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Motivations and identities of "grassroots" circular entrepreneurs: An initial exploration

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Abstract

The circular economy (CE) is now widely seen as a key concept to drive sustainability transformations. Existing research on circular business models has tentatively indicated that circular entrepreneurship may be able to play a pivotal role in the transition process. However, grassroots activity in CE has not yet received substantive scholarly attention, nor have the founders of circular ventures. This study attempts to start closing this gap by presenting the first empirical analysis of circular founders' motivations and identities. Our work is based on interviews with 57 founders of circular start-ups in Europe and Australia. The analysis reveals distinct characteristics for these entrepreneurs. We find that noneconomic motives are dominant drivers of *grassroots circular entrepreneurs* while they include a triple bottom line orientation (i.e., economic, social, and environmental value) in principle. Yet, circular start-up founders barely formalize socio-political dimensions in their activities despite being motivated by social altruism. Furthermore, circular founders have an inventive mindset when starting their entrepreneurial journey, possibly driven by their limited market-oriented positioning, limited entrepreneurial experience, and managerial education. However, their scaling ambitions grow significantly over time, as opposed to social and sustainable entrepreneurs. Overall, our findings suggest adding *grassroots circular entrepreneurs* or *circular founders* as a distinct group of sustainability entrepreneurs to the scientific discourse on sustainability-motivated entrepreneurship and circular innovation studies.

1 | INTRODUCTION

The relevance of the circular economy (CE) for creating a sustainable future in which economic growth can be decoupled from excessive resource depletion is much discussed—and contested—in recent sustainable development literature (Calisto-Friant et al., 2020; Hobson, 2021; Morseletto, 2020; Murray et al., 2017; Parrique et al., 2019; Tseng et al., 2020; Ward et al., 2017). The private sector and circular business models (CBMs) are identified as crucial elements in a large-scale CE transition (Ghisellini et al., 2016; Lüdeke-Freund et al., 2018; Urbinati et al., 2017) with Kirchherr et al. (2017, p. 228) writing that a CE without business models "is one with no driver at the steering wheel." Many private organizations as well as public authorities pursue strategies to implement and disseminate circularity

Abbreviations: CBM, Circular Business Model; CE, Circular Economy; Cf., Confer/Conferatur; COO, Chief Operating Officer; CSU, Circular Start-up; E, Entrepreneur; e.g., Exempli gratia; KPI, Key Performance Indicator; i.e., Id est; NSW, New South Wales; PhD, Philosophiae Doctor.

(Nelles et al., 2016). Yet, progress toward a wide-scale application of CE among corporate players and, in the global economic systems, fail to materialize. Large, established corporations—while critically relevant for a CE transformation—tend to innovate incrementally and thereby reinforce existing structures that support a dominant linear, take-make-dispose system (Bidmon & Knab, 2018; Circle Economy, 2020; Kristensen & Mosgaard, 2020; Masi et al., 2018; Schot & Steinmueller, 2018). Faster, more disruptive circular innovation (i.e., the accelerated release and reorganization of elements from the old paradigm that are complemented with new, innovative solutions and subsequently consolidated into a new paradigm) is required to upend this lacking progress across sectors and geographic regions and counteract the emerging crisis that is caused by the linear economy. As such, business actors of socio-technical systems need to ignite and catalyze systemic change by strategically deploying circular innovations and creating a fit with customers and wider institutional contexts (cf. Bauwens et al., 2021; Carvalho et al., 2017).

Circular entrepreneurship and circular innovation may be such catalysts for circular disruption (Bauwens et al., 2021; Cullen & De Angelis, 2020). Bottom-up innovation and learning as well as serendipity are considered critically relevant factors for disruptive systemic transition processes wherefore the accelerated emergence of circular ventures can be a key pillar for a CE transition (Bauwens et al., 2021; Gibb, 1996; Mazzucato, 2018). Furthermore, start-ups have structural advantages over incumbents in holistically implementing practices that support the disruptive, systemic shift that CE requires. In general, circular start-ups (CSUs) are more independent in their decision-making and can develop strategies to valorize circular practices from scratch (Bergset & Fichter, 2015; Rizos et al., 2016). Apart from the business model and innovation types—which have been studied extensively in the context of CE (cf. Geissdoerfer et al., 2020; Nußholz, 2017; Pieroni et al., 2019; Santa-Maria et al., 2021)—we identify the founders' motivation and entrepreneurial identity as key determinant for the creation and growth paths of circular entrepreneurial venture (Basco et al., 2019; Staniewski & Awruk, 2019).

While types of sustainable entrepreneurs and the hybrid tensions they face in their entrepreneurial journey are much discussed in academic literature (Douglas & Prentice, 2019; Germak & Robinson, 2014; Hall et al., 2010; Schick et al., 2002; Schlange, 2006), little insight exists into the motivation and identity of entrepreneurs who chose to build their venture based on circular principles (Cullen & De Angelis, 2020). Even if potentially related, circular entrepreneurs conceptually differ from sustainable entrepreneurs because they apply a common "how" (i.e., circular principles) in their business models in addition to the relatively vague "what" that is common among sustainable entrepreneurs (i.e., environmentally or socially beneficial innovations). This level of alignment on the "how" is unprecedented and makes grassroots circular entrepreneurs one of the few distinct groups in the context of sustainable entrepreneurship research which—overall—is still emergent, fragmented and lacks typological delineation (Gast et al., 2017; Patzelt & Shepherd, 2011; Schaltegger & Wagner, 2011). Additionally, due to the systemic character of CE innovation, founders of CSUs tend to build or navigate highly uncertain, complex and radically new business environments (e.g., in terms of value co-creation, reverse logistics, and waste/by-product declarations; Konietzko et al., 2020; Fischer et al., 2021; Schaltegger & Wagner, 2011). The scope of this research does not include circular entrepreneurship within existing organizations but has a distinct focus on independent founders of CSUs. The above provokes the questions of why individuals chose to build entrepreneurial ventures based on CE strategies even if the expected systemic challenges are high? What drives them toward this distinct approach within the vast landscape of sustainable innovation?

This paper aims to systematically analyze the underlying motives and identities of this new "breed" of circular founders in an empirical study and thereby contribute to the literature body of entrepreneurial motivation as well as emerging circular entrepreneurship literature (De Jesus et al., 2021). We argue that sustainable entrepreneurship literature is a relevant base to study circular entrepreneurship but is too vague to conceptualize the particularities, intricacies and the variables that foster circular entrepreneurship. The study of the personality founders of circular ventures may contribute to a better understanding of the emergence of circular entrepreneurship as well as the multifaceted motives that underlie bottom-up developments in a CE transition. Therefore, the research questions we want to answer in this article are as follows:

- What are the underlying motivations for a CSU founder to launch their venture?
- What are their entrepreneurial identities?

The remainder of this article is structured as follows: a literature review on entrepreneurial motivation and the conceptual framework underpinning this investigation are presented in Section 2, the methodology is presented in Section 3, and the results of the empirical analysis are shown and discussed in Section 4. Concluding remarks about the theoretical contribution of this work and implications for policy and management are provided in Section 5.

2 | LITERATURE ANALYSIS

2.1 | Motivation and identity of sustainability-oriented entrepreneurs

While there is scholarly consensus that the person(ality) of the founder is one of the most decisive components—especially in the early stages—of the entrepreneurial process, the definitions and components that scholars ascribe to personality vary. Typically, personality is associated with constructs of motivation, skills and knowledge, demographic indicators and identity (Donnellon et al., 2014; Isaak, 2002; Gast et al., 2017; Kirkwood & Walton, 2010; Mischel, 2004; Murnieks et al., 2019; Stephan & Drencheva, 2017). This analysis primarily builds on the two constructs of motivation and identity. Motivational factors are considered decisive for an individuals' initiation and continuation of a business and for his/her entrepreneurial behavior

(Barba-Sánchez & Atienza-Sahuquillo, 2017; Kusa et al., 2021; Stevenson & Jarillo, 1990). Complementary to motivational factors, entrepreneurial identity is considered a key concept when understanding why and how individuals engage in sustainability-oriented entrepreneurship. Particularly, when entering difficult business environments (such as CE), entrepreneurs' identities and respective spill-over on their ventures' missions and goals have been found to be the reason for the founders' perseverance (Murnieks et al., 2019; Weber et al., 2008; York et al., 2016). Insights into motives and identity during venture creation and early growth are relevant for this study in particular because we scrutinize a relatively new type of sustainability-oriented ventures for which little evidence on entrepreneurial motivation during maturity and exit phases exist (in contrast to, e.g., sharing economy start-ups; cf. Henry et al., 2021).

In general, entrepreneurial motivation in small- and medium-sized companies is characterized by attitudes of risk-taking, innovativeness, and proactiveness (Presutti & Odorici, 2019; Semrau et al., 2016; Shane & Venkataraman, 2000). In addition, sustainable entrepreneurs are characterized by the goal to transform a sector or market toward an increased environmental and/or social state through the exploitation of economic opportunities (Hockerts & Wüstenhagen, 2010). They assess their gains in economic and noneconomic benefits and thus deviate from the economic value definition of traditional, commercial entrepreneurship (Jayaratne et al., 2019; Sarango-Lalangui et al., 2018). Sustainable entrepreneurship is treated in various research domains and is still a growing concept (Sarango-Lalangui et al., 2018). Accordingly, the definition and interpretation of types of sustainable entrepreneurs and their motivations is diluted and "lacking definitional consensus" (Gast et al., 2017). For instance, socially and environmentally driven entrepreneurial motivation are often treated in close junction to each other, or even interchangeably (Kuckertz & Wagner, 2010; York et al., 2016). This partly results from similar ("hybrid") tensions that all sustainable entrepreneurs are confronted with when managing conflicts between economic, social, and environmental value creation (Battilana & Dorado, 2010; Davies & Chambers, 2018; York et al., 2016).

2.2 | Circular entrepreneurship

We define circular entrepreneurship as an independent and innovative entrepreneurial activity that is embedded in a CBM. CBMs are defined as circular operations on the micro-level that aim at closing material loops or increasing resource efficiency (narrowing of loops) or longevity (slowing of loops; Bocken et al., 2016). The business strategies that typically are applied to achieve this are called the R-strategies and address the regeneration of natural ecosystems, refusal or reduction of virgin material usage, reuse of products, and recycling or recovery of resources (Henry et al., 2020; Kristensen & Mosgaard, 2020). Thus, CSUs' approaches toward sustainable value creation are more narrowly defined than sustainable start-ups' approaches (Cullen & De Angelis, 2020). As the R-strategies are not mutually exclusive, a more dynamic perspective on CSUs' business models is required to comprehensively grasp their business activities. Henry et al. (2020) identified five dominant business model types through an analysis of 128 CSUs: design-based (e.g., modular phones), waste-based (e.g., food waste prevention), platform-based (e.g., online tool sharing), service-based (e.g., energy as a service), or regenerative/nature-based business models (e.g., building-integrated agriculture). However, analyses of CE business models and CE entrepreneurship barely provide empirical evidence for the underlying motives and values that are represented by the founders of CSUs (Reddy, 2020).

Start-ups can drive circular innovations either directly by scaling or indirectly by spearheading larger systemic shifts as innovators and role models (Almeida & Kogut, 1997; Smith & Raven, 2012). Even though CSUs face challenges of regulatory entry barriers or lack of capital, many believe that circular entrepreneurship is a highly relevant driver for the diffusion of sustainable development and CE in the private sector (Geissdoerfer et al., 2020; Närvänen et al., 2021). Sustainability transitions literature emphasizes the relevance of niche players as "seeds" of larger systems transformations. However, the scaling of niche actors is difficult because—by definition—niche innovations deviate significantly from existing regimes and their adoption relies on non-niche factors such as regulatory frameworks, consumer practices/demand, and appropriate infrastructure (Geels, 2002, 2011; Stiles, 2020). Scholars propose that explicit, collective efforts are required to allow a more strategic management of niches and according steering of broader transitions (Kemp et al., 2007; Schot & Geels, 2008). Sustainability transition theories such as the approaches of technical innovation systems and mission-oriented innovation systems suggest that alignment of motivations and directionality across actors is necessary to enable the scaling of circular innovation (Hekkert et al., 2007, 2020). We argue that a better understanding of the motivation and identity of founders of CSUs (or CSU entrepreneurs) is relevant in this context so that educational, public, and private institutions can purposefully intervene and systematically promote circular entrepreneurship (e.g., publicly provided entrepreneurial trainings, collaboration models in circular supply chains, funding/investment schemes; Douglas et al., 2021; Henry et al., 2020; Närvänen et al., 2021).

Particularly for incumbent companies, the holistic, innovative and disruptive character of CE requires a significant shift in companies' core business and breaks with existing practices and designs (Stahel, 2016). While there are examples of successful implementation of CBM innovations by large corporations (e.g., reverse logistics, product lifetime extension), established companies largely struggle to effectively implement disruptive CE practices in their business models at accelerated pace (Franco, 2017; Stewart & Niero, 2018). Scholars scrutinizing corporates' CE practices identified the lack of systemic/supply chain perspective, a linear organizational culture, green washing, paucity of adequate evaluation measures and risk aversion to implement radical change as key barriers (Franco, 2017; Kirchherr et al., 2018; Kopnina, 2019; Lieder & Rashid, 2016; Ritzén & Sandström, 2017). Incumbents are committed through past investments and existing supplier relationships and thus operate relatively

inflexible business models that rather allow for incremental innovation. At the same time, this reinforces existing, linear structures and heightens systemic barriers for new market entrants—such as CSUs (Chesbrough, 2010).

The existing knowledge of CE and CE innovation imply that CSU founders have distinct personal characteristics. Most prominently, circular entrepreneurs apply common principles and practices of circularity (circular or R-strategies such as reduce, regenerate, reuse) in their business models and seek for monetary valorization (for-profit; Battilana & Dorado, 2010; Downing, 2005; Henry et al., 2020; Reike et al., 2018). Unlike sustainable entrepreneurs in general, circular entrepreneurs share the challenges of radical innovations in the sustainability space as they have a strong tendency to deliberately accept complex environments for their business models which is virtually bound up with CE's systemic and multiple-societal character (Carvalho et al., 2017; Hekkert et al., 2020; Konietzko et al., 2020; Momente, 2020; Schaltegger, 2016). The concept of CE has been criticized to mostly overlook social aspects (Hobson & Lynch, 2016) which—in contrast—are prominent in the overall sustainable entrepreneurship discourse (Terán-Yépez et al., 2020). By scrutinizing circular entrepreneurs' prosocial behavior as well as consideration of their social impact, learnings can be drawn that allow for a stronger integration of societal impact and CE innovation.

2.3 | Base for theoretical framework

We want to conceptualize the archetype of a "grassroots" circular entrepreneur based on a theoretical framework that draws from several scholarly contributions in the fields of sustainable entrepreneurial motivation and entrepreneurial identity (see Table 1; Murnieks et al., 2019; Sarango-Lalangui et al., 2018; Terán-Yépez et al., 2020). Therefore, an extensive literature review was conducted to identify recurring themes and build a theoretical embedding for the findings of this study. One of the reasons for this approach is the emerging, and partly diluted, literature body on social and sustainable entrepreneurial motivation which aggravates comparability and discussion of implications (Douglas & Prentice, 2019). Overall, we identified two dimensions as most relevant recurring themes in the context of motivation and identity in the entrepreneurial process (Cesinger et al., 2021; Fauchart & Gruber, 2011; Kraus et al., 2013; Stephan & Drencheva, 2017; York et al., 2016): *personal motivation of entering (circular) entrepreneurship*, as well as the *entrepreneurial identity*.

The motivation of an entrepreneur is a key driver to start a business and has significant influence on the entrepreneurial ventures' performance and success (Rauch & Frese, 2007; Ribeiro-Soraino, 2017). It is mostly expressed in five to seven dimensions that are related to personality traits such as need for achievement, autonomy, altruism, passion, recognition, income security/profit. In general, these traits can be divided into self-transcending (e.g., altruism) or self-enhancing (e.g., profit) factors (Barba-Sánchez et al., 2017; Stephan & Drencheva, 2017; Thelken & de Jong, 2020). Understanding the factors that shape an individual's entrepreneurial motivation such as socioeconomic characteristics, perception of barriers to entrepreneurship as well as (business) aspirations can bring to light significant insights that are required to foresee and shape development paths of entrepreneurship (Hessels et al., 2008; Shane et al., 2003; van der Zwan et al., 2016). Literature on sustainable entrepreneurs typically ascribes high levels of altruism, need for autonomy and self-realization as well as profit as the dominant motivating factors (see Table 1; Gast et al., 2017; Kirkwood & Walton, 2010; Stephan & Drencheva, 2017). We distinguish between *social* and *biospheric altruism* and *profit/income security* to better understand circular entrepreneurs' perspective and prioritization of the dimensions of the triple bottom line. Biospheric value orientation is forerunner of proenvironmental behavior that addresses nonhuman species (Stern & Dietz, 1994; Stern et al., 1999) while social altruism typically leads to the contribution to other persons' wellbeing (Ruskin et al., 2016; Swami et al., 2009).

While the motivational factors typically evolve slowly over time, the concept of entrepreneurial identity is more dynamic (Kašperová & Kitching, 2014; Murnieks et al., 2014). Scholars agree that multiple identities can be represented by one entrepreneur simultaneously—even if they are seemingly contradictory—and that they evolve together with a venture's development path. The commonly used entrepreneurial identity typologies developed by Cardon et al. (2009; inventor, developer, founder) is most meaningful for this research since it is outcome-oriented and rather independent of the type of sustainability-oriented entrepreneur (Ekinci et al., 2020; Mathias & Williams, 2014).[1] In general, the entrepreneurial identity links less to personal, and more to managerial and contextual factors such as entrepreneurial vision and the entrepreneur's interaction with her business environment (i.e., the chosen frame of reference; see Table 1; Cesinger et al., 2021; Donnellon et al., 2014; Gartner, 1990; Jones & Spicer, 2005; Kyrö, 2001; Morris et al., 2016). Building on this—and following York et al.'s (2016) and Cesinger et al.'s (2021) approach of linking entrepreneurial identity with goals and business environment interactions—this study structures the analysis of the *entrepreneurial identity* along the elements of entrepreneurial vision and network interactions. Thus, we study first, how founders of CE ventures prioritize their objectives and formulate their vision, and second, how they manage tensions that result from their vision and their network interactions. Numerous types of sustainable entrepreneurs with various characteristics are identified in literature (e.g., bioneers, ecopreneurs, green, and environmental entrepreneur) and accordingly, the identities that are ascribed to them vary significantly and can barely be generalized (Beveridge & Guy, 2005; Gast et al., 2017; Linnanen, 2002; Schaltegger, 2016; Schaltegger & Wagner, 2011; Walley & Taylor, 2002).

The entrepreneurial vision is outcome-oriented and contributes to the entrepreneurial identity because it is formalized based on the entrepreneurial context, objectives, and the strategic direction

TABLE 1 Core references for theoretical framework

Author(s)	Year	Title	Definition of 2nd-order coding dimension	Dominant themes in motivation and identity of sustainable entrepreneurs
Cesinger et al.	2021	The ebb and flow of identity: How sustainable entrepreneurs deal with their hybridity	• Entrepreneurial identity	• Business interactions and frame of reference as parts of entrepreneurial identity • Entrepreneurial vision as core element of entrepreneurial identity
Donnellon et al.	2014	Constructing entrepreneurial identity in entrepreneurship education	• Entrepreneurial identity	• Stakeholder interaction as an integral part of entrepreneurial identity • Storytelling/vision and strategic positioning as important parts of entrepreneurial identity construction
Gast et al.	2017	Doing business in a green way: A systematic review of the ecological sustainability entrepreneurship literature and future research directions	• Entrepreneurial motivation • Entrepreneurial identity	• Autonomy, role modeling, biospheric altruism (and personal value) as core motivational factors • Monetary objectives, social impact, environmental impact, and inspiring consumers as part of the vision and goals
Kirkwood and Walton	2010	What motivates ecopreneurs to start businesses?	• Entrepreneurial motivation	• Biospheric altruism ("green values"), income security/profit, and self-realization as core motivational factors
Kraus et al.	2013	Social entrepreneurship: An exploratory citation analysis	• Entrepreneurial motivation • Entrepreneurial identity	• Entrepreneurial motivation and vision as key dimensions of sustainable entrepreneurship
Schaltegger and Wagner	2011	Sustainable entrepreneurship and sustainability: Categories and interactions	• Entrepreneurial motivation • Entrepreneurial identity	• Biospheric/social altruism and profit as core motivational factors • Monetary objectives, social impact, and environmental impact as part of the vision and goals • Core vision to expand in order to fix market inefficiency
Stephan and Drencheva	2017	The person in social entrepreneurship: A systematic review of research on the social entrepreneurial personality	• Entrepreneurial motivation • Entrepreneurial identity	• Autonomy/self-realization, social altruism, achievement, and profit as core motivational factors • Stakeholder & business environment interaction as an integral part of entrepreneurial identity • Strategic vision and objectives as sub-concepts of entrepreneurial identity
York et al.	2016	Exploring environmental entrepreneurship: Identity coupling, venture goals, and stakeholder incentives	• Entrepreneurial identity	• Entrepreneurial identity (incl. positioning vis-à-vis business environment) as core concept that drives environmental entrepreneurship • Ecological and commercial objectives (or combination of both) as dominant themes

(Block et al., 2015; Ghalwash et al., 2017; Morris et al., 2016). In addition, the business network interactions are relevant because the entrepreneurial identity shapes through comparison and self-evaluation against chosen frames of reference (e.g., community, society, competitors; Fauchart & Gruber, 2011; Fischer et al., 2021; Navis & Glynn, 2011; Rigg & O'Dwyer, 2012). Apart from distinct societal groups, the other two dimensions of the triple bottom line, that is, economy/market and environment, are viewed as part of the external business network of a circular founder (Fassin, 2009; Slaper & Hall, 2011). In this, the study builds on theories from Starik (1995) and Carroll (1993) who promote a stronger inclusion of social and environmental ethics in network and stakeholder management theory. We argue that this is particularly relevant in the context of CE because contemporary CE practices are criticized for neglecting environmental and social ethics (Henry et al., 2021; Washington & Maloney, 2020). Furthermore, CBM innovations have a particularly strong interrelation with their socio-environmental systems (Henry et al., 2020; Musters et al., 1998).

TABLE 2 Regional overview, sector and respondents' role of interview sample

Interviewee	City	Sector	Role
E(ntrepreneur)1	Berlin	Fashion/textiles	Co-founder
E2	Berlin	Agriculture/food	COO (founding team)
E3	Berlin	(Bio-)technology	Founder
E4	Berlin	Fashion	Co-founder
E5	Berlin	Services	Founder
E6	Berlin	Services	Co-founder
E7	Berlin	Fashion/textiles	Co-founder
E8	Berlin	Agriculture/food	Founder
E9	Berlin	Tourism	Founder
E10	Berlin	Manufacturing/materials eng	Founder
E11	Berlin	Waste management	COO (founding team)
E12	Berlin	Fashion/textiles	Co-founder
E13	Berlin	Agriculture/food	Business development
E14	Berlin	(Bio-)technology	Founder
E15	Berlin	Manufacturing/materials eng	Founder
E16	Berlin	(Bio-)technology	Founder
E17	Berlin	Agriculture/food	COO (founding team)
E18	Berlin	Services	Founder
E19	Amsterdam/Rotterdam	Agriculture/food	Founder
E20	Amsterdam/Rotterdam	Built environm/design	Co-founder
E21	Amsterdam/Rotterdam	Manufacturing/materials eng	Founder
E22	Amsterdam/Rotterdam	Fashion/textiles	Founder
E23	Amsterdam/Rotterdam	Agriculture/food	Co-owner
E24	Amsterdam/Rotterdam	Built environm/design	Founder
E25	Amsterdam/Rotterdam	Fashion/textiles	Founder
E26	Amsterdam/Rotterdam	Fashion/textiles	Founder
E27	Amsterdam/Rotterdam	Built environm/design	Co-founder
E28	Amsterdam/Rotterdam	Fashion/textiles	Founder
E29	Amsterdam/Rotterdam	Manufacturing/materials eng	Founder
E30	Amsterdam/Rotterdam	Transport/logistics	Founder
E31	Amsterdam/Rotterdam	Agriculture/food	Founder
E32	Amsterdam/Rotterdam	Manufacturing/materials eng	Founder
E33	Amsterdam/Rotterdam	Built environm/design	Founder
E34	Amsterdam/Rotterdam	Fashion/textiles	Founder
E35	Amsterdam/Rotterdam	Transport/logistics	Founder
E36	Amsterdam/Rotterdam	Agriculture/food	Co-founder
E37	Amsterdam/Rotterdam	Agriculture/food	Founder
E38	Other	Waste management	Founder
E39	London	Energy	Co-founder
E40	London	Energy	Co-founder
E41	London	Manufacturing/materials eng	Co-founder
E42	London	Energy	Co-founder
E43	London	Agriculture/food	Co-founder
E44	London	Transport/logistics	Founder and CEO
E45	London	Services	Founder and CEO
E46	London	Fashion/textiles	Co-founder

(Continues)

TABLE 2 (Continued)

Interviewee	City	Sector	Role
E47	London	Manufacturing/materials eng	COO (founding team)
E48	London	Built environm/design	Founder
E49	Sydney/Melbourne	Agriculture/food	Founder
E50	Sydney/Melbourne	Agriculture/food	Founder
E51	Sydney/Melbourne	(Bio-)technology	Founder
E52	Sydney/Melbourne	Waste management	Founder
E53	Sydney/Melbourne	Fashion/textiles	Co-founder
E54	Sydney/Melbourne	Fashion/textiles	Co-founder
E55	Sydney/Melbourne	Manufacturing/materials eng	Co-founder
E56	Sydney/Melbourne	Waste management	Founder
E57	Sydney/Melbourne	Manufacturing/materials eng	Co-founders

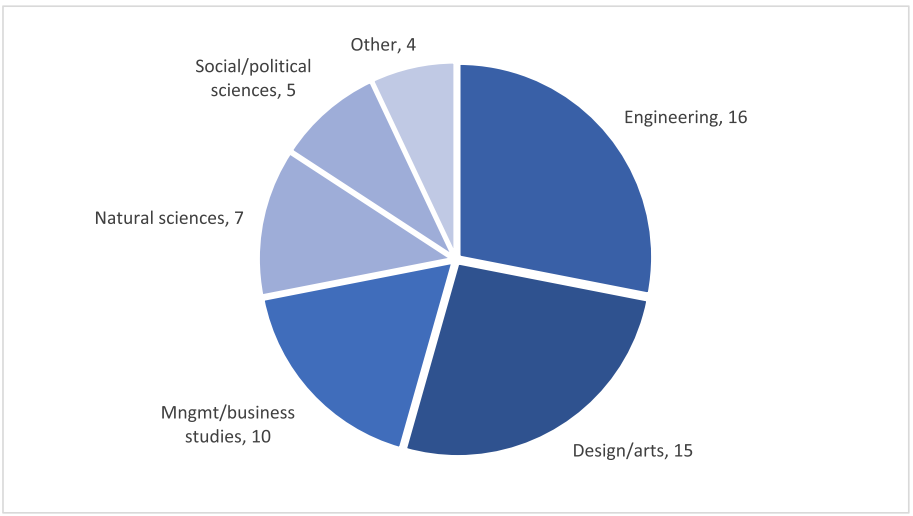

FIGURE 1 Educational background of circular entrepreneurs

3 | RESEARCH DESIGN

3.1 | Sample selection and regional scope

This research has a distinct focus on entrepreneurs that are independent founders that build CSUs from scratch. CSUs are new (max. 5 years), legally independent, and active (not break-even but economically viable) organizations that embed creative and innovative solutions based on circular principles in a CBM (Henry et al., 2020). We identified the interviewees via our existing networks in CE innovation and incubation, publicly available information such as member lists of circular innovation hubs, accelerators or awards, and through snowball sampling. The 57 CSUs that are included in this study are located in the areas of Berlin, London, Melbourne, Sydney, Amsterdam or Rotterdam (see Table 2). The start-ups were sampled in these areas to ensure sample size (i.e., increase of regional scope to increase the sample size) and because the respective municipalities or state governments promote CE and are among the world's most reputed start-up hubs (Campos, 2020; Henry et al., 2020; NSW Government, 2019; Victoria State Government, 2019; European Startup Initiative, 2017; Startup Blink, 2019). More than half of the founders (31 out of 57) have an educational background in engineering and design (see Figure 1) which confirms recent studies that connect CE innovation with these disciplines (Daae et al., 2018; Henry et al., 2020). Notably, the rise of circular founders in the abovementioned regions relativizes the scholarly view that socioeconomic and regional contexts shape the emerging entrepreneurial types (Downing, 2005; Gibbs, 2009). The interviews took place between October 2017 and May 2020.[2]

3.2 | Data analysis and coding

Deductive and abductive methods were combined for the data analysis. To analyze the motives, ambitions, and decision factors that shape the entrepreneurial journey of grassroots circular entrepreneurs, semistructured interviews were conducted with the founders (following the same interview guide in all of the interviews; see interview guide in Appendix A). Most questions were open-ended and centered around the experiences along the entire entrepreneurial process as

TABLE 3 Analytical framework and definition of coding dimensions for circular entrepreneurs' motivation

2nd-order codes	1st-order code	Definition/description	Exemplary quote
Entrepreneurial motivation (drivers toward circular entrepreneurship)	Social altruism	Motivation to enhance the wellbeing of others	"I myself, I'd like to do something good for people […]. The motivation for me [is] having an impact in the life of the people"—E3
	Biospheric altruism	Motivation based on a proenvironmental attitude addressing nonhuman species	"I […] learned a lot about how much waste is emerging at each level of the fashion industry and I thought I cannot work in any other direction anymore. I had to […] create products that save resources"—E1
			"I am motivated because […] the interest of ecology was just becoming more and more relevant and prevalent to me"—E52
	Self-realization/ autonomy	Motivation to attain flexibility in professional decision-making and find meaning in the workplace	"I have a certain idea of entrepreneurship, or the way things need to be designed or handled […]. And that I wasn't able to do in my previous company"—E29
			"I wanted to do something I can identify myself [with]"—E8
	Role modeling/ education	Motivation to pioneer a circularity-based (business) innovation in order to set positive examples and educate others	"We want to present an idea of a futuristic plan […] but we rather want to be advocates of an idea"—E10
			"We want to be an example for this, how this can work, and I think as soon as we make it work you can also adapt this for any other industries"—E5
	Profit	Motivation to maximize financial returns out of personal interests	"Well, I think to make enough money to invest in other small businesses, become essentially a private investor"—E48
			"Ultimately, we'd like to create a successful return for ourselves and our investors"—E40
	Achievement/ challenge	Experience of gratification through personal growth and/or mastering a major challenge (i.e., circular entrepreneurship)	"And I like to go out of my comfort zone and do things that have not been done before. And if somebody tells me 'oh, this is not possible', I think 'ah, nice!'"—E21
			"I see it as a good way to develop these skills [research and design]. To use them. So, it's developing myself."—E35

well as perspectives on the future (Kvale, 1983). All interviews lasted between 50 and 80 min, were conducted face to face or via video conference, and follow-up questions were tailored to individual answers. The interviews were recorded and transcribed. At the same time, an interview database was compiled to allow for analysis and coding. Since CE entrepreneurs' motivations and identity have not yet been scholarly scrutinized, this research dominantly applies conventional content analysis, which is most applicable when there is limited theory available on an existing phenomenon (Hsieh & Shannon, 2005). The answers were read by two authors and each coded half of the dataset independently. Afterwards, they coded the respective other half of the dataset, discussed diverging outcomes, and adjusted the coding framework. Thus, the first version of the first-order coding dimensions was mostly developed inductively (see Tables 3 and 4). We reached theoretical saturation when the evaluation and coding of the interviews did not lead to novel insights or changes to the first-order code. This was the case after 40 interviews had been documented and evaluated.

TABLE 4 Analytical framework and definition of coding dimensions for circular entrepreneurs' identity

2nd-order codes	1st-order code	Definition/description	Exemplary quote
Entrepreneurial identity (vision/objectives and business environment interactions)	Expansion	Fix system inefficiencies by (openly) expanding the own business model	"[…] starting to package that business model up in a way that it can be replicated in a new city, so that we can expand by replication or have people essentially copy what we have done in Sydney in other places."—E49
			"I want to grow this business so that create a dent in the amount of virgin material that is being used"—E11
			"We want to establish our business case and model in every big city in the world"—E31
	Inspire/teach circular consumption	Influence consumers or markets by raising awareness and role modeling circular mindsets/practices	"We want to create this awareness in our customers' mindsets"—E6
			"We want to trigger a transfer thinking from our products to other products our customers use. Save resources through lack of consume"—E18
	Social impact	Striving for social equity along the supply chain, impact on social structures or (marginal) societal groups	"Well, we want to have a measurable effect on the social structures […] and take care of people, paying a fair share to the farmers […] and have a factory where people are safe."—E29
			"So, the premise is to get it out to schools, and to homes, and communities, making it very accessible to all."—E52
			"I would really love to do my business in Africa somewhere. And see how can impact also on a social scale"—E29
	Environmental impact	Achieve positive impact on the environment by preserving resources and through more efficient processes	"Our vision is just clear and simple, we want to preserve water and energy"—E16
			"I want to make real impact on waste and waste streams, and impact on yeasting new resources from Mother Earth."—E33
			"Well, we want to have a measurable effect on the air pollution. We want to see on the counter how many million trees we have saved."—E21
	Enable circular supply chains	Fixing of system inefficiencies through enhanced knowledge sharing and platform-based solutions	"We want to have a platform solution. A big marketplace where people can offer and send coffee themselves and we provide the payment solution and supply chain tracking."—E2
			"We want to make the market more transparent and give producers of material the opportunity to be more flexible on the side of buying their raw materials. So that they can adapt it to their production and do not buy unnecessary stock."—E22

TABLE 4 (Continued)

2nd-order codes	1st-order code	Definition/description	Exemplary quote
			"But our vision is to be part of a more sustainable future and more awareness also among the industry, because it's very easy for them at the moment to say, 'Oh, yeah, we have a cleaner machine in our factory' without completely rethinking the whole product"—E35

To advance the structure of the content analysis, recurring themes from relevant scholarly writings in the field of social and sustainable entrepreneurship were subsequently used to refine and bundle the first-order codes (see Table 1). In that, literature reviews and work from highly cited authors were scanned for themes that were identified with the inductive coding approach during the first phase of the data analysis. The analysis became more deductive (or directed) because the interview data were complemented with available theory to support the contextualization of the observed phenomena and complete the analytical framework (Alvesson & Kärreman, 2007; van Maanen et al., 2007; York et al., 2016). The first-order coding categories were thus linked to the larger theoretical context of entrepreneurial motivation and identity (Gioia et al., 2012). Relevant literature that dealt with these two concepts was the base for the second-order codes. The first-order codes were structured and grouped under the second-order codes *personal motivation of entering circular entrepreneurship* (entrepreneurial motivation), *entrepreneurial vision* and *business environment interactions* (entrepreneurial identity; see Section 2.3). So, the reasons for individuals to be driven toward circular entrepreneurship are subsumed under *entrepreneurial motivation*, while the objectives, frame of reference, and positioning of individuals as circular founders are categorized as *entrepreneurial identity*.

4 | RESULTS

4.1 | Personal motivation: Drivers toward circular entrepreneurship

The motivation for founders of CSUs to start a circular venture is related to three factors: *self-realization*, *social altruism* and *biospheric altruism*. *Self-realization* being one of the dominant themes (36/57 mentions) supports the idea that principles of CE and circular innovation are not compatible with historically grown, linear market structures ("I was primarily too creative for the slow speed [in the corporate environment]."—E29; "I see that I cannot change companies, which are already listed, so I have to create something by myself"—E4; "So we did not want to end up at Philips or some other large company designing the next coffee machine, but we really thought that something more fundamentally had to change"—E20; "I quit my former corporate job 7 years ago since I wanted to get involved more in sustainability and in sustainable companies which I could not do in a large company"—E31; "I could have kept doing what everyone else does in the corporate industry, say 'we are gonna be circular we are gonna be sustainable', but at the end keep doing the same stuff every day. So I decided to leave."—E56). Large corporates' and established organizations' approaches toward sustainable development are not in line with the aspirational maxims of CSU entrepreneurs which is why many of them left their corporate jobs. Circular founders considered entrepreneurship as an opportunity where they can practice business according to their holistic idea of circularity. This is not only reflected in a relatively high number of circular innovation types in CSUs' business models (Henry et al., 2020) but also in systemic and relational factors such as collaboration with or empowerment of business partners (see Section 4.2).

Most interviewees (37/57) mentioned *biospheric altruism* as motivation while *social altruism* was mentioned by 19 respondents. Circular entrepreneurs' personal value system encompasses social, economic and environmental value creation while noneconomic factors are the most important motivational drivers ("we wanted to create something for and with those refugees and [...] with the high-quality material that would otherwise be thrown away"—E12; "we also got to know about this waste product [...] and then came up with the business idea. We improved something for the farmers in the country of origin and made use of the waste product"—E17; "I do really want to make money because I know that's the way we can build an environmentally and socially sustainable business"—E34; "But as we progressed into creating a real business, we really cared about climate change and the disproportionate effect it's having on people as well as the environment. And we believe that business is a real lever in addressing the problem"—E49). Particularly, the systematic inclusion of social value is considered a critical step for entrepreneurship to contribute to sustainable development and underrepresented among existing entrepreneurial types, and in CE in general (Hobson & Lynch, 2016; Merli et al., 2018; Schaltegger & Wagner, 2011). A reason for the dominance of environmental over social value might be that circular founders barely mention relatedness (i.e., the desire for companionship; Sheldon, 2002; Gagne & Deci, 2005) or some form of obligation toward their own community as an underlying motivation for their entrepreneurial endeavors.

These are common threads among social entrepreneurs, particularly in the Global South (Jayaratne et al., 2019; Ruskin et al., 2016; Saebi et al., 2018). So, grassroots circular entrepreneurs in the Western World are not primarily driven by concrete experience as part of marginal societal groups but rather want to contribute to more equitable business practice and value chains. It requires additional studies in varying systemic and regional contexts to find out whether this hypothesis is generally applicable to circular entrepreneurship.

In contrast to some types of sustainable entrepreneurs such as ecopreneurs (Schaltegger, 2016), CSU entrepreneurs do not primarily seek unmet consumer demand. They are driven by a desire to contribute to systems efficiency and tackling major challenges, particularly in terms of environmental value and resource usage ("I learned a lot about how much waste is emerging at each level of the industry and I thought I cannot work in any other direction than circular economy anymore"—E1; "Climate change is something that we must put our whole effort and energy into solving and, and so to me, I'm motivated by that premise"—E50 "I started thinking; what type of waste do we waste a lot, and do we not bring back into our economic system as a resource"—E32; "the waste problem was the big driver"—E55). We observe that circular founders hold a well-balanced value orientation in terms of economic, social and ecological value but only a few are driven by market-oriented motives in the ideation and launch phase of their start-ups. Accordingly, less than five individuals in the interview sample were personally driven toward circular entrepreneurship by the desire to grow or scale a business and achieve economic success ("My motivation is not to build a fast-growing company, and to sell it to another company, or exit"—E16; "I do not want to cash out quickly"—E24; "We're not really in it for the profit"—E49). We discuss potential underlying reasoning and implications in the next chapter because—even though not particularly relevant as a personal motivator—growth and market orientation constitute a relevant component in circular entrepreneurs' entrepreneurial identity.

4.2 | Entrepreneurial identity

We scrutinize CSU founders' entrepreneurial identity along the two "structuring" elements of entrepreneurial vision and business network interactions ("frame of reference"). These are core elements that shape and develop entrepreneurial identity (cf. Gast, 2017; Fauchart & Gruber, 2011). The analysis of vision and objectives sheds light into the prioritization of goals of born circular entrepreneurs. This is a critically relevant theme in this context due to sustainable entrepreneurs' general challenge of balancing partially incompatible goals (Philips, 2013). The business network interactions are considered key elements in developing an entrepreneurial identity. Therefore, we analyze how CSU founders self-evaluate and compare to chosen frames of reference and how they interact with their business environment to manage the tensions that might result from conflicting objectives (Cesinger et al., 2021).

4.2.1 | Entrepreneurial vision and objectives

In this section, we scrutinize circular entrepreneurs' entrepreneurial vision and how it defines the business objectives and strategy. In contrast to the initial motivators to become an entrepreneur, circular entrepreneurs' vision is built on the idea of their ventures being influential drivers of circular practices through direct (growth) or indirect (inspiration/education) measures. The respondents have strong aspirations to expand and fundamentally "change" systems which were stated by E27, E30, E41, and E50, but only two founders particularly mentioned the goal to "disrupt" systems (E44, E45). Therefore, it remains ambiguous whether the particular notion of disruption as defined earlier in this article ("accelerated systemic change process") is fully embraced by circular entrepreneurs. Still, these aspirations imply strongly outward-oriented visions of circular ventures and are in line with the scholarly view of CE requiring systemic shifts. As such, CSU entrepreneurs connect their growth ambitions with the fixing of (mostly environmental) system inefficiencies ("the overall game is to change the whole industry to be less to be less wasteful, and more sustainable"—E48). Accordingly, the prevalent visions identified are related to *expansion* (40/57) and striving for *environmental impact* (27/57). Apart from those, circular entrepreneurs' vision is to *inspire/educate circular consumption* (23/57) and *enable more circularity in value chains* (25/57).

Only four founders mentioned as their visions the further improvement of their technical innovation and six stated profit. Grassroots circular entrepreneurs are therefore rather altruistic in their vision formulation with a focus on environmental value creation. However, they respect economic factors such as market share and revenue as relevant indicators of their success and growing impact ("for me, it's all about big impact. And profit creation and actually, the two are really linked"—E48). Social value plays a rather insignificant role in their vision even though it is part of their personal motives and should probably receive more attention and structured embedding in CBMs, for example, through social key performance indicators (KPIs; see section 4.2). CSU entrepreneurs pursue visions that include a synergetic relation of environmental (sustainable) and economic objectives. This balanced outlook is rare in existing perspectives on sustainable entrepreneurship where economic goals are in principle deprioritized (Thelken & de Jong, 2020). Still, we can observe a disconnect between circular entrepreneurs' vision and success indicators as social and environmental KPIs are partly gathered but economic KPIs are dominant. Reasons for this are the for-profit nature of CSUs which often requires them to report financial indicators to investors, loan providers, or public authorities. Furthermore, the nonfinancial reporting landscape is still very fragmented and only slowly converging (e.g., CDP, 2020); wherefore, it is too ambiguous for CSU entrepreneurs to invest their—oftentimes—scarce capacity on data collection and processing ("non-financial KPI measurement is very time consuming"—E2; "we do not have the capacity to track non-financial KPIs since we have to prioritize our limited capacities, we tried to measure and track this in the past but it is very difficult due to our complex supplier network"—E3; "Currently, we do not have the

capacity to quantify the social and environmental impact"—E23). If so, CSU entrepreneurs roughly calculate nonfinancial KPIs to use them in their customer communication and marketing rather than formal reporting ("You have to relate your product back to those discussions in the context of sustainable development that people understand"—E34; "[our environmental impact] should translate into a loyalty program through gamification"—E16; "We try to establish a rolling indicator for this which we could also publish on our homepage"—E18).

We found that "grassroots" circular entrepreneurs' orientation toward the market increases over time, When they were asked to assess the importance of scalability during the ideation and launch phase of their company, and compare it to the current situation, a significant shift becomes apparent.[3] Thus, 15 out of 57 founders considered scalability to be *highly relevant* in the launch phase, while this number more than doubled to 38 out of 57 at the date of the interview. Complementarily, 27 out of 57 interviewees did not consider scalability as *relevant* in their launch phase while this number shrank to two out of 57 at the date of the interview. This development can partly be explained by the fact that problems that CSU entrepreneurs are trying to tackle with their business models become increasingly pressing over time. Furthermore, growing relevance of scaling can be impelled by exposure to and exchange with peers, training programs, mentoring, and incubator programs.

The dynamic nature of the concept of entrepreneurial identity can be drawn in to interpret these observations. Circular founders enter entrepreneurship with an inventive identity but build up a growth vision and developer identity over time (Cardon et al., 2009; Ekinci et al., 2020). As indicated above, this is reflected in the aspirational visions of CSU entrepreneurs that have a strong systemic character and go beyond the growth of their own ventures ("my vision is that we will no longer be a necessity because we have already reduced everything we can. So, in the end, I'm destroying my own business model. But that's fine, because then I'll have achieved what I want, which is the general reduction of food waste."—E37; "We want to establish our business case and model in every big city in the world through an open-source approach"—E31; see section 4.2). This hints at the advanced position that grassroots circular entrepreneurs have when dealing with mission drift, where practically often economic values dominate social and environmental value over time.

We explain the initially low growth orientation of CSU entrepreneurs with little personal economic motivation (see Section 4.1) and the fact that the majority (42/57) of circular founders are first-time entrepreneurs. Furthermore, less than 10 interviewees had an educational background in management or entrepreneurship. Particularly, interviewees with an engineering or design background recognized this dissonance in their own educational path and mentioned the lack of entrepreneurial knowledge as a major obstacle in their early stage phases ("I think the biggest hurdle for us [was that] we were spun out of the university. We were two engineering PhD students that had no business knowledge or business sense at all"—E51). Typically, entrepreneurial experience and relevant education correlate with high growth ambitions of ventures (Mayer-Haug et al., 2013; Peng et al., 2020; Politis & Gabrielsson, 2005). In this context, we highlight CSU entrepreneurs as role models because they combine design and engineering backgrounds with entrepreneurial intentions. These positive examples are pivotal to overcome the negative effects of subjective norms (i.e., beliefs about social reference groups' attitudes toward a behavior) on entrepreneurial orientation in higher education, and to better integrate (circular) entrepreneurialism in university curricula (Kopnina, 2018; Middleton & Donellon, 2014).

4.2.2 | Frame of reference and business environment interaction

We conceptualize the core external business network of a grassroots sustainability-oriented or circular entrepreneur as a combination of consumers, suppliers and the dimensions of the triple bottom line, that is, economy, society, and environment (Belz & Binger, 2015; Fassin, 2009; Starik, 1995; Stead & Stead, 2000). The recognition of, and interaction with, these actors in their business environment are an important part in shaping the entrepreneurial identity (Cesinger et al., 2021; Donnellon et al., 2014). Circular founders barely formalize social value creation but strongly involve consumers in their business activities. The consumer-first philosophy manifests in downstream-oriented circular innovation types such as return, reuse, or sharing, and collaborative practices (Henry et al., 2020). These types of CBM innovations have the potential to drive socio-institutional change (institutional norms and cognition, e.g., increased agency, and changing value perception) and address barriers to regime adoption of circular innovations. Grassroots circular entrepreneurs distinctly focus on proximity to consumers and approachability for their customers to empower wider systems change (cf. Närvänen et al., 2021; "There are many really cool start-ups around Europe trying to come up with new ideas and new ways of doing things. This will bring about a lot of change in the system because it is not like a government that is [driving it] but this transition is made very sympathetically. People like those different approaches and sympathize with these companies [...]"—E8).

This positioning becomes more evident when examining circular entrepreneurs' stakeholder focus and self-evaluation against their chosen frames of reference. Thus, they prioritize environmental value and consumption systems (i.e., consumers and product end-of-life) over suppliers, incremental profit, and social equity. Only five founders out of the entire dataset did not state consumption systems or environmental conservation as first or second priority when asked to build a hierarchy among those dimensions (see Appendix A). As outlined above, founders of CSUs try to *inspire* consumers' to change norms and increase awareness for circular practices beyond the purchase and usage. This explains the strong consumer-centric nature of circular entrepreneurs' vision ("we want to show to consumers that we can actually have a society that uses and reuses products, especially plastic, in a much more sustainable way, especially through

technology"—E45). A sole consumer focus and neglection of human beings in a social context is commonly critiqued as being too narrow a perspective to make behavioral predictions. This narrow view may contribute to a neglect of ethical aspects such as ownership, data security or confidentiality (Calisto-Friant et al., 2020; Henry et al., 2021; Hobson, 2019). Given circular entrepreneurs' high level of social altruism in their motivational configuration (see Section 4.1), we propose to stronger include, and proactively manage issues such as fair access, co-creation, and attribution of societal value and information transparency in CBMs (e.g., through platformization, data transparency, and governance; Konietzko, 2020). A more systematic approach toward social embeddedness and value creation of circular innovation could help to remedy the common critiques of CE and lift the disruptive potential of circular innovation.

CSU entrepreneurs position their start-ups as complementary. As such, they try to create benefits within existing inefficient (linear) systems and do not disrupt them per se. Almost two thirds of the respondents stated that they consider their company's interaction with other players in their markets to be complementary rather than disruptive (30%) or competitive (10%). Reasons for this are a generally open and collaborative mindset (E11: "we want to collaborate with everybody"; E31: "[…] we believe in sharing being the new competition we also collaborate across sectors"; "I think that replication by open sourcing, it's like a much faster way of scaling. […] we are very happy for others to adopt what we have started"—E49; "we want to grow through franchise, open source or any other solution. In essence, we want to show how it can be done and then propagate"—E41), a self-understanding of a dependency on the output of the existing system ("We are rather filling a gap"—E17; "So in the end, I'm destroying my own business model in the long run."—E37), or simply because of a void in competition ("When we started there was no competition"—E18). Therefore, circular entrepreneurship might hold undiscovered potential which can be stronger leveraged either through more aggressive and targeted external growth strategies of CSUs, or through collaborations with established market actors to enable value co-creation in circular systems and leverage circular entrepreneurs' open-innovation approach and collaborative mindset (cf. Bertassini et al., 2021; Hopkinson et al., 2020; Ranta et al., 2018, 2020). This philosophy of sharing and collaboration can be considered part of a disruptive shift in itself as Bauwens et al. (2021) ascribe new forms of collaboration (e.g., experimentation between incumbents and start-ups) as part of the release phase in a circular disruption.

5 | DISCUSSION AND CONCLUSION

This study set out to build an understanding of the motivations and identities of grassroots circular entrepreneurs (Ostrom, 2010, 2012; Steinz et al., 2015). The findings of this research contribute to the scholarly work on entrepreneurial motivation and sustainable entrepreneurship by using empirical data which suggests the emergence of a new category of sustainability-focused entrepreneurs. The key characteristic of CSU entrepreneurs is that they apply a common "how-to" of circular strategies to advance sustainability. This common attribute—combined with some generic characteristics of start-ups—makes CSU entrepreneurs a clearly distinct entrepreneurial archetype and serves as a base and robust frame for further scientific and empirical investigation (Santini, 2017). Grassroots circular entrepreneurs are motivated to enter entrepreneurship by social and biospheric altruism and by the opportunity to work according to their personal, holistic principles of circularity. We found that these motives are only partly reflected in their entrepreneurial vision and interaction with the business environment. While environmental impact is prioritized as part of their vision and self-evaluation, societal value creation including notions of circular justice (Kirchherr, 2021) are widely neglected even though it is a cornerstone of circular entrepreneurs' personal value system.

CSU entrepreneurs are mostly engineers and designers by training and they are mostly first-time entrepreneurs. The little experience and lack of managerial education may be reasons for a relatively low scaling ambition at the beginning of their entrepreneurial journey—which is thus at odds with the concept of circular disruption. However, over time and due to exposure to incubators, mentors and peers, CSU entrepreneurs embrace the market and growth potential of their ventures, as opposed to many types of sustainable and social entrepreneurs that have been studied. CSU entrepreneurs wish to scale their business to extend the inherent environmental impact that they ascribe to their CBMs. They assess their impact based on economic proxies such as profit; therefore, they take on a market-directed perspective, a shift that is expressed by the fact that growth and expansion constitute the most frequently recurring theme in circular entrepreneurs' vision—a vision that largely connects with the notion of "circular disruption" explored in this special issue. As such, they aim to synergistically combine sustainable and economic value creation in their business models (i.e., being altruistic and benefiting themselves). Notably, the timely component of circular disruption is not adopted by grassroots circular entrepreneurs (i.e., they barely address speed of change). It is worthwhile to further explore the underlying reasons for what could be interpreted as lack of urgency for the complexity of the challenge.

CSU entrepreneurs seek to set examples and inspire their direct value chain partners. They consider themselves as role models who can encourage more circular mindsets and norms among suppliers and consumers. Founders of CSUs do not consider themselves competitive or disruptive which could be one of the main explanations for the rather collaborative approach. CSU entrepreneurs realize that the complex problems arising from a circular transition can only be solved collectively and collaboratively. Accordingly, CSU entrepreneurs are willing to share even with competitors when it comes to the dissemination of their business models or value creation logics. Thus, they do not necessarily seek unmet demands and market gaps but rather aim to enable circular supply chains through collaboration and open-source scaling approaches.

6 | PRACTICAL AND THEORETICAL IMPLICATIONS OF THE STUDY

A better understanding of the motivations and identities behind grassroots circular entrepreneurship can be relevant for policymakers with a transformative agendas who aim to nurture CSU initiation and growth, or for corporates who try to advance by establishing, learning from or partnering with innovative circular ventures (Mishra et al., 2019; Veleva & Bodkin, 2018). Such a deep understanding could help to avoid information asymmetries and inequality in access or distribution of gains and created value. Following this new approach of collaboration that is aspired by circular entrepreneurs, new mechanisms for value creation, appropriation, and allocation within economic systems are required. This can be solved with technology such as blockchain and tokenization (Narayan & Tidström, 2020) as well as governance and policy intervention as examples in the sharing economy have shown (Frenken, 2017; Henry et al., 2021).

Furthermore, founders of CSUs show little ambition to achieve growth or profit as a core and stand-alone purpose of their activities. However, these characteristics of founders are considered major drivers for innovative ventures to achieve mass-market impact and multiregional scale. Whether such "self-enhancing" traits can be identified among CSU entrepreneurs in other regions, contexts or circumstances than the ones scrutinized in this study has implications on their relevance in sustainable future scenarios and on the level and kind of attention their innovations deserve in the present (Chesbrough, 2010; Shane et al., 2003; Smith et al., 2014). Will the abovementioned collaborative approaches suffice or will there be CSUs who eventually disrupt industries driven by endogenous factors? Additionally to such development paths where CSUs have direct impact, a detailed analysis of the interplay of egoistic and (socially or biospheric) altruistic motives might unveil pathways toward the promotion of circular entrepreneurship in environmental education and training (Singh et al., 2019; Sun & Lo, 2012).

It could be critical to unleash the transformative force of circular innovation to stronger include ethical and social goals in CBMs in practice (Schulz et al., 2019). In this context, research is required to create additional knowledge on how to structurally and representatively include the social dimension in sustainable or circular innovation (Schröder et al., 2020). To foster grassroots development of circular entrepreneurship, engineering and design education could put a stronger emphasis on entrepreneurial and managerial courses that target entrepreneurial profiles (Maresch et al., 2015). This could further push the transformative force of circular and sustainability-oriented entrepreneurship.

7 | LIMITATIONS AND FUTURE RESEARCH

This study is limited by its lack of consideration for temporal effects, which would require longitudinal studies instead of cross-sectional analyses. We partially addressed the factor of time by adding probing questions to the interview guide to gather insight into different stages along entrepreneurial journeys. Still, future studies could build on this research by contextualizing the findings and assessing the dimensions of the underlying analytical framework as well as the interdependencies over time. Furthermore, as the CSU hubs included in this study are all located in developed countries and regional start-up hubs, the contextual factors that are examined in the analysis are not exhaustive. Therefore, we propose for research to investigate CSUs in rural locations and in areas where circularity receives varying levels of institutional support. In particular, we encourage the analysis of circular entrepreneurship in the Global South, where context-specific interventions can create "leapfrogging" opportunities for sustainability (Geng & Doberstein, 2008; Nhemachena & Murimbika, 2018; Preston & Lehne, 2017; Spence et al., 2011).

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ENDNOTES

[1] Fauchart and Gruber's (2011) typology of entrepreneurial identities is commonly used in this context but differentiates based on commercial (Darwinian), community (Communitarian), or societal (missionary) interests. Therefore, it is more interdependent with the type of sustainability-oriented entrepreneur (e.g., social entrepreneur <-> Communitarian entrepreneurial identity; Stephan & Drencheva, 2017) and expected to deliver less objective additional insights.

[2] All interviews with CSUs in Europe were conducted in 2017 and 2018. Only the interviews with Australia-based founders were conducted in 2020. CE experienced an upswing and appeared on municipal policy agendas in Berlin, Amsterdam and London already in 2017/2018 while a similar upswing happened in 2019/2020 in Australia (see sources mentioned above). Therefore, the time frames were chose to limit systematic bias within the interview responses.

[3] At the date of the interview, CSUs were 12–36 months into their entrepreneurial journey and still in early stage/initiation phase.

REFERENCES

Almeida, P., & Kogut, B. (1997). The exploration of technological diversity and geographic localization in innovation: Start-up firms in the semiconductor industry. *Small Business Economics*, *9*, 21–31. https://doi.org/10.1023/A:1007995512597

Alvesson, M., & Kärreman, D. (2007). Constructing mystery: Empirical matters in theory development. *Academy of Management Review*, *32*, 1265–1281. https://doi.org/10.5465/amr.2007.26586822

Barba-Sánchez, V., & Atienza-Sahuquillo, C. (2017). Entrepreneurial motivation and self-employment: Evidence from expectancy theory. *International Entrepreneurship and Management Journal*, *13*(4), 1097–1115. https://doi.org/10.1007/s11365-017-0441-z

Basco, R., Hernandez-Perlines, F., & Rodríguez-Garcia, M. (2019). The effect of entrepreneurial orientation on firm performance: A multigroup analysis comparing China, Mexico, and Spain. *Journal of Business Research*, *113*, 409–421. https://doi.org/10.1016/j.jbusres.2019.09.020

Battilana, J., & Dorado, S. (2010). Building sustainable hybrid organizations: The case of commercial microfinance organizations. *Academy of*

Management Journal, *53*, 1419–1440. https://doi.org/10.5465/amj.2010.57318391

Bauwens, T., Blomsma, F., Weissbrid, I., & Kirchherr, J. (2021). The 'need for speed': Towards Circular Disruption—What it is, how to make it happen and how to know its happening

Belz, F., & Binger, J. (2015). Sustainable entrepreneurship: A convergent process model. *Business Strategy and the Environment*, *26*, 1–17. https://doi.org/10.1002/bse.1887

Bergset, L., & Fichter, K. (2015). Green start-ups—A new typology for sustainable entrepre-neurship and innovation research. *Journal of Innovation Management*, *3*, 118–144. https://doi.org/10.24840/2183-0606_003.003_0009

Bertassini, A., Zanon, L., Azarias, G., Gerolamo, C., & Ometto, A. (2021). Circular business ecosystem innovation: A guide for mapping stakeholders, capturing values, and finding new opportunities. *Sustainable Production and Consumption*, *27*, 436–448. https://doi.org/10.1016/j.spc.2020.12.004

Beveridge, R., & Guy, S. (2005). The rise of the eco-preneur and the messy world of environmental innovation in local environment. *The International Journal of Justice and Sustainability*, *10*(6), 665–676. https://doi.org/10.1080/13549830500321972

Bidmon, C. M., & Knab, S. F. (2018). The three roles of business models in societal transitions: New linkages between business model and transition research. *Journal of Cleaner Production*, *178*, 903–916. https://doi.org/10.1016/j.jclepro.2017.12.198

Block, J. H., Kohn, K., Miller, D., & Ullrich, K. (2015). Necessity entrepreneurship and competitive strategy. *Small Business Economics*, *44*(1), 37–54. https://doi.org/10.1007/s11187-014-9589-x

Bocken, N., de Pauw, I., Bakker, C., & van der Grinten, B. (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering*, *33*(5), 308–320. https://doi.org/10.1080/21681015.2016.1172124

Calisto-Friant, M., Vermeulen, W., & Salomone, R. (2020). A typology of circular economy discourses: Navigating the diverse visions of a contested paradigm in resources. *Conservation and Recycling*, *161*, 104917. https://doi.org/10.1016/j.resconrec.2020.104917

Campos, J. (2020). Beyond Silicon Valley: Six startup hubs around the World [WWW document]. Available at: https://www.inacademy.eu/blog/six-startup-hubs-around-the-world/

Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, *34*(3), 511–532. https://doi.org/10.5465/amr.2009.40633190

Carroll, A. B. (1993). *Business and society: Ethics and stakeholder management* (2nd ed.). Cincinnati, OH: South-Western Publishing Co.

Carvalho, A. D. P., Cunha, S. K., Lima, L. F., & Carstens, D. D. (2017). The role and contributions of sociological institutional theory to the socio-technical approach to innovation theory. *RAI Revista de Administração e Inovação*, *14*(3), 250–259. https://doi.org/10.1016/j.rai.2017.02.001

CDP. (2020). Statement of Intent to Work Together Towards Comprehensive Corporate Reporting. https://29kjwb3armds2g3gi4lq2sx1-wpengine.netdna-ssl.com/wp-content/uploads/Statement-of-Intent-to-Work-Together-Towards-Comprehensive-Corporate-Reporting.pdf

Cesinger, B., Vallaster, C., & Müller, J. (2021). The ebb and flow of identity: How sustainable entrepreneurs deal with their hybridity. *European Management Journal*, *40*, 77–89. https://doi.org/10.1016/j.emj.2021.04.003

Chesbrough, H. (2010). Business model innovation: Opportunities and barriers in long range planning. *Business Models*, *43*, 354–363. https://doi.org/10.1016/j.lrp.2009.07.010

Circle Economy. (2020). The Circularity Gap Report - When circularity goes from bad to worse: The power of countries to change the game. [WWW document]. https://pacecircular.org/sites/default/files/2020-01/Circularity%20Gap%20Report%202020.pdf

Cullen, U. A., & De Angelis, R. (2020). Circular entrepreneurship: A business model perspective in resources, conservation and recycling. *Presstime*, *168*, 105300. https://doi.org/10.1016/j.resconrec.2020.105300

Daae, J., Chamberlin, L., & Boks, C. (2018). Dimensions of behaviour change in the context of designing for a circular economy. *Design Journal*, *21*(4), 521–541. https://doi.org/10.1080/14606925.2018.1468003

Davies, I. A., & Chambers, L. (2018). Integrating hybridity and business model theory in sustainable entrepreneurship. *Journal of Cleaner Production*, *177*, 378–386. https://doi.org/10.1016/j.jclepro.2017.12.196

De Jesus, A., Lammi, M., Domenech, T., Vanhuyse, F., & Mendonca, S. (2021). Eco-innovation diversity in a circular economy: Towards circular innovation studies. *Sustainability*, *13*, 10974. https://doi.org/10.3390/su131910974

Donnellon, A., Ollila, S., & Williams Middleton, K. (2014). Constructing entrepreneurial identity in entrepreneurship education. *The International Journal of Management Education*, *12*(3), 490–499. https://doi.org/10.1016/j.ijme.2014.05.004

Douglas, E., & Prentice, C. (2019). Innovation and profit motivations for social entrepreneurship: A fuzzy-set analysis. *Journal of Business Research*, *99*, 69–79. https://doi.org/10.1016/j.jbusres.2019.02.031

Douglas, E., Shepherd, D., & Venugopal, V. (2021). A multi-motivational general model of entrepreneurial intention. *Journal of Business Venturing*, *36*(4), 106107. https://doi.org/10.1016/j.jbusvent.2021.106107

Downing, S. (2005). The social construction of entrepreneurship: Narrative and dramatic processes in the co-production of organizations and identities. *Entrepreneurship Theory and Practice*, *29*(2), 185–204. https://doi.org/10.1111/j.1540-6520.2005.00076.x

Ekinci, Y., Gordon-Wilson, S., & Slade, A. (2020). An exploration of entrepreneurs' identities and business growth. *Business Horizons*, *63*, 391–401. https://doi.org/10.1016/j.bushor.2020.02.003

European Startup Initiative. (2017). Startup heatmap Europe. https://www.startupheatmap.eu/analytics.

Fassin, Y. (2009). The stakeholder model refined. *Journal of Business Ethics*, *84*, 113–135. https://doi.org/10.1007/s10551-008-9677-4

Fauchart, E., & Gruber, M. (2011). Darwinians, communitarians, and missionaries: The role of founder identity in entrepreneurship. *Academy of Management Journal*, *54*(5), 935–957. https://doi.org/10.5465/amj.2009.0211

Fischer, A., Pasucci, S., & Dolfsma, W. (2021). Understanding the role of institutional intermediaries in the emergence of the circular economy. In *Circular economy. Challenges and opportunities for ethical and sustainable business* (1st Edt ed.). Routledge. https://doi.org/10.4324/9780367816650

Franco, M. A. (2017). Circular economy at the micro level: A dynamic view of incumbents struggles and challenges in the textile industry. *Journal of Cleaner Production*, *168*, 833–845. https://doi.org/10.1016/j.jclepro.2017.09.056

Frenken, K. (2017). Political economies and environmental futures for the sharing economy. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, *375*, 20160367. https://doi.org/10.1098/rsta.2016.0367

Gagne, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*(4), 331–362. https://doi.org/10.1002/job.322

Gartner, W. (1990). What we are talking about when we are talking about entrepreneur-ship? *Jounal of Business Venturing*, *5*, 15–28. https://doi.org/10.1016/0883-9026(90)90023-M

Gast, J., Gundolf, K., & Cesinger, B. (2017). Doing business in a green way: A systematic review of the ecological sustainability entrepreneurship literature and future research directions. *Journal of Cleaner Production*, *147*, 44–56. https://doi.org/10.1016/j.jclepro.2017.01.065

Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Research Policy*, *31*(8), 1257–1274. https://doi.org/10.1016/S0048-7333(02)00062-8

Geels, F. W. (2011). The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental Innovation and Societal Transitions*, *1*(1), 24–40. https://doi.org/10.1016/j.eist.2011.02.002

Geissdoerfer, M., Pieroni, M. P. P., Pigosso, D. C. A., & Soufani, K. (2020). Circular business models: A review. *Journal of Cleaner Production*, *277*, 123741. https://doi.org/10.1016/j.jclepro.2020.123741

Geng, Y., & Doberstein, B. (2008). Developing the circular economy in China: Challenges and opportunities for achieving. *Leapfrog development' in International Journal of Sustainable Development and World Ecology*, *15*(3), 231–239. https://doi.org/10.3843/SusDev.15.3:6

Germak, A. J., & Robinson, J. A. (2014). Exploring the motivation of nascent social entrepreneurs. *Journal of Social Entrepreneurship*, *5*(1), 5–21. https://doi.org/10.1080/19420676.2013.820781

Ghalwash, S., Tolba, A., & Ismail, A. (2017). What motivates social entrepreneurs to start social ventures ? An exploratory study in the context of a developing economy. *Social Enterprise Journal*, *13*(3), 268–298. https://doi.org/10.1108/SEJ-05-2016-0014

Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*, *114*, 11–32. https://doi.org/10.1016/j.jclepro.2015.09.007

Gibb, A. (1996). Entrepreneurship and small business management: Can we afford to neglect them in the twenty-first century business school? *British Journal of Management*, *4*(7), 309–321. https://doi.org/10.1111/j.1467-8551.1996.tb00121.x

Gibbs, D. (2009). Sustainability Entrepreneurs, Ecopreneurs and the Development of a Sustainable Economy. *Greener Management International*, *55*, 63–78

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2012). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, *16*, 15–31. https://doi.org/10.1177/1094428112452151

Hall, J. K., Daneke, G. A., & Lenox, M. J. (2010). Sustainable development and entrepreneurship. *Past Contributions and Future Directions in Journal of Business Venturing*, *25*(5), 439–448. https://doi.org/10.1016/j.jbusvent.2010.01.002

Hekkert, M. P., Janssen, M. J., Wesseling, J. H., & Negro, S. O. (2020). Mission-oriented innovation systems. *Environmental Innovation and Societal Transitions*, *34*, 76–79. https://doi.org/10.1016/j.eist.2019.11.011

Hekkert, M. P., Suurs, R. A. A., Negro, S. O., Kuhlmann, S., & Smits, R. E. H. M. (2007). Functions of innovation systems: A new approach for analysing technological change. *Technological Forecasting and Social Change*, *74*(4), 413–432. https://doi.org/10.1016/j.techfore.2006.03.002

Henry, M., Bauwens, T., Hekkert, M., & Kirchherr, J. (2020). A typology of circular start-ups: An analysis of 128 circular business models. *Journal of Cleaner Production*, *245*, 118528. https://doi.org/10.1016/j.jclepro.2019.118528

Henry, M., Schraven, D., Bocken, N., Frenken, K., Hekkert, M., & Kirchherr, J. (2021). The battle of buzzwords: A comparative analysis of the circular economy and sharing economy concepts. *Environmental Innovation and Societal Transitions*, *38*, 1–21. https://doi.org/10.1016/j.eist.2020.10.008

Hessels, J., Van Gelderen, M., & Thurik, R. (2008). Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics*, *31*(3), 323–339. https://doi.org/10.1007/s11187-008-9134-x

Hobson, K. (2019). Small stories of closing loops': Social circularity and the everyday circular economy. *Climatic Change*, *163*, 99–116. https://doi.org/10.1007/s10584-019-02480-z

Hobson, K. (2021). The limits of the loops: Critical environmental politics and the circular economy. *Environmental Politics*, *30*(1–2), 161–179. https://doi.org/10.1080/09644016.2020.1816052

Hobson, K., & Lynch, N. (2016). Diversifying and de-growing the circular economy: Radical social transformation in a resource-scarce world. *Futures*, *82*, 15–25. https://doi.org/10.1016/j.futures.2016.05.012

Hockerts, K., & Wüstenhagen, R. (2010). Greening goliaths versus emerging Davids—Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. *Journal of Business Venturing*, *25*, 481–492. https://doi.org/10.1016/j.jbusvent.2009.07.005

Hopkinson, P., De Angelis, R., & Zils, M. (2020). Systemic building blocks for creating and capturing value from circular economy. *Resources, Conservation and Recycling*, *155*, 104672. https://doi.org/10.1016/j.resconrec.2019.104672

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Isaak, R. (2002). The making of the Ecopreneur in greener management international. *Environmental Entrepreneurship*, *38*, 81–91. https://doi.org/10.9774/GLEAF.3062.2002.su.00009

Jayaratne, M., Sullivan, M. G., & DSouza, C. (2019). Sustainability entrepreneurship: From consumer concern towards entrepreneurial commitment. *Sustainability*, *11*(24), 7076. https://doi.org/10.3390/su11247076

Jones, C., & Spicer, A. (2005). The sublime object of entrepreneurship. *Organization*, *12*(2), 223–246. https://doi.org/10.1177/1350508405051189

Kašperová, E., & Kitching, J. (2014). Embodying entrepreneurial identity. *International Journal of Entrepreneurial Behavior & Research*, *20*(5), 438–452. https://doi.org/10.1108/ijebr-07-2013-0108

Kemp, R., Schot, J., & Hoogma, R. (2007). Regime shifts to sustainability through processes of niche formation: The approach of strategic niche management. *Technology Analysis &Strategic Management*, *10*(2), 175–198. https://doi.org/10.1080/09537329808524310

Kirchherr, J. (2021). Towards circular justice: A proposition. *Resources, Conservation and Recycling*, *173*, 105712. https://doi.org/10.1016/j.rescfonrec.2021.105712

Kirchherr, J., Piscicelli, L., Bour, R., Kostense-Smit, E., Muller, J., Huibrechtse-Truijens, A., & Hekkert, M. (2018). Barriers to the circular economy: Evidence from the European Union (EU). *Ecological Economics*, *150*, 264–272. https://doi.org/10.1016/j.ecolecon.2018.04.028

Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, *127*, 221–232. https://doi.org/10.1016/j.resconrec.2017.09.005

Kirkwood, J., & Walton, S. (2010). What motivates ecopreneurs to start businesses? *International Journal of Entrepreneurial Behavior & Research*, *16*(3), 204–228. https://doi.org/10.1108/13552551011042799

Konietzko, J., Bocken, N., & Hultink, E. J. (2020). Circular ecosystem innovation: An initial set of principles. *Journal of Cleaner Production*, *253*, 119942. https://doi.org/10.1016/j.jclepro.2019.119942

Kopnina, H. (2018). Teaching circular economy: Overcoming the challenge of green-washing. In S. K. Dhiman & J. Marques (Eds.), *Handbook of engaged sustainability: Contemporary trends and future prospects*. Springer. https://doi.org/10.1007/978-3-319-53121-2_48-1

Kopnina, H. (2019). Green-washing or best case practices? Using circular economy and cradle to cradle case studies in business education. *Journal of Cleaner Production*, *219*, 613–621. https://doi.org/10.1016/j.jclepro.2019.02.005

Kraus, S., Filser, M., ODwyer, M., & Shaw, E. (2013). Social entrepreneurship: An exploratory citation analysis. *Review of Managerial Science*, *8*, 275–292. https://doi.org/10.1007/s11846-013-0104-6

Kristensen, H., & Mosgaard, M. (2020). A review of micro level indicators for a circular economy—Moving away from the three dimensions of

sustainability? *Journal of Cleaner Production*, *243*, 118531. https://doi.org/10.1016/j.jclepro.2019.118531

Kuckertz, A., & Wagner, M. (2010). The influence of sustainability orientation on entrepreneurial intentions—Investigating the role of business experience. *Journal of Business Venturing*, *25*(5), 524–539. https://doi.org/10.1016/j.jbusvent.2009.09.001

Kusa, R., Duda, J., & Suder, M. (2021). Explaining SME performance with fsQCA: The role of entrepreneurial orientation, entrepreneur motivation, and opportunity perception. *Journal of Innovation & Knowledege*, *6*, 234–245. https://doi.org/10.1016/j.jik.2021.06.001

Kvale, S. (1983). The qualitative research interview: A phenomenological and a hermeneutical mode of understanding. *Journal of Phenomenological Psychology*, *14*(2), 171–196. https://doi.org/10.1163/156916283X00090

Kyrö, P. (2001). To grow or not to grow? Entrepreneurship and sustainable development. *The International Journal of Sustainable Development and World Ecology*, *8*(1), 15–28. https://doi.org/10.1080/13504500109470059

Lieder, M., & Rashid, A. (2016). Towards circular economy implementation: A comprehensive review in context of manufacturing industry. *Journal of Cleaner Production*, *115*, 36–51. https://doi.org/10.1016/j.jclepro.2015.12.042

Linnanen, L. (2002). An insider's experiences with environmental entrepreneurship. *Greener Management International*, *38*, 71–80. https://doi.org/10.9774/GLEAF.3062.2002.su.00008

Lüdeke-Freund, F., Carroux, S., Joyce, A., Massa, L., & Breuer, H. (2018). The sustainable business model pattern taxonomyd—45 patterns to support sustainability-oriented business model innovation. *Sustainable Production and Consumption*, *15*, 145–162. https://doi.org/10.1016/j.spc.2018.06.004

Maresch, D., Harms, R., Kailer, N., & Wimmer-Wurm, B. (2015). The impact of entrepreneurship education on the entrepreneurial intention of students in science and engineering versus business studies universities programs. *Technological Forecasting and Social Change*, *104*, 172–179. https://doi.org/10.1016/j.techfore.2015.11.006

Masi, D., Kumar, V., Garza-Reyes, J. A., & Godsell, J. (2018). Towards a more circular economy: Exploring the awareness, practices, and barriers from a focal firm perspective. *Production Planning and Control*, *29*(6), 539–550. https://doi.org/10.1080/09537287.2018.1449246

Mathias, B. D., & Williams, D. W. (2014). The impact of role identities on entrepreneurs' evaluation and selection of opportunities. *Journal of Management*, *43*(3), 892–918. https://doi.org/10.1177/0149206314544747

Mayer-Haug, K., Read, S., Brinckmann, J., Dew, N., & Grichnik, D. (2013). Entrepreneurial talent and venture performance: A meta-analytic investigation of SMEs. *Research Policy*, *42*(6–7), 1251–1273. https://doi.org/10.1016/j.respol.2013.03.001

Mazzucato, M. (2018). Mission-Oriented Research & Innovation in the European Union—A problem-solving approach to fuel innovation-led growth. https://ec.europa.eu/info/sites/info/files/mazzucato_report_2018.pdf

Merli, R., Preziosi, M., & Acampora, A. (2018). How do scholars approach the circular economy? A systematic literature review. *Journal of Cleaner Production*, *178*, 703–722. https://doi.org/10.1016/j.jclepro.2017.12.112

Middleton, K., & Donellon, A. (2014). Personalizing entrepreneurial learning: A pedagogy for facilitating the know why. *Competitive Research Article*, *4*(2), 167–204. https://doi.org/10.1016/j.cya.2016.10.005

Mischel, W. (2004). Toward an integrative science of the person. *Annual Review of Psychology*, *55*, 1–22. http://doi.org/10.1146/annurev.psych.55.042902.130709

Mishra, J. L., Chiwenga, K. D., & Ali, K. (2019). Collaboration as an enabler for circular economy: A case study of a developing country. *Management Decision*, *59*, 1784–1800. https://doi.org/10.1108/MD-10-2018-1111

Momente, D. (2020). A unified framework for assessing the readiness of European Union economies to migrate to a circular modelling. *Science of the Total Environment*, *718*, 137375. https://doi.org/10.1016/j.scitotenv.2020.137375

Morris, M. H., Neumeyer, X., Jang, Y., & Kuratko, D. F. (2016). Distinguishing types of entrepreneurial ventures: An identity-based perspective. *Journal of Small Business Management*, *56*(3), 453–474. https://doi.org/10.1111/jsbm.12272

Morseletto, P. (2020). Targets for a circular economy in resources. *Conservation and Recycling*, *153*, 104553. https://doi.org/10.1016/j.resconrec.2019.104553

Murnieks, C. Y., Klotz, A., & Shepherd, D. (2019). Entrepreneurial motivation: A review of the literature and an agenda for future research. *Journal of Organizational Behavior*, *41*, 115–143. https://doi.org/10.1002/job.2374

Murnieks, C. Y., Mosakowski, E., & Cardon, M. S. (2014). Pathways of passion: Identity centrality, passion, and behavior among entrepreneurs. *Journal of Management*, *40*(6), 1583–1606. https://doi.org/10.1177/0149206311433855

Murray, A., Skene, K., & Haynes, K. (2017). The circular economy: An interdisciplinary exploration of the concept and application in a global context. *Journal of Business Ethics*, *140*, 369–380. https://doi.org/10.1007/s10551-015-2693-2

Musters, C., Graaf, H., & Keurs, W. (1998). Defining socio-environmental systems for sustainable development. *Ecological Economics*, *26*(3), 243–258. https://doi.org/10.1016/S0921-8009(97)00104-3

Narayan, R., & Tidström, A. (2020). Tokenizing coopetition in a blockchain for a transition to circular economy. *Journal of Cleaner Production*, *263*, 121437. https://doi.org/10.1016/j.jclepro.2020.121437

Närvänen, E., Mattila, M., & Mesiranta, N. (2021). Institutional work in food waste reduction: Start-ups' role in moving towards a circular economy. *Industrial Marketing Management*, *93*, 605–616. https://doi.org/10.1016/j.indmarman.2020.08.009

Navis, C., & Glynn, M. (2011). Legitimate distinctiveness and the entrepreneurial identity: Influence on investor judgments of new venture plausibility. *Academy of Management Review*, *36*, 479–499. https://doi.org/10.5465/AMR.2011.61031809

Nelles, M., Grünes, J., & Morscheck, G. (2016). Waste management in Germany—Development to a sustainable circular economy? *Procedia Environmental Sciences*, *35*, 6–14. https://doi.org/10.1016/j.proenv.2016.07.001

Nhemachena, C., & Murimbika, M. (2018). Motivations of sustainable entrepreneurship and their impact of enterprise performance in Gauteng Province, South Africa. *Business Strategy and Development*, *1*, 115–127. https://doi.org/10.1002/bsd2.16

NSW Government. (2019). NSW circular Economy policy statement—Too good to waste. [WWW document]. Available at: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/recycling/19p1379-circular-economy-policy-final.pdf?la=en&hash=F80151EA9C2C3E27BA889D15D18041CDF7A4D25A

Nußholz, J. (2017). Circular business models: Defining a concept and framing an emerging research field. *Sustainability*, *9*(10), 1810. https://doi.org/10.3390/su9101810

Ostrom, E. (2010). Polycentric systems for coping with collective action and global environmental change. *Global Environmental Change*, *20*, 550–557. https://doi.org/10.1016/j.gloenvcha.2010.07.004

Ostrom, E. (2012). Nested externalities and polycentric institutions: Must we wait for global solutions to climate change before taking actions at other scales? *Economic Theory*, *49*, 353–369. https://doi.org/10.1007/s00199-010-0558-6

Parrique, T., Barth, J., Briens, F., Kerschner, C., Kraus-Polk, A., Kuokkanen, A., & Spangenberg, J. H. (2019). Decoupling debunked: Evidence and arguments against green growth

as a sole strategy for sustainability. European Environmental Bureau. https://mk0eeborgicuypctuf7e.kinstacdn.com/wp-content/uploads/2019/07/Decoupling-Debunked.pdf

Patzelt, H., & Shepherd, D. A. (2011). Recognizing opportunities for sustainable development in entrepreneurship. *Theory and Practice*, *35*, 631–652. https://doi.org/10.1111/j.1540-6520.2010.00386

Peng, H., Zhou, C., & Liu, Y. (2020). Entrepreneurial experience and performance: From the aspect of sustainable growth of enterprises. *Sustainability*, *12*(18), 7351. https://doi.org/10.3390/su12187351

Philips, M. (2013). On being green and being enterprising: Narrative and the ecopreneurial self. *Organization*, *20*(6), 794–817. https://doi.org/10.1177/1350508412455084

Pieroni, M. P. P., McAloone, T. C., & Pigosso, D. C. A. (2019). Business model innovation for circular economy and sustainability: A review of approaches. *Journal of Cleaner Production*, *215*, 198–216. https://doi.org/10.1016/j.jclepro.2019.01.036

Politis, D., & Gabrielsson, J. (2005). Exploring the role of experience in the process of entrepreneurial learning. Lund University, Institute of Economic Research. Working Paper Series 2005/1.

Preston, F., & Lehne, J. (2017). A wider circle? The circular Economy in developing countries. Chatham House.

Presutti, M., & Odorici, V. (2019). Linking entrepreneurial and market orientation to the SME's performance growth: The moderating role of entrepreneurial experience and networks in. *International Entrepreneurship and Management Journal*, *15*(3), 697–720. https://doi.org/10.1007/s11365-018-0533-4

Ranta, V., Aarikka-Stenroos, L., & Mäkinen, S. (2018). Creating value in the circular economy: A structured multiple-case analysis of business models. *Journal of Cleaner Production*, *201*, 988–1000. https://doi.org/10.1016/j.jclepro.2018.08.072

Ranta, V., Keränen, J., & Aarikka-Stenroos, L. (2020). How B2B suppliers articulate customer value propositions in the circular economy: Four innovation-driven value creation logics. *Industrial Marketing Management*, *87*, 291–305. https://doi.org/10.1016/j.indmarman.2019.10.007

Rauch, A., & Frese, M. (2007). Let's put the person back into entrepreneurship research. A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, *16*(4), 353–385. https://doi.org/10.1080/13594320701595438

Reddy, C. D. (2020). Entrepreneurial motivation to participate in the circular economy. In *Handbook of research on entrepreneurship development and opportunities in circular economy*. IGI Global. https://doi.org/10.4018/978-1-7998-5116-5.ch014

Reike, D., Vermeulen, W., & Witjes, S. (2018). The circular economy: New or refurbished as CE 3.0?—Exploring controversies in the conceptualization of the circular economy through a focus on history and resource value retention options in resources. *Conversation & Recycling*, *135*, 246–264. https://doi.org/10.1016/j.resconrec.2017.08.027

Ribeiro-Soraino, D. (2017). Small business and entrepreneurship: Their role in economic and social development. *Entrepreneurship & Regional Development*, *29*, 1–3. https://doi.org/10.1080/08985626.2016.1255438

Rigg, C., & O'Dwyer, B. (2012). Becoming an entrepreneur: Researching the role of mentors in identity construction. *Education + Training*, *54*(4), 319–329. https://doi.org/10.1108/00400911211236181

Ritzén, S., & Sandström, G. (2017). Barriers to the circular economy—Integration of perspectives and domains. *Procedia Cirp*, *64*, 7–12. https://doi.org/10.1016/j.procir.2017.03.005

Rizos, V., Behrens, A., van der Gaast, W., Hofman, E., Ioannou, A., Kafyeke, T., Flamos, A., Rinaldi, R., Papadelis, S., Hirschnitz-Garbers, M., & Topi, C. (2016). Implementation of circular economy business models by small and medium-sized enterprises (SMEs): Barriers and enablers. *Sustainability*, *8*, 1212. https://doi.org/10.3390/su8111212

Ruskin, J., Seymour, R. G., & Webster, C. M. (2016). Why create value for others? An exploration of social entrepreneurial motives. *Journal of Small Business Management*, *54*, 1–23. http://doi.org/10.1111/jsbm.12229

Saebi, T., Foss, N. J., & Linder, S. (2018). Social entrepreneurship research: Past achievements and future promises. *Journal of Management*, *45*(1), 70–95. https://doi.org/10.1177/0149206318793196

Santa-Maria, T., Vermeulen, W., & Baumgartner, R. (2021). Framing and assessing the emergent field of business model innovation for the circular economy: A combined literature review and multiple case study approach. *Sustainable Production and Consumption*, *26*, 872–891. https://doi.org/10.1016/j.spc.2020.12.037

Santini, C. (2017). Ecopreneurship and ecopreneurs: Limits, trends and characteristics. *Sustainability*, *9*(4), 492. https://doi.org/10.3390/su9040492

Sarango-Lalangui, P., Santos, J. L. S., & Hormiga, E. (2018). The development of sustainable entrepreneurship research field. *Sustainability*, *10*(6), 2005. https://doi.org/10.3390/su10062005

Schaltegger, S. (2016). A framework and typology of ecopreneurship: leading bioneers and environmental managers to ecopreneurship. In M. Schaper (Ed.), *Making ecopreneurs* (pp. 95–114). Routledge.

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

Schick, H., Marxen, S., & Freimann, J. (2002). Sustainability issues for start-up entrepreneurs. *Greener Management International*, *38*, 59–70. https://doi.org/10.9774/GLEAF.3062.2002.su.00007

Schlange, L. (2006). What drivers sustainable entrepreneurs? Proceedings of the 3rd applied business and entrepreneurship association international (ABEAI) conference, Kona, HI, USA.

Schot, J., & Geels, F. (2008). Strategic niche management and sustainable innovation journeys: Theory, findings, research agenda, and policy. *Technology Analysis & Strategic Management*, *20*(5), 537–554. https://doi.org/10.1080/09537320802292651

Schot, J., & Steinmueller, W. E. (2018). Three frames for innovation policy: R&D, systems of innovation and transformative change. *Research Policy*, *47*, 1554–1567. https://doi.org/10.1016/j.respol.2018.08.011

Schröder, P., Lemille, A., & Desmond, P. (2020). Making the circular economy work for human development in resource. *Conservation and Recycling*, *156*, 104686. https://doi.org/10.1016/j.resconrec.2020.104686

Schulz, C., Hjaldottir, R., & Hild, P. (2019). Practising circles: Studying institutional change and circular economy practices. *Journal of Cleaner Production*, *237*, 117749. https://doi.org/10.1016/j.jclepro.2019.117749

Semrau, T., Ambos, T., & Kraus, S. (2016). Entrepreneurial orientation and SME performance across societal cultures: An international study. *Journal of Business Research*, *69*(5), 1928–1932. https://doi.org/10.1016/j.jbusres.2015.10.082

Shane, S., Locke, E. A., & Collins, C. J. (2003). Entrepreneurial motivation. *Human Resource Management Review*, *13*(2), 257–279. https://doi.org/10.1016/s1053-4822(03)00017-2

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy Management Review*, *25*(1), 217–226.

Sheldon, K. M. (2002). The self-concordance model of healthy goal striving: When personal goals correctly represent the person. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 65–86). University of Rochester Press.

Singh, S. K., Chen, J., Del Giudice, M., & El-Kassar, A. N. (2019). Environmental ethics, environmental performance, and competitive advantage: Role of environmental training. *Technological Forecasting and Social Change*, *146*, 203–211. https://doi.org/10.1016/j.techfore.2019.05.032

Slaper, T., & Hall, T. (2011). The triple bottom line: What is it and how does it work? *Indiana Business Review, Bloomington*, *86*(1), 4–8.

Smith, A., & Raven, R. (2012). What is protective space? Reconsidering niches in transitions to sustainability. *Research Policy*, *41*(5), 1025–1036. https://doi.org/10.1016/j.respol.2011.12.012

Smith, R., Bell, R., & Watts, H. (2014). Personality trait differences between traditional and social entrepreneurs. *Social Enterprise Journal*, *10*(3), 200–221. https://doi.org/10.1108/SEJ-08-2013-0033

Spence, M., Ben Boubaker Gherib, J., & Ondoua Biwolé, V. (2011). Sustainable entrepreneurship: Is entrepreneurial will enough? A north-south comparison. *Journal of Business Ethics*, *99*(3), 335–367. https://doi.org/10.1007/s10551-010-0656-1

Stahel, W. R. (2016). The circular economy. *Nature*, *531*, 435–438. https://doi.org/10.1038/531435a

Staniewski, M., & Awruk, K. (2019). Entrepreneurial success and achievement motivation—A preliminary report on a validation study of the questionnaire of entrepreneurial success in. *Journal of Business Research*, *101*, 433–440. https://doi.org/10.1016/j.jbusres.2019.01.073

Starik, M. (1995). Should trees have managerial standing? Toward stakeholder status for non-human nature. *Journal of Business Ethics*, *14*, 207–217. https://doi.org/10.1007/BF00881435

Startup Blink. (2019). Startup ecosystem rankings report 2019. Online report available at: https://www.startupblink.com/

Stead, J. G., & Stead, E. (2000). Eco-enterprise strategy: Standing for sustainability. *Journal of Business Ethics*, *24*, 313–329. https://doi.org/10.1023/A:1006188725928

Steinz, H., van Rijnsoever, F., & Nauta, F. (2015). How to green the red dragon: A start-ups' little helper for sustainable development in China. *Business Strategy and the Environment*, *25*(8), 593–608. https://doi.org/10.1002/bse.1899

Stephan, U., & Drencheva, A. (2017). The person in social entrepreneurship: A systematic review of research on the social entrepreneurial personality. In *The Wiley handbook of entrepreneurship* (pp. 205–230). Wiley. https://doi.org/10.1002/9781118970812.ch10

Stern, P., & Dietz, T. (1994). The value basis of environmental concern. *Journal of Social Issues*, *50*(3), 65–84. https://doi.org/10.1111/j.1540-4560.1994.tb02420.x

Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. Huxley College on the Peninsulas Publications, 1. https://cedar.wwu.edu/hcop_facpubs/1

Stevenson, H. H., & Jarillo, J. C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal*, *11*(4), 17–27.

Stewart, R., & Niero, M. (2018). Circular economy in corporate sustainability strategies: A review of corporate sustainability reports in the fast-moving consumer goods sector. *Business Strategy and the Environment*, *27*(7), 1005–1022. https://doi.org/10.1002/bse.2048

Stiles, J. (2020). Strategic niche management in transition pathways: Telework advocacy as groundwork for an incremental transformation. *Environmental Innovation and Societal Transitions*, *34*, 139–150. https://doi.org/10.1016/j.eist.2019.12.001

Sun, H., & Lo, C. C. (2012). Impact of role models on the entrepreneurial intentions of engineering students. In *Proceedings of IEEE International Conference on Teaching, Assessment, and Learning for Engineering, Hong Kong*. IEEE. https://doi.org/10.1109/TALE.2012.6360368

Swami, V., Chamorro-Premuzic, T. O. M. A. S., Snelgar, R., & Furnham, A. (2009). Egoistic, altruistic, and biospheric environmental concerns: A path analytic investigation of their determinants. *Scandinavian Journal of Psychology*, *51*(2), 139–145. https://doi.org/10.1111/j.1467-9450.2009.00760.x

Terán-Yépez, E., Marín-Carrillo, G. M., del Pilar Casado-Belmonte, M., & de las Mercedes, M. (2020). Sustainable entrepreneurship: Review of its evolution and new trends. *Journal of Cleaner Production*, *252*, 119742. https://doi.org/10.1016/j.jclepro.2019.119742

Thelken, H., & de Jong, G. (2020). The impact of values and future orientation on intention formation within sustainable entrepreneurship. *Journal of Cleaner Production*, *266*, 122052. https://doi.org/10.1016/j.jclepro.2020.122052

Tseng, M.-L., Chiu, A., Liu, G., & Jantaralolica, T. (2020). Circular economy enables sustainable consumption and production in multi-level supply chain system in resources. *Conservation and Recycling*, *154*, 104601. https://doi.org/10.1016/j.resconrec.2019.104601

Urbinati, A., Chiaroni, D., & Chiesa, V. (2017). Towards a new taxonomy of circular economy business models. *Journal Cleaner Production*, *168*, 487–498. https://doi.org/10.1016/j.jclepro.2017.09.047

van der Zwan, P., Thurik, R., Verheul, I., & Hessels, J. (2016). Factors influencing the entrepreneurial engagement of opportunity and necessity entrepreneurs. *Eurasian Business Review*, *6*, 273–295. https://doi.org/10.1007/s40821-016-0065-1

Van Maanen, J., Sørensen, J. B., & Mitchell, T. R. (2007). The interplay between theory and method. *Academy of Management Review*, *32*, 1145–1154. https://doi.org/10.5465/amr.2007.26586080

Veleva, V., & Bodkin, G. (2018). Corporate-entrepreneur collaborations to advance a circular economy. *Journal of Cleaner Production*, *188*, 20–37. https://doi.org/10.1016/j.jclepro.2018.03.196

Victoria State Government. (2019). A circular economy for Victoria—Creating more value and less waste [WWW document]. Available at: https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/5115/6324/2021/A_circular_economy_for_Victoria_Issues_Paper_July2019.pdf

Walley, E., & Taylor, D. (2002). Opportunists, champions, mavericks … ? A typology of green entrepreneurs. *Greener Management International*, *38*, 31–43. https://doi.org/10.9774/GLEAF.3062.2002.su.00005

Ward, J., Chiveralls, K., Fioramonti, L., Sutton, P., Costanza, R., 2017. The decoupling delusion: rethinking growth and sustainability [WWW document]. Available at: https://theconversation.com/the-decoupling-delusion-rethinking-growth-and-sustainability-71996

Washington, H., & Maloney, M. (2020). The need for ecological ethics in a new ecological economics. *Ecological Economics*, *169*, 106478. https://doi.org/10.1016/j.ecolecon.2019.106478

Weber, K., Heinze, K. L., & DeSoucey, M. (2008). Forage for thought: Mobilizing codes in the movement for grass-fed meat and dairy products. *Administrative Science Quarterly*, *53*, 529–567. https://doi.org/10.2189/asqu.53.3.529

York, J., ONeil, I., & Sarasvathy, S. (2016). Exploring environmental entrepreneurship: Identity coupling, venture goals, and stakeholder incentives. *Journal of Management Studies*, *53*(5), 695–737. https://doi.org/10.1111/joms.12198

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APPENDIX A: FOUNDER INTERVIEW GUIDE FOR CONCEPTUALIZING BUSINESS MODELS, MOTIVATION & AMBITIONS AND INNOVATION ECOSYSTEMS OF CIRCULAR STARTUPS (EXPERT: MOTIVATION AND AMBITION)

Thank you for taking the time for this interview. We are part of the Copernicus Institute for Sustainable Development of Utrecht University where we focus on sustainability and innovation research, among other things. Also, Circular Economy is one of our focus topics and we are doing a survey that examines circular start-ups. For this, we interview more than 50 startups in a series of ~60 min expert interviews analyzing their general background, business model, motivation and ecosystem interaction. The results of this research will be published in a series of peer-reviewed scientific papers and book chapters and shared among all participants. In the presentation of the results, we will make sure that all inputs remain anonymous. Please answer the following questions to the best of your knowledge and belief.

1. Could you please tell us a little more about yourself? Such as your name (for the recording), job description and career path?
2. […]
3. Why did you decide to start this business?
4. Can you please explain how the idea and your business model emerged?
   - Did circularity, [define] play a central role in your product/service design process from the very beginning?
   - What are problems you encountered while launching your start-up and how did you deal with them?
5. What do you want to achieve with your company? What is your vision?
6. Please rank the 5 following dimensions based on where your business models focuses from most to least
   - Incremental profit
   - Environmental conservation
   - Social equity
   - Consumer (usage and EoL)
   - Sustainable supply chains
7. […]
8. Please rate what relevance scalability, that is, the possibility to grow your business into a global one, had when you launched your company and now? Please explain.
   - Launch: ☐ Highly relevant, ☐ Relevant, ☐ Included, ☐ Irrelevant
   - Now: ☐ Highly relevant, ☐ Relevant, ☐ Included, ☐ Irrelevant
   - What are problem you encountered while scaling your start-up and how did you deal with them?
9. Would you sell your company to a financial investor within the next 3 years if a lucrative offer came across? Please explain.
   - What would be criteria in choosing a suitable investor?
10. Is your interaction with other players in the market rather
    - ☐ Competitive, that is, product/service is already offered in a very similar way?
    - ☐ Complementary, that is, novel product/service closing a gap in an existing system of business models?
    - ☐ Disruptive novel product/service making existing business models obsolete?
11. What are for you the main players in the ecosystem you operate in, for example, competitors, clients or suppliers? Ecosystem in this regard means a multi-actor network and thus not only your company's value chain (customers, suppliers etc.), but also societal actors, policy makers, educational institutions, investors, incubators etc.
    - How do you interact with these players in particular?
    - Did you actively seek for this ecosystem in case it was already existing? If so, please explain how?
    - Did you actively develop this ecosystem? If so, please explain how?
12. […]