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Dynamic capabilities for the scaling of circular business model initiatives in the fashion industry

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ABSTRACT

The scaling of circular business models (CBMs) plays a decisive role in the transformation toward more sustainable business practices. The purpose of this paper is to explore the microfoundations of dynamic capabilities (DCs) involved in the scaling of CBM initiatives. Based on semi-structured, in-depth interviews with 12 Swedish retail fashion companies, this research outlines a variety of microfoundations involved in CBM scaling practices. The Swedish fashion sector offers a rich empirical basis for further exploration of the microfoundations required for the scaling of CBMs. The study is theoretically grounded in a combination of the three DC classes of sensing, seizing, and reconfiguring, and the three scaling logics of scaling out, scaling up, and scaling deep. This combination provides several new insights with respect to the expansion and growth of CBMs. In particular, the research emphasizes the actual activities and processes involved in efforts toward the scaling of CBM initiatives, which have so far only been researched to a minor extent. Furthermore, the application of different scaling logics offers clarity and a constructive understanding of how circular business practices can be scaled beyond the individual firm or CBM initiative. For practitioners, the combination of DC classes and scaling logics into a 3×3 matrix offers a tool for the identification, understanding, and organization of the dynamic capabilities required for different scaling logics of CBMs.

1. Introduction

The adoption of circular business models (CBMs) is essential for achieving an increased rate of circular business practices. A CBM aims to "create, deliver, and capture value while implementing circular strategies that can prolong the useful life of products and parts (e.g. repair and remanufacturing) and close material loops (e.g. recycling)" (Nu β holz, 2018). A major objective of CBMs is to replace virgin material with secondary material, through strategies of slowing, closing, or narrowing the resource loops involved (Bocken et al., 2016). Beyond economic gains, CBMs typically take a triple bottom line perspective on their performance, i.e., in addition to economic performance, environmental and social aspects also play key roles (Ferasso et al., 2020; Lewandowski, 2016).

To intensify the development toward circular business practices, there is a need to scale current CBM initiatives. Whereas there is a plethora of research on how to implement circular products, practices, and business models (Ferasso et al., 2020; Lopes de Sousa Jabbour et al.,

2019), there is limited research on how to scale these initiatives. The complexity of such scaling efforts arises due to a number of fundamental challenges related to the transition from linear to circular business practices (Khan et al., 2020; Lewandowski, 2016; Rosa et al., 2019). For work procedures, new capabilities, inter-organizational relationships, and technologies are required (Lopes de Sousa Jabbour et al., 2019). In addition, with a variety of different values at stake, sometimes competing and sometimes not, the scaling of CBM initiatives can be challenging. Beyond a traditional scaling logic centered around growth based on the extension of an individual company's geographical expansion and turnover, scaling could also embrace other, fundamentally different logics where environmental and social impact rather than economic incentives are decisive. In fact, from a sustainability perspective, such a scaling process might be considered far more important than the growth of an individual company's business practices.

This reasoning has been emphasized in social innovation literature in recent years (e.g., Bauwens et al., 2020; Moore et al., 2015), where it is

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argued that scaling is not limited to the performance of a single business model initiative, but also involves how this initiative impacts policymaking and cultural beliefs in society, and how it feeds into other, similar initiatives. To broaden the traditional view on scaling, social innovation literature has proposed the three scaling logics of scaling out, scaling up, and scaling deep (Moore et al., 2015). A premise for this research is that these different scaling logics also provide a suitable lens for understanding CBM initiatives, given their attention on triple bottom line performance. However, the different scaling logics do not provide any insights into the capabilities required for the actual scaling. As a means for breaking new ground in this matter, we draw on a dynamic capabilities view (DCV) and argue that the successful scaling of CBM initiatives needs to be coupled with dynamic capabilities (DCs), i.e., the "capacity of an organization to purposefully create, extend, or modify its resource base" (Helfat et al., 2007). Such a capacity, as suggested by Teece (2007), typically includes the sensing of business opportunities (and threats), the seizing of those business opportunities, and the ability to reconfigure internal as well as external resources as a means by which to manage long-term threats.

The purpose of this paper is to explore the microfoundations of the dynamic capabilities involved in the scaling of circular business model initiatives. As a structure for our study, we combine Teece's (2007) three DC classes of sensing, seizing, and reconfiguring with the three scaling logics of scaling out, scaling up, and scaling deep, as proposed in recent social innovation literature. Juxtaposing these two strands of literature could be considered as an attempt to organize and gain new knowledge regarding the capabilities needed for the scaling of CBM initiatives that goes beyond the individual firm or CBM initiative.

Our study is empirically anchored in the fashion industry, one of the most polluting industries in the world with a high degree of social impact, and hence in need of scaling CBMs. Similar to the situation in many other industries, CBMs in the fashion industry - e.g., renting/ leasing, reselling used own-brand garments, clothing libraries, luxury second-hand shops, and specific repair services (Adam et al., 2018) - are often small and their economic returns are moderate (UN Environment Programme, 2020). Although it could be argued that scaling and related DCs are required along the fashion supply chain - from the point of origin, via consumers and into the reverse: a "used clothing supply chain" (e.g., Pal et al., 2019a) - the current research focuses on retail-based CBM initiatives toward end consumers. The findings are based on 16 qualitative in-depth interviews at 12 Swedish companies. Taken together, these companies represent a wide range of CBM initiatives, including redesign, rent, repair, and resale activities, and are operated online as well as via brick and mortar set-ups. Sweden - a relatively mature market regarding the existence of different CBMs here offers a rich and diverse empirical opportunity for further exploring the microfoundations required for scaling CBMs.

2. Dynamic capabilities and scaling logics of CBMs in the fashion industry

To structure the theoretical foundation of this research, an integrative literature review of the business models for the scaling logics of scaling out, up, and deep, and the dynamic capability classes of sensing, seizing, and reconfiguring, has been conducted. An integrative literature review approach is typically suitable for illuminating how different strands of literature can be combined, for instance when a new theoretical framework is searched for (Torraco, 2016). In the following, the three scaling logics are briefly described, followed by an overview of the three capability classes and their relevance for the scaling of fashion CBMs. In combination, the scaling logics and the DC classes form a 3×3 matrix, which has been applied in the findings section to structure the results (see Table 2).

2.1. Scaling logics of CBMs in the fashion industry

In recent years, in an attempt to extend the concept of scaling, social innovation researchers have introduced a multi-level view on scaling (André and Pache, 2014; Bauwens et al., 2020). The three scaling logics of scaling out, scaling up, and scaling deep (Moore et al., 2015) are representative of these efforts, and have been adopted in this research. Besides the traditional growth objectives of a single company or business model (referred to as "scaling out"), scaling can also occur with the primary objective of creating social impact where a "large systems change" is sought (Moore et al., 2015), including changing the policies and regulations in society (scaling up) as well as changing cultural values and beliefs in society (scaling deep). Such an extended view of scaling is particularly relevant for social enterprises, also referred to as "hybrid organizations" (Bauwens et al., 2020), which aim to use market mechanisms to enhance social impact (Davies et al., 2018). A premise of this research is that a similar view on scaling is also relevant when considering CBM initiatives in the fashion industry, as the economic, environmental, and social performance of the individual company and the higher goal of making a social impact play crucial roles in fashion CBMs (Pal et al., 2019a, 2019b; Sandvik and Stubbs, 2019).

The *scaling-out logic* of a CBM initiative seeks to reach out to a larger number of people by expanding its geographical coverage and financial turnover, through either the replication or the diffusion of its practices (Moore et al., 2015; Westley et al., 2014). This can typically be enhanced within an individual company's control, and represents the traditional view of a company's efforts toward scaling. In addition, the scaling-out logic also covers the diffusion of the CBM initiative itself. Following the reasoning in social innovation literature, this diffusion offers several possibilities for large-scale social impact as more actors engage in the practices.

A *scaling-up logic* is especially relevant when social impact is sought, i.e., when a large system change is targeted, and when strategies based on a scaling-out logic are not sufficient due to the need for policy changes (Moore et al., 2015). For instance, regulatory barriers such as taxation of labor and challenges related to public procurement policies and other market structures may hamper the scaling of CBMs (Guldmann and Huulgaard, 2019). To overcome these barriers, a scaling-up logic is needed. When such barriers are removed, both current CBM initiatives and new initiatives can develop and prosper. Scaling up hence covers more than the diffusion of one specific business model initiative (Moore et al., 2015).

A *scaling-deep logic* targets the impact on people's values and beliefs as a means by which to scale business models. As stressed from a social innovation perspective, a "durable change has been achieved only when people's hearts and minds, their values and cultural practices, and the quality of relationships they have, are transformed" (Moore et al., 2015). Ultimately, in a fashion industry context, a scaling-deep logic is concerned with the fundamental shift of rules, norms, and beliefs from traditional, linear, fast fashion retail to an industry built on circular businesses (Franco, 2017; Stål and Corvellec, 2018). Although many fashion businesses have witnessed an increased acceptance of circular practices and products in recent years, scaling deep remains a major challenge in the fashion industry. For instance, unclear market demand for circular products, a lack of circular knowledge, and a lack of trust in new collaboration partners hinder the development toward increased circularity (Jia et al., 2020).

2.2. Dynamic capabilities in the scaling of CBMs in the fashion industry

The principal argument of the DCV suggests that a sustainable competitive advantage is achieved by DCs that create, extend, and modify the company's current internal and external resource bases (Helfat et al., 2007). These DCs play a fundamental role in scaling CBMs, as they are concerned with the skills, processes, and organizational activities for a transition toward enhanced circular business practices

(Khan et al., 2020). To structure research on DCs, Teece (2007) proposed that three general classes of DCs exist: the sensing of business opportunities and threats, the seizing of business opportunities, and the reconfiguring of the resource base as a means by which to manage threats.

Sensing capabilities typically include scanning as well as subsequent interpretation processes, aimed at the identification and evaluation of business opportunities and threats across markets and technologies. "Discovering" business opportunities, such as the scaling of CBMs as targeted in this research, incorporates a variety of processes. For instance, Adam et al. (2018) identified external networking as a key sensing capability that is decisive for the growth of clothing rental businesses, since the often relatively small firms in the study absorbed valuable information and knowledge from external parties such as fashion bloggers, designers, consultants, etc. In a similar vein, the authors identified an "empathic capability" concerned with understanding consumers' feelings and lifestyles as another important sensing capability.

A subsequent analysis process is also part of the sensing capability, in which the discovered opportunities are calibrated (Teece, 2007). Companies need to link identified business opportunities with their current business model and value proposition, and potential business opportunities may be evaluated in the light of new technology and competitors' business models (Teece, 2010). For instance, in Adam et al.'s (2018) study of clothing rental businesses, potential business opportunities were typically calibrated on a continuous basis via openness and close dialogue with external collaboration parties.

Seizing capabilities is essential, as once a business opportunity has been sensed it must also be seized adequately, i.e., it must be addressed through new products, processes, and services (Teece, 2007). The seizing capability is hence embedded in the development and commercialization processes that stretch from the initial phases, where several competing development paths are open, to later stages where a new product, service, or process is launched.

The systematic development and adjustment of existing CBMs is essential for the scaling of CBMs. Here, continuous interaction from end consumers and other external collaboration partners may be a crucial catalyst (Lopes de Sousa Jabbour et al., 2019). Overall, centered around the objective of co-creation of value, collaboration may work as the very foundation for seizing opportunities to scale the business. For instance, the development of effective and efficient take-back schemes is an essential cornerstone for the growth of many CBMs (Stål and Corvellec, 2018). These schemes are typically developed and managed in collaboration between retailers and specialized collection and sorting companies, for instance, and are developed in accordance with changing requirements and behavior among donators. Direct interaction with donators can also be seen as a seizing capability. Kant Hvass and Pedersen (2019) identified a "customer engagement strategy" as a key factor for integrating donators and ensuring high garment volumes in the take-back scheme.

Another frequently discussed factor in terms of seizing opportunities in conjunction with CBMs is a product design that is appropriate for circular business practices. For instance, a product design built upon the use of mono-materials may facilitate subsequent activities in the external value chain such as sorting and recycling activities (Franco, 2017; Sandvik and Stubbs, 2019). Therefore, as stressed in many recent studies, product designers and their work are a crucial component of circularity (Pedersen et al., 2019; Sandvik and Stubbs, 2019).

Reconfiguring capabilities are geared toward the continuous alignment and realignment of activities, resources, and the organizational structure. This reconfiguring is vital, as a company must respond to changes in technologies and markets in order to maintain its evolutionary fitness (Helfat et al., 2007; Teece, 2007), i.e., to remain relevant in the market. For the scaling of CBMs, the adaptation and alignment of resources and activities along the entire value chain is proposed as a major reconfiguring process. In fact, large-scale CE practices will not be

possible unless the CBM is aligned with production and distribution features among the value chain members (Pedersen et al., 2019).

To maintain evolutionary fitness, reconfiguring capabilities related to learning is especially emphasized in DC literature (Teece, 2007). Adam et al. (2018), for instance, emphasize their case companies' close interaction with customers, partners, and even competitors to absorb new knowledge, and based on that knowledge reconfigure their CBMs. In line with social innovation literature where larger social change is opted for, CBMs can be seen as underdeveloped (Rosa et al., 2019) and general market growth may be more valued than individual company growth. This also enables collaborative exchange between competitors.

3. Methodology

In order to explore the microfoundations of DCs involved in the scaling of CBMs, this study is based on a theory elaboration approach (Ketokivi and Choi, 2014). The principal objective of such an approach is not theory testing or inductive theory generation, but rather *elaborating* on existing theoretical frameworks and closing the gap between theory and practice. Grounded in general theory of scaling logics and the DCV, empirical data from in-depth interviews allow for further contextualization and reconciliation of DCs involved in the scaling of CBMs in the fashion industry (Ketokivi and Choi, 2014).

The Swedish market was identified as a relevant context, since it offers the opportunity to study all three dimensions of scaling out, scaling up, and scaling deep. For scaling out, the Swedish fashion industry generally has a high degree of sustainability concern, allowing for a business development climate where social and environmental values are often highlighted within a triple bottom line discussion (Sandberg et al., 2018). As a result, and as confirmed by previous research (e.g., Stål and Corvellec, 2018) and industry reports (e.g., Sweet et al., 2019), a variety of different fashion CBM initiatives are widespread in the Swedish market, creating a rich empirical context. For scaling up, Sweden is generally ranked high within the EU and globally when it comes to innovation climate and forward-looking policy environment, e.g., in the WEF Global Competitiveness Index (Whalen et al., 2018). In a recently published national strategy for circular economy (Regeringskansliet, 2020), the Swedish government identified textiles as a focus area, giving the subject increased attention from a policy perspective. Overall, Sweden is considered to have a well developed infrastructure for innovation and knowledge creation in conjunction with fashion CBMs (Larsson, 2020). Finally, for scaling deep, Swedish customers are generally aware of sustainability concerns, and are retentive toward fashion CBMs (Larsson, 2020). For instance, in a survey study of 1000 Swedish customers aged 16 to 70, 66% ranked sustainability to be a very important factor, and another 29% ranked it as an important factor (Insight Intelligence, 2020).

The case companies and respondents were selected by purposive sampling for maximum variation. As shown in Table 1, the cases represent companies that have CBMs as their main business model, as well as those that have a linear business model but have developed complementary CBM initiatives. The companies also represent different types of CBM initiatives (e.g., rent, repair, resale, etc.) and online as well as brick and mortar set-ups. They also cover different growth strategies, such as franchising, organic growth, and strategic partnerships.

Data were collected in the form of semi-structured in-depth interviews with managers involved in CBM initiatives at 12 different companies. At four companies, additional follow-up interviews were held to gain further insights into current developments of their CBMs. The interviews were conducted by one of the authors using online video conference software during the period May–December 2020, and lasted for an average of 45 min. The interviews were recorded and transcribed before they were analyzed. The semi-structured format of the interviews allowed for structure (to keep the interview on topic) and flexibility (to adapt the questions to the respondent), as well as an openness to follow new insights. Using open questions that follow the respondent's

Table 1Description of interviewed case companies.

Company	Role of respondent (number of interviews)	Company size, employees	Description and main CBM activity
A	Sustainability manager (1)	51–200	Premium fashion brand ^(a) - Repair (own brand) - Resale (own brand collected from consumers) - Redesign (from post- and pre-consumer material) - Garment collection (own brand, used for own CBM
В	Sustainability manager (2)	1001–5000	initiatives) Fast fashion brand retailer (and the sease (purchased wholesale from partner) Rent (own brand) Redesign (from post- and pre-consumer material) Garment collection (any brand, forwarded to partner organization)
С	Owner (2)	2–10	Second-hand clothing retailer ^(b) - Resale (purchased from consumers or partners
D	Sustainability manager (1)	1001–5000	operating CBM initiatives) Sports brand retailer ^(a) - Resale (facilitates resale through third party peer-to-peer platform) - Garment collection (any brand, forwarded to partner
E	Circular business developer (2)	10,001+	organization) Fast fashion retail group (a) - Resale (through peer-to- peer platforms and online marketplace) - Rent (own products) - Garment collection (any brand, forwarded to partner organization)
F	Business developer (1)	11–50	Premium outdoor brand ^(a) - Repair (own brand) - Resale (own brand collecte from consumers) - Rent (own products) - Garment collection (own brand, used for own CBM
G	Production manager and designer (1)	2–10	initiatives) Redesign and second-hand brand run by charity ^(b) - Redesign (post-consumer material) - Resale (collected through
Н	Creative director and co-founder (1)	51–200	parent charity) Second-hand and vintage clothing retailer ^(b) - Resale (purchased from professional sorter) - Redesign (post-consumer material)
I	Sustainability manager (1)	11–50	Second-hand clothing retailer ^(b) - Resale (customer consignment, unsold items are forwarded to charity)
J	CEO (1)	2–10	Second-hand clothing retailer ^(b) - Resale (customer consignment)
K	Owner (1)	51–200	Second-hand clothing retailer operating as a franchising chain ^(b) - Resale (customer

Table 1 (continued)

Company	Role of respondent (number of interviews)	Company size, employees	Description and main CBM activity
L	1: Sustainability manager (1) 2: Manager of CBM initiative (1)	201–500	consignment, unsold items are forwarded to charity) Premium fashion brand ^(a) - Resale (own brand) - Garment collection (own brand, used for own CBM initiatives or forwarded to partner organization)

Notes: ^(a) Operates a predominantly linear business model that incorporates CBM initiative. ^(b) Operates a predominantly circular business model.

narrative also allows for serendipity, which is an important aspect of theory elaboration (Ketokivi and Choi, 2014). The interview guide centered on different focus areas that developed over time as new insights were discovered (Brinkmann and Kvale, 2015; Gioia et al., 2012). The interview started with the interviewer giving a short presentation of themselves and the project. The respondent was then asked to say a little about their role in connection with the CBM initiative. The interview continued with questions concerning the area's routines, sales channels, local adaptations, knowledge, partners, customers, turning points, goals, funding, and whether they felt any aspect of CBM scalability was missing from the conversation. When a new topic arose during an interview, the interviewer asked for additional information.

The transcription and subsequent analysis were carried out using the qualitative data analysis software NVivo. The analysis followed the mode of analysis described by Brinkmann and Kvale (2015), which entails coding, condensation, and interpretation. In the coding phase, which was conducted by one of the authors alone (the same person who conducted the interviews), the transcripts were read carefully, and relevant excerpts were sorted into first-order codes and temporary categories (in vivo codes). In the next phase, these codes and categories were jointly compared by both authors to the a priori categories in the proposed 3 × 3 matrix framework (i.e., the nine categories describing DCs relating to different scaling logics). In line with Teece (2007), we have distinguished between the DCs and their microfoundations in the study, with the latter being described by Teece (2007) as "the distinct skills, processes, procedures, organizational structures, decision rules, and disciplines—which undergird enterprise-level sensing, seizing, and reconfiguring capacities" (Teece, 2007). In the empirical data, it is the microfoundations that undergird the DCs of the three identified scaling logics. In the third phase, the condensed data were interpreted in light of the literature underpinning the framework. The microfoundations in each category were iteratively developed jointly by the two researchers. condensed, and given representative labels. For each category, representative quotations were selected and used to explain the findings in chapter 4 (see appendix).

To ensure inter-coder reliability throughout the analysis, an approach of "discursive alignment of interpretation" (Seuring et al., 2012) was taken, in which the researchers continuously discussed the theoretically derived 3 \times 3 matrix and reiterated the content of the microfoundations identified. If the researchers had different understandings, these were identified and the results were jointly adjusted to achieve a consensus. This often included taking a step back to the interview transcripts and identifying a new interpretation that could be agreed upon. Finally, to further strengthen the validity of the results, all interviewees were contacted and shown the identified microfoundations in the framework. No comments that changed the findings were received.

4. Findings

This section describes the identified microfoundations of sensing,

seizing, and reconfiguring involved in the respondents' different scaling logics. The findings are summarized in Table 2. An appendix containing quotations is provided.

4.1. Dynamic capabilities for scaling out

Scaling out refers to the activities that aim to expand a company's or a CBM's geographical coverage and financial turnover (Moore et al., 2015). All the studied companies are involved in such activities.

4.1.1. Sensing capabilities for scaling out

The capability to collect and interpret trends is fundamental, and is incorporated into the very concept of a fashion brand. Even in a comparatively developed CBM business context such as Sweden, CBMs and their development are still in their infancy, and sensing business opportunities must therefore rely on several sources of input. In other words, *coordinating input from external and internal sources* is essential. Coordination is important since there is typically not a single source that holds the whole answer. As the business developer at Company F indicate, asking the customer might give an indication of what he or she wants, but due to limited experience of CBMs, a customer might not always be able to provide a comprehensive answer. Other sources – internal as well as external, such as industry reports, competitors, and experiences from own employees and pilots – are therefore important to complement the sensing based on customer preferences.

Sensing for scaling out is also achieved by an *openness toward collaborations* with individuals or other actors within the industry. Influences and initiatives from external parties have been a key driver for developing and extending the reach of CBMs in the case companies. Company H and B are both examples of how openness and curiosity toward external stakeholders' ideas have led to sensing new opportunities for scaling out. In general, the case companies often conduct trial-and-error pilots, such as opening up a new store format or launching a new collection, and are often characterized by an entrepreneurial spirit when it comes to CBM practices. In smaller companies, this spirit typically originates from the owner, who is personally involved in the

Table 2Summary of the microfoundations of DCs involved in CBM scaling.

	Scaling out	Scaling up	Scaling deep
Sensing	Coordinating internal and external input - Evidence from company: A, B, D, E, F, H, J, K, L Openness toward external collaborations - Evidence from company: B, C, G, H	Networking - Evidence from company: B, C, D, E, K	Engagement in environmental and social issues - Evidence from company: A, G, H, K, L
Seizing	Partnering - Evidence from company: A, B, C, D, E, F, G, H, J, K, L Increasing efficiency in operations - Evidence from company: A, B, C, E, F, G, I, J, K, L Piloting - Evidence from company: B, C, D, E, F, G, I, K, L	Network governance and formalization - Evidence from company: C, D, K	Changing the narrative of used - Evidence from company: A, B, C, D, E, F, G, I, J, K, L Lowering the threshold for participation - Evidence from company: A, B, C, D, E, F, G, H, I, J, K, L
Reconfiguring	Knowledge transfer - Evidence from company: A, C, F, G, H, I, J, K, L		Integration of CBMs into general growth strategies - Evidence from company: A, B, E

development of the CBM initiatives. For larger companies, this ability often rests within the sustainability department, but with considerable support from top management.

4.1.2. Seizing capabilities for scaling out

The capability for seizing an opportunity to scale out refers to commercializing the sensed opportunities. As an extension of being open toward new collaborations, **partnering** with suppliers, competitors, IT providers, or other third parties is vital for seizing business opportunities. Some partnerships can be directly linked to impacting more people by increasing the reach, e.g., through new sales channels and markets. Others are more indirect, e.g., access to better IT systems or gaining legitimacy. Whatever the nature of the partnership is, collaboration capabilities enable companies to find partners with complementary resources instead of acquiring them. Overall, resource sharing becomes a strategy for minimizing costly internal investments and achieving more rapid, dynamic innovation and development.

In parallel with partnering efforts to enhance cost efficiency through resource sharing, another microfoundation is the ability to *increase the* efficiency of internal operations. CBMs in the fashion industry are often resource intensive in terms of workload. Unique items need to be processed and tracked, and when scaling out the complexity of these operations will increase further. It is therefore not surprising that the case companies frequently refer to the need to simplify and standardize operations. This can take the form of categorizing items into more manageable units or creating manuals for standardizing remakes (Pal et al., 2021). It can also involve using the company's existing resources and integrating the new product into that set-up. An example of this is adapting to an existing buying routine by simplifying the process, instead of developing something tailor-made. However, as indicated by Company B simplifying might mean sacrificing some level of detail in the data for the benefit of efficiency. Finally, another means by which to enhance efficiency is to leverage the work of customers. This is mostly discussed by those that have a consignment model or operate peer-to-peer platforms. Here, customers can be asked to prepare the items in a specific way before they are handed over to the store, or they can be tasked with keeping track of their items themselves.

A third microfoundation is *piloting*, where experimentation takes place in a real business setting with real customers. In addition to piloting as an important source for sensing (as described above), pilots are also crucial instruments for fine-tuning and building strong business cases before a full-scale launch. As suggested by some of the respondents, since CBMs have not yet reached a sufficient level of maturity to compete with the dominating linear models in terms of cost efficiency and sales, piloting could be particularly important to show viability before having the funds to scale out.

4.1.3. Reconfiguring capabilities for scaling out

Operating growth also means handling an increasing amount of information. Whether the strategy for scaling out involves replicating, franchising, or diffusion, the company needs to ensure that the same information is spread to new as well as old units, which requires the microfoundation of *knowledge transfer* routines. Additionally, information concerning sales, incoming material, and new learnings for developing the concept also needs to be collected by central functions where it can be analyzed and shared as new knowledge (e.g. trend and sales data gathered from the different stores are analyzed for purchasing forecasts). As long as the initiative is small, personal interaction based on tacit knowledge is possible. However, as the organization grows, resources and routines need to be reconfigured to deal with larger areas and an increasing number of staff. This is important not only for the process of scaling, but as pointed out by Company G, it is also important to make sure that the concept is kept intact as it grows.

As claimed by the respondents, without clear routines for how knowledge is collected and shared within the organization, too much time and resources need to be allocated from other functions when attempting to scale out. This has a hampering effect on scalability as a whole.

4.2. Dynamic capabilities for scaling up

Influencing legal and policy changes is something that has the potential to impact a whole industry rather than a single company. Previous studies have found that legislation and policy issues can be major barriers for scaling CBM initiatives (e.g., Jia et al., 2020). DCs for scaling up are therefore essential to achieve an increased rate of CBM expansion.

4.2.1. Sensing capabilities for scaling up

Sensing capabilities for scaling up refers not only to seeing a challenge, but also to sensing that there is an opportunity to impact policy that can lead to better conditions for the CBM initiative to scale up. Sensing hence refers to the ability to take the step from identifying these challenges to turning them into policy issues that can be influenced. In their study of social enterprises, Moore et al. (2015) argued that translating an identified problem into a policy issue that can be addressed was essential. The same line of reasoning is reflected by the respondents in our study.

In particular, our findings indicate that *networking* is required to identify other actors that are impacted by the same policy issues and jointly seek to make an impact toward a change. The majority of this networking occurred in more informal, loosely coupled interactions among individuals. In fact, in many cases the respondents were found to be comfortable networking even with competitors regarding policy issues in their industry (see e.g. quotation from the owner of Company K). Such "coopetition" was argued to be beneficial for their own company as well as the entire industry, aiming for an increased share of CE practices.

There are also references to more formalized industry networks dealing with specific policy issues such as chemical regulations, water issues in producing countries, and even circular economy (e.g., STWI, Global Fashion Agenda, etc.). Beyond the purpose of sharing experience these networks provide a somewhat "hidden" sensing capability for scaling up, where existing policies and regulations are questioned and alternatives are formulated. Informal discussions about existing practices can foster a sensing capability for how to change these at an industry level, and develop new networks for seizing the opportunity.

4.2.2. Seizing capabilities for scaling up

To seize a sensed scaling-up opportunity, findings from the interviews indicate that the *networks need to be formalized and governed*, in terms of both organizing peers and reaching out to policymakers. Informal discussions and meetings may be enough for the sensing of opportunities for scaling up, but "making it happen" typically requires formalization and governance. For the interviewed companies, it hence becomes crucial to organize themselves into networks that can function as discussion partners with decision-makers, such as the Swedish Environmental Protection Agency, municipalities and government, and other institutions with an impact on Swedish policies and regulations.

For instance, at the time when the interviews were conducted, a collaborative network aiming to achieve policy change on a national level was in the process of formalizing its structure. The network had been registered as a non-profit association, and was recruiting more members and engaging with the Swedish Trade Federation. This formalization of the network is an important step in order to understand and voice what is needed from the industry as a whole, not from an individual company, and in this way put pressure on the policymakers.

There are also initiatives to influence local policies for the purposes of scaling up. For instance, two of the interviewed case companies (Companies C and D) are working with the local municipal government to create better conditions for local production, with the aim of being able to engage in CBM initiatives such as repair and redesign at scale. In this interaction, the two companies – in collaboration with municipal representatives and other stakeholders – are jointly discussing and

ascertaining the viability of the local initiative, including relevance and feasibility, which in turn influence regulations and policymaking at a local level.

4.3. Dynamic capabilities for scaling deep

Within the context of fashion CBMs, DCs for scaling deep refers to how culture and norms surrounding how we consume can be changed from a linear consumption model to a circular one. Strategies for scaling deep aim to create long-lasting change via what Moore et al. (2015) refer to as impacting people's "hearts and minds".

4.3.1. Sensing capabilities for scaling deep

At the very center of an ability to sense business opportunities for scaling deep is personal *engagement in environmental and social issues*. As exemplified in the quotations in appendix, respondents express a desire to influence the industry, and to change the view of what fashion is and how we consume it. Thus, for many of the respondents, spotting a business opportunity for a CBM is not only about seeing a profitable market, but also about seeing opportunities for bringing about a change in customers' behavior and encouraging others to follow. This interest is often combined with and reinforced by an entrepreneurial spirit for sensing business opportunities related to scaling out, working toward the same objectives. Based on employees' engagement in having an environmental and social impact, scaling a company's CBM goes hand in hand with having an impact on customers' values and beliefs. As pointed out by the owner of Company K, being part of "something bigger" is what attracts (see appendix).

4.3.2. Seizing capabilities for scaling deep

As Moore et al. (2015) found when studying how to scale deep, changing norms and cultures is connected to the language that is used and the stories that are told. In our study, **changing the narrative of** "**used**" is an essential microfoundation for seizing opportunities related to scaling deep. For instance, Company A rebranded its stores to indicate that they were not only selling things but also repairing them, making repair part of the story of the brand. The interviewed companies also refer to pricing strategies aiming to communicate a higher value of the product. Additionally, words with positive connotations such as "preloved" or "re-loved" is used instead of second-hand. Further, meeting places such as stores and events where customers can be engaged and feel part of the initiative play a part in changing the narrative.

Related to this type of customer interaction, another microfoundation is the ability to *lower the threshold for participation*. Customers' belief that it is difficult and time-consuming to engage in circular fashion consumption is a barrier for scaling deep. As pointed out by some of the respondents, second-hand garments is not always available in the right size and not everyone knows where to go for repairs. In such circumstances, buying a new product will seem as the easier choice. Lowering the threshold for participation is therefore an important microfoundation to change the culture and norms of fashion consumption, so that not only the most engaged customers participate.

Strategies underpinning this microfoundation include locating the CBM in easily accessible areas such as in proximity to the main shopping areas. Another strategy is to offer personalized customer service where the customer is contacted when a specific garment is available, or to offer repairs at the place of purchase. Another way is to bring the offering to the customer by mixing used garments with new, thereby reaching customers who would not otherwise seek out a circular offering. In this way, they can become accustomed to circular consumption in a familiar setting. Clothing brands can offer a mix of their own branded clothing or invite second-hand/vintage companies, such as Company H, into their sales channels.

4.3.3. Reconfiguring capabilities for scaling deep

To maintain the efforts for scaling deep, the integration of CBMs into

general growth strategies is an essential microfoundation for a lasting cultural change. Scaling deep thus involves changing not only norms and cultures outside the boundaries of the company, but also the internal company culture. In particular, this means looking at the triple bottom line as a whole, instead of separating the benefits connected to social or environmental values. This requires new performance metrics and a culture that considers CBMs as part of a future, more holistic, expansion. From an organizational point of view, especially in larger companies, one way of changing this can be to adjust the responsibility of circular business practices from a sustainability function into a growth or expansion function within the company. Such a change would encourage increased attention on CBM practices within the company, accelerating its employees' attention and understanding toward circular business practices.

5. Conclusion and future research

The scaling of CBMs plays a decisive role in the transformation toward more sustainable business practices in the fashion industry. To enhance our understanding of such scaling, this paper has explored the three DC classes of sensing, seizing, and reconfiguring needed for scaling along the dimensions of scaling out, scaling up, and scaling deep. Identified microfoundations for these DCs were presented in the previous section and summarized in the 3×3 matrix in Table 2.

In summary, our findings indicate that the *microfoundations for scaling out* are mainly occupied with the creation of efficient routines and operations involved in the CBM. As CBMs are typically characterized by handling unique products in unique ways (e.g., different ranges for resale stores, repair, and remake, adjusted for individual garments etc.) and uncertain supply (in terms of both quality and quantity), traditional growth logics based on economies of scale and scope are challenging (Pal et al., 2021). In response to these challenges, efficiency becomes vital for further growth, not only internally within the company, but also externally in partnerships with other companies that complement the organization's own operations.

Microfoundations for scaling up revolve around networking. To sense possibilities toward strategic changes in policies or regulations, for example, such networks often take the form of loosely coupled, informal contacts among individuals within the industry, e.g., between sustainability managers at different companies. For the actual seizing of scaling up opportunities, more formalized and governed networking structures need to be established. These networks gather around common issues and formulate solutions in the form of policy change. Only a few respondents in our data set indicated the presence of such formalized networking, and no microfoundations were found for reconfiguring scaling up. As a result, although an ability to sense opportunities for scaling up is present among respondents, these opportunities remain largely untapped. Overall, in the Swedish context of this study, the formalization and ability to develop matters related to policy changes need to be further developed.

Finally, *microfoundations for scaling deep* mainly involve the ability to impact norms and cultures among consumers and staff to achieve lasting change. Microfoundations, therefore, concern the process of mainstreaming, i.e., the company's need to reach further than previously converted followers and early adopters, and to make circular consumption a natural choice. Here, sensing revolves around the individual employees with an interest in sustainability that enable a variety of circular business opportunities to be sensed, whereas seizing microfoundations represents company-wide efforts to change consumer perceptions of used clothes, for example. In a similar vein, a microfoundation for reconfiguring encompasses the ability to integrate the CBM into existing linear business models, hence "normalizing" the CBM initiative.

5.1. Research implications

This study offers several new insights into the scaling of CBMs. First, in line with nascent literature on DCs in a CBM context (e.g., Adam et al., 2018; Bocken; Geradts, 2020; Khan et al., 2020), we argue that such a lens provides further clarity and attention to the matter of actual processes and activities involved in the scaling of CBMs. The findings of this study provide a rich, empirically based overview of these in a fashion context, structured and presented as a comprehensive framework with a 3×3 matrix for scrutinizing the different microfoundations of DCs involved in scaling CBMs. As such, the framework provides a valuable starting point for an overview and categorization of several DC classes and scaling logics simultaneously. Some common characteristics for the microfoundations of DCs involved in scaling out, up, and deep were also outlined above, indicating their diverse attention toward operations efficiency, networking, and impacting norms and culture among consumers.

Another theoretical contribution of this research is its incorporation of social innovation literature into DC-based research on CBMs. The three scaling logics offer clarity and a constructive understanding of how to scale circular business practices beyond the individual firm or CBM initiative. By doing this, our research extends the emergent research on DCs in circular and sustainable business practices that have so far been focused on the implementation and growth of specific CBMs in individual companies (e.g., Adam et al., 2018; Khan et al., 2020). As such, the scaling logics from social innovation literature acknowledge that there is a viable larger scope for DC research in the context of CBMs. In existing literature, this is often indicated in conjunction with discussions on overall societal values of CBMs (e.g., Pal et al., 2019b), but involved DCs are seldom investigated in greater depth.

In terms of practical implications, our research offers a tool for identifying, understanding and organizing the dynamic capabilities required for different scaling logics of CBMs. It also provides a structure for identifying missing DCs, in which future efforts could be targeted. In addition, the framework provides insights related to CBM growth that goes beyond the individual company perspective. Although not a comprehensive list, the identified microfoundations provide relevant examples of how these different scaling logics can be achieved. Ultimately, the framework could provide guidance toward increased and improved CBM initiatives.

5.2. Future research

Research related to dynamic capabilities and the scaling of CBMs is still in its infancy, and several research topics remain open to further penetration. As observed in this study, and in line with indications from other recent studies on DCs in circular business practices (Khan et al., 2020) and social innovation (Dufays and Huybrechts, 2016), individuals seem to play an important role in many of the identified microfoundations. Although long highlighted as an important subcategory of DCs, the existence of dynamic managerial capabilities (e.g., Adner and Helfat, 2003) remains to be further explored in the context of CBMs. In particular, this study indicates that a personal strong sustainability interest may be a decisive driver toward the scaling of CBMs. The role and behavior of individuals, and incentives beyond economic gains, require more research attention.

Another future research topic concerns measuring the actual performance of involved DCs and their microfoundations. Helfat et al. (2007) proposed that DCs can be evaluated based on their technical and evolutionary fit. Whereas technical fitness refers to how effectively an actual capability performs its function, evolutionary fitness refers to how well the capability enables the company to make a living (Helfat et al., 2007). These two general yardsticks could inform a further scrutinization of how to measure and judge DCs involved in the scaling of CBMs. In particular, this becomes a crucial matter when DCs related to scaling stretch beyond the growth of a particular CBM or company.

CRediT authorship contribution statement

Erik Sandberg: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision. **Emelie Hultberg:** Methodology, Investigation, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial

interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix

Quotations (examples)	Microfoundation	Dynamic capability	Scaling logic
It's like a fine balance between asking the customer what they want and like, and really listening to what they want and doing something that meets that. It's exactly the same with the circular business models. Perhaps even more so, because the users haven't experienced access to garments in any other way than to buy. (Business developer, Company F) I would say that it can come from different sources. We have an internal pilot function where we can try things out. Many things have started there. [] And a lot has come from we are involved in very many what would you call it, collaborative stakeholder programs, such as with the Ellen MacArthur Foundation, or Global Fashion Agenda, Make Fashion Circular, Fashion For Good, etc. There are very many, and through them we meet active partners with whom we can test things. [] Then I think, it's starting to come more and more from other departments like retail space. Which is the department that develops what future stores will look like. (Circular business developer, Company E)	Coordinating internal and external input	Sensing	OUT
How we ended up in Sweden is interesting. A Swede came to us and said "Hey, I lived in London for the last 2–3 years, I want to go back to Sweden" as the Swedes that live in London usually do, and they said "Look, can we open up a [store] in Sweden?" And I'm like "Why don't I come over and we take a look?". Literally that is how it went. (Creative director and co-founder, Company H) He contacted me on LinkedIn. And said "We see that you work a lot with remake collections, are you interested in a collaboration with us? We could do remake, we could do vintage" and sometimes it's us who contact people too so it's a wonderful mix, I would say. (Sustainability manager, Company B)	Openness toward external collaborations		
I think like this, if we are not the best at something but we find a partner who is the best at that thing, then it would be better to do something together. (Sustainability manager, company B) building something fully integrated by yourself requires a lot of development resources, but imagine what can be done with an external partner?" (Circular business developer, Company E) Landing the distribution collaboration with [a more established retail chain] was also a major turning point. Because it means that we are exposed to so many more faces than we had been before. (CEO, Company J)	Partnering	Seizing	OUT
we can offer a higher return to the sellers because by creating an account and uploading pictures of the garment they help us to do part of the work from home so that we can control the inflow. A big problem for [other companies] is that they are basically drowning in bags while we have control over our inflow. (CEO, Company J) we have had to make some adjustments when we place the orders, for example. We did not know in advance like "How many are size medium?", "How many are size small?". [] It's already packed and ready. So then, we kind of had to place the orders as one-size and that's also why we sell it in stores. (Sustainability manager, Company B)	Increasing efficiency in operations		
testing something requires a limited amount of resources, and then when you really have to invest something, then you absolutely want a clear business case. And to a large extent, what's difficult is that there are many things that no one has an answer to right now. And we are not used to that. We have to continue testing [] to be able to validate different assumptions. [] But at the same time, we are starting to get behind on the large scale. (Circular business developer, Company E) But in general, on a larger scale, the model works. That is the simple conclusion. Exactly what the model looks like is something we will have to work with over and over again. You can, like, you can't just set up a program "Here are four garments, this is the range, that's it", it's an experiment in that it's like a completely new experience for both the customer and us. (Business developer, Company F)	Piloting		
we just don't have time. I mean I have two roles now [], our submission and our Visual Merchandiser, she is needed in all three of our stores at the moment, so she travels around a lot. So that's it, well, I would say. (Sustainability manager, company I) now that we have worked very hard to set all processes and further clarify the internal routines, it will be much easier to replicate. I think maybe we were a little too early with that. If you start replicating too early, in my experience, the risk is that the different processes will develop in different ways in different places. New routines are emerging organically, or everyone is allowed to work a little different. So if we anchor how we work in a better way, then there's nothing to say that this can't be done in more places. Absolutely not. (Production manager and designer, Company G)	Knowledge transfer	Reconfiguring	OUT
I see what needs to be done and I hear how many new colleagues I get all the time. Many that I help get started, but I also see how many fail. And I understand why it happens. I am absolutely convinced that there need to be significantly more of us. There is a need for many, many more. So I'm not afraid of competition. I welcome everyone who wants to work with this. Because we are all super important. (Owner, Company K) I contacted them [the Swedish Trade Federation] and started this because I simply wanted help. And then I added these committed colleagues [refers to colleagues from the business] and others like that.	Networking	Sensing	UP

(continued on next page)

(continued)

Quotations (examples)	Microfoundation	Dynamic capability	Scaling logic
And we are slowly trying to build a network. (Owner, Company K) [a colleague at Company C] is involved with the municipality and [a local knitting factory] to see if we could find a solution for some type of smaller sewing factory. When we want to produce limited edition products, it feels wrong logistically to send and produce in Lithuania. It's not that far, but still. It would have been better if it could have been closer to the fabric producer. The local knitting factory often get requests for smaller orders, or even repairs. Our company could also send repairs to them in the future. (Sustainability manager, Company D)			
We are a registered non-profit association right now. And will build a website and things like that. But the goal is to get as many as possible involved. So we can include their case and understand "What do they need?" for their survival. Is it the same thing I experience? Are there other things? (Owner, Company K)	Networks governance and formalization	Seizing	UP
Part of my personal belief in life is that we need to change the world's diet. You know and that means that if used can be part of the landscape of fashion how can I get used in a [fast fashion store]? (Creative director and co-founder, Company H) There must be something else that drives it. And for me, I guess it was just a feeling that I might be able to change the industry. I might I might be able to be part of something bigger. If I were to look at it purely mathematically, then it wouldn't be that convincing [to open more stores]. It was possible to do. But I saw the chance to be able to realize ideas and well, build a life's work. That was probably what drove me. Those additional, soft values I would say that. (Owner, Company K)	Engagement in environmental and social issues	Sensing	DEEP
I Googled it [second-hand] you get "it smells", "dirty", "out of fashion", and all that. And so I don't want new consumers of sustainable fashion to convey these associations as well. So then I found the word relove. [] I thought it sounded very positive and gave nice associations. (Owner, Company C) And some are quite cheap, or cheap, but they cost less than new jeans do. And some are more expensive than new jeans for example those that we have done quite a lot of work with, such as embroidery or things like that. [Because we want to] somehow also show that second-hand jeans do not have to be cheaper than new. They can also increase in value and we should dare to stand for that and charge a higher price for those products. (Sustainability manager, Company A) And in a way, we should also educate customers about the work that goes into creating the garments. Perhaps also educate them in how to mend their own garments so they can prolong the life of them, but also to increase their understanding and appreciation of second-hand. That it is not always the second best choice. That is what we tried to do in the store. (Manager of CBM initiative, Company L)	Changing the narrative of used	Seizing	DEEP
most people, they just find it easier to buy new. They don't have the energy to keep repairing, or bring things to someone else to repair. (Manager of CBM initiative, Company L) I think it's good that it's sold next to the main collection. Because I think it lowers that threshold. Because there is more you get familiar with it [the second-hand offer] so you don't have to make the decision "Do I go to the second-hand store or the regular store?" So, I think you reach many more of those customers who would not come to [a second-hand store]. (Manager of CBM initiative, Company L) The [fast fashion] customer may not want to venture into [our store], but if [our store] is in a [fast fashion store], that [fast fashion] customer might be interested. We might open their eyes up to something new. And to me that is fucking beautiful. (Creative director and co-founder, Company H)	Lowering the threshold for participation		
Because you can do a lot of different things, repairs or rents or whatever. But if you don't have a way to quantify it and integrate it into the company, into the business, then it will still be a side activity. (Sustainability manager, Company A) We want to get away from the fact that it's something that should be run from the sustainability department or a brand's sustainability manager, it should be seen as part of growth and expansion. (Circular business developer, Company E)	Integration of CBMs in general growth strategies	Reconfiguring	DEEP

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