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Market transformations as collaborative change: Institutional co-evolution through small business entrepreneurship

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Abstract

Entrepreneurship may be one entry point to trigger transformations toward sustainability. Yet, there is limited knowledge on the ability of small- and medium-sized enterprises (SMEs) to play a role in transformation processes, beyond the initial stages of niche innovation. Building on data collected through 125 interviews in Toronto, Vancouver and London, we examine perceived contributions of SME-led sustainable entrepreneurship to market transformations. Our data show that sustainable entrepreneurs face significant constraints in individually exercising influence over mass markets, as they encounter social forces that generate resistance to change. However, SMEs are able to act collaboratively to shape transformation processes. We propose three mechanisms of institutional co-evolution that capture these contributions: network learning, collective norm-construction and collaborative advocacy.

KEYWORDS
business sustainability, cities, SMEs, sustainable entrepreneurship, transformations

1 | INTRODUCTION

Incremental action is no longer sufficient to tackle the escalating threats to the global environment. Addressing systemic challenges, such as the climate change and biodiversity crises, requires transformative action, which implies fundamental reconfigurations of social, economic and ecological structures and relations. Entrepreneurship may be one entry point to trigger such transformations. It signals the desire to integrate sustainability objectives into core business practices—a deeper shift than measures associated with corporate social responsibility agendas (Könnölä & Unruh, 2007). The concept reflects new principles of doing business, which displace the sole focus on profit maximisation with a supplementing emphasis on environmentally sound practices and social justice (Parrish & Tilley, 2010).

Optimistic interpretations of this new private sector logic are abundant. Hall et al. (2010) capture the positive spirit surrounding the concept under the Panacea Hypothesis, which grants sustainable entrepreneurship the power to solve intractable societal conundrums. Underpinning these expectations is an assumption that entrepreneurs can overhaul markets through the forces of creative destruction (Schumpeter, 1942). Building on this tradition, theoretical frameworks have been put forward to explain how sustainable entrepreneurship can contribute to market transformations (Hannon et al., 2013; Hockerts & Wüstenhagen, 2010; Ma et al., 2018; Schaltegger et al., 2016; Schaltegger & Wagner, 2011).

In this literature, there is a growing interest in the role of small- and medium-sized enterprises (SMEs). SMEs are the most common form of business in economies across the world (European Commission, 2019; Ratte, 2018). For instance, in Canada, SMEs

employ 88% of private sector workers and produce a third of Canada's gross domestic product (GDP) (ISED, 2019). In business sustainability research, attention has shifted toward SMEs (Jenkins, 2006; Spence, 2016). Certain aspects of small businesses, such as the influence of individual preferences (Jenkins, 2006; Williams & Schaefer, 2013) and nimble structure (Baumann-Pauly et al., 2013), may allow sustainable practices to consolidate more quickly than in large corporations (Muñoz & Cohen, 2018). In addition, SMEs are uniquely positioned to engage with social and ecological wellbeing at the community level (Lawrence et al., 2006; Westman et al., 2019).

To date, the literature on market transformations has identified two main functions related to SME-led entrepreneurship: opening up niche markets by introducing innovations and shaping markets through growth or by being acquired by large firms. Yet, this raises difficult questions about the ability of the vast majority of SMEs to shape transformations. If the main function of SMEs is to create innovations, their ability to influence markets is limited by the extent of their niche. Considering that the vast majority of SMEs will never expand into a market-dominating size, it appears as if these firms play a limited role in transformation processes. In addition, these two functions do not explain the precise mechanisms of market transformations. For example, it is not clear why some sustainable entrepreneurs succeed in taking over a large share of markets, while others providing similar solutions fail to do so. Understanding why this is the case requires a process-based understanding that captures the conditions that support sustainable entrepreneurship, as well as the multifaceted contributions of small businesses to market change. Our research question responds to this demand by asking: How does SME-led sustainable entrepreneurship contribute to mass market transformations? To answer this question, we present qualitative data from 125 interviews in London (UK), Toronto and Vancouver (Canada).

As we show throughout this paper, sustainability-oriented SMEs face significant constraints in *individually* influencing mass markets. This is why their role appears on the surface to be constrained to niche-based innovation and opportunities of growth or acquisition. Yet, our data also demonstrate that sustainability-oriented SMEs frequently do not act independently but through *collaborative efforts* targeted toward rule systems that maintain unsustainable markets. To capture this action, we build on insights from institutional theory. We propose three mechanisms of institutional co-evolution through which SME-led sustainable entrepreneurship contributes to market transformations: network learning, collective norm-construction and collaborative advocacy. Each mechanism contributes to the deconstruction of systemic forms of resistance to market change generated by social forces. The mechanisms enable SME-led entrepreneurship to expand sustainable innovations beyond their niche and embed these in social structures, thereby creating a progressive (although to date partial) movement toward market transformations.

We explore this argument as follows. First, we explain how sustainable entrepreneurship led by SMEs is positioned within the literature on market transformations (Section 2). In Section 3, we present our methods. We outline our results in Section 4, through an assessment of perceived contributions of sustainable entrepreneurship to pathways of transformation and the social forces that prevent change. In Section 5, we elaborate on three mechanisms of institutional co-evolution through which SME-led sustainable entrepreneurship overcomes this resistance. In conclusion, we suggest that research and policy on entrepreneurship need a greater emphasis on strategies to support collective rather than individual action, including aspects such as supporting and building networks across and between firms, activist groups and the public sector.

2 | SUSTAINABLE ENTREPRENEURSHIP AND MASS MARKET TRANSFORMATIONS

2.1 | Mass market transformations

Transformations, a concept with roots in ecology and systems theory, represent the 'capacity to create a fundamentally new system when ecological, economic or social (including political) conditions make the existing system untenable' (Walker et al., 2004, p. 3). Transformations constitute profound reconfigurations in socio-ecological or socio-technical arrangements, which can occur within a range of systems. In this paper, we focus on transformations of mass markets, defined as 'all transactions in a given market' (Schaltegger et al., 2016, p. 265). This involves changes in how goods and services are produced and consumed, as well as shifts in social arrangements and material structures surrounding markets (e.g., Hannon et al., 2013; Ma et al., 2018). Transformations of mass markets can be delimited according to geographical or organisational domains (Table 1). An individual business can be part of—contribute to or be affected by—transformations in these different domains, including through internal changes or involvement in cross-sectoral transformations.

In this study, we define mass market transformations according to three criteria. First, we understand a market transformation as social change that is deeper than the diffusion of innovations. Diffusion results in increased adoption, while a market transformation involves reconfigurations resulting in new sociotechnical arrangements (Elzen et al., 2004). We focus not only on the uptake of new solutions but also on accompanying changes in social dimensions. Second, our analysis is limited to sustainability transformations. In our data, SMEs formulated sustainability goals intentionally, involving both adaptive and planned processes (Luederitz et al., 2021), based on different scopes of ambition (ranging from individual products [e.g., plastic-free hygiene items] to entire industries [e.g., low-impact construction]). Intentionality is embedded in individual pursuits, but narratives that shape transformation processes are nearly always collectively constructed (Section 5.2). Third, while we analyse transformation processes in cities (Whiteman et al., 2011), 'unsustainable' markets usually extend beyond jurisdictional bounds. We understand a market transformation as complete if all products and services in a city are produced and consumed sustainably, but such shifts typically involve alteration of cross-border supply chains. Every process of transformation observed in our sample was

TABLE 1 Delimitations of mass market transformations

Domain	Delimitation of market transformations	
Geographical	Neighbourhood	Transformation on a local or neighbourhood level (e.g., shift in local food production)
	City	Transformation of/within an urban system (e.g., shift in an urban transportation system)
	National	Transformation within a country (e.g., shift in a national energy system)
	Global	Transformation on a global level (e.g., the historic shift from sailing to steam ships)
Organisational	Single firm	Transformation of/within an individual business (e.g., introduction of a new business model, such as reverse logistics)
	Product	Transformation of a single product (e.g., shift to organic tomatoes)
	Industry	Transformation of an industry (e.g., adoption of a new industry standard)
	Cross-sectoral	Transformation that reaches beyond a given market segment and involves changes among multiple social organisations (e.g., shift to a new mobility system)

incomplete, as solutions promoted by SMEs in our study only occupy a limited share of goods and services exchanged in the three case study cities.

2.2 | SME contributions to mass market transformations

We draw on entrepreneurship studies and theories of co-evolution to explain how SMEs contribute to mass market transformation. Entrepreneurship has long been recognised as a source of novelty. While entrepreneurship studies have an extended history replete with contested definitions (Muñoz & Cohen, 2018), innovation was always central to the field. A pervasive line of scholarship draws on Schumpeter's (1942) idea of innovation as a disruptive force that creates renewal in stagnant economies. Accordingly, the entrepreneur becomes 'the person who carries out new combinations, causing discontinuity' (Bull & Willard, 1993, p. 186) or individuals or organisations that assume risk, create value and realise innovation (Bruyat & Julien, 2001).[1]

[1]In our data, sustainable entrepreneurship can be driven by the firm as a whole or by individuals within the firm. Most of our data refer to small ventures managed by one or a few individuals with a shared mission.

Schumpeterian premises are embedded in the sustainable entrepreneurship literature, in particular the principle that market inefficiencies drive innovation (Dean & McMullen, 2007; Muñoz & Cohen, 2018). For example, Cohen and Winn (2007) portray market imperfections linked with environmental degradation as sources of opportunity. Schaltegger and Wagner (2011 p.225) define sustainable entrepreneurship as 'the realisation of sustainability innovations aimed at the mass market and providing benefit to the larger part of society', which places transformative capacity at the core of the concept. Traditionally, a strong positive connotation associated with entrepreneurs is their ability to propel economic growth, but, increasingly, there is an interest in their ability to advance systemic change (Bornstein, 2007). Indeed, a defining feature of sustainable entrepreneurship is the production of socio-environmental value and synchronous resolution of socio-environmental problems (Parrish & Tilley, 2010).

This notion of sustainable entrepreneurship is an important feature in theories of societal change. Research on the role of businesses in sociotechnical transitions links the introduction and commercialisation of disruptive innovations to small, entrepreneurial ventures (Bidmon & Knab, 2018; Wainstein & Bumpus, 2016). The assumption is that entrepreneurial innovation opens up 'niches' in markets where novelty is established, after which it may challenge incumbent sociotechnical regimes. This analysis reflects established theories on diffusion patterns of technological innovation, following an S-curve of development, where niche innovation occurs in the predevelopment and take-off stages (Elzen et al., 2004). Accordingly, the main function of entrepreneurial SMEs is to introduce new products and services in the initial stages of 'niche formation'. The operation of entrepreneurship is documented in subfields of transitions research, such as studies on niche management (Raven et al., 2010) and disruptive innovation (Kivimaa et al., 2021). Theories of mass market transformation reproduce this understanding by suggesting that small, innovative firms introduce innovations in the early stages of transformation processes (Hockerts & Wüstenhagen, 2010).

These theories cement a set of expectations that are prevalent in the entrepreneurship literature. This includes the notion of entrepreneurs as actors that single-handedly generate change. The conventional focus of entrepreneurship research examines characteristics of the entrepreneur, such as creativity, skill, ability to cope with uncertainty, 'alertness' and tenacity (Gartner, 1988; Shane, 2003). There is less attention to contextual factors that condition entrepreneurship, such as culture and family traditions (Ploum et al., 2018). Similarly, this thinking has influenced the debate on whether entrepreneurs discover or create opportunities (Alvarez & Barney, 2007). The conventional view holds that 'entrepreneurship is an activity that involves the discovery and exploitation of opportunities' (Shane, 2003, p. 4). An alternative argument (revisited in Section 5.2) is that entrepreneurship involves imagination of a different future, which requires collective agency. Such 'conjecturing' holds the power to alter existing opportunities (Endres & Woods, 2007, p. 226) and charter directions for transformative change.

TABLE 2 Summary of pathways of mass market transformation based on Schaltegger et al. (2016)

Pathway	Explanation
Growth	Sustainability-oriented entrepreneurs expand their business significantly, as unsustainable alternatives 'de-grow' in parallel.
Replication	Characteristics of a sustainable business model are transferred and retained by multiple organisations.
M&A	Incumbent firms absorb niche players to capture successful practices or profiles.
Mimicry	Large firms copy successful models or characteristics through imitation, which may dilute the integrity of the solution.

Theories of co-evolution offer another perspective to understand the role of SMEs in transformations. This concept derives from evolutionary economics, which assumes that economic systems are complex and dynamic, exist in permanent conditions of nonlinear change and emergent learning and are shaped by random events and path dependencies (Arthur, 1999). Co-evolution occurs when two systems or populations have a 'significant causal impact on each other's ability to persist' (Murmann, 2003). This implies a reciprocal relationship through which changes in one system produce shifts in the other. As in the theories discussed above, novelty derives from entrepreneurs, but theories of co-evolution posit that *selection* of new solutions arises from choices among multiple organisations and combinations of factors lead to repeated adoption (*retention*) (Murmann, 2003). To capture these processes, Schaltegger et al. (2016) developed an analytical framework that explains co-evolutionary pathways of mass market transformation. This approach captures how sustainable entrepreneurs simultaneously 'co-create *and* adapt to the markets they engage in' (Schaltegger et al., 2016, p. 272). Elements of variation, selection and retention are combined to develop four pathways of market transformation: growth, replication, mergers and acquisitions (M&A) and mimicry (Table 2) (Schaltegger et al., 2016, pp. 273–274).

From this perspective, both large players and small pioneers exert transformative pressures. In fact, the framework aims specifically to break down the dichotomy between small innovators ('emerging Davids') and established corporations ('greening Goliaths') (Hockerts & Wüstenhagen, 2010; Schaltegger & Wagner, 2011). Accordingly, SMEs can influence mass markets not only through expansion but also by merging with or becoming acquired by large corporations or by replicating or imitating solutions in large numbers.

2.3 | Social forces that support inertia and innovation

Still, the literatures on entrepreneurship and co-evolution downplay certain dimensions of SME involvement in market change. Overall, the analytical focus centres on the operation of businesses, without placing equal scrutiny on the social forces that mediate opportunities for innovation. This oversight is hardly new. Over two decades ago, Nelson (1994) was presciently concerned with the absence of institutional analyses in research on industrial change. Nelson (1994) called for greater attention to political and social forces, such as those related to collective action.

Social forces play a key role in mass market transformations by generating resistance to change (Newth & Woods, 2014). Put differently, if the social context in which sustainable entrepreneurs operate is not supportive of innovation, they will struggle to scale or replicate solutions. For example, markets that are blind to operational inefficiencies, resource deficiencies and service disparities will be less inclined to absorb sustainable innovations (Pacheco et al., 2010). In particular, organisations that are central to the functioning of economies often work to maintain the stability of existing markets and resist change (Unruh, 2000). To realise market shifts toward sustainability, such systemic resistance needs to be overcome, particularly through the deconstruction of institutions that maintain markets.

Institutions constitute rule sets that are produced and reproduced through social interaction. While such rule sets govern and are created through the activities of market participants, their realm of influence extends beyond such transactions, permeating the private and public domains. Because institutions support social reproduction and maintain stability (Scott, 2008), they can prevent social change. For example, resistance to change of markets is created when businesses come to agree on commonly accepted practices, when new firms evolve to mirror the structure of dominant incumbents, when government legislation penalises deviation or when entrepreneurial cultures foster innovation only within accepted limits. However, institutions do not simply constrain businesses. Rather, they provide the context within which entrepreneurs address challenges, enabling creative responses and possibilities for systemic change (Herrigel, 2010). In processes of market transformation, some institutions generate resistance to change, while others support innovation. For instance, norms, customs and knowledge systems that value novelty or environmental protection can support the founding of new sustainable ventures (Meek et al., 2010; Thelken & Jong, 2020). Likewise, entrepreneurial opportunities for environmental and social innovation are shaped by policies and regulatory frameworks (Ma et al., 2018; Pacheco et al., 2010; Wickert, 2016; Zhao et al., 2021).

Building on this understanding of social forces, we focus in this paper on three forms of institutions—cultural cognitive, normative and regulative—that shape the space in which entrepreneurial ventures develop (Urban, 2019). Cultural-cognitive institutions represent common sense behaviour and knowledge that support everyday activities (Scott, 2013). Normative institutions include values, ethics and moral systems that mediate perceptions of right and wrong (Scott, 2013). Regulative institutions are formal rules backed by authority, such as laws and contractual relations (Scott, 2013). In particular, we examine how systemic resistance created by institutions is overcome or how mutual adaptation occurs between innovations advanced by firms and institutions that maintain markets.

3 | METHOD

Capturing the complex processes involved in sustainable entrepreneurship requires qualitative methods that can generate rich accounts of multiple dimensions of change (Endres & Woods, 2007). For this study, we collected data through 125 in-depth interviews with SME owners/managers and organisations working with business sustainability in the Greater Toronto Area (53 interviews), Metro Vancouver (37 interviews) and the Greater London Area (35 interviews).

3.1 | Case study selection

This study focuses on sustainability action in cities, which we understand as politically contested spaces where action for ecological integrity and social justice takes place. The three case study cities represent urban areas perceived as leading in sustainability innovation, selected as contexts likely to produce rich data (Patton, 2002). London has adopted a suite of environmental policies (GLA, 2018), including strategies focusing on green investment (GLA, 2020). The role of the private sector in sustainability action in London is well-documented (C40, 2015; Hall, 2006; Schwab et al., 2016). Toronto has, likewise, adopted an ambitious agenda for low-carbon transformation (CoT, 2017) with a focus on businesses (Donald & Blay-Palmer, 2006; Granek & Hassanali, 2006; Westman et al., 2021). Vancouver has introduced a comprehensive 'Greenest City Action Plan' (City of Vancouver, 2017), and businesses play an active role in environmental governance in the city (Burch et al., 2013; Stewart, 2013; VEC, 2014, 2018).

Within each city, we identified two categories of respondents (Appendix A). First, we selected individuals who work for municipal authorities, business associations and NGOs supporting sustainable businesses (43 interviews). Second, we selected individuals that own or manage SMEs (82 interviews). The rationale consisted of extreme case sampling: a selection of cases that are 'information rich because they are unusual or special in some way' (Patton, 2002, p. 231). Previous studies on corporate excellence have employed this logic (Patton, 2002), the assumption being that leading businesses provide rich data on the phenomenon of study. Accordingly, we selected SMEs that stood out for their engagement in sustainability, by making internal operations sustainable and/or by delivery of sustainable solutions. We identified SMEs through a systematic online search, which included searching best practice repositories, targeted searches in different sectors and snowball sampling throughout the interviews. We ensured diversity in company size, sector, location and form of sustainability engagement.

3.2 | Data collection and analysis

We conducted interviews between January and June in 2018. The interviews were conducted as face-to-face conversations (in a couple of cases as phone calls) of 30-min to 1-h duration. The interviews with the first category of respondents aimed to explore the governance setting and market conditions for sustainable entrepreneurship. In the interviews with firms, our questions were guided by factors identified as important in research on sustainability innovation in SMEs (e.g., Jenkins, 2006; Lawrence et al., 2006; Williams & Schaefer, 2013). We adopted a flexible approach aligned with priorities of each firm, which evaluated the nature and background of sustainability engagement, motivations and barriers to progress, forms of collaboration, experimentation and learning and future prospects.

All interviews were recorded, transcribed and coded using NVivo qualitative analysis software. The coding was based on an iteratively refined set of codes. First, we identified references to four pathways of co-evolution (as per Schaltegger et al., 2016). Next, we employed a semiquantitative approach to establish how commonly the pathways featured. This was followed by in-depth reading of statements surrounding each pathway to examine mechanisms underpinning success or failure. Next, we searched for patterns among these factors and sought to structure them according to insights in the literature. Below, we present this analysis through frequencies (prevalence of pathways), tables that illustrate trends and illustrative quotes.

4 | RESULTS

Our data demonstrate that the prevalence of the four pathways varied among the firms in our sample (Table 3). With regard to growth, SMEs can influence markets through expansion. As explained below, the exceptional success of leading entrepreneurial ventures demonstrates the possibility for SMEs to occupy significant market shares. However, the focus on these outstanding cases tends to obscure the fact that, for the majority of SMEs, growth will never lead to market domination. While previous research has illustrated the potential for M&As to result in benefits both for small forerunners and established corporations (Austin & Leonard, 2008), our data contain few examples of this pathway. Our interpretation is that SMEs rarely consider acquisitions a viable option to advance their multidimensional objectives. For many SMEs, acquisitions clash with ambitions of 'doing the right thing' and conducting life-fulfilling work. In addition, the small number of entrepreneurs that pursue this pathway typically advances a technology-centred solution. Replication and mimicry were difficult to distinguish from each other empirically, which is why we present these two pathways together. Limited evidence of both pathways is likely connected with businesses' restricted insight into what other firms do, as SMEs rely to a limited extent on formal reporting (Baumann-Pauly et al., 2013). As with growth, replication and mimicry did not emerge in our sample on a scale required to realise mass market transformations. Overall, SMEs struggle to individually deliver on the often-stated promise in the literature on sustainable entrepreneurship of triggering sweeping reorganisation of mass markets. In Section 4.2, we capture institutional forms of resistance that prevent growth and replication (the more common pathways in our sample) from delivering market change.

TABLE 3 Overview of interview references related to growth, M&A, mimicry and replication

#	Pathway	Illustrative examples
25	Growth	'Would any of us had said that in seven or eight years its going to be as big as it is? Of course not. It was not something we predicted. We wouldnt have gone into this thinking it has to be multi-billion-pound company or it is just not going to work … it now looks like an incredibly large success' (24.LO)
26	Replication	'There are several zero-waste stores around the world so definitely we looked to them for inspiration. It is quite incredible because in business you would typically be quite competitive about this kind of proprietary information. We generally do not find that is the case in this niche. If we reach out to a zero-waste store … they are willing to answer questions and we are willing to do the same … We want the entire grocery industry to move towards this' (1.VA)
2	M&A	'I think for both of us [the owners], we felt that the spiritual quality, in my case, and the quality of intellectual rigor and defensibleness, had substantial advantages, and what made [this] merger really good is because we blended this vision, essentially building up a more holistic offering [of our service]' (26.VA).
6	Mimicry	'It irks me … what I have seen is less in terms of some of the materials or the processes that we do … A lot of our competitors see that there is this little company that grew very, very quickly and is now winning projects. I have seen a lot of copycat things from our website to our marketing to how we do things in social media and … paying lip service to green … but not actually doing transformative work' (30.TO)

4.1 | Prevalence of pathways to market transformation

4.1.1 | Growth

The premise of transformation through growth is that business expansion leads to displacement of (less sustainable) incumbents. In our sample, we encountered only four firms with trajectories that resembled such an ideal. The cases included a solar power investment firm (which grew following investment and portfolio diversification [24.LO[2]]), a mobile application business providing food-sharing solutions (which expanded by securing investment through venture capital [7.LO]) and two grocery businesses (which attracted investment [50.TO] and secured a distribution contract with a market-dominating corporation [5.VA]). A total of 22 SMEs referred to growth as slow, incremental development. Statements are related to perceptions of a steadily expanding customer base, sometimes related to specific strategies for expansion (Table B1, Appendix B). More than half of the firms (44) were not growing but rather struggling to remain in business. Finally, several owners and managers were disinterested in expansion, reflecting a documented resistance to growth among some ecopreneurs (Hockerts & Wüstenhagen, 2010) and small businesses (Morrison et al., 2003). Respondents stated that they 'like staying small and having a really nimble team' (8.VA) that 'being bigger is not really a priority' (13.VA) and that significance 'does not necessarily equate to size' but the 'impact on people's lives' (26.VA). Even in cases where growth was seen as necessary to change an industry (24.LO, 8.LO, 27.TO, 26.VA, 27.VA), very few firms aimed for expansion on the scale required for mass market transformation.

[2]Businesses are listed in text with reference to the numbering in Appendix A.

4.1.2 | Replication/mimicry

Among our respondents, there was a widespread perception of being trail-blazing, leading by example and advancing change ('our mere existence forces other companies to do a little' [53.TO]; 'I'm pretty sure we are the first in the world to even attempt it' [5.VA]). Yet, we encountered only two firms (a responsible investment business in London [18.LO] and a solar panel installation firm in Vancouver [15.VA]) that interpreted actions by other firms as replication of their own business, in direct response to their success. These were the only instances of replication seen from the perspective of new competition. As is discussed below (Section 5.1), incidences of replication materialised much more often through deliberate collaboration among sustainability-oriented SMEs (Table B3, Appendix B).

Regarding mimicry, nine firms referred to the emergence of similar ventures and a suspicion, but no direct knowledge, of being copied in a superficial way (12.LO; 13.LO; 23.LO; 30.TO; 33.TO; 44.TO; 46.TO; 50.TO; 20.VA). This included imitation of specific concepts, such as vegan quick-serve food (46.TO), without integration of environmentally responsible practices. As witnessed by one respondent:

> I cannot guarantee that they are copying us, but certainly … a lot of those people know who we are because we have been around longer … some companies will do really well at saying 'we have such high standards and amazing integrity', but when you actually look into the nitty gritty … it's maybe the same or less than what we are doing (44.TO).

4.1.3 | M&A

The low incidence of M&A in our sample relates to a resistance among SMEs against being absorbed by corporations. Interviewees often suggested that they viewed acquisitions as a fundamental threat

against their independence and integrity. We encountered only two companies that had relied on mergers to incorporate new competencies (39.TO) and create a diverse portfolio (26.LO). However, one of these firms pointed to the risks of merging with an established corporation ('from the other company's point of view, it is rather challenging to absorb someone who wants to spend half their time doing activism' [39.TO]).

Only one business, a vertical gardening enterprise, was hoping to be acquired. Yet, the respondent pointed to risks of diluting environmental standards, as the leading retailer in question displayed a limited interest in maintaining the performance standard of the new technology (40.TO). Other respondents agreed that integration of radical programmes into established corporations involves obstacles. Two government officials working in accelerator programms in Toronto and Vancouver testified to the potential risks of acquisitions. The respondent in Vancouver described a systematic acquisitions market, based on aim to absorb talent ('acq-hire'):

> The large companies … they were not so much interested in the ideas as they were interested in the talent. Because they know that 80 percent of all these companies are going to fail … and say 'let me know when you are suffering and we'll hire you' … they will look at it very carefully … is it easier to crush you or is it easier to buy you for a deal early on? (10.VA).

In cases where acquisitions contribute to transformation, it likely applies to entrepreneurs advancing technologies that can be isolated and transferred (i.e., high 'integrability' [Schaltegger et al., 2016]). This is conceivable with patentable technological solutions. Yet, it is questionable in business models based on social practices, such as social hiring or local sourcing, which were important elements to most firms in our sample.

4.2 | The social forces that generate resistance to replication and growth

While we found accounts of growth and replication, both pathways encounter social forces that mediate their effectiveness. Below, we analyse how cultural-cognitive, normative and regulative institutions prevent growth and replication pathways. These institutions shape interactions on multiple levels: among sustainability-oriented SMEs, among organisations in industries and supply chains and across the public/private/civil society divide (Figure 1).

4.2.1 | Cultural-cognitive institutions

Cultural-cognitive institutions create resistance to change as established 'ways of doing things' prevent market transformations from unfolding. This resistance manifests as a lack of practices, skill sets and routines that are needed to deliver a given solution within an industry or supply chain. For example, in the zero-waste retail industry, new knowledge is needed for low-carbon shipping, to evaluate social and ecological impacts of goods, and for storage and packaging. These new skills need to be developed for individual businesses to expand and also in order to increase the number of firms in a supply chain. Respondents in several industries (e.g., food and clothing retail) reported that the lack of suppliers with such skills was a major obstacle in establishing and expanding their business (40.TO, 47.TO; 1.VA; 4.LO, 8.LO).

Cultural-cognitive institutions also relate to social practices and perceptions required for customers to adopt a given solution. For example, zero-waste grocery shopping involves alteration of habits in the use of shopping bags, storage of food at home and ways of cooking (different products are available). Likewise, the uptake of urban gardening and vertical farming depends on new understandings of food production. As stated by an urban farming firm, 'that whole shift in thinking about not only how you shop but how you eat. That is a huge learning curve for people and there is no way that we as one company can teach everybody that idea' (26.TO). Unwillingness to learn new 'ways of doing things' was poignantly captured in the notion of 'death by pilot', which describes a requirement for repeat demonstration projects that eventually exhausts cash flows (38.TO).

4.2.2 | Normative institutions

Normative institutions can obstruct change when there is limited alignment between values among sustainable entrepreneurs and other organisations. For example, our respondents reported reluctance among investors to support sustainable innovation (28.LO; 33.TO; 34.TO; 35.TO; 40.TO; 41.TO). This can be interpreted as a mismatch in normative institutions among sustainability-oriented firms and financial support structures (2.LO; 4.LO; 17.LO; 11.LO; 1.VA; 2.VA; 12.TO; 28.TO; 33.TO; 35.TO; 38.TO) (see Table B2). Similarly, zero-waste food retailers explained that their mind sets and priorities differed too much from that of investors to raise capital ('[we present our] ideas to these investors … literally no one got it' [4.LO]; 'it's very difficult to attract traditional venture capitalists' [1.VA]). Closer examination of the success stories of the solar investment firm and mobile application business discussed in Section 4.1 revealed that, in both cases, shifts in priorities among investors had supported their expansion. The growth of these firms was connected to the development of a new industry for social impact investment, which produced new funding streams for social innovation. Respondents in social impact investment testified to the expansion of this industry in both Canada and the UK (11.LO; 28.LO; 48.TO; 6.VA; 12.VA).

Our data also suggested that expansion of demand of a solution requires changes in normative institutions among the broader public. Many respondents explained that their products remain within a niche market until 'green' concerns are absorbed by a large population, whether this relates to zero-waste groceries, environmental-friendly renovation, low-impact fashion or energy management. Again, returning to the growth in the mobile application firm discussed in

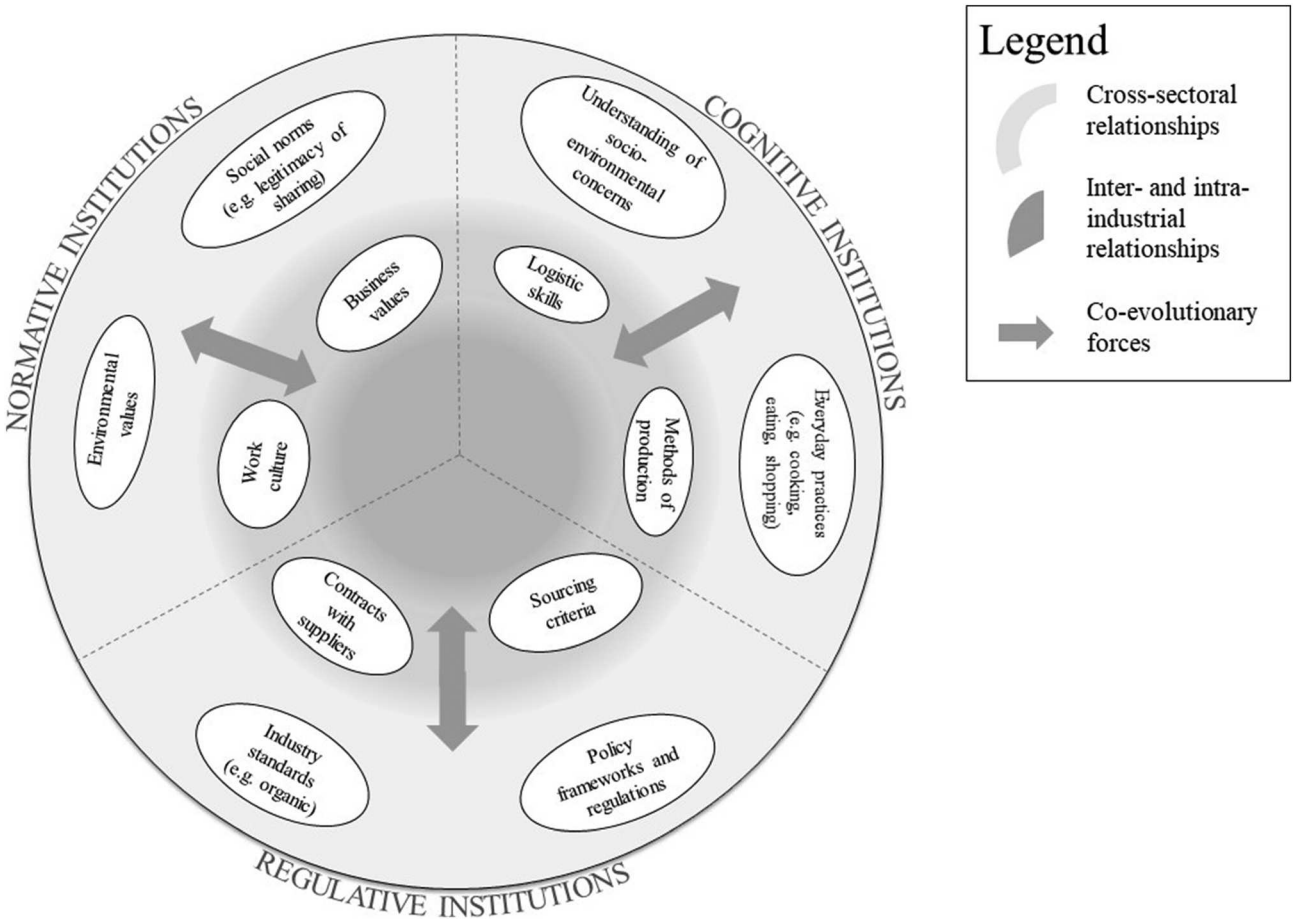

FIGURE 1 A schematic illustration of cognitive, regulative and normative institutions that create resistance to market transformations in the context of small- and medium-sized enterprise (SME)-led sustainable entrepreneurship. Institutional co-evolution involves changes in these institutions in both industrial and cross-sectoral relations

Section 4.1, this expansion was supported by the diffusion of new consumer ideals, such as increasing popularity of the sharing economy (7.LO). As explained by our respondent, the idea of renting your bed to a stranger was unacceptable for most people a few years ago, but this practice is now commonplace through Airbnb. Similarly, sharing leftover food depends on customers engaging with new assumptions and ways to think about food, associated with their increased awareness of the environmental impacts of waste.

4.2.3 | Regulative institutions

Resistance exerted by regulative institutions was less common in our sample and concentrated in specific sectors. For example, in zero-waste retail, hygiene regulations prohibit the provision or handling of certain foods without packaging, such as meat and dairy products. This prevents diversification of products and limits competitiveness. Businesses providing green infrastructure solutions, such as for urban storm water management, pointed to zoning regulations and other conventional planning systems as creating obstacles to their operations and expansion. Businesses providing novel solutions in the built environment, such as energy management and architecture, identified procurement guidelines and construction standards biassed toward large corporations as particularly challenging. In these cases, regulative institutions primarily restricted opportunities of growth by tilting the playing field in favour of established (less sustainable) firms.

5 | DISCUSSION

Considering the social forces described above, we narrowed our analysis to examine how SMEs respond and work to address these challenges. We theorise three mechanisms of institutional co-evolution that overcome this resistance to change: network learning (targeting cultural-cognitive institutions), collective norm-construction (targeting normative institutions) and collaborative advocacy (targeting regulative institutions). In Figure 2, we present a model explaining these processes, which captures how the three mechanisms support market transformation on a cross-sectoral level within an urban system (Table 1; see also examples in Table 4). Figure 2 illustrates a snapshot of these mechanisms in an incomplete and ongoing process of market transformation, as none of the solutions examined in this study

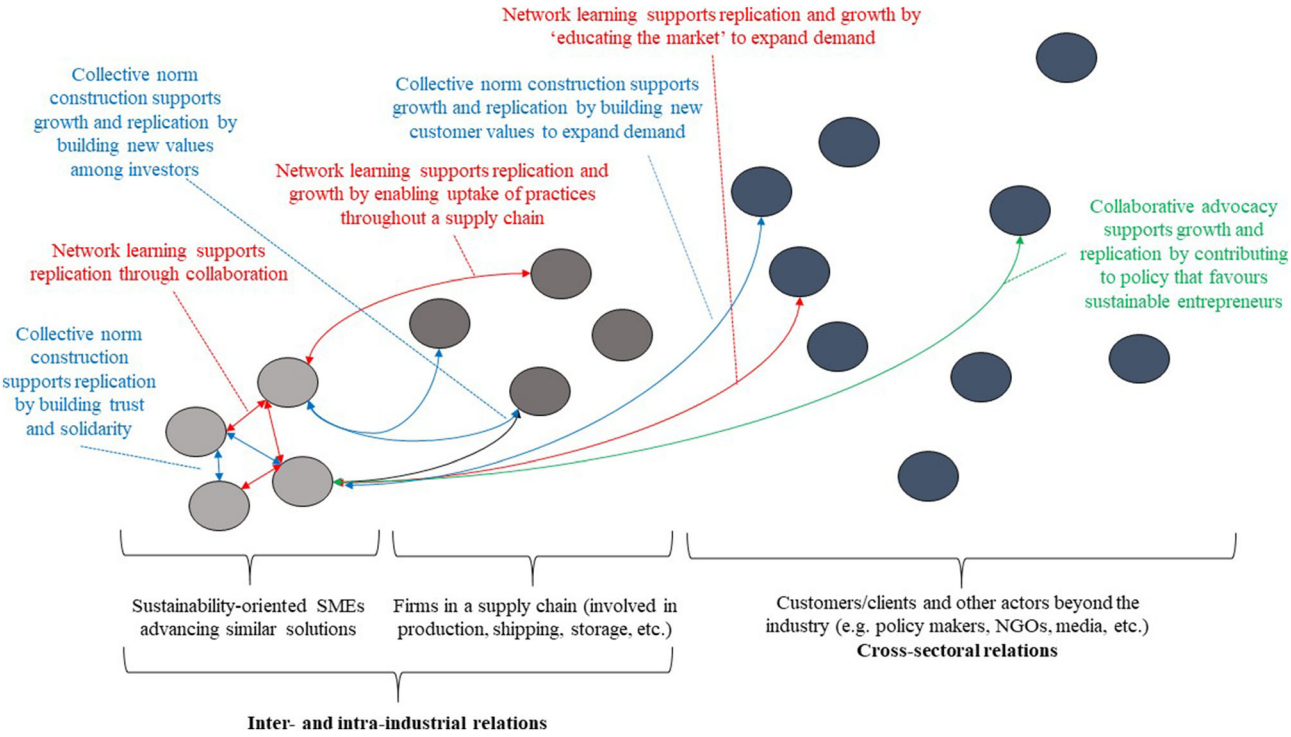

FIGURE 2 Contributions of small- and medium-sized enterprise (SME)-led entrepreneurship to a market transformation through network learning, collective norm-construction and collaborative advocacy [Colour figure can be viewed at wileyonlinelibrary.com]

currently dominate a mass market. As explained below, each mechanism may support both replication and growth, but the precise effect depends on the social relations through which the mechanism is exercised.

5.1 | Network learning

SME-led entrepreneurship breaks down cultural-cognitive resistance to change through network learning, which we define as *deliberate efforts to collectively build knowledge and practices within communities of businesses and other organisations*. Learning ranges from building concrete sets of expertise (e.g., skills in using technologies for carbon accounting) to shifting mundane activities of everyday life (e.g., routines of grocery shopping). We theorise network learning as a mechanism through which sustainable entrepreneurs contribute to mass market transformations beyond the introduction of novelty. Once an innovation is commercialised, sharing skills and practices through networks of firms, as well as with suppliers and customers, allows for the construction of new cultural-cognitive institutions.

Based on our data, we identify three forms of network learning that contribute to growth and replication. First, replication through collaboration—very common in our sample (Table B3, Appendix B)—occurs as sustainability-oriented SMEs share knowledge to support each other. This emerges as deliberate efforts to expand a sustainability-oriented market segment and enhance competitiveness vis-à-vis 'unsustainable incumbents'. It is often realised through trial and error, followed by sharing of experiences. Second, network learning throughout supply chains can support both growth and replication. This form of network learning supports uptake of practices among firms that manufacture and handle products. Third, network learning can enable replication and growth by supporting the expansion of demand. This occurs when entrepreneurs inform individuals about the need for a solution (e.g., information about the impact of food waste) and its use (e.g., compatibility with existing systems).

The notion of network learning resonates with the scholarship on business networks, known to support the diffusion of innovations (Knight & Pye, 2004; Pellegrini et al., 2019; Powell et al., 1996). Networks are especially relevant for SMEs, because they frequently need to overcome technical and organisational challenges not easily addressed by single firms (Coughlan et al., 2016; Kundurpi et al., 2021). Our results complement these insights by highlighting the diffuse and informal character of network learning in the context of sustainable entrepreneurship. We see network learning as a counterpoint to an insular view of learning as acquisition of expertise within the confines of a single organisation. In contrast, network learning often results in knowledge that is shared among communities of firms. In relation to information sharing with clients and customers, our insights resonate with the phenomenon of 'educating the market', previously identified as a raison d'être of ecopreneurship (Rodgers, 2010 p.131).

In our sample, a large share of enterprises engaged in training, coaching, preparation of teaching materials and in other ways supporting like-minded individuals to set up, fund or develop their

TABLE 4 Resistance to change and institutional co-evolution in the food retail industry

Relation	Actor	Resistance to change	Institutional evolution	Strategy to realise change
Intra-industrial	Suppliers	Limited quantity of suppliers/goods required for expansion	**Cognitive**—new methods of production (e.g., local vegetable production or low-impact fishing) and logistics (e.g., low-carbon transport and storage) **Normative**—cultures of work, hiring and collaboration **Regulative**—new contracts with suppliers, new sourcing criteria	Building relationships with new suppliers, often by working out new arrangements (e.g., providing products in a new format)
	Investors	Limited financial capital	**Normative**—new values and priorities among investors **Regulative**—new investment criteria	Participation in business networks and industry associations
Cross-sectoral	Consumers	Limited demand for sustainable shopping	**Normative**—new environmental values (e.g., organic, non-GMO, zero plastic) **Cognitive**—new habits of shopping (e.g., travel to new locations, bring containers, new ways of cooking, acceptance of higher cost)	Awareness-raising campaigns, often in collaboration with social movements
	Public sector	Certain regulations prevent some products (e.g., hygiene standards)	**Regulative**—new policies, standards, regulations	Policy advocacy, industry coalitions, alliances with NGOs

own business. As illustrated by Table B3 (Appendix B), this phenomenon is ubiquitous across sectors, such as manufacturing (e.g., hygiene, packaging and clothing products), media and communication, retail, hospitality, fashion, urban agriculture, housing and architecture. We also found many examples of network learning throughout supply chains. For example, to address the limited supply of organic food, our respondents supported programms for farmers to become organically certified. A formalised example is the B-Corp network, a business community in which members share sustainability-oriented best practices (c.f. Stubbs, 2019). Certain sectors presented many instances of education of customers and clients. For example, entrepreneurs promoting green infrastructure solutions work with urban planners to facilitate adoption. Low-impact grocery businesses provide information to customers about environmental impacts of food (e.g., explaining GMO-labels). These interactions occur in a range of formats, including personal interaction, community workshops, or formal training.

5.2 | Collective norm-construction

We define collective norm-construction as *collective action to build new norms and systems of meaning that support and sustain markets*. Based on our research, we theorise that collective norm-construction unfolds in parallel and work in synergy with network learning (Figure 2) to generate an environment conducive to replication and growth.

Collective norm-construction and network learning operate in similar ways. Similar to network learning, a main function is to enable replication, which occurs when like-minded entrepreneurs work together to build values that support their businesses. This involves building communities based on trust and cooperation, in line with shared indicators of success (socio-environmental performance rather than profit). Shared belief systems create a supportive environment for building knowledge—collective norm-building and network learning thereby complement each other. This environment also strengthens the ability of sustainable SMEs to compete with their 'unsustainable' counterparts (c.f. Luederitz, 2020). Collective norm-construction on an industry level is realised by building shared values throughout business networks or investor communities, supporting flows of financial resources toward social innovation. As with network learning, a third function of collective norm-construction is to support replication and growth by shifting normative institutions beyond industrial relations. Here, the mechanism allows new narratives take hold among an expanding social sphere, contributing to expansion of the market segment for a given solution.

Our conceptualisation of norm-construction builds on the embeddedness of SMEs in communities (Runyan & Covin, 2019; Westman et al., 2019), which involves strong social relations (Anderson & Gaddefors, 2016) and capacity for collective agency (Luederitz et al., 2021). These characteristics enable SMEs to contribute to the collective construction of sustainability narratives (Wright et al., 2012). As such narratives gain support form 'mainstream'

consumers, solutions promoted by sustainable entrepreneurs gain legitimacy. This means that sustainable entrepreneurship is not only a matter of single individuals or organisations discovering opportunities (Alvarez & Barney, 2007) but also about linking solutions to collectively constructed belief systems.

Our data contained several examples of collective norm-construction. It manifested to some degree as marketing strategies (e.g., promoting energy efficiency in the name of climate change) and necessarily interconnected with other social activities, such as activist movements. For example, sustainable grocery stores in Vancouver have grown alongside a zero-waste movement mobilising ferocious campaigns against plastic. Our respondents explained that their promotional activities overlap with these interventions, as they contribute to the same social media platforms and events. These interventions take place amidst an environmentally conscious consumer population, following a history of environmental activism (e.g., Zelko, 2017). As a result, demand for organic, zero plastic, locally produced food emerges and expands through the co-construction of environmental narratives, shaped by entrepreneurs as well as activist groups, political parties and media. Collective norm-construction involves interaction of a large number of actors (community groups, media, government authorities, schools and universities, etc.), and its effects may only be fully noticeable in the medium to long term. Longitudinal studies may be best placed to capture the breadth and depth of such changes, including how they materialise and what role is played by SMEs. The role of SMEs in these processes is by definition partial, even though they may play a key role in expanding the support for sustainable solutions far beyond the niche.

5.3 | Collaborative advocacy

Collaborative advocacy constitutes *action taken by coalitions of businesses and allied organisations to shift polices, regulations or other formal rule systems*. While network learning and collective norm-construction is exercised through various relations, collective advocacy is primarily exercised vis-à-vis public authorities. As explained above, regulative resistance only existed in specific industries in our sample, where it reduced competitiveness of certain solutions. Collaborative advocacy can rebalance the playing field by removing restrictions or creating new competitive advantages.

In our data, we encountered several examples of collaborative advocacy. It was conducted through various organisational forms, including informal coalitions, networks of sustainability-oriented businesses and formal business networks (e.g., boards of trade). SMEs also pursue collaborative advocacy by participating in formal decision making, such as by taking part of advisory panels, conducting council work and participating in urban planning. These activities are directed toward a variety of legal outcomes, including new procurement guidelines, bans or regulations (e.g., bans on plastic that favour low-impact firms), registration requirements or exemptions (e.g., for B-Corps), industry standards (e.g., organic or non-GMO) and urban policy and planning guidelines (e.g., zoning to allow for green infrastructure or food production).

It is well-known that transformations require institutional embedding and that this often occurs through the adoption of new legal frameworks. However, these insights are rarely connected with change advanced by entrepreneurs. There is a nascent literature on the role of SMEs as political agents (Westman et al., 2020; Wickert, 2016), which highlights the intrinsically political activities of firms in the social space. Our insights add to this literature by outlining the mechanisms through which SMEs target regulative institutions that create resistance to pathways of replication or growth (Figure 2).

6 | CONCLUSIONS

Our study explores the multifaceted role of SME-led sustainable entrepreneurship in market transformations. Our results suggest that expectations attached to single, heroic forerunners need to be tempered. Pioneers are not divorced from their social and political context nor is it inevitable that the values they embody will spread. Even so, sustainable entrepreneurship driven by SMEs performs a vital role in mass market transformations, which is qualitatively different than that typically attributed to large corporations. This unique role derives from the embeddedness of SMEs in local contexts. As demonstrated throughout this paper, SMEs work closely with a variety of social organisations to build new practices and symbolic meaning around products and services that shape our everyday life. They leverage relational resources, coordinate efforts across social groups and deliberatively engage with politics. It is the willingness of SMEs to creatively engage with normative, cultural-cognitive and regulative institutions that offers hope for change. In the context of market transformations, the strength of SMEs lies not in individual might but in numbers.

Theoretically speaking, the main implication of our work lies in capturing how social forces shape pathways of market transformation. To date, examinations of entrepreneurship have frequently followed retrospective analyses along trajectories of successful forerunners (e.g., Whole Foods or Tesla). Such studies are often distorted toward features of business models or individual products. In contrast, perspectives based on institutional co-evolution highlight complex interactions unfolding over time. The institutional perspective shifts the unit of analysis from single firms to constellations of organisations involved in reproducing and dismantling institutions. Simultaneously, the temporal scope shifts from outcome (the conditions of a completed transformation) to process (the messy interactions involved in ongoing change). In future research on pathways of market transformation, explicit engagement with social forces can shed light on if, how, and to what extent entrepreneurial solutions advance pathways towards sustainability. Drawing on this perspective, we have demonstrated that the reasons why replication or growth fails to occur often are related to cultural-cognitive institutions among actors in supply chains and normative institutions among customers. In the former case, further market change depends on facilitating learning

throughout industries—this may require targeted steps towards collaboration and training among networks of firms. In the latter case, transformations require deep shifts in practices and values among a broad set of actors—a form of change that cannot be realised by private sector actors alone.

In terms of implications for policy, the institutional perspective draws attention to the 'enabling context' in which entrepreneurs operate. There is a long-established discourse on the policy support underpinning SME innovation, such as provision of grants or tax credits, R&D subsidies or establishment of innovation clusters. Taking into account institutional co-evolution, we suggest that an additional role for policy makers may be to support collaborative efforts led by SMEs, for example, by facilitating the inclusion of sustainability-oriented firms on advisory panels or in industry associations, supporting capacity-building among clusters of collaborative firms (rather than fostering individual competitiveness), incentivising experimentation or supporting campaigns to reimagine lifestyles and futures in collaboration with SMEs. Challenging the power relations that sustain incumbents is the other side of this coin. This paper shows that transformations require creation as much as they require destruction; sustainable innovation may be pioneered by entrepreneurs, but it will not reach transformative outcomes without dismantling systemic resistance. Communities, activists and political leaders can enable SMEs' contributions to transformations by actively challenging the practices, norms and regulations that sustain 'unsustainable' markets.

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APPENDIX A

Code	Date	Location	Organisation category	Organisation description	Sector (businesses only)	No. employees (businesses only)
1.LO.BN	2018.05.18	London	Business network	Green construction network	NA	NA
2.LO.Bus	2018.06.15	London	Business	Sustainable fashion	Retail trade	5–9
3.LO.GOV	2018.06.15	London	Government	Circular economy promotion unit	NA	NA
4.LO.Bus	2018.06.15	London	Business	Organic, waste-free grocery store	Retail trade	1
5.LO.Bus	2018.06.18	London	Business	Architecture firm	Professional, scientific and technical services	100–499
6.LO.Bus	2018.06.19	London	Business	Sustainable fashion	Manufacturing	2–4
7.LO.Bus	2018.06.20	London	Business	Food-sharing mobile application	Accommodation and food services	5–9
8.LO.Bus	2018.06.20	London	Business	Organic, waste-free grocery store	Retail trade	1
9.LO.Bus	2018.06.21	London	Business	Architecture firm	Professional, scientific and technical services	10–29
10.LO.BN	2018.06.27	London	Business network	Business mambership-driven network	NA	NA
11.LO.Bus	2018.06.28	London	Business	Sustainable fashion	Manufacturing	2–4
12.LO.Bus	2018.06.04	London	Business	Café	Accommodation and food services	2–4
13.LO.Bus	2018.06.04	London	Business	Urban development and gardening	Other	2–4
14.LO.BN	2018.06.15	London	Business network	Business Improvement District	NA	NA
15.LO.Bus	2018.06.15	London	Business	Urban development and greening	Construction	1–2
16.LO.BN	2018.06.18	London	Business network	Business Improvement District	NA	NA
17.LO.Bus	2018.06.19	London	Business	Hostel	Accommodation and food services	2–4
18.LO.Bus	2018.06.20	London	Business	Impact investment	Finance and insurance	10–20
19.LO.Bus	2018.06.20	London	Business	Local economic and community development hub	Real estate and rental	10–12
20.LO.Bus	2018.06.21	London	Business	Managament consultant	Management of companies and enterprises	20
21.LO.Bus	2018.06.21	London	Business	Entertainment and media	Arts, entertainment	4
22.LO.CS	2018.06.26	London	Civil Society/NGO	Climate change adaptation	NA	NA
23.LO.Bus	2018.06.26	London	Business	Café	Accommodation and food services	13
24.LO.Bus	2018.06.27	London	Business	Finance	Finance and insurance	100–499
25.LO.Bus	2018.06.27	London	Business	Food	Accommodation and food services	14

(Continues)

Code	Date	Location	Organisation category	Organisation description	Sector (businesses only)	No. employees (businesses only)
26.LO.Bus	2018.06.26	London	Business	Management consultant	Management of companies and enterprises	45
27.LO.Bus	2018.06.19	London	Business	Sustainable art and design	Arts, entertainment	3
28.LO.Bus	2018.06.25	London	Business	Impact investment	Finance and insurance	8
29.LO.BN	2018.06.20	London	Business network	Social enterprise development	NA	NA
30.LO.Bus	2018.07.11	London	Business	Online selling	Retail trade	6
31.LO.BN	2018.07.12	London	Business network	Business impact hub	NA	NA
32.LO.Ngo	2018.07.13	London	Civil Society/NGO	Think tank	NA	NA
33.LO.Ngo	2018.07.16	London	Civil Society/NGO	Consultancy and management	NA	NA
34.LO.Bus	2018.07.23	London	Business	Sustainable hygiene products	Retail trade	7
35.LO.Ngo	2018.07.24	London	Civil Society/NGO	Training and education	NA	NA
1.To.CS	2018.01.29	Toronto	Civil Society/NGO	Urban climate change	NA	NA
2.To.CS	2018.02.05	Toronto	Civil Society/NGO	Municipal sustainability planning	NA	NA
3.To.Cs	2018.02.06	Toronto	Civil Society/NGO	Green buildings	NA	NA
4.To.CS	2018.02.09	Toronto	Civil Society/NGO	Green economy research	NA	NA
5.To.CS	2018.02.09	Toronto	Civil Society/NGO	Urban sustainability	NA	NA
6.To.Gov	2018.02.08	Toronto	Government	Local government planning unit	NA	NA
7.To.BN	2018.02.08	Toronto	Business network	Local sustainability business network	NA	NA
8.To.GOV	2018.02.09	Toronto	Government	Local government planning unit	NA	NA
9.To.BN	2018.02.12	Toronto	Business network	Board of Trade	NA	NA
10.To.GOV	2018.02.13	Toronto	Government	Arms length government business network	NA	NA
11.To.GOV	2018.02.15	Toronto	Government	Local government sustainability unit	NA	NA
12.To.BN	2018.18.22	Toronto	Business network	Board of Trade	NA	NA
13.To.GOV	2018.02.23	Toronto	Government	Local government economic development unit	NA	NA
14.To.CS	2018.02.23	Toronto	Civil Society/NGO	Circular economy	NA	NA
15.To.CS	2018.03.02	Toronto	Civil Society/NGO	Professional association	NA	NA
16.To.CS	2018.03.06	Toronto	Civil Society/NGO	Urban social issues	NA	NA
17.TO.GOV	2018.02.15	Toronto	Government	Local government planning unit	NA	NA

Code	Date	Location	Organisation category	Organisation description	Sector (businesses only)	No. employees (businesses only)
18.TO. GOV	2018.02.21	Toronto	Government	Local government sustainability unit	NA	NA
19.TO. GOV	2018.03.05	Toronto	Government	Local government economic development unit	NA	NA
20.TO. GOV	2018.03.06	Toronto	Government	Local government sustainability unit	NA	NA
21.TO. GOV	2018.02.16	Toronto	Government	Local government land holding unit	NA	NA
22.TO.CS	018.03.16	Toronto	Civil Society/ NGO	Urban climate change	NA	NA
23.T0.CS	2018.03.21	Toronto	Civil Society/ NGO	Sustainabiliy certification	NA	NA
24.TO. GOV	2018.03.20	Toronto	Government	Local government economic development unit	NA	NA
25.TO. GOV	2018.03.21	Toronto	Government	Local government economic development unit	NA	NA
26.To.Bus	2018.03.27	Toronto	Business	Urban food growing	Construction	5–9
27.To.Bus	2018.03.29	Toronto	Business	Aquaponics	Professional, scientific and technical services	2–4
28.To.CS	2018.04.02	Toronto	Civil Society/ NGO	Social innovation hub	NA	NA
29.To. BUS	2018.04.04	Toronto	Business	Egineering firm	Professional, scientific and technical services	100–499
30.To.Bus	2018.04.03	Toronto	Business	Home renovations	Construction	10–29
31.To.Bus	2018.04.03	Toronto	Business	Urban forestry	Professional, scientific and technical services	2–4
32.To.Bus	2018.04.04	Toronto	Business	Printing and media	Manufacturing	100–499
33.To.Bus	2018.04.06	Toronto	Business	Courier	Professional, scientific and technical services	30–99
34.To.Bus	2018.04.09	Toronto	Business	café	Accommodation and food services	2–4
35.To.Bus	2018.04.10	Toronto	Business	Energy	Professional, scientific and technical services	2–4
36.TO.BN	2018.04.13	Toronto	Business network	Board of Trade	NA	NA
37.To.Bus	2018.04.30	Toronto	Business	Education	Educational services	30–99
38.To.Bus	2018.05.01	Toronto	Business	Stormwater management	Professional, scientific and technical services	5–9
39.To.Bus	2018.05.01	Toronto	Business	Environmental engineering	Professional, scientific and technical services	5–9
40.To.Bus	2018.05.03	Toronto	Business	Home food growing	Professional, scientific and technical services	5–9
41.To.Bus	2018.05.07	Toronto	Business	Social enterprise	Accommodation and food services	10–29
42.To.Bus	2018.05.07	Toronto	Business	Truck transport firm	Transportation and warehousing	200–499
43.To.Bus	2018.05.11	Toronto	Business	Sustainability coaching	Professional, scientific and technical services	2–4
44.To.Bus	2018.05.15	Toronto	Business	Organic, waste-free grocery store	Retail trade	100–499
45.To.Bus	2018.05.22	Toronto	Business	Architecture firm	Professional, scientific and technical services	10–29

(Continues)

Code	Date	Location	Organisation category	Organisation description	Sector (businesses only)	No. employees (businesses only)
46.To.Bus	2018.05.25	Toronto	Business	Vegan café	Accommodation and food services	10–29
47.To.Bus	2018.05.28	Toronto	Business	Butcher	Retail trade	30–99
48.To.Bus	2018.06.05	Toronto	Business	Credit union	Finance and insurance	100–499
49.To.Bus	2018.05.22	Toronto	Business	Sustainable café	Accommodation and food services	11–50
50.To.Bus	2018.05.23	Toronto	Business	Organic grocery store	Accommodation and food services	51–200
51.To.Bus	2018.05.23	Toronto	Business	Local brewery	Accommodation and food services	1–10
52.To.Bus	2018.05.16	Toronto	Business	Building manager	Real estate and rental	10–50
53.To.Bus	2018.05.16	Toronto	Business	Urban farming	Accommodation and food services	1–10
1.VA.Bus.	2018.04.05	Vancouver	Business	Organic, waste-free grocery store	Retail trade	5–9
2.VA.Bus	2018.04.16	Vancouver	Business	Hygienic product manufacturing	Manufacturing	5–9
3.VA.CS	2018.04.17	Vancouver	Civil Society/ NGO	Sustainability consultancy	Professional, scientific and technical services	2–4
4.VA. GOV	2018.04.17	Vancouver	Government	Local government economic development unit	NA	NA
5.VA.Bus	2018.04.18	Vancouver	Business	Organic, waste-free grocery store	Retail trade	100–499
6.VA.Bus	2018.04.18	Vancouver	Business	Sustainability consultancy	Professional, scientific and technical services	5–9
7.VA.Bus	2018.04.19	Vancouver	Business	Waste management (social hiring business)	Administrative and support, waste management and remediation services	5–9
8.VA.Bus	2018.04.19	Vancouver	Business	Sustainability consultancy (communications)	Information and cultural industries	1
9.VA. GOV	2018.04.20	Vancouver	Government	Economic and social planning, strategic initiatives units and corporate management administrator	NA	NA
10.VA. GOV	2018.04.23	Vancouver	Government	Innovation council	NA	NA
11.VA.CS	2018.04.23	Vancouver	Government	Locational services	NA	NA
12.VA. Bus	2018.04.24	Vancouver	Business	Credit union	Finance and insurance	100–499
13.VA. Bus	2018.04.24	Vancouver	Business	Publishing house	Information and cultural industries	2–4
14.VA. Bus	2018.04.25	Vancouver	Business	Sustainability consultancy	Professional, scientific and technical services	2–4
15.VA. Bus	2018.04.26	Vancouver	Business	Solar panel installations	Professional, scientific and technical services	5–9
16.VA. Bus	2018.04.24	Vancouver	Business	Sustainability consultancy (communications)	Information and cultural industries	5–9
17.VA. Bus	2018.04.24	Vancouver	Business	Gift basket shop	Retail trade	4
18.VA. Bus	2018.05.01	Vancouver	Business	Charitable nonprofit	Other services	21
19.VA. Bus	2018.05.04	Vancouver	Business	Sustainability consultancy (management)	Professional, scientific and technical services	50

Code	Date	Location	Organisation category	Organisation description	Sector (businesses only)	No. employees (businesses only)
20.VA.Bus	2018.05.08	Vancouver	Business	Local ice cream Café	Accommodation and food services	150
21.VA.Bus	2018.05.11	Vancouver	Business	Sustainability consultancy (management)	Professional, scientific and technical services	1
22.VA.Bus	2018.05.14	Vancouver	Business	Green energy sales	Retail trade	9
23.VA.Bus	2018.05.16	Vancouver	Business	Busines Mangament consultant	Professional, scientific and technical services	1
24.VA.Bus	2018.05.17	Vancouver	Business	Environmental consulting	Professional, scientific and technical services	9
25.VA.Bus	2018.05.18	Vancouver	Business	Sustainable agriculture	Agriculture, forestry, fishing and hunting	25
26.VA.Bus	2018.05.22	Vancouver	Business	Sustainable architecture firm	Professional, scientific and technical services	15
27.VA.Bus	2018.05.23	Vancouver	Business	Social enterprise	Retail trade	16
28.VA.Bus	2018.05.23	Vancouver	Business	Local manufacturing	Manufacturing	200
29.VA.Bus	2018.05.24	Vancouver	Business	Car-share co-op	Transportation and warehousing	40
30.VA.Bus	2018.05.25	Vancouver	Business	Social enterprise	Accommodation and food services	15
31.VA.Bus	2018.05.25	Vancouver	Business	Local sustainable manufacturing	Manufacturing	20
32.VA.Bus	2018.05.29	Vancouver	Business	Busines Mangament consultant	Administrative and support, waste management and remediation services	10
33.VA.Bus	2018.05.29	Vancouver	Business	Sustainable promotional products	Wholesale trade	14
34.VA.Bus	2018.05.30	Vancouver	Business	Local gift shop	Retail trade	3
35.VA.Bus	2018.06.06	Vancouver	Business	Social enterprise	Manufacturing	12
36.VA.Bus	2018.06.06	Vancouver	Business	Sustainable agriculture	Agriculture, forestry, fishing and hunting	1
37.VA.Bus	2018.06.13	Vancouver	Business	Community-supported sustainable fishery	Agriculture, forestry, fishing and hunting	43

APPENDIX B

TABLE B1 Examples of references to growth

Business	Reference to expansion
Environmental consulting	Diversification of ideas and growing market ('we have been growing constantly since we started') (18.LO)
Sustainable tissues	Increasing the market segment by listing with a market incumbent and expanding the customer base from environment to health ('growing month on month')(34.LO)
Sustainable fashion	Increasing the business from a market stall to three stores and 110 wholesale accounts ('it's grown really organically') (2.LO)
Sustainable fashion	Kickstarter fundraising allowed development from concept to business feasibility ('we are over-funded at the moment') (6.LO)
Sustainability-oriented incubator	Added more companies and a second space (19.LO)
Contracting (social profile)	Recently opened offices in Texas and India (29.TO)
Logistics (social hiring)	Slowly expanded customer base (33.TO)
Education (social justice profile)	Steady growth since establishment ('I started with 10 kids. Now we have over a thousand') (37.TO)
Sustainable grocery/cafe	Recently opened a second branch (44.TO; 46.TO; 47.TO)
Sustainable grocery	Growing as a dedicated strategy ('growth is on the horizon for us, so we're growing as a company and going through a lot of growth') (50.TO)
Sustainable hygiene	Expanding customer base after switching to e-commerce (2.VA)
Solar energy	Expanding customer base and market (15.VA)
Cleaning (social hiring)	Expanding customer base ('growing year on year') (7.VA)
Sustainable grocery	Expansion through a distribution contract ('now we're going to be in control of their plastic use, we'll be in control of their compost, we'll be in control of all of their packaging supplies. It's a huge opportunity…' (5.VA))
Responsible communication	Expansion into new markets (17.VA; 22.VA)
Car-share	Expanding customer base ('growing fast right now') (29.VA)
Recycling-economy product	Expanding customer base and locations ('expanding week by week to new partner restaurants, and then at the same time expanding to multiple new geographies this year, in new cities') (31.VA)
Sustainable fashion (social hiring)	Expanding through government support (35.VA)
Sustainable fishing	Growth through collaborative partnerships ('that allowed us to grow, to not need that outside investors who might have different values from us, to not need to borrow money. It allowed us to grow in a really grassroots way') (37.VA)

TABLE B2 Examples of references to investment barriers related to growth

Business	Barrier
Sustainability consulting	'You need people with lots of money who can support you, and there aren't that many of them around who want to do it. So, it's not the kind of structure, the industry doesn't encourage innovation … it's taken six years. This will hopefully be our first profitable year' (28.LO)
Eco hostel	'We need a significant financial backer in either grant or loan form preferably. And we need a property … it's kind of a chicken or egg situation' (17.LO)
Logistics (social hiring)	'So that costs money and … as a well-established social enterprise, it's much harder to access funding … it's really hard to get the funding' (33.TO)
Energy management	'That's a challenge … you almost have to go to the US, our Canadian investors are very, very conservative … just really sceptical to investing in clean tech' (35.TO)
Zero-waste grocery	'You would go around and present your ideas to these investors … Literally no one got it. But the thing is my audience wasn't great because they were all techies who want to just progress and make the world more convenient … you end up with Dragon's Den investors who only care about money and not about what you're actually doing' (4.LO)
Zero-waste grocery	'So, it's very difficult to attract traditional venture capitalists, which usually will be investing in tech companies expecting you to grow 10 times over 10 years … we're not looking for VC funding. We probably wouldn't get it - we're a grocery business. It's very low margin. It's not going to grow 10 times. Absolutely not' (1.VA)
Sustainable hygiene	'As far as venture capital goes… Traditional venture capital is not going to work for us because we don't work with the same model that they do. And that's okay. That's their model. This is our model' (2.VA)

TABLE B3 References to learning from others (replication through collaboration)

Business	Example
Sustainable hygiene	'And they've been inspired by us, and they inspire me' too, because they're doing awesome stuff as well … and [our owner] spends a lot of time mentoring people, people who are trying to make things' (2.VA).
Responsible communication	'We have created a network of communicators that are supporting impact relations … we would hope for this to spread as much as possible … currently we are getting a lot of great feedback from the companies in the network. There are a lot of like-minded organizations out there and we are sharing our case studies' (16.VA).
Eco ice cream	'I think our jars are a simple example. We've had a few other companies approach us, asking "where do we source our jars, we're interested in doing the same thing, of packaging in a reusable glass jar"' (20.VA).
Car-share	'We don't really see them [other car-share businesses] as competition. There are other car-share companies. We have a common interest to make the world here better. The real competition for us is the privately-owned automobile' (29.VA).
Eco products	'For me, some of the brands that inspire me the most have come to us and said, "hey, we love the way you're approaching this. We have some small manufacturers. Can we see your code of conduct process? Can we borrow it? Can we share it with our compliance team? How are you doing this?" Having some of our major retail brands share factories with us, when we say, "hey, you're making that product out of recycled poly that we're making out of acrylic. Are you actually are finding recycled acrylic? We can't. No one in our supply chain does this." And they say "oh, here's a phone number. Call this factory. You should work there, too."' (33.VA).
Sustainable fishing	'But beautifully, at the same time, two other groups coined the phrase at the same time in the same year - community-supported fishery … and so, we found each other maybe a year or two later … and then we decided that there was no point in everyone reinventing the wheel on this, and that we should try to make sure that what we've learned by doing and what we're doing is shared. I really believe that collaboration is the way that we will have success in our shared vision. Not through some kind of proprietary protection of our ideas …. The first time we had a collaborative group, it was really critical to our success in growing what we we're doing, to realise that we weren't alone, to learn from others about how they had done things, and to get some new ideas about things to have the impetus and the motivation to continue' (37.VA).
Eco fashion	'I do also learn about how other people are doing production and everybody has a different level of sustainability' (2.LO).
Zero-waste grocery	'What I found on their website was a pdf that they had written out because they obviously get so many people contacting them. It's basically a how to open your own shop … I was asking company X for help. I was asking these people … the network, people are so helpful, everyone is. I had a girl around on Tuesday who shadowed me for two hours' (4.LO).
Zero-waste grocery	'I really learned about suppliers, first of all, from X, the charity, and who they were recommending for food co-ops, then also from the zero-waste shop down in X, which has a wealth of information that they give out to people … There's lots of groups that I have tried to share my information on, but there's also a group called zero waste businesses, where you can promote your business, but you can also see what other people are doing.' (8.LO).
Eco hostel	'The closest one we could find was in Amsterdam, so I went and shadowed the founder for a week, and she is great … it was the only eco hostel in a major urban area in western Europe that I could find … there aren't many of them … so she was really useful. There is loads of little stuff you need to know' (17.LO).
Cooperative housing	'We tried to find information about how to do this through the internet … if I were starting a conventional business, there would be millions of pages of results; to start a workers co-operative, there is maybe one useful pdf document … throughout our existence as a co-op, we have a network of different co-operators that we'd go to for advice' (21.LO).
Eco bakery	'I know a few people in the industry, there is definitely a feeling that its much better to work together to try and push the artisanal side rather than to compete against each other. The reason is that there is a feeling that the artisan bread scene is nowhere near saturation, which really is tending to feed into an atmosphere where people are supportive of each other' (25.LO).
Urban farming	'It's absolutely critical to have a connection with these other businesses that are doing similar work because we are building a new idea … just from having them to talk about how they run their business, how did they solve their problems?… The idea of competition has changed in my mind … in this world, it's the exact opposite. The information sharing is critical to success, spreading the word so that everybody knows, and everybody can participate in making the world a better place. It's a bit corny. I don't mean to say that, but it is integral that we share … Thats a big new way of thinking' (26.TO).
Aquaponics	'Anytime we meet a vertical farmer it is having that handshake and saying, "hey, let's collaborate." First and foremost, I don't know who you are, but let's give you the benefit of the doubt. Let's collaborate. Plenty of demand for other companies to come in, as long as they have the right practices' (27.TO).
Vertical farming	'When we're at this stage we all need to help each other out. So, I called up a guy from Montreal … they are direct competitors with the US. I asked "how do you export seeds to the US?" And he takes 45 minutes and explains it to me because we all want to see this movement succeed' (40.TO).
Organic grocery	'I know X has had people reach out and say, "we're trying to start up this project" or "we're trying to really call into question our ingredients and how do you go about doing that?" And so, there is also that spirit of collaboration too. So, there's competition, but we're all in this together. We're trying to improve the industry. So, let us chat with you about how we actually make that happen' (44.TO).

(Continues)

TABLE B3 (Continued)

Business	Example
Sustainable architecture	'We try to share, we have enough work to do that, we're not trying to keep our methods close to our chest. We want everybody to do this. That's part of us trying to do good in the world. It's like "here you go; here's the information." Of course, we can't share every single thing, but what we're doing in general and there are others that we like to work with and collaborate with' (45.TO).
Eco brewery	'We have a great network of doers in this neighbourhood, and they've been incredibly helpful to us as we've been setting up. And the small brewers view, is "we're all in this together." We've been doing this for four years, but I already consider a lot of these people my friends: They would help us if we had a problem and vice versa. If we're having a brew day and we realise we've run out of malt, I make three phone calls and all of a sudden I can drive five minutes and pick up a bag of malt that we need for our brew from what you would normally consider to be a key competitor … it's all very, very friendly and collaborative' (51.TO).