DN	Institutional logics, resource dependence, networks	Quant.	Institutional logics	Macro Meso	FPO NPO
Ashraf et al. (2019)	IE, P	IN	Institutional logics, organizational cognition, networks	Quant.	Institutional logics, organizational frames	Macro Meso	FPO NPO
Bailey (2009)	DN, IN		Culture, social movements, issue frames	Qual.	Social movement frames	Macro Meso	NPO
Banerjee (2001)	DE, IE	IN	Corporate environmental paradigms, managerial cognition	Qual.	Managerial perceptions, organizational paradigms	Micro Meso	FPO
Basu and Palazzo (2008)	IE, IS		CSR, organizational sensemaking	Theo.	Organizational sensemaking, mental models, frames	Meso	FPO
Battilana and Dorado (2010)	P, IE, IS	DE, DS	Institutional logics, hybrid organizations	Qual.	Dominant logic, institutional logics	Macro Meso	Hybrid
Benkert (2021)	IE, P		Strategic cognition, value-focused thinking	Quant.	Cognitive frame	Micro Meso	FPO
Berger et al. (2007)	P, IE, IS	DE, DN	CSR	Qual.	Normative logics (frames)	Meso	FPO
Besharov and Smith (2014)	P	IE, IS, DE, DS	Institutional logics, institutional complexity	Theo.	Institutional (dominant/pluralistic) logics	Macro Meso	FPO Hybrid

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Borland et al. (2014)	DE, IE, IN	P	Corporate environmental strategies, dynamic capabilities	Qual.	Organizational framework, managerial mindset	Micro Meso	FPO
Branzei et al. (2000)	IE, IN		Corporate environmental strategy, managerial cognition	Quant.	Cognitive frame	Micro Meso	FPO
Branzei et al. (2004)	IE	IN	Managerial cognition, control theory, corporate environmental strategies	Quant.	Cognitive (mental) frame	Micro Meso	FPO
Bruneel et al. (2020)	IE, IS, P		Hybrid governance, institutional logics	Qual.	Logic	Micro Meso	Hybrid
Bundy et al. (2012)	DE, IE	IS	Strategic cognition, organizational identity, stakeholder theory	Theo.	Strategic frame	Micro Meso	FPO
Byrch et al. (2007)	IE, IN, P	DE, DN, IS	Cognitive mapping, sustainability	Qual.	Cognitive framework, schema, mental model	Micro Meso	FPO NPO
Calton et al. (2013)	IE, IS	P	Stakeholder networks, social entrepreneurship, partnerships	Qual.	Cognitive lens, mental models	Micro Meso	FPO Hybrid
Child (2019)	P	IS, IE	Organizational sensemaking, tensions, social enterprises	Qual.	Organizational sensemaking	Meso	Hybrid
Corbett et al. (2015)	IE, IN	DE, DN	Institutional logics, project management, corporate sustainability	Qual.	Dominant logic, organizational identity	Macro Meso	FPO
Crilly et al. (2016)	DE, IE, P		Means-ends decoupling, stakeholder theory	Qual.	Cognition	Micro Meso	FPO
Dahlin et al. (2020)	IE	DE	CSR certification, business logics	Mixed	Logic	Meso	FPO
Dahlmann and Bullock (2020)	P		Nexus thinking	Qual.	Cognitive frame	Meso	FPO
Dahlmann and Grosvold (2017)	IE, IN, P	DE, DN	Institutional logics, institutional work, environmental management	Qual.	Institutional logics	Micro Meso Macro	FPO
De Angelis (2021)	IE, P	IN	Circular economy business models	Theo.	Logic	Meso	FPO

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
De Clercq and Voronov (2011)	IE, IN	DE, DN	Sustainability entrepreneurship, institutional logics	Theo.	Institutional logics	Micro Meso Macro	FPO Hybrid
Di Domenico et al. (2009)	IS, IE		Social enterprises, institutional logics, partnerships	Theo.	Institutional logics	Macro Meso	FPO Hybrid
Di Paola and Russo Spena (2020)	P, IE		Environmental innovation	Qual.	Logic	Meso	FPO
Dillard et al. (2016)	IS, IE	P, DE, DS	Social enterprises, dialogic framing	Theo.	Frames	Meso	Hybrid
Dyllick and Hockerts (2002)	IE, IN, IS		Corporate sustainability	Theo.	Paradigms (framework of CS)	Meso	FPO
Dzhengiz (2018)	IN, IS, IE, P		Organizational cognition, partnerships	Qual.	Organizational value frames	Meso	FPO NPO
Eberhardt-Toth and Wasieleski (2013)	DE, IE, P		Cognitive moral development, corporate environmental strategy	Quant.	Cognitive model (schema)	Micro Meso	FPO
Ebrahim et al. (2014)	IS, P	IE	Social enterprises, organizational forms and governance	Theo.	Logic	Meso	Hybrid
Fang and Zhang (2021)	IE, P	DE	Environmental innovation	Qual.	Cognitive frame	Meso	FPO
Fassin et al. (2015)	IE	IS	Managerial cognition, CSR	Quant.	Mental models	Micro Meso	FPO
Fehrer and Wieland (2021)	P, IE		Circular economy business models	Qual.	Logic	Meso	FPO
Gaim et al. (2019)	IE, P	DE	Impression management, paradox	Qual.	Frame	Meso	FPO
Gao and Bansal (2013)	IE, P		Corporate sustainability, dominant logics	Quant.	Logic, paradigm	Meso	FPO
García (2011)	IE, DE, DN		Conflict management, business-NGO relations	Qual.	Frames	Meso	FPO
George et al. (2016)	IE	DE, P	Corporate sustainability integration	Qual.	Cognition	Meso	FPO
Ghadiri et al. (2015)	P, IE, IS		Identity work, tensions, CSR	Qual.	Frame	Micro Meso	FPO
Gillett et al. (2019)	IS, IE	P	Institutional logics, partnerships	Qual.	Logics	Macro Meso	Hybrid Public org.

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Girschik (2018)	IE	P	Strategic framing, corporate responsibility	Qual.	Frames	Meso	FPO
Giuliani et al. (2020)	IS, IE, DE		Sensemaking, strategic cognition, human rights, creating shared value	Qual.	Cognitive frame	Micro Meso	FPO
Glac (2008)	IE	DE, IS	Socially responsible investing, decision-making, tensions	Quant.	Decision frames	Micro Meso	FPO
Gladwin et al. (1995)	DE, DN, P	DS, IE, IS, IN	Sustainable development paradigms	Theo.	Paradigms	Macro Meso	FPO
Gollnhofner and Schouten (2017)	DE, IN, IS, P		Dominant social paradigm, institutional logics	Qual.	Logics, paradigms	Macro Meso	FPO Public org.
Grewatsch and Kleindienst (2018)	IE, P		Organizational capabilities, organizational cognition, corporate sustainability	Quant.	Organizational cognitive frame	Meso	FPO
Grimm (2020)	IS, IE, P	DE	Strategic cognition, poverty	Qual.	Cognitive frame	Meso	FPO
Gröschl et al. (2017)	IE, P		Managerial cognition, corporate sustainability	Qual.	Cognitive frame	Micro Meso	FPO
Guerci and Carollo (2015)	P		Tensions, green human resource management	Qual.	Paradox frame	Meso	FPO
Haffar and Searcy (2019)	IE, IS, IN, P		Organizational cognition, corporate sustainability	Qual.	Corporate sustainability logic	Meso	FPO
Hahn and Aragón-Correa (2015)	IE, P		Managerial cognition, sensemaking, corporate sustainability	Theo.	Cognitive frames	Micro Meso	FPO
Hahn et al. (2010)	IE, P		Tensions, corporate sustainability	Theo.	Dominant (win-win) logic	Micro Meso Macro	FPO
Hahn et al. (2014)	IE, P		Tensions, corporate sustainability	Theo.	Frame, logic	Micro Meso	FPO
Hahn et al. (2016)	IE, P	IS	Tensions, corporate social performance	Theo.	Logic, organizational climate	Micro Meso Macro	FPO
Hahn et al. (2017)	IE, P		Tensions, corporate sustainability	Theo.	Frames	Micro Meso Macro	FPO
Hahn et al. (2018)	IE, IN, IS		Business models, sustainable entrepreneurship, institutional logics	Qual.	Institutional logics	Macro Meso	Hybrid

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Halme (2002)	DE, IE, P		Managerial paradigms, corporate environmental strategy	Qual.	Managerial paradigms	Micro Meso	FPO
Haney (2015)	DE, IE	IS, P	Managerial cognition, eco-innovation	Quant.	Frame	Micro Meso	FPO
Heiskanen (2002)	IE, IN	DE, DN	Institutional logics, lifecycle thinking	Theo.	Logic	Macro Meso	FPO NPO
Henry and Dietz (2012)	DN, IN	DE, IE	Environmental cognition, value-belief-norm theory, advocacy coalition framework	Theo.	Cognitive structure	Micro Meso	General
Herremans et al. (2009)	IE, IN	DE	Institutional logics, corporate environmental strategy	Qual.	Logics	Macro Meso	FPO
Hervieux and Voltan (2016)	IS, IE	DE, DS, P	Social entrepreneurship, social movements, framing	Qual.	Frame, dominant logic	Meso	Hybrid
Hockerts (2015a)	IE		Managerial and organizational cognition	Qual.	Knowledge structure or mental models	Meso	FPO
Hoffman (2004)	IE	IN	Corporate environmental strategy	Qual.	Logics	Meso	FPO
Hoffman (2011)	DE, DN		Tensions, CSR	Theo.	Frame, mind-set	Meso	FPO
Hoffman and Sandelands (2004)	DE, DN	IE, IN, P	Sustainable development paradigms	Theo.	Worldview or paradigm	Macro Meso	General
Hoffman and Ventresca (1999)	DE, DN, IE		Framing, policy debates about climate change	Theo.	Frame	Macro Meso	General
Hoffmann (2018)	DE, IE, P	DN	Institutional logics, social movements	Qual.	Logic, frames	Macro Meso	FPO NPO
Ivory and Brooks (2017)	P		Tensions, corporate sustainability, strategic agility	Theo.	Mind-set	Meso	FPO
Iyengar (1990)	DE, DS	IS	Framing, social responsibility, political science	Quant.	Frame	Micro Meso	General
Iyer (1999)	IE	DE, DN, P	Corporate sustainability, organizational paradigms	Theo.	Organizational paradigm	Meso	FPO
Jay (2012)	P		Partnerships, tensions, institutional logics	Qual.	Frame, logic	Macro Meso	FPO NPO

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Jenkins (2004)	IE, DS, DE	IS, P	CSR, tensions	Qual.	Frame	Meso	FPO
Johnsen (2020)	IE, P		Instrumentalism, ethics and morality of CS	Qual.	Frame	Meso	FPO
Joseph et al. (2019)	IE, P		Corporate sustainability	Qual.	Logic, organizational orientation	Meso	FPO
Joseph et al. (2020)	IE, P		Cognitive frames, tensions	Qual.	Cognitive frame	Micro Meso	FPO
Kamat (2004)	DS, IS		NGO discourse, political science	Theo.	Frame, framework	Macro Meso	NPO
Karnani (2007)	IE, IS	DE, DS	Bottom of the pyramid	Theo.	Logic	Meso	FPO
Khan (2018)	IE		Strategic cognition, CSR	Quant.	Strategic frame	Meso	FPO
Klitsie et al. (2018)	IE, IS, IN, P		Framing, partnerships	Qual.	Frame	Meso	FPO NPO
Kump (2021)	IE, P		Organizational change, environmental belief model	Theo.	Cognitive frame, logic	Micro Meso	FPO
Laasch (2018)	DE, DS, IS, IE	DN, IN	Institutional logics, business models	Theo.	Organizational value logics	Macro Meso	FPO, NPO, public org.
Laasch and Pinkse (2020)	IE, P	DE, DS, IS	Institutional logics, business models	Qual.	Organizational value logics	Macro Meso	Hybrid
Le Ber and Branzei (2011)	IE, IS	P	Institutional logics, partnerships	Qual.	Value creation logic	Macro Meso	FPO NPO
Lee and Lounsbury (2015)	DE, DN	IE, IN	Institutional logics, frames, institutional complexity	Quant.	Frame, logic	Macro Meso	FPO, NPO, public org.
Lewis (1998)	IE, IS	P	NGOs, partnerships	Qual.	Business vs. social value logics	Meso	FPO NPO
Liao (2016)	IE, IN		Temporal cognition, eco-innovation	Quant.	Cognition, orientation	Meso	FPO
Lounsbury et al. (2003)	IE, IN	DE, DN	Social movements, framing, institutional logics	Qual.	Frame	Macro Meso	NPO
MacKay and Munro (2012)	DE, IE, IN		Social movements, information warfare, framing	Qual.	Frame	Meso	FPO NPO
Maon et al. (2008)	IE, P		CSR, organizational interpretation system	Theo.	Organizational interpretation	Micro Meso	FPO
Margolis and Walsh (2003)	IE		Corporate social performance–economic performance	Theo.	Dominant logic	Meso	FPO

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Martinez et al. (2019)	IE, P	IN	Syncretic theory, stakeholder engagement	Theo.	Logic	Micro Meso	General (FFO/NPO)
Mattingly and Hall (2008)	DE, IE,	DS, IS, P	Institutional logics, stakeholder theory, social movements	Qual.	Institutional logics, frames	Macro Meso	FPO
Mazutis et al. (2020)	IE, P	IN, IS	Spatiotemporality, organizational sustainability frames	Theo.	Organizational sustainability frame	Meso	FPO
Mitra (2011)	IE		CSR, reputation, framing	Qual.	Frame	Meso	FPO
Mitra and Buzzanell (2017)	IE, IN, P	DE, IS	Sustainable organizing	Qual.	Frame	Micro Meso	FPO
Molecke and Pinkse (2020)	IE, P	IS	Impression management, legitimacy (institutional theory)	Qual.	Cognitive framing	Micro Meso	Hybrid
Mongelli et al. (2013)	IE, IS	DE, DS	Social entrepreneurship, institutional logics	Qual.	Institutional logics	Macro Meso	Hybrid
Nicholls and Huybrechts (2014)	IE, IS, P		Institutional logics, partnerships	Qual.	Logic	Macro Meso	FPO NPO
O'Neil and Ucbasaran (2011)	IE, P	DN, IN	Institutional logics, sustainable entrepreneurship	Qual.	Logic	Macro Meso	Hybrid
Orlitzky (2011)	IE	DE, IS	Corporate social performance-economic performance, institutional logics	Quant.	Institutional logics	Macro Meso	FPO
Osagie et al. (2016)	IE		CSR, individual's competencies	Qual.	Frames of reference, logic	Micro Meso	FPO
Ott et al. (2011)	DN, IN		Strong sustainability, communicative frames	Theo.	Frame	Macro Meso	General
Ozanne et al. (2016)	P		Tensions, corporate sustainability	Qual.	Frame	Meso	FPO
Pache and Santos (2011)	IS, IE, P	DS, DE	Social enterprises, institutional logics	Qual.	Logic	Macro Meso	Hybrid
Painter-Morland et al. (2017)	DE, IS, IE, P	IN, DN	Sustainable development, metaphors	Theo.	Cognitive frame	Micro Meso	General

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Pesqueira et al. (2020)	IN, IE	DN, DS	Framing contests, NGO collaborations	Qual.	Frame	Meso	NPO
Peters and Schraml (2015)	DN, IN, DE, IE, IS		Issue frames, sustainable forest management	Qual.	Sustainability frame	Meso	FPO NPO
Porter and Dery (2012)	DE, IE, P		Complex systems theory, sustainability management	Qual.	Logic, framework	Meso	FPO
Powell et al. (2018)	IS, IE		Institutional logics, partnerships	Qual.	Pro-social logic	Macro Meso	FPO NPO
Preuss and Fearnle (2021)	IE, P	DE	Sustainable supply chain management, cognitive frames	Theo.	Cognitive frame	Micro Meso	FPO
Ramus and Vaccaro (2017)	IS, IE		Social enterprises, pro-social values, mission drifts	Qual.	Pro-social logic	Meso	Hybrid
Ramus et al. (2017)	DE, DS, IS, P		Social enterprises, institutional logics, institutional complexity	Qual.	Institutional logics	Macro Meso	Hybrid
Reinecke and Ansari (2016)	IE, IS, DE	DS	Framing, CSR	Qual.	Frame	Meso	FPO
Richardson and Cragg (2010)	IE	DE	Socially responsible investing, ethics, business case logic	Qual.	Dominant logic (business case)	Meso	FPO
Rousseau et al. (2014)	IE, IN, IS		Institutional logics, inter-organizational relationships	Quant.	Institutional logics	Micro Meso Macro	FPO NPO
Sanders and McClellan (2014)	DS, IS, IE		Non-profit organizing	Qual.	Institutional logics	Macro Meso	NPO
Saz-Carranza and Longo (2012)	IE, P	DE, IS	Partnerships, institutional logics	Qual.	Institutional logics	Macro Meso	FPO Public org.
Scherer et al. (2013)	IE, P		Legitimacy, institutional logics, tensions	Qual.	Institutional logics	Macro Meso	FPO
Secchi (2009)	IE, IS		Managerial cognition, social responsibility	Theo.	Cognitive map, mind-sets	Micro Meso	FPO
Seidl and Werle (2018)	IE, IN		Organizational sensemaking, partnerships	Qual.	Frame, organizational sensemaking	Meso	FPO
Selsky and Parker (2010)	IN, IE, P		Organizational sensemaking, partnerships	Theo.	Frame	Meso	FPO NPO

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Sharma and Bansal (2017)	IE, IS, P		Managerial and organizational cognition, tensions	Qual.	Cognitive frame	Micro Meso	FPO NPO
Sharma and Good (2013)	IE, IS, P		Institutional logic, institutional work, tensions	Theo.	Logic, cognitive frame	Micro Meso Macro	FPO
Sharma and Jaiswal (2017)	DE, IE, P		Tensions, managerial cognition	Qual.	Cognitive frame	Micro Meso	FPO
Shu (2021)	P	IE	Sustainable product development, frames	Qual.	Frame	Meso	FPO
Siegner et al. (2018)	IE, IS, P		Social enterprises, tensions theory, institutional logics	Qual.	Logic	Macro, Meso	Hybrid
Šimunović et al. (2018)	DN, IN, DE, IE, IS		Frame analysis, sustainable forest management, environmental governance	Qual.	Frame	Meso	FPO NPO
Slawinski and Bansal (2012)	IE, P		Organizing temporality, corporate environmental management	Qual.	Perspective	Meso	FPO
Slawinski and Bansal (2015)	IE, P	DE	Tensions, corporate environmental management, temporality	Qual.	Temporal frame	Meso	FPO
Smith et al. (2015)	P		Social enterprise, paradox (tension) theory	Theo.	Logic	Meso	Hybrid
Soderstrom and Heinze (2019)	IE, P		Sustainable entrepreneurship, tensions, managerial cognition	Qual.	Frame	Micro Meso	Hybrid
Sweet et al. (2003)	IE, IN	P	Corporate environmental management, managerial cognition, decision styles	Qual.	Managerial frame	Micro Meso	FPO
Todaro et al. (2019)	IE, P		Environmental management systems, strategic cognition	Quant.	Cognitive frame	Micro Meso	FPO
Tomlinson and Schwabenland (2009)	DS, IS, IE		Tensions, non-profit organizing	Qual.	Frame, logic	Meso	NPO
Tracey et al. (2011)	IS, IE	P	Institutional entrepreneurship, institutional logics, social enterprises	Qual.	Logic	Micro Meso Macro	Hybrid

(Continues)

TABLE A1 (Continued)

Reference	Primary codes	Secondary codes	Theoretical background	Method	Terms	Levels	Forms
Utami et al. (2021)	IS, IE	DS	Bottom of the pyramid, institutional logics	Qual.	Logic	Macro Meso	FPO Hybrid
Van der Byl and Slawinski (2015)	IE, P		Tensions, managerial and organizational cognition	Theo.	Frame	Meso	FPO
Vertinsky and Zietsma (1998)	DE, IE, P		Corporate environmental management	Theo.	Leader frame	Micro Meso	FPO
Vurro et al. (2011)	IE, IS, P		Institutional logics, partnerships	Theo.	Logic	Macro Meso	FPO NPO
Wade and Griffiths (2021)	P, IE	IS, IN	Strategic cognition, climate change	Theo.	Cognitive frame	Micro Meso Macro	FPO
Wannags and Gold (2020)	IE, P	DE	Tensions, corporate sustainability	Theo.	Logic	Meso	FPO
Watson et al. (2018a)	IE, P		Institutional logics, partnerships	Qual.	Logic	Macro Meso	FPO NPO
Watson et al. (2018b)	IE, P		Dynamic capabilities, managerial and organizational cognition	Theo.	Value frame	Meso	FPO NPO
Wright and Nyberg (2017)	DE, IE		Framing, climate change	Qual.	Frame	Meso	FPO
Wright et al. (2012)	IE, IN	DE, DN	Identity work, corporate environmental management	Qual.	Frame	Micro Meso	FPO
Wright et al. (2013)	DE, IS, IE, P	P	Temporal framing (prognostic), climate change	Qual.	Temporal frame	Macro Meso	FPO
Yan et al. (2018)	IE, IS	DE	Institutional logics, socially responsible investing	Quant.	Logic	Macro Meso	FPO
Yang et al. (2019)	IE, IN	DE	Managerial cognition, innovation capability, environmental strategy	Quant.	Cognitive frame or focus	Micro Meso	FPO
York et al. (2016)	IE, P	IN	Sustainable entrepreneurship, institutional logics	Qual.	Logic	Macro Meso	FPO
Zimmermann et al. (2021)	P, IE	DE	Framing, managerial cognition, collaborations	Qual.	Frame	Meso	General (FPO/NPO)

Abbreviations: CS, corporate sustainability; CSR, corporate social responsibility; DE, dogmatic economic capital frame; DN, dogmatic natural capital frame; DS, dogmatic social capital frame; FPO, for-profit organization; IE, instrumental economic capital frame; IN, instrumental natural capital frame; NGO, non-governmental organization; NPO, non-profit organization; org., organization; IS, instrumental social capital frame; P, paradoxical frame; Theo, theoretical; Qual, qualitative; Quant, quantitative.