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How social entrepreneurs search for knowledge to solve complex social problems – An empirically based model and typology

Daniel J. Kruse [a,*], Katrin Eling [b], Cornelius Herstatt [c]

[a] Eberswalde University for Sustainable Development (HNEE), Faculty of Sustainable Business, Schicklerstrasse 5, 16225 Eberswalde, Germany
[b] Wuppertal Institute for Climate, Environment and Energy, Strategy Development and Research Coordination, Doeppersberg 19, 42103 Wuppertal, Germany
[c] Hamburg University of Technology, Institute for Technology and Innovation Management, Am Schwarzenberg-Campus 4, 21073 Hamburg, Germany

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ABSTRACT

In order to tackle today's grand challenges, we need to better understand how social entrepreneurs (SEs) search for knowledge to solve complex social problems. However, existing search models in social entrepreneurship lack an explicit focus on complexity. To address this gap, our explorative study adopts concepts from organizational search within open innovation as our theoretical lens to analyse 18 narrative interviews with SEs in Germany and Ethiopia. Our findings provide empirical accounts for a social entrepreneurial search model integrating different search mechanisms and search heuristics. We identify three distinct types of SEs who apply the different search types *focused search*, *tentative search* and *hybrid search* based on their different complexity perceptions in different search environments and two distinct normative theories that guide their search as cognitive heuristics. We contribute to both research on organizational search and social entrepreneurship and our findings have practical implications for politicians, social entrepreneurs and educators.

1. Introduction

The escalating grand challenges, including wealth inequality, climate change, and biodiversity loss, are reshaping both the business landscape and societal norms, and pose significant threats to economic stability and the well-being of humanity if left unaddressed (Carnevale & Hatak, 2020; Grewatsch et al., 2021). Grand challenges are characterized by complexity, which requires a deep understanding of socio-ecological system dynamics and acknowledging that outcomes often emerge from a variety of interconnected causes, where small actions can lead to unintended consequences (Grotzer & Tutwiler, 2014; Jacobson, 2001). Within management literature, social entrepreneurs and the innovations they develop are increasingly recognized as playing a crucial role in tackling these grand challenges (Dionisio & de Vargas, 2022; Varadarajan & Kaul, 2018; Dorado & Ventresca, 2013). Social entrepreneurs (hereafter SEs) aim to treat economic, environmental and social objectives equally (Dees, 1998; Uygur & Marcoux, 2013) in their attempt to develop innovative solutions to social problems (Canestrino et al., 2020; Gupta et al., 2020). However, developing solutions bearing in mind such complexity is a challenge in itself and to-date this challenge is not well enough understood to being able to provide sufficient support to aspiring SEs (Mair & Marti, 2006; Zahra et al., 2009).

In light of the rising need to tackle grand challenges, recent management studies advocate for a stronger focus on complexity in innovation processes (Fainshmidt et al., 2021; Jarzabkowski et al., 2021). The few existing studies on social entrepreneurial innovation processes indicate their interactive and nonlinear nature, which involves intense negotiation with various stakeholders, community engagement or collective action (Di Domenico et al., 2010; Hastings & Domegan, 2014). Despite acknowledging the 'added complexity' (Tracey & Phillips, 2007), existing models in social entrepreneurship, such as effectuation or social bricolage, however lack a thorough theoretical engagement with the concept of complexity (Townsend et al., 2018; Corner & Ho, 2010). This leaves us with an unsatisfactory understanding of how social entrepreneurial innovation processes unfold (Townsend et al., 2018; Dorado, 2005).

To overcome this gap, we adopt organizational search within open innovation as our theoretical lens. Organizational search refers to the process by which an organization seeks solutions to problems that arise in their environment (Posen et al., 2018; March 1991). Recent research in this area highlights that search processes vary based on the level of problem complexity (Lopez-Vega et al., 2016). This makes this lens particularly suitable for our study – it emphasizes problem complexity and thus helps us to shed light on how SEs navigate and search for

* Corresponding author.
E-mail address: daniel.kruse@hnee.de (D.J. Kruse).

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solutions to the complex social problems they face (Kimmitt & Muñoz, 2018; Zahra et al., 2009).

Adopting our lens, we build on recent findings from studies in organizational search within the open innovation framework, which suggest that different *search heuristics* align with different *search mechanisms* and differ in their effectiveness dependent on the problem's complexity (Lopez-Vega et al., 2016; Felin & Zenger, 2014). Previous organizational search research has primarily studied these concepts on an *organizational* level. We here apply these theories to gain a better understanding and conceptualization of how *individual* SEs use search mechanisms and search heuristics when they search for knowledge to solve complex social problems and how these *individual* search behaviors differ among SEs.

To this end, our explorative study draws on 18 interviews with SEs from Germany and Ethiopia, using a cross-national comparative approach (Mills et al., 2006). Adopting organizational search as our theoretical lens in analyzing the interview data contributes to and bridges both social entrepreneurship and organizational search literatures. Organizational search theory offers conceptual tools for understanding search behaviors in complex problems but often overlooks individual cognition and challenges in malignant environments beyond formal organizations (Li et al., 2013; MacAulay et al., 2020). In contrast, social entrepreneurship provides insights into individual actors and their diverse search environments but lacks comprehensive models for addressing problem complexity. As such, we, first, address recent calls for a more fine-grained analysis of complexity in entrepreneurship theory by introducing a social entrepreneurial search model for solving complex social problems (Townsend et al., 2018; Zellweger & Zenger, 2023). Second, we contribute to the underexplored cognitive dimension of entrepreneurial search (Camuffo et al., 2020; Zellweger & Zenger, 2023) by using interpretivist research tools to reveal two different normative theories, which we label *leitmotif,* that guide the search for knowledge of SEs (Kruse et al., 2019; Posen et al., 2018). Finally, deriving three distinct SE types from these findings contributes to existing research by transcending the existing purely conceptual or one-dimensional considerations (Defourny & Nyssens, 2017).

2. Theoretical background

2.1. Social entrepreneurship

This study understands social entrepreneurship as a process that entails innovation to create value in social and environmental terms beyond the mere profit maximization by developing solutions to address complex social problems (Diaz-Sarachaga & Ariza-Montes, 2022; Zahra et al., 2009). This understanding reflects the dual mission of SEs: one goal being directed toward profitability (i.e. economic mission) and one toward their social (i.e. social and/or ecological) mission (Muñoz & Kimmitt, 2019; Young & Kim, 2015).

Over the last four decades, social entrepreneurship has gained significant attention as a field of scholarship (Morris et al., 2020). However, due to its relative infancy, social entrepreneurship is characterised by a divergence of the field's main concepts, leading to vagueness and ambiguity (Certo & Miller, 2008; Doherty et al., 2014). In particular, a recent systematic overview reveals thirteen major unresolved issues in social entrepreneurship research including the nature of its process and of SEs, the level of innovation and what is considered as social value (Morris et al., 2020). There also is a lack of sophisticated typologies, as existing typologies are either primarily based on conceptual considerations, which lack empirical evidence (Zahra et al., 2009), or have taken a one-dimensional perspective (Neck et al., 2009; Spear, 2006).

While this makes a conceptualization of the phenomenon of social entrepreneurship difficult, this study builds on an emerging consensus on the primary mission of the SE: to develop solutions to social problems that holistically combine the social, environmental and economic dimensions of sustainable development in a triple bottom line (Dacin, Dacin, & Matear, 2010;Tilley & Young, 2006). Due to these highly interdependent and partly conflicting dimensions, the problems SEs aim to solve are described as complex (Dorado & Ventresca, 2013; Zahra et al., 2009).

Complex problems are characterized by a vast number of highly interdependent variables, knowledge sets and choices as well as feedback-loops (Leiblein & Macher, 2009). The nature and structure of these interdependencies is usually not well understood (Fernandes & Simon, 1999; Macher, 2006). In contrast, *complicated problems* also involve many variables, however, solving them follows a predictable course of action once these factors are understood (de Bruin et al., 2015; Ruitenbeek & Cartier, 2001). An example of a complex social problem is fuel poverty, being characterized by various interdependent technical, economic and societal variables (Baker et al., 2018). Just one aspect of fuel poverty, a poor heating regime, can cause poor indoor quality which may have, amongst others, detrimental impacts on the health of the inhabitants (e.g. from mould growth), which has shown to negatively affect mental health, and so in turn may enhance the risk of fuel poverty and thus a poor heating regime (Baker et al., 2018).

Although SEs and the innovations they develop are increasingly recognized as playing a crucial role in tackling the grand challenges (Dionisio & de Vargas, 2022; Dorado & Ventresca, 2013), we know little about their actual innovation processes. This is, among other things, due to a bias in previous investigations either towards the structural context in which SEs operate or towards their personal characteristics (Robinson, 2006). Despite a few notable exceptions (e.g. Di Domenico et al., 2010; Sarasvathy, 2001), the majority of scholars either black box the individual innovation processes of SEs (Suddaby et al., 2017; Sud et al., 2009) or take the assumptions from traditional entrepreneurship research about the rationality of the actors and the linearity of their processes for granted (Corner & Ho, 2010; Alvarez & Barney, 2007). However, we know from the few studies on the actual behavior of SEs that their innovation process "is substantively more complex and recursive" compared to commercial entrepreneurs (Corner & Ho, 2010, p. 654) due to the additional needs to integrate social impact assessment and ethical considerations (Tracey & Phillips, 2007). This means that transferring this traditional view to the field of social entrepreneurship and its innovation process falls short (Chandra, 2016).

At the same time, the few existing innovation process models that show potential for social entrepreneurship, such as effectuation or social bricolage, are either focused on exploiting "environmental uncertainty by responding intuitively to situations as they arise" (Di Domenico, et al., 2010, p. 684; Sarasvathy, 2001) or on adopting resourcefulness and adaptability within a resource-scarce context (Di Domenico et al., 2010; Garud & Karnøe, 2003), respectively. With both approaches it remains unclear how they may remedy the complexity of social problems (Hastings & Domegan, 2014; Townsend et al., 2018).

An explicit focus on complexity and a distinction from other knowledge problems, such as uncertainty, is important as different problems pose different challenges for the innovation process. Addressing uncertainty is about increasing information about a problem, while addressing complexity requires integrating new information about a problem by finding a suitable superordinate theoretical representation (Townsend et al., 2018; Gavetti, 2005). A misdiagnosis of a knowledge problem and the actions taken by entrepreneurs to resolve them thus "hold major significance concerning the relative effectiveness of organizing mechanisms used by entrepreneurs." (Townsend et al., 2018, p.677). This shortcoming in our understanding of social entrepreneurship ultimately affects the efficacy with which supporting resources can be allocated to tackle grand challenges (Mair & Marti, 2006). Therefore, and to close this gap, our study focuses on understanding how SEs handle complexity in their innovation processes.

2.2. Theoretical lens: Organizational search

We adopt ideas and concepts from organizational search within open

innovation – characterized by its inherent complexity – as our primary theoretical lens to illuminate the search behavior of SEs. Organizational search refers to the process by which an organization seeks solutions to problems, often triggered by the recognition of performance gaps or challenges in the environment (Posen et al., 2018; March 1991). The concept is central to organizational theory, as the search for new ideas, technologies, and methodologies is foundational to an organization's capacity to innovate (Gölgeci et al., 2019).

We have chosen this theoretical lens as scholars from this field focus on problems as their central unit of analysis in the governance of innovation (e.g. Felin & Zenger, 2014; Afuah & Tucci, 2012). Within open innovation particularly, complexity plays a central role and recent research suggests that different search paths are appropriate for different levels of problem complexity (Lopez-Vega et al. 2016; Felin & Zenger, 2014). Open innovation emphasizes the strategic imperative for firms to extend their search for knowledge beyond internal boundaries. As such, managers are confronted with the complex problem of detecting and transferring external knowledge, which is characterized by its tacitness, rivalry, and indivisibility (Lopez-Vega et al., 2016). This lens is particularly fitting for our study because SEs attempt to solve complex social problems that occur in their environment, requiring them to search for and integrate diverse external knowledge sets (Kimmitt & Muñoz, 2018; Zahra et al., 2009).

Adopting our lens, we follow the understanding that search behavior involves both *action* and *cognition* to effectively cope with complexity: "one part [of search] occurs in the world of cognition and comprises ways of conceptualizing the firm and its environment. The other unfolds in the world of action and consists of mechanisms that shape what a company actually does" (Gavetti & Rivkin, 2007, p. 420; Lopez-Vega et al., 2016). The action dimension of search involves different *search mechanisms*, while the cognition dimension of search is focused on the *search heuristics* and mental processes involved in assessing alternatives when making decisions (Gavetti & Levinthal, 2000; Gavetti & Rivkin, 2007).

2.2.1. Search mechanisms

Scholars from organizational search agree on a two-step model of search consisting of two search mechanisms: *problem framing* and *boundary spanning* (Baer et al., 2013; Zollo & Winter, 2002). *Problem framing* is a mechanism that guides the search in organizations by shaping the understanding of problems and steering the subsequent identification of solutions (Baer et al., 2013). When a problem is more obvious, for example in case of a performance shortfall, its framing steers the subsequent search activities usually towards routine-based search processes, while a less obvious and more complex problem, such as developing innovative products, requires more analytical and advanced approaches to search (Lopez-Vega et al. 2016; Fleming & Sorenson, 2004). *Boundary spanning* is a crucial tactic for managing the balance between local and distant searches. Organizations navigate their search for innovative solutions within a defined search space, which is defined based on the relative distance from their existing knowledge base: local search and distant search (Knudsen & Srikanth, 2014). Local search focuses on refining existing knowledge for practical solutions (Levinthal & March 1993; Stuart & Podolny, 1996), while distant search seeks novel combinations, offering disruptive innovations (Fleming & Sorenson, 2004; Rosenkopf & Nerkar, 2001).

2.2.2. Search heuristics

Search heuristics play a critical role in the organizational search process (Lopez-Vega et al., 2016). Search heuristics are the mental processes involved in assessing alternatives when making decisions (Gavetti & Levinthal, 2000; Gavetti & Rivkin, 2007) and resemble the often subjective and intuitive nature of the innovation process (Foss et al., 2019). Research on organizational search distinguishes between *experiential heuristics* and *cognitive heuristics*. *Experiential heuristics* are characterized by immediate feedback from practical trials (Nickerson & Zenger, 2004): real-time evaluation of options and acting on instant feedback from ongoing activities, bypassing in-depth analysis (Gavetti & Levinthal, 2000; Zollo & Winter, 2002). As organizations often rely on established routines or strategies (Cyert & March 1963), experiential heuristics or 'learning-by-doing' (Pisano, 1994) are the standard mode.

In contrast, *cognitive heuristics* leverage mental models and abstractions to identify solutions (Gavetti, 2005). They involve analytical evaluation away from the action sphere (Gavetti & Levinthal, 2000), emphasizing 'learning-before-doing' (Pisano, 1994). These heuristics allow for the integration of information into current or emerging mental frameworks (Nickerson & Zenger, 2004). Unlike experiential heuristics, cognitive heuristics facilitate the development of theoretical models using abstract representations (Zollo & Winter, 2002).

To sum up, despite the absence of a search model explicitly addressing complexity, current open innovation research suggests a correlation between comprehensive problem formulation (as opposed to focusing on performance shortfalls), distant search (rather than local search), and cognitive search heuristics (in contrast to experiential heuristics) as more effective in addressing complex problems (Hsieh et al., 2007; Lopez-Vega et al., 2016; Kruse et al., 2019).

2.3. Research gaps and questions

Resembling the shortcomings in the social entrepreneurship literature, existing research on organizational search still follows a traditional understanding of linear and sequential routine-based search and neglects the dynamics of search (Felin & Zenger 2014; Lopez-Vega et al., 2016) as well as the involved complexity (Townsend et al., 2018; Hsieh et al., 2007). Due to its predominant focus on organizational-level research (Maggitti et al., 2013; Vuculescu, 2017), organizational search tends to disregard that search is inherently a human task and thus requires a stronger focus on individual experiences and cognition (Campbell, 1988; Vandenbosch & Huff, 1997). In a similar vein, the conventional corporate innovation process seems not to support sustainable development (Bansal & Grewatsch, 2020). As a consequence, our understanding of how search processes unfold with regard to both action and cognition remains incomplete and empirical progress has been scarce (Posen et al., 2018).

To overcome these shortcomings and to gain a better understanding of the search behavior of SEs in the search for knowledge to solve complex social problems, we ask:

RQ1: How does the search behavior of SEs unfold in terms of search mechanisms and search heuristics when they search for knowledge to solve complex problems?
RQ2: How do SEs differ in their search behavior when they search for knowledge to solve complex problems?

3. Methodology

3.1. The research paradigm: Critical realism

This explorative study adopts a qualitative research design drawing on 18 narrative interviews with SEs from Ethiopia and Germany and follows the epistemological paradigm of critical realism. Critical realism (CR) acknowledges that there is an objective reality, in which actual events take place (i.e. the individual search behavior of SEs) (Bhaskar, 2008), while the 'real' cannot be observed directly (Delbridge & Edwards, 2013). The world as we know and understand it is constructed from our (limited) cognitive perspectives and experiences, as part of what is 'observable' (Bhaskar, 2008; Fletcher, 2017). As an example, complexity theory distinguishes between *descriptive* complexity, which exists externally and independently from any observer (Zivkovic & Woods, 2019), and *perceived* complexity, which relates to a constructed and subject reality as experienced by the observer (de Bruin et al., 2015; Schlindwein & Ison, 2004).

Applying CR thus acknowledges that problem complexity exists independently of the observer (i.e. descriptive complexity), while we can only access this reality through the subjective lens of our interview partners (i.e. perceived complexity). Thus, unobservable structures and mechanisms cause observable events (Mutch et al., 2006), which allows to observe the complex interplay between objective social problems and subjective perceptions that lead to SEs' responses. As such, CR is considered to build a more coherent understanding of complex sustainability issues (Cockburn, 2022), unlike positivism, which could limit our inquiry to observable phenomena, or constructivism, which might overly focus on subjective interpretations.

We couple this epistemological stance with narrative interviews to bridge the gap between the real and the observable, between the complexity that exists and the complexity that is perceived (Delbridge & Edwards, 2013; Mutch et al., 2006). A narrative interview is a form of unstructured, in-depth qualitative interview that aims to reconstruct social events from the perspective of interviewees as directly as possible (Jovchelovitch & Bauer, 2000) through creating "a rich body of knowledge, unavailable through other methods of analysis"[1] (Stutts & Barker, 1999, p. 213). Narrative interviews avoid the traditional question–answer format and thus provide a more valid rendering of the participant's experiences and sensemaking (i.e., their subjective constructing and framing) of the world in face of complexity (Dorado, 2005). Hence, narrative interviews within the CR paradigm allow to uncover the layers of reality influencing the search behaviors of SEs and, therefore, optimally support our research objectives. Interest in CR has been increasing across management and organization studies in general (Al-Amoudi & Willmott, 2011) and in social entrepreneurship research in particular (Leca & Naccache, 2006).

3.2. Comparative research design

To deepen our understanding of SEs' search behavior within distinct institutional contexts, we adopted a comparative study design focusing on Germany and Ethiopia. Typically, comparative analysis in general and in the context of entrepreneurship in particular aims to elucidate variations and similarities across large-scale social units, such as regions or nations (Mills et al., 2006; Stam & Spigel, 2016). Comparing diverse contexts enriches our understanding of how different environments shape entrepreneurial search strategies for identifying and leveraging knowledge, highlighting the interplay between local conditions and the inherent complexity of social problems (Welter, 2011; Zahra et al., 2009). This approach allows us to distinguish universal strategies of SEs from adaptations to specific contextual nuances (Khanna & Palepu, 2000; Mair et al., 2012). To uncover potential contextual differences, we chose to contrast an 'underinstitutionalized' context to an 'over-institutionalized' context in our study.

Ethiopia's entrepreneurial ecosystem, described as 'under-institutionalized,' typifies many developing countries' contexts, where infrastructural inadequacies and regulatory constraints pose significant hurdles (Woldesenbet Beta & Storey, 2019; British Council, 2017). The lack of a robust institutional framework and supportive organizations for social entrepreneurship mirrors the broader challenges within base of the pyramid markets (London et al., 2010). This setting, however, also presents a fertile ground for innovative, grassroots solutions that can navigate and potentially transform these constraints into opportunities for societal impact.

Conversely, Germany's 'overinstitutionalized' ecosystem reflects the complexities inherent in developed countries, where a deeply entrenched welfare state and a dense network of state and welfare associations create a challenging landscape for social entrepreneurship (Esping-Andersen, 1990; Glänzel & Scheuerle, 2016). The existence of a 'welfare cartel' stifles the entry and scaling of social ventures, illustrating how excessive institutionalization can hinder the dynamism required for social entrepreneurship (Zimmer & Obuch, 2017). Additionally, the nascent infrastructure for social impact investment highlights the lacking support systems necessary for fostering social entrepreneurship (Glänzel & Scheuerle, 2016).

3.3. Sample selection

Our study's sampling procedure navigated the interplay between theoretical objectives, methodological rigor, and the practical challenges inherent in conducting comparative research across the distinct contexts of Germany and Ethiopia. Seeking comparability between the samples from these diverse countries, we faced particular hurdles in Ethiopia, where social entrepreneurs are a rare population[2] (Robinson, 2006). In Ethiopia, Addis Ababa was thus chosen for easy accessibility and geographical proximity: it has the highest density of support organizations across the country's regions (British Council, 2017). Participating in a three-week summer school on frugal innovation and subsistence entrepreneurship in Addis Ababa in September 2018 provided the first author with a valuable opportunity to establish contacts for interviews, but resulted in a limited time frame for data collection in Ethiopia.

Hamburg, for our study's German sampling, was selected due to its geographical proximity and the first author's established local, professional and academic networks. This facilitated logistical ease, increased the range of SEs and enriched data collection through in-depth, face-to-face interviews for a stronger rapport with participants[3] (Mishler, 1991). As such, practical criteria were considered together with methodological requirements. Additional challenges, especially pronounced in Ethiopia,[4] necessitated a flexible sampling strategy, blending purposive and network sampling, complemented by convenience sampling for one participant. Such a strategy is advocated for unique and difficult-to-locate populations (Timonen, Foley, & Conlon, 2018), especially in the context of developing countries (Kruse et al., 2019).

The 18 SEs of the final sample (see Table 1 for an overview) were selected based on three theoretical requirements, which serve as the lowest common denominators to facilitate a meaningful comparison: (1) addressing at least one Sustainable Development Goal of the United Nations[5] with their project to reflect the notion of social problems (Diaz-Sarachaga & Ariza-Montes, 2022); (2) being directly involved in the forming of a new organization or a project to reflect the notion of entrepreneurship; (3) operating in Germany or Ethiopia to reflect the regional focus. These criteria were complemented by two methodological requirements: The SEs (1) had to be available for a face-to-face interview and (2) had to be fluent in English or German to allow for a comprehensive narrative (Alheit, 1982; Pentland, 1999). Based on these criteria, six of the originally 24 conducted interviews were excluded

[1] We employed a naturalistic approach that focuses on the content of the story and takes narratives as a resource by understanding it as a medium to analyse the experiences of the storyteller. These experiences are considered to mimic at least to a certain degree an objective reality and therefore reflect a stable meaning (Cunliffe et al., 2004).

[2] Accessing specific populations for research, such as social entrepreneurs in Ethiopia, presents unique challenges due to their rarity. Populations below 1% of the general populace are termed mini domains (Kalton, 2009), a category into which Ethiopia's estimated 55,000 social enterprises fall, given the country's population of 109 million (British Council, 2017). This classification underscores the difficulties in studying such a specific and small demographic within a large national context.

[3] Only after our study, as a result of the COVID-19 pandemic, advancements in technology and adaptations in research practices and norms have changed towards the use of remote interviews (Lobe et al., 2020).

[4] I.e., infrastructural and logistical limitations, restricted movement due to political conflicts and the rarity of social entrepreneurs compounded by language barriers due to a diverse ethnic landscape (British Council, 2017).

[5] More information: https://sdgs.un.org/goals.

Table 1
Descriptive overview of the SEs in the Ethiopian and German samples.

ID	Social venture	Status (at time of interviews)	Founded	SDG
ETH01	Producing essential oils from local resources based on indigenous wisdom to improve well being and in cooperation with female farmers	Profitable	2013	1 / 3 / 15
ETH02	Producing healthy food in terms of oat meal and muesli bars from local resources	Profitable	2016	2 / 3
ETH03	Producing sustainable coffee from local resources	Not profitable	2012	9
ETH04	Founding a health clinic	Idea	–	3
ETH05	Establishing healthy food delivery service	Profitable	2017	1
ETH06	Developing mobile offline learning device for school children	Break even	2016	4
ETH07	Producing organic honey from local resources in cooperation with unemployed youth from the countryside as beekeepers for export to Europe	Not profitable	2014	1 / 12 / 15
ETH08	Designing frugal fridge for market vendors to prolonge the cold chain for regional food which would otherwise go to waste	Prototype	2016	2
GER01	Selling plastic-free waste bags	Not profitable	2018	12
GER02	Establishing sustainable fashion label employing migrant workers	Not profitable	2015	8 / 12
GER03	Consultancy for lowering ecological footprint	Profitable	2019	12 / 13
GER04	Establishing online platform to match volunteers and social organizations for daily volunteering events	Profitable (donations)	2010	17
GER05	Establishing digital social network as well as in person meetings for exchange on ecological way of living	Prototype / Donations	2019	12 / 13
GER06	Producing DIY plastic-free cosmetics	Profitable	2016	10 / 12
GER07	Producing plastic-free running equipment	Not profitable	2019	12
GER08	Producing bracelets upcycled from ghost nets	Profitable	2015	10 / 12 / 13
GER09	Establishing humanitarian logistics provider	Profitable	2014	17
GER10	Consultancy for design thinking to implement circular economy	Profitable	2014	12

from the analysis and used only to offer contextual information for a robust interpretation of the data.

While the remaining 18 SEs cannot be regarded as representative of their respective entire population, they do represent a heterogeneous variety of types in terms of their social problems, maturity levels and levels of innovation,[6] selected for their theoretical relevance and the explorative nature of this study (Eisenhardt & Graebner, 2007).

[6] The innovation levels of the ventures in our study vary, with several innovations also being only 'new to the market' rather than 'new to the world' (OECD, 2005). This highlights the broad spectrum of innovation in social entrepreneurship, which extends beyond technological breakthroughs to include novel approaches to social issues, organizational forms, and collaborations aimed at improving well-being (Morris et al., 2020).

3.4. Data collection

We followed the narrative interview structure advised by Alheit (1982) with its four phases (i) preparation, (ii) main story, (iii) follow-up and (iv) evaluation during data collection. The story stimulus was: *"Please tell us the story of how you have become an entrepreneur and all the life stages, events and experiences that have been important to you up until today."* In the main story phase, the interviewee told spontaneously and without any interruption their story of becoming an SE. In the follow-up phase, probing-questions were asked to let the interviewee elaborate on missing or ambiguous parts or parts of the narrative. In the final evaluation phase, prepared questions about the search behavior were asked, in line with the research objectives.

We conducted two series of face-to-face interviews: the first with SEs from Ethiopia in Addis Ababa in September 2018, the second with SEs from Germany in Hamburg between October 2019 and March 2020. The interviews lasted 64 min on average. The transcribed interview data comprised approximately 279 pages of text. The interviews were supplemented with various types of secondary data, including media reports, videos, and texts from the social enterprises' websites. Two research trips to Addis Ababa allowed to better understand the social context and the entrepreneurial ecosystem through presentations, excursions, workshops and informal talks with various stakeholders (e.g., industry associations, development agencies, entrepreneurs, universities, or NGOs). For the German ecosystem, the authors had experience with the scene and complemented their contextual knowledge through a networking event and interviews with two experts. The triangulation of primary data with these multiple types of secondary data enhanced the accuracy of our theory building (Eisenhardt & Graebner, 2007).

3.5. Data analysis

We employed established qualitative data analysis techniques, to increase the rigour of our reasoning process and subsequently the validity and reliability of our findings (Gioia et al., 2013). Drawing on previous abductive inferential research on social entrepreneurship (Akemu et al., 2016; Kimmitt & Muñoz, 2018), we followed an inductive-then-deductive analytical procedure[7] (see Fig. 1). Our rationale was that elaborating existing frameworks often provides a more rigorous explanation than pursuing untethered new theory (Suddaby, 2006). This is particularly appropriate when investigating emerging constructs and relationships that have not been well expressed yet (Kimmitt & Muñoz, 2018). This abductive reasoning surpasses the conformist induction-deduction dichotomy by "recursively moving back and forth between a set of observations and a theoretical generalisation" (Timmermans & Tavory, 2012, p. 4).

In analysing our data, we iteratively shifted between the interview data, emerging dimensions and existing theory in three stages (see Fig. 1). In a first stage, we used exploratory coding that resulted in 703 initial codes to reveal reoccurring elements emerging to "see the direction in which to take [this] study" (Glaser, 1978, p. 56). Analysing how the SEs were reflecting on their problems, their search process and their resource mobilization led to the development of first-order codes. During the second stage, a more refined but partly conflicting set of concepts emerged from the data. The third stage was an abductive inferential approach (Van Maanen et al., 2007) to theorise about emerging concepts and types in the data. This meant reflecting on the codes through the lens of the existing social entrepreneurship (e.g. Kimmitt & Muñoz, 2018; Mair et al., 2012) and organizational search literature (Felin & Zenger, 2014; Lopez-Vega et al., 2016). Typological research requires

[7] Our methodology draws on Gioia et al. (2013) for inductive coding but diverges from grounded theory. Following Kimmitt and Muñoz (2018), we combine inductive coding with abductive reasoning to interpret findings within organizational search theory.

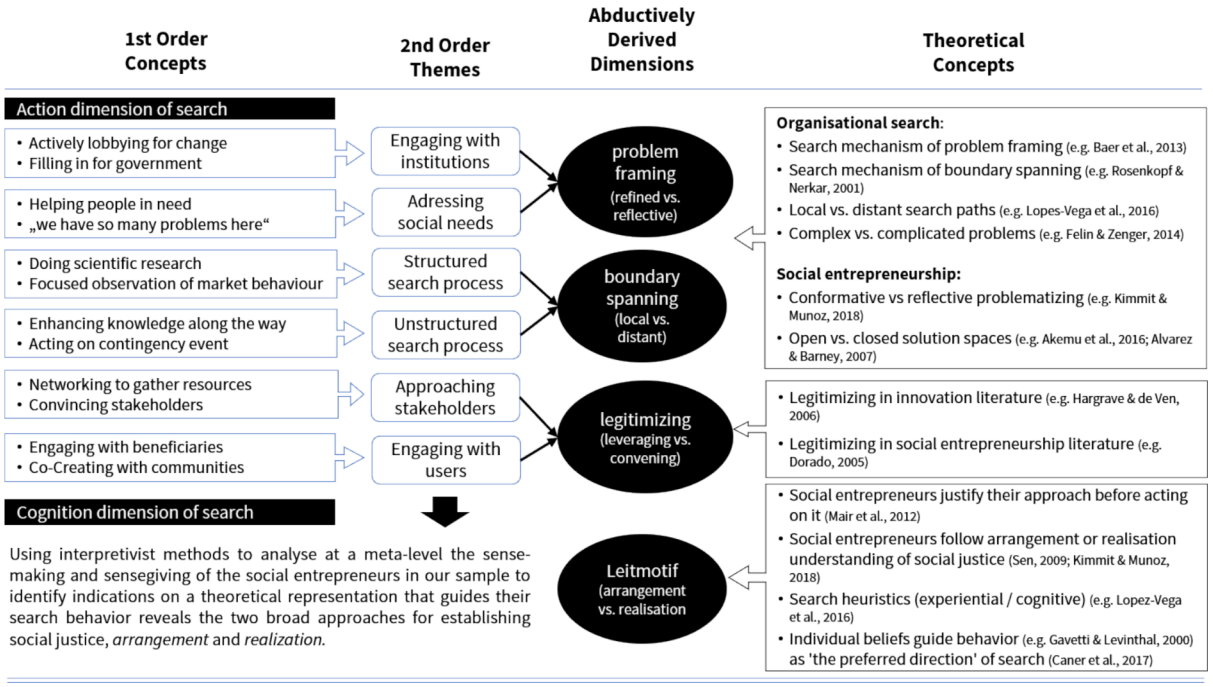

Fig. 1. Overview of the inductive-then-deductive data analysis of this study and its abductive reasoning.

abductive reasoning by cycling through induction and deduction in order to craft new insights and then refine them iteratively (Snow & Ketchen, 2014).

We follow Gioia and others (2013) in presenting detailed process descriptions of these stages. Fig. 1 shows the cognitive path that led us from the empirical raw data to the results and how we have drawn inferences to increase the reliability of our analysis (Avenier & Thomas, 2015; Charmaz, 2006). To accurately reflect the sequence of our data analysis process, we deliberately present theoretical concepts in the results section rather than in the theoretical background section, as these concepts emerged only during the deductive phase of our analysis.

4. Results

This section presents the final results of our study along the lines of its two research questions. First, we present the findings of our interpretivist analysis regarding different search heuristics. Second, we map out the similarities and differences in how the SEs execute the search mechanisms and develop these, integrated with the search heuristics, into a social entrepreneurial search model. Finally, based on this model, we present and describe a typology of three different SE types. Table 2 presents an overview of the coding scheme for the distinct search heuristics and search mechanisms per SE along with original data from the interviews.

4.1. Search heuristics: A normative leitmotif

In this section, we present our findings on the use of different search heuristics in SE's search. Two different normative theories appeared to guide the use of search mechanisms, which we label *leitmotif*. As part of our abductive data analysis procedure (see Fig. 1), we linked our data in the deductive part of our analysis to the two theoretical concepts for establishing social justice, *arrangement* and *realization*, brought forward by Sen (2009) and transferred to the context of social entrepreneurship by Kimmit and Munoz (2018). Sen (2009) describes two competing approaches to theorizing about social justice: institutional arrangement, and realization-based comparison. Institutional *arrangement* builds on the notion that justice has to be theorized through ideal sets of rules and institutions (i.e., ideal institutional arrangements) (Sen, 2009). Desireable behavioral outcomes would follow these institutions and social justice would appear in a trickle down manner (Kimmitt & Muñoz, 2018). In contrast, in the *realization* approach, the definition of just institutions does not take centre stage; rather, it focuses on the actual outcomes realized by social institutions, without aiming for a definition of what would constitute a just institution (Ege et al., 2016).

Based on this distinction we define the *arrangement leitmotif* identified in our sample as a theory that guides the search of SEs towards improving existing institutional structures and aligning with actors representing them. Conversely, we define the *realization leitmotif* identified in our sample as a theory that guides the search of SEs towards affected people and improving their actual situations.

Some of the SEs in our sample referred to the underlying leitmotif explicitly, whereas others expressed it implicitly so that we derived it from their behavior. For instance, ETH01 has very clear expectations about the bottom-up and participative nature of how she wants to work with beneficiaries as part of her *realization leitmotif*:

> *"If we start from the community, we have to start from what they know. Not introduce something, which we know." (ETH01)*

In contrast, GER04 followed an *arrangement leitmotif* from the very beginning to ensure the most effective resource distribution, as helping everyone can be investing into a bottomless pit:

> *"Helping everyone immediately is not possible from a logistics perspective and this would often lead to a bottomless pit. […] I said: 'We need boundary conditions and if these are not met, if a request doesn't fit our concept, we would burn ourselves out.' […] I believe that some of our team members left the project due to this issue because my concept did not match their idea of Christian charity." (GER04)*

4.2. Combining leitmotif and search mechanisms: A search model

Within the action dimension of search, we saw differences in how the SEs applied three distinct search mechanisms: *problem framing, boundary spanning* and *legitimizing*. *Legitimizing* had not been integrated into organisational search before and was added through our abductive data

Table 2
Overview of coding scheme and examples from interview data.

Leitmotif (LM)	LM1: Arrangement	LM2: Realization
SM1: Problem framing	**Refined problem framing (RF)**	**Reflective problem framing (RPF)**
Subcode	*RF1: Problem formulation is definite*	*RPF1: Problem formulation is tentative*
Interview data	"Talking about market vendors, [the lack of storage capacity] was always an issue. Identifying the problem was not an issue." (ETH08)	"We already asked people locally [in Zanzibar]: 'Why are there so many fish nets swimming around without sense?' Then we did some research and […] collected some more information on where the problem originated." (GER08)
Subcode	*RF2: Problem is formulated ex-ante*	*RPF2: Problem is formulated ex-post*
Interview data	"The question was how to reach people who had not been volunteering before. That was my plan from the very beginning." (GER04)	"We did a lot of research to see if this was a local or global problem. At the beginning, when searching with Google there were not many hits which would have helped to get more information. There was some information related to the search term ghostnet. But at that time it was not much." (GER08)
Subcode	*RF3: Problem is formulated in relation to institutions*	*RPF3: Problem formulation is unfolding*
Interview data	"As I told you [the problem] is about institutions. You have to have the right expertise at the right place […] We wanted the coffee sector to be more professional and overseen by experts who know what they are doing." (ETH03)	"My take away from this internship was: 'Okay this chemical consultancy doesn't have a position for me but there is a need for a method or process to enhance bottom-up innovations in a way that inspires the employees to continue working on the project no matter who their boss is.' That was the first spark." (GER10)
SM2: Boundary spanning	**Local boundary spanning (LBS)**	**Distant boundary spanning (DBS)**
Subcode	*LBS1: Solution space is closed*	*DBS1: Solution space remains open*
Interview data	"Then I thought about this basic idea to found a brand for runners that offers them a sustainable and plastic-free alternative. From there on, the [solution] was fix." (GER07)	"Everything you commonly do when you found a business, like writing a business plan and trying to convince some early stage investor. […] We didn't do any of this. […] Everything was really intuitive and based on gut-feeling." (GER08)
Subcode	*LBS2: Boundaries and parameters are presumed a priori*	*DBS2: Boundaries are explored*
SM2: Boundary spanning	**Local boundary spanning (LBS)**	**Distant boundary spanning (DBS)**
Interview data	"I knew from the very beginning: this solution needs to be scalable at some point" (GER09)	"Actually, I subscribed everywhere. On the internet, I find something nice, related to environment, agro business, economics, I subscribe to it. Most of the time, my internet is open. I read in the bus and taxi. I check my email and all the websites." (ETH07)
Subcode	*LBS3: Solution is technical or replicable in nature*	*DBS3: Experiental knowledge is utilized*
Interview data	"I believe that's why we've had this success [with our online platform] in the meantime […] because we can work according to a standardized scheme. That might sound stupid but it works basically in every situation." (GER04)	"I did a lot of experimenting, many recipes from the Internet, there you find thousands of recipes [for do it yourself cosmetics], I experimented and failed a lot […] I figured it out through experimenting […] It was really a lot of sitting in the kitchen and experimenting, smelling different perfumes, this took months until I had results." (GER06)
SM3: Legitimizing	**Leveraging (L)**	**Convening (C)**
Subcodes	*L1: Ex post validation with external stakeholders*	*C1: Internal iteration and dialogue*
Interview data	"So I asked the pastor at my church what the people liked and he told me that cookies had an advantage [over cake] because they could be stored for a longer time. Other than the cake that must be eaten at the same day. So I changed my product and sold cookies." (ETH05)	"Another advantage in our venture is that we don't have a two-tier society where you have those who lead the company on the one side and those who do only the manufacturing without any insight in everything else on the other side. Everyone is really involved and can participate in every topic." (GER08)
Subcodes	*L2: Aligning for external legitimacy*	*C2: Co-creating with users or beneficiaries*
Interview data	"Then I applied for land. I was everywhere to get land. […] I fought for five years, but was not successful. I went to the trade minister and asked him what I should do." (ETH02)	"We discussed with market vendors [users] about different options. We made them choose between what they liked or not and why. […] They told us, this won't work because of breakability, lack of space, etc. In the end, the design became similar to a fridge, […] After lots of questioning, we gave them options and they liked the design. It was something that was discussed with the clients." (ETH08)

analysis procedure. It stems from research on the diffusion of innovation (Van de Ven & Garud, 1993) and has been transferred to conceptual research on social entrepreneurship (Dorado, 2005). Innovating actors engage in legitimizing activities to acquire resources or persuade actors that hold a central role for the development and commercialization of an innovation (Hargrave & de Ven, 2006). For SEs, gaining legitimacy to convince resource providers to support them is one of the greatest barriers they have to overcome to implement social change (Lortie et al., 2022).

Our data revealed three distinct search behaviors in executing these three search mechanisms: *focused search*, *tentative search*, and *hybrid search*. From our interpretation the differences in executing the search mechanisms resemble the two leitmotifs *arrangement* and *realization*: Eight SEs in our sample followed an *arrangement leitmotif* and applied *focused search*, six SEs followed a *realization leitmotif* and applied *tentative search* (see Table 3 for an overview). Four SEs showed a *hybrid search* behavior by switching leitmotif and related search type over time.

4.2.1. Arrangement-guided focused search

The eight SEs who follow an *arrangement leitmotif* apply *focused search* mechanisms. They start with *refined problem framing*: a clear understanding of the problem, usually stated as the gap between the existing and the desired institutional arrangement. For instance, the idea behind ETH03's social enterprise is not only founding a coffee roasting company exporting Ethiopian coffee but also to professionalize and transform the whole sector in Ethiopia:

> *"As I told you it's about institutions. […] I told you about the lack of institutionalization. [The government] don't know what manufacturing*

Table 3
Overview of the leitmotif and its constituting search mechanisms applied by the SEs in this study.

	Problem framing		Boundary spanning		Legitimizing		Search type	Leitmotif
ID	refined	reflective	local	distant	leveraging	convening		
ETH01		x		x	x	x	Tentative Search	Realization
ETH02	x		x		x		Focused Search	Arrangement
ETH03	x		x		x		Focused Search	Arrangement
ETH04	x		x		x		Focused Search	Arrangement
ETH05	x		x		x		Focused Search	Arrangement
ETH06	x		x		x		Focused Search	Arrangement
ETH07		x		x	x	x	Tentative Search	Realization
ETH08	x		x	x	x	x	Hybrid	Hybrid
GER01	x		x		x		Focused Search	Arrangement
GER02		x		x	x	x	Tentative Search	Realization
GER03	x		x		x		Focused Search	Arrangement
GER04	x		x		x	x	Hybrid	Hybrid
GER05	x		x		x	x	Hybrid	Hybrid
GER06		x		x	x	x	Tentative Search	Realization
GER07	x		x		x		Focused Search	Arrangement
GER08		x		x	x	x	Tentative Search	Realization
GER09	x		x		x	x	Hybrid	Hybrid
GER10		x		x	x	x	Tentative Search	Realization

and exporting can bring to the society. […] [We] want to create a research and development institution because that's what we couldn't find when we started with coffee." (ETH03)

This clear problem statement leads to a focused search as part of their *local boundary spanning* in which the solution space remains closed to other options due to a priori hypotheses about the final solution. The search is predetermined towards developing formalized scalable solutions. For instance, for GER09 scaling was an a priori condition:

"I knew from the very beginning: 'Okay this [solution] needs to be scalable at some point'" (GER09)

These SEs search pragmatically for quickly implementable solutions to clearly defined and rather obvious problems in familiar fields.

In terms of *legitimizing* their solutions, our data shows *leveraging* as a practice that is both related to an *arrangement leitmotif* and the modus operandi of all SEs. In our data, leveraging fits the definition by Dorado (2005) as an ex post validation or feedback function, even with adapting solutions to the stakeholder's opinions, instead of interacting with beneficiaries. For instance, when ETH05 started her baking business, which later transformed into a delivery service for healthy food, she approached the pastor of her church for advice. As she started her business by selling cakes at the church coffee, he was an important institutional actor with whom she rather aligned instead of asking customers what they want:

"I once started with English cake, sliced cake. People liked it but there was [only] interest in buying it fresh. So I made a lot of loss. So I asked the pastor at my church what the people liked and he told me that cookies had a better advantage because they could be stored for a longer time. Other than the cake that must be eaten at the same day. So I changed my product and sold cookies. Now I have five different kinds of it." (ETH05)

4.2.2. Realization-guided tentative search

In contrast, the six SEs who follow a *realization leitmotif* apply a different search behavior, which we label *tentative search*. Although they may also address institutional failures, their evaluation of the social problem is rather based on how individuals (i.e. beneficiaries) react to a potential solution and the learning that can be derived from this interaction.

In terms of their *reflective problem framing* and *distant boundary spanning*, the search behavior of these SEs involves reflective thinking, tentative problem statements and solutions. These SEs move forward only incrementally and cyclically in order to collect more information and feedback from initial action. For instance, GER02 founded a sustainable fashion label to bring people from immigrant groups into work. She and her co-founder worked in a co-working space equipped for do-it-yourself (DIY) sewing and textile production in an area of Hamburg that is characterized by unemployment and high numbers of migrant population. While probing ideas on bringing people into jobs, an acquaintance referred them to a group of Turkish women who met once a week in a synagogue to sew as a hobby. Inviting them to use their space and engaging with them on a regular basis eventually led them to wonder why these women were out of jobs despite being highly skilled:

"And then suddenly we realized several things: First, how incredible the women's technical skills were. At the same time, we were irritated why these highly skilled women had time to sew as a hobby on a typical working day at afternoon. […] So we had this realization that these women are highly skilled but seemingly were unable to find a job. Sensing this discrepancy had an impression on us we could not shake off. […] In Germany, certificates are essential. Without having it certified on paper, your qualification does not exist." (GER02)

Only after engaging with people and reflecting on their social problem, they realized ex-post how difficult it is to get a job in Germany if you cannot prove your skills with a proper certificate. They used knowledge gathered from these actual encounters with people to guide their approach for formulating the problem ex-post.

In terms of *legitimizing* their ideas, SEs who follow a *realization leitmotif* attempt to co-create solutions together with beneficiaries or users in addition to their leveraging activities. This practice of *convening*, as described by Dorado (2005), involves engaging representatives from the affected population. For instance, ETH07 founded a honey production company that sources its raw material from unemployed youth in rural areas in order to prevent them from leaving the country or cutting trees as a short-term source of income. Along the way, he adapted his solution iteratively by engaging with them:

"I had a lot of change over the years. I added the website later, not at the beginning. I added the idea of linking the forest conservation to the youth later, not at the beginning. In every step, because of discussion with others, reading and other things, I added additional things which can support my business" (ETH07)

4.2.3. Hybrid search

As an exception to the distinct behaviors found for most SEs, four SEs

(ETH08, GER04, GER05, GER09) showed a hybrid between leitmotifs and search types. They applied legitmitzing search mechanisms not aligned with their problem framing and boundary spanning leitmotif and mechanisms. For instance, GER04 started with a clear understanding of a mismatch between supply and demand of volunteering practice in Germany compared to, for example, the Netherlands or the USA. As a solution, she established an online-platform on which citizens and companies can indicate what one-time social event they want to book.

> *"I said: 'We need boundary conditions and if these are not met, if a request doesn't fit our concept, we would burn ourselves out.' […] we could not have done this if we had to develop a new solution every time a volunteer has a request. This way, we can follow a blueprint. This might sound odd, but this approach works in every situation." (GER04)*

These *refined problem framing* and *local boundary spanning* mechanisms are complemented with legitimizing practices resembling convening, as GER04's organization acts as a broker between corporations and social organizations:

> *"That's the benefit of our approach – basically, we offer translation services. You need to talk differently to companies and social organizations. […] Companies always think big. Social organizations always think small and avoid thinking big. That's the main difference. You have to stir in big ideas only bit by bit for social organizations – the smaller the better. For companies, it's the bigger the better. […]" (GER04)*

4.3. Typology of different social entrepreneurs

Based on our exploratory findings of different combinations of search heuristics and search mechanisms, the answer to our second research question are three types of SEs (see Table 4 and Fig. 2): The *Focused Integrator*, the *Tentative Co-Creator* and the *Bridge Builder*.

To enrich our typology we derived – in addition to the search behavior above – the different territorial scopes of the SEs (i.e. local, mid-level, glocal or systemic) and their individual experience corridors from the interviews (Table 4). Previous research has referred to territorial scope of a social innovation initiative as a proxy for its generated social impact before (Caroli et al., 2018; van Lunenburg et al., 2020), and theorized about a link between search behavior and individual experiences (Corner & Ho, 2010; Robinson, 2006).

In particular, conceptual research suggests that externally-oriented jobs, such as marketing or sales, in contrast to internally-oriented jobs, such as accounting, will lead indivduals to interact with more people external to the organization and will thus influence their search behavior (Hahn et al., 2014; Vandenbosch & Huff, 1997). Our analysis distinguished two types of experience corridors: *Unilateral experience* corridors stem solely from an internally-oriented functional background; *integrative experience* corridors resemble either externally-oriented functional backgrounds, ambigous experiences or an inventive trait (Jay, 2013; Miron-Spektor et al., 2011). While the majority (14 of 18) of SEs in our sample has an integrative exerience corridor, so that no clear pattern is present, an unilateral experience corridor seems to be linked to (starting with) an *arrangement leitmotif* and *focused search* (Table 4).

4.3.1. Focused Integrator

The eight SEs that we label Focused Integrator in our study aim mostly for a mid-level territorial scope and impact, follow an *arrangement leitmotif* and apply *focused search*. Their *refined problem framing* aims to create social value based on voids in the existing institutional setting into which they integrate their solutions. As an example, GER03, who founded a consultancy to advice companies and citizens on how to compensate their carbon emissions, sees the government lagging behind on this social problem. Incrementalists' search process further involves *local boundary spanning* by planning and developing formalized scalable solutions and *leveraging* many relationships among powerful stakeholders to attract the necessary capital for their social missions. Early in his search process, GER03 deliberately closed the solution space due to information overload. He settled for a workable solution based on the knowledge he already had, instead of developing a solution collaboratively with beneficaries. For legitmizing his solution, he finished two certification courses, teamed up with another sustainability consulting firm and adapted his idea according to their feedback.

Table 4
Overview of the leitmotifs, search types, scaling ambitions, experience corridors and types per SE in this study.

ID	Leitmotif	Search type	Scaling ambition	Experience corridor	Type
ETH01	Realization	Tentative Search	Local	Integrative	Tentative Co-Creator
ETH02	Arrangement	Focused Search	Mid-level	Unilateral	Focused Integrator
ETH03	Arrangement	Focused Search	Mid-level	Integrative	Focused Integrator
ETH04	Arrangement	Focused Search	Mid-level	Unilateral	Focused Integrator
ETH05	Arrangement	Focused Search	Mid-level	Integrative	Focused Integrator
ETH06	Arrangement	Focused Search	Mid-level	Integrative	Focused Integrator
ETH07	Realization	Tentative Search	Local	Integrative	Focused Integrator
ETH08	Hybrid	Hybrid	Local	Unilateral	Outlier
GER01	Arrangement	Focused Search	Mid-level	Integrative	Focused Integrator
GER02	Realization	Tentative Search	Local	Integrative	Tentative Co-Creator
GER03	Arrangement	Focused Search	Mid-level	Unilateral	Focused Integrator
GER04	Hybrid	Hybrid	Systemic	Integrative	Bridge Builder
GER05	Hybrid	Hybrid	Systemic	Integrative	Bridge Builder
GER06	Realization	Tentative Search	Glocal	Integrative	Tentative Co-Creator
GER07	Arrangement	Focused Search	Mid-level	Integrative	Focused Integrator
GER08	Realization	Tentative Search	Glocal	Integrative	Tentative Co-Creator
GER09	Hybrid	Hybrid	Systemic	Integrative	Bridge Builder
GER10	Realization	Tentative Search	Glocal	Integrative	Tentative Co-Creator

4.3.2. Tentative Co-Creator

The six Tentative Co-Creators follow a *realization leitmotif* and apply *tentative search*. Three of these SEs have a clearly local focus, while the remaining three have a glocal rather than purely local scaling ambition. For example, when GER08 and his co-founder started their endeavour, it was in reaction to what they first thought was a local problem in Zanzibar: ghost nets at the beach or in the sea. They approached this problem following a *realization leitmotif* and its underlying *tentative search* mechanisms by asking locals about their perspective, doing clean-ups on-site and local research on the problem causes. When they later learned that this problem was global in nature, they initiated collaborations with suitable global NGOs.

4.3.3. Bridge Builders

In their attempt to introduce a new systematic solution, the three Bridge Builders show a hybrid search behavior by combining an *arrangement leitmotif* and *focused search* in their problem framing and boundary spanning practices with a strong focus on *convening* practices

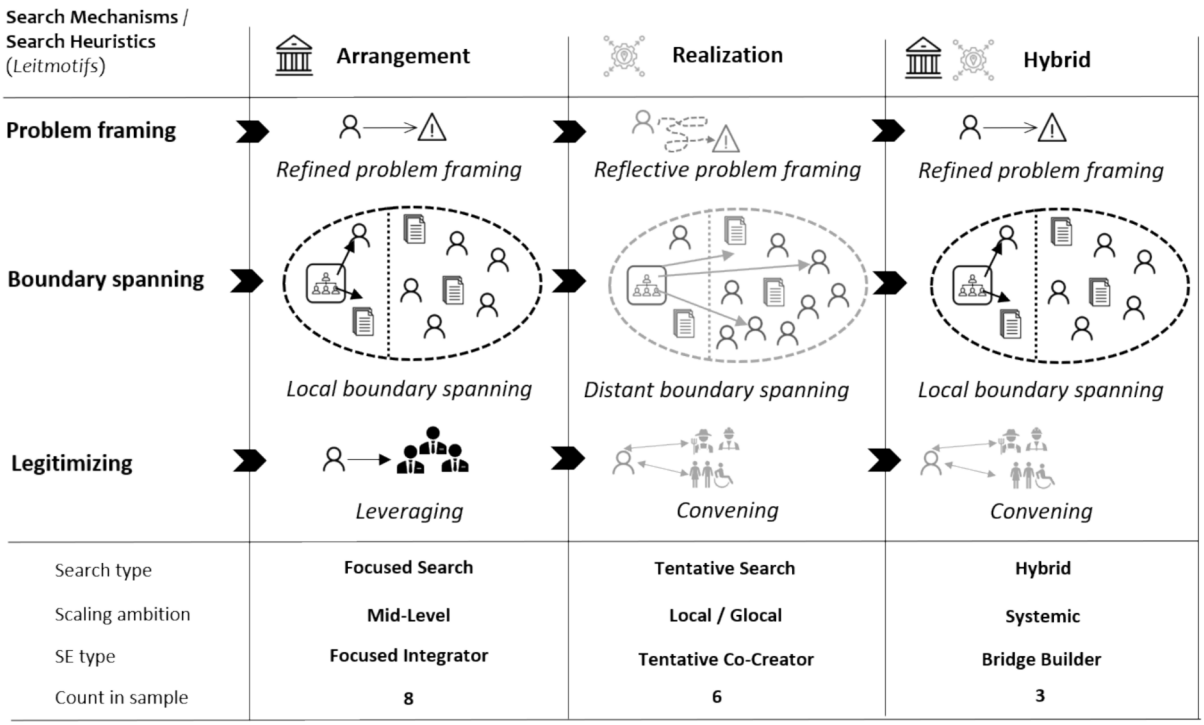

Fig. 2. Overview of the three types of SEs in this study and their characteristics.

in legitimizing their solutions.

We coin them Bridge Builders, because the interview data reveals that they manage to bridge different institutional fields.[8] For instance, GER04 sensed a mismatch between supply and demand in the German volunteering practices compared to other countries (e.g., the Netherlands or USA) through her own volunteering experience and her study programme of non-profit management. There is a high demand for volunteers among social organizations but diminishing supply among the population, due to the misunderstanding that volunteering requires long-term commitment. At the same time, the number of people and companies who are willing to volunteer is surprisingly high. GER04 linked supply and demand by establishing an online-platform on which citizens and companies can indicate what kind of one-time social event they want to book. GER04's organization then acts as a broker between these two worlds:

> *"You need to talk differently to companies and social organizations. […] Companies always think big. Social organizations always think small and avoid thinking big. […] That's why it is so important that we are placed in between those two. If a company would call a social organization directly to arrange a volunteering event, they would immediately say: 'Stay away from me. Never!'" (GER04)*

In a similar vein, GER09 links the business logistics world and their supply of professional logistics services with the world of social and humanitarian organizations and their demand for these services. This behavior reflects characteristics of intermediaries linking different stakeholders. Intermediaries fulfill an important role in an ecosystem, because social ventures, institutions and the community often do not engage in direct value exchange (Hlady-Rispal & Servantie, 2018).

4.3.4. Outlier: Switching leitmotif and search type due to external stakeholder

One single exception from the above described types is ETH08. She started her endeavour to solve the social problem of food waste in a design project with students and colleagues following an *arrangement leitmotif* and *focused search mechanisms*. The team took the technical solution of a vaporizing clay fridge they had found online. After an initial test among design experts, they submitted their idea at an online platform for social innovations hosted by a design company. With their acceptance for the next round, they had to join a boot camp to learn how to apply user-centric design methods such as design thinking. Accordingly, ETH08 and her team started to collaborate with local market vendors to iterate the design in a mutual learning process. In other words, through the intervention of a stakeholder that enforced a realization leitmotif and related search practices upon them, the team adapted their search.

5. Discussion

Through our inductive-then-deductive data analysis, we develop a model of social entrepreneurial search and distinguish three different types of SEs. Further research is required to validate these findings, due to the explorative nature of our study. We discuss our findings below against the background of existing literature on both organizational search and social entrepreneurship, before we explain how our findings contribute to the existing literature.

5.1. Findings in need for further discussion

The following of our findings require an in-depth discussion: i) the leitmotif referring to a normative search-guiding theory, ii) the role of perceived complexity and the benignity of the search environment in social entrepreneurial search, and iii) the Bridge Builder and its hybrid search as major finding of our comparative analysis between Germany and Ethiopia.

[8] An institutional or organizational field is "a community of organizations that partakes of a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside of the field" (Scott, 1994, pp. 207–208).

5.1.1. Leitmotifs guide search as a normative theory

In our findings, we label the underlying belief in how a social problem has to be solved as *leitmotif,* based on the notion that a theory guides the search for knowledge to solve complex problems (Felin & Zenger, 2014; Hsieh et al., 2007). The idea of such leitmotifs has been described conceptually before in both literature streams on social entrepreneurship and organizational search. In social entrepreneurship, scholars have already assumed that SEs hold diverging views about the world (i.e., mental models), which underlie their consideration of social problems (Kimmitt & Muñoz, 2018; Santos, 2012). As what is considered as right or wrong naturally differs, SEs commonly engage in conceptualizations to justify their beliefs, opinions, and actions, whereby they first specify their approach and then justify it (Kimmitt & Muñoz, 2018; Mair et al., 2012). They use different logics of justification depending on their own rationales (Boltanski & Thevenot, 1999; Mair et al., 2012), based on a set of quasi universal principles or 'orders of worth' (Dey & Lehner, 2017; Stark, 2009).

In the organizational search literature, certain beliefs of individuals are considered to have a tremendous influence on the actors, for instance, in terms of their understanding of cause and effect relationships, the consequences of future actions (Huber, 1991) or the shape of their environment (Gavetti & Levinthal, 2000). These beliefs are referred to as 'the preferred direction' of search. Further, scholars distinguish between representations through principles (i.e., a firm's hypotheses regarding the problem resolution) and functionalities (i.e., the potential mechanisms of action by which the principles could be enabled) (Caner et al., 2017; Arthur, 2007).

Reflecting this literature, we interpret the observed leitmotifs of SEs to represent heuristic principles that contain a distinct superordinate normative understanding of how social problems should be solved, either in a top-down institutional arrangement manner or in a bottom-up realization manner. In terms of functionalities that underpin these heuristic principles as actual practices, our data shows that SEs execute the three distinct search mechanisms differently.

5.1.2. The roles of perceived problem complexity and benignity of search environments

Through following the CR paradigm, our data reveals the puzzling finding that some SEs, who are conceptually solving *complex* social problems, apply search mechanisms, which conceptually are only effective for solving *complicated* problems (Hsieh et al., 2007). This finding can be explained with the role of perceived complexity and the benignity of search environments of SEs. With regard to perceived complexity, research on entrepreneurial learning emphasizes the relevance of cognitive judgements about personal and contextual elements for explaining individuals' entrepreneurial action (Markowska & Wiklund, 2020). Therefore, the observed differences in the search behavior of the SEs may be exlained through differences in perceived complexity resulting from an interplay of their experience corridors, contextual conditions and leitmotifs (de Bruin et al., 2015; Hostager & De Meuse, 2008). *Either* they perceive the complexity differently from the start, depending on their leitmotif or experience, *or* their leitmotif draws them into more or less complex appearing search environments. This could mean that SEs following a *realization leitmotif* (i.e. Tentative Co-Creator) start their search in a hazy local institutional field with higher perceived complexity, whereas those following an *arrangement leitmotif* (i.e. Focused Integrator) start their search in more transparent, less complex appearing institutional fields (Dorado, 2005).

5.1.3. The SE type Bridge Builder only in German sample

Our comparative analysis revealed many similarities in the individual search behavior of SEs across the samples of two considerably different countries, Germany and Ethiopia. In line with the arguments for conducting a comparative analysis, this finding speaks for a wider applicability and a certain robustness of the present study's findings (Bruton et al., 2010). Our findings also indicate that institutional fields and their level of institutionalisation as the unit of analysis proves more insightful than comparing countries (Weisenfeld & Hauerwaas, 2018), due to the varied contexts within which social entrepreneurs identify and address social problems. Obviously, the nature of social entrepreneurship transcends national boundaries and is rather influenced by the institutional landscapes SEs navigate (Weisenfeld & Hauerwaas, 2018; Zahra et al., 2009).

Nevertheless, our findings also reveal one difference, namely the social entrepreneurial type of Bridge Builder, which only occurs in the German sample. An explanation for this finding could be the long tradition of welfare in Germany and the lack of intermediary organizations that could bridge the different perspectives of stakeholders, such as investors and investees (Glänzel & Scheuerle, 2016). The Bridge Builders in our sample seem to link such different stakeholders from different institutional fields by bridging these different worlds.

Earlier research offers additional support for the existence of such Bridge Builders in specific contexts. Cherrier and others (2018) use the concept of institutional logics to explain the 'contextual bridging' that some SEs apply to link conflicting institutional logics of different fields. Institutional logics explain "the way a particular social world works" (Jackall, 1988, p. 1988) by providing 'rules of the game' in the form of "practices, assumptions, beliefs, and values […] [that] inform actors of expected actions, behaviors, and goals" (Beer & Micheli, 2017, p. 1165). SEs, for example, often have to link the market logic (i.e. the business mission) and the welfare logic (i.e. the social mission) (Cherrier et al., 2018; Woodside, 2018).

Due to their in-between location, Bridge Builders have access to more information and are thus in a better position to perceive institutional fields as transparent and less complex, even if they are objectively more complex and hazier (Dorado, 2005). This can explain their hybrid leitmotif and search mechanisms. They follow an *arrangement leitmotif* and *focused search* to search for solutions, due to their top-down dominated market logic environments. At the same time, being embedded in contexts with a social welfare logic, they use *convening* practices to enhance support for their social change projects by translating among different stakeholder groups.

5.2. Theoretical contributions

Adopting organizational search as our theoretical lens to explore how SEs search for knowledge to solve complex social problems inherently contributes to and bridges the literatures of both social entrepreneurship and organizational search. This is particularly valuable due to the complementary strengths and gaps of both fields. Organizational search theory provides conceptual building blocks for understanding search behaviors in the context of complex problems (see section 2.2), but mainly overlooks the nuances of individual cognition and the challenges of malignant search environments beyond formal organizations (Li et al., 2013; MacAulay et al., 2020). Conversely, the field of social entrepreneurship offers rich insights into the role of individual actors and the varied search environments they navigate, but lacks comprehensive models for addressing problem complexity (see section 2.1).

In particular, our study makes the following three contributions to both fields. First, our social entrepreneurial search model is unique in explaining how the search for solutions to complex social problems occurs within the two dimensions of action (i.e. search mechanisms) and cognition (i.e. search heuristics). By doing so the model integrates fragmented pieces of earlier theorizing and observations on innovation processes in social entrepreneurship research (e.g. Kimmit & Munoz, 2018; Mair et al., 2012; Dorado, 2005; Corner & Ho, 2010) and in the literature on addressing complexity in organisational search research (e.g. Vandenbosch & Huff, 1997; Lopez-Vega et al., 2016; Felin & Zenger, 2014; Baumann & Siggelkow, 2013;) into *one* empirically based model. This addresses recent calls for a more fine-grained analysis of complexity in entrepreneurship theory by offering an empirically based integrated

model of individual search. By explicitly addressing complex problems the model avoids the common misdiagnosis of knowledge problems and the resulting potentially ineffective search actions (Townsend et al., 2018; Zellweger & Zenger, 2023). Significant costs and high failure rates are associated with the misdiagnosis of knowledge problems in organizational settings (Hunt, Townsend, Manocha & Simpson, 2023) – misdiagnosis directly impacts organizational search processes, guided by the framing of such problems (Felin & Zenger, 2014). We contribute to organizational search literature by showing empirically how variations in problem framing influence the subsequent search process (Dutt & Mitchell, 2020).

Second, by providing empirical accounts for how SEs apply search mechanisms within *tentative search*, we expand the existing literature in both research streams with their predominant focus on relatively simple linear conceptual models of the innovation process (Vuculescu, 2017; Corner & Ho, 2010). This predominant understanding represents organizational reality to the extent that organizations tend to commit to structured practices that have been successful in the past (March 1991), but neglects the need to search for radically new solutions to tackle the complex global challenges humanity is facing (Bansal & Grewatsch, 2020). The knowledge to tackle these challenges is likely located in disperse and different environments. This renders the search mechanism of legitimizing, which we integrated into our search model, particularly necessary. Our analysis suggests that the institutional field in which SEs search is more complex and 'malignant' and thus requires SEs to create (more) legitimacy for their innovation compared to more 'benign' organizational environments (Dorado, 2005; MacAulay et al., 2020). Hence, innovation search behavior in social entrepreneurship seems to contain three steps instead of only two, as assumed in organizational search literature. This finding indicates the need to expand also the organizational search framework of problem framing and boundary spanning with legitimacy-building. With the increasing urgency to address grand challenges (Grewatsch et al., 2021), there is a growing demand in organizations for more diverse knowledge sets and enhanced boundary-spanning activities across teams and departments (Caccamo, Pittino & Tell, 2023).

Third, our study extends the scarce and under-researched perspective in both fields that the action dimension of individual search is guided by individual cognition and, thus depends on how an individual makes sense of and gives sense to a (social) problem. This cognitive perspective assumes that behaviors are based on theories or beliefs that form a mental model of the relationship between alternative actions and outcomes (Kruse et al., 2019; Posen et al., 2018). Using interpretivist research tools, our data revealed a cognitive *meta*-dimension, which we label *leitmotif*. The SEs in our sample seem to follow one of two normative theories on how to solve social problems: *arrangement* and *realization*. A search is thus not only guided by a theoretical representation of the solution landscape (Felin & Zenger, 2014), or by a factual depiction of the problem space (Kruse et al., 2019), but also by a normative theory that works as a (moral) compass for the searcher.

Such normative nature of guiding theories is not surprising in social entrepreneurship, given that its core objective is social value creation, a strongly normative and value-loaded concept (Bruder, 2021; Choi & Majumdar, 2014). Our finding thus contributes to the Theory-Based-View on entrepreneurship, which focuses on the construction, testing, and experimentation of theories of value creation in entrepreneurial processes (Wuebker et al., 2023; Zellweger & Zenger, 2023). Within the realm of social entrepreneurship, these theories of value apparently should be augmented with normative considerations of social value creation.

At the same time, our findings suggest that search in any organizational setting is likely also guided by a variety of different *leitmotifs* or beliefs beyond the single overarching frame of reference the organization provides with its strategic agenda (Dahlander et al., 2016). Organizational search research often falls short to capture the role played by individuals in the search process and its socio-cognitive underpinnings (Li et al., 2013). As such, our findings regarding the perception of complexity and individual experience corridors respond to calls for more research on individual agency in the search process (Banerjee, 2001) to better understand how micro-level cognitive mechanisms affect search behaviors and outcomes (Mazzelli et al., 2020).

Finally, our typology of SEs transcends other existing typologies in the realm of social entrepreneurship, which are either conceptual in nature (Zahra et al., 2009), focus on individual experiences in combination with impact scope (Abebe, Kimakwa & Redd, 2020), are one-dimensional (Defourny & Nyssens, 2017), or explore exploitative and explorative activities within companies (Darcis et al., 2024). One example is the binary distinction between transformative and subsistence entrepreneurship, reflecting differences between operating in developed and less developed economies, respectively (He & Chi, 2013; Lee & Jones, 2015). In this regard, our contribution is an empirically based typology that explains how entrepreneurs in both contexts solve complex social problems (Mair et al., 2012).

The three distinguished types in our typology also broadly fit archetypical types of SEs conceptualised based on the three different entrepreneurial schools of thought of Hayek, Kirzner, and Schumpeter (Zahra et al., 2009). Our Focused Integrator mirrors Hayek's principles, exhibiting similar mid-level scaling ambitions and linear search processes akin to those of the Social Constructionist. Our Tentative Co-Creator demonstrates a primarily local focus in scaling and employs less linear search processes, aligning with Kirzner's Social Bricoleur. Our Bridge Builder shares systemic scaling intentions with Schumpeter's Social Engineer (Zahra et al., 2009). Our typology exceeds these conceptual ideas by providing fine-grained, empirically based accounts on how SEs implement different search heuristics and search mechanisms related to their individual cognition, experience and the benignity of their search environments. For instance, the Bridge Builder's distinct search behavior aimed at social change and the practice of bridging different institutional fields is a rarely observed example of how to achieve systems level change (Teasdale et al., 2023, Zahra et al. 2009).

5.3. Practical implications

Our study revealed that social entrepreneurial search to solve complex social problems involves different search mechanisms at the action dimension and a guiding normative theory at the cognition dimension. Against the background of today's grand challenges, innovative solutions to tackle them and ways to identify and implement the solutions are urgently needed across borders and disciplines (Antolín-López et al., 2022; Huff & Barnhart, 2022). Hence, the findings of our study provide several implications for politicians, managers and educators alike. First, as unilateral action cannot contribute significantly to the resolution of complex social problems, managers and politicians should work together in creating shared social spaces. These should be characterized by a participatory architecture that allows diverse actors to apply distributed experimentation practices as part of hybrid forum events (Dietz et al., 2003; Ferraro et al., 2015). These hybrid forum events work as living labs and provide opportunities for social interactions, which – as our study shows – are essential to acquire and share knowledge (Sauer & Bonelli, 2020). Such shared social space will allow its partakers to surpass their cognitive boundaries, enhance collective learning and contribute to reflexive plurality (Nonaka & Konno, 1998) when thinking about technological futures and social change. In this regard, inviting both local and global actors is important to scale solutions that go beyond the local milieu (Hoppe et al., 2015) and, thus, prepare the ground for Bridge Builders and their focus on systemic change.

Second, educators need to engage in the competence turn and design curricula in higher education institutions that train changemakers capable to successfully address the grand challenges of our times (Vare, 2022). Our study indicates that different normative understandings of social justice guide the social entrepreneurial search process. Therefore, resembling recent advances on competence frameworks specifically

tailored to social entrepreneurship education (Hueske & Hockerts, 2022), we recommend to include teachings on different values to yield social justice in a social entrepreneurial curriculum (Hlady-Rispal & Servantie, 2018). This exposes students to a wider variety of philosophical, ethical and theoretical mandates for social entrepreneurship in general and engagement with affected communities in particular (Douglas & Prentice, 2019; James & Schmitz, 2011). Our study further shows that at times the social entrepreneurial innovation process exceeds the typical business plan driven approach (Tracey & Phillips, 2007) and requires to allocate substantial resources to understand the complexity of social problems. Thus, we recommend to teach such theory-developing approaches as a novel scientific approach to social entrepreneurial decision-making (Camuffo et al., 2020). Furthermore, as suggested by the outlier in our data, design thinking can serve as an external governance tool to shift the paths of SEs towards greater participation and user involvement. Therefore, we recommend considering the appropriateness of applying user-centered approaches in education, within accelerator programs, or as part of policy programs.

Finally, our typology has timely implications for policymakers and social entrepreneurship support systems, as it highlights the importance of SEs operating at different levels and with different approaches to achieve the SDGs. All three identified SE types need to be individually kept in mind when designing support systems, while the path to creating long-term solutions to complex social problems truly calls for a collaboration among the three archetypes. For example, Tentative Co-Creators with their strong local embeddedness and grassroots focus are likely to possess higher levels of awareness and understanding of the underlying complexity of social problems, which puts them in an advantageous position to gain moral legitimacy ('doing the right thing') important to secure external resource support (Suchman, 1995). As our findings show they are often more capable of reaching out to individuals and community groups that are affected directly by the social problem addressed in the social venture. In contrast, the Focused Integrators are more likely to rely on traditional relational approaches and leveraging their professional network ties to secure external funding and garner support for their social ventures.

5.4. Limitations and further research

As for all research, the findings of this study have to be interpreted against the background of its limitations. One concern is related to the use of retrospective self-reports as a source of primary data, which may involve a number of memory biases. We alleviated this possible issue in two stages of the study: data collection and data analysis. During data collection, we followed the narrative interview guide by Alheit (1982) to use iteration between its different phases to bring structure and clarification to the chronology of events in the narratives of the SEs. This approach of reconstructing the history of the social venture and clarifying unclear causalities or chronological sequences was instrumental in enhancing the validity of our inferences. During data analysis, we carefully triangulated the data comparing the memories of SEs with various types of secondary data in combination with several formal and informal interviews as part of discussions and workshops with stakeholders of the social entrepreneurial ecosystem of both countries. This triangulation of data was particularly relevant with regard to the necessity to pay close attention to contexts when analysing narrative interviews (Brown et al., 2008).

Another concern relates to this study's emphasis on the agency of search and only pointing to an indirect interplay with the structural context by suggesting a link between variables such as the *leitmotifs*, perception of complexity, individual experience corridors, search mechanisms and the benignity of search environments. We do not prove causation. Is it that SEs have an individual predisposition to adopt their *leitmotif* and to apply their search mechanisms irrespective of their surroundings? Or is it that SEs adopt to the institutional logic in or the characteristics of their environment irrespective of their individual predisposition? Intuition would suggest a mix of the two effects (Hockerts, 2015). However, although we used all available data to present our case, we acknowledge that these limitations create opportunities for future research, particularly on the foundational building blocks of our typology and their interrelationships.

In general, more research that investigates the interplay of action and cognition would be helpful, particularly across different industries or institutional fields instead of national contexts to allow for more fine-grained inferences (Sarason et al., 2020; Steiner et al., 2021). To this end, variances among different levels of development in the countries under investigation could be of particular interest (Bewayo & Portes, 2016). In these different contexts, future studies can further empirically examine the viability and effectiveness of different search paths and their guiding theories in problem solving (Lopez-Vega et al., 2016). This research should particularly focus on how search takes place in different settings in relation to problem solving and open innovation, and how these different search paths are related to the appearance of non-linear search elements such as serendipity (Dew, 2009; von Hippel & von Krogh, 2015). We further invite scholars from organizational search to explore how the search mechanism of legitimizing is also relevant within the organizational search environment.

CRediT authorship contribution statement

Daniel J. Kruse: Validation, Writing – original draft, Writing – review & editing, Visualization, Methodology, Investigation, Data curation, Formal analysis, Conceptualization. **Katrin Eling:** Writing – review & editing, Writing – original draft, Supervision, Conceptualization. **Cornelius Herstatt:** Supervision, Resources, Conceptualization.

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Dr. Daniel J. Kruse is a research associate at the Eberswalde University for Sustainable Development (HNEE) in Germany. He received his PhD at the Institute for Technology and Innovation Management at Hamburg University of Technology (TUHH) and has a M.Sc. in innovation management & entrepreneurship from Technical University of Berlin and a M. Sc. in business administration from University of Twente in the Netherlands. Daniel's research focuses on innovation processes, particularly in addressing knowledge problems such as complexity, managing paradoxical tensions, and harnessing serendipity. He has published in the Journal of Product Innovation Management (JPIM) and his research has been awarded with the Al Page Outstanding Professional Contribution Award 2019. Prior to his career in academia, Daniel worked for companies in the areas of public relations, technology watch, and sustainability.

Dr. Katrin Eling is scientific advisor in the management board of the Wuppertal Institute for Climate, Environment and Energy, Germany. Before she was tenured assistant professor in the School of Industrial Engineering at Eindhoven University of Technology, the Netherlands. She received her Ph.D. from the same school, has an M.Sc. in strategic product design from Delft University of Technology and a diploma in industrial design from the University of Wuppertal. Her research activities received several recognitions, such as the JPIM 2019 Al Page Outstanding Professional Contribution Award, the Christer Karlsson Best Paper Award at the IPDM Conference 2017, and the Best Proposal Award in the PDMA 2011 Dissertation Proposal Competition. She was a member of the editorial board of the Journal of Product Innovation Management and has published in Journal of Product Innovation Management, Creativity and Innovation Management, International Journal of Market Research, IEEE Software and Journal of Software Evolution and Process.

Prof. Dr. Cornelius Herstatt is head of the Institute for Technology and Innovation Management at Hamburg University of Technology (TUHH). His research and teaching interests include the management of innovation processes, user innovation, frugal innovation, and circular economy. Prior to his appointment at TUHH, he held leading positions in industry and consulting. Prof. Herstatt has led and successfully implemented numerous innovation projects with industry. He has more than 300 publications on technology and innovation management and is active in numerous international committees and as editor of leading scientific journals. Prof. Herstatt has been a visiting professor at renowned universities in the United States, Australia, and Japan. He is a JSPS Fellow (Japanese Society for Promoting Science), research fellow of the East-West Center (Hawaii), and alumni of Templeton College in Oxford.