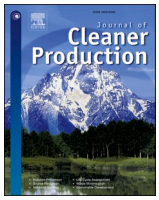
Journal of Cleaner Production 382 (2023) 135216

Contents lists available at ScienceDirect

Journal of Cleaner Production

journal homepage: www.elsevier.com/locate/jclepro



When the business is circular and social: A dynamic grounded analysis in the clothing recycle

Francesca Costanza

LUMSA University, Rome, Italy

ARTICLE INFO

Handling Editor: Cecilia Maria Villas Bôas de Almeida

Keywords:
Circular economy
Education
Recycle
Social entrepreneurship
System dynamics
Gioia methodology

ABSTRACT

Nowadays Social Entrepreneurship (or SE) and Circular Economy (or CE) are recognized as reference points for the definition of sustainable business models. However, management literature seems to privilege one of these paradigms at a time, neglecting their possible integration for business model innovation. This paper seeks to contribute to such literature gap by investigating the interplay between SE and CE and presenting a qualitative case study in the clothing recycle sector. By combining Gioia methodology and system dynamics, the study develops a research framework based on an interpretive, participative, and iterative approach. The emerging 'dynamic grounded model' synthesizes the mutual reinforce of circular commercial business and social mission's features for the transition from non-profit organizations to social enterprises.

1. Introduction

Social Entrepreneurship (or SE) and Circular Economy (or CE) are two relevant and relatively new research topics in management studies. SE initiatives has been recognized a role in promoting social transformations (Alvord et al., 2004; Hartigan, 2006). At the same time, the transition towards CE is being felt as an overarching goal by policy-makers (e.g., European Commission, 2019, 2020) practitioners (Ellen MacArthur Foundation, 2015, 2020) and scholars from many fields (McDonough and Braungart, 2003; Braungart et al., 2007; Esposito et al., 2018). As the term itself indicates, CE introduces production and consumption practices aimed at resource recovery and re-circulation, thus abandoning the traditional linear economy, summarized by the sequence of material extraction, transformation, and disposal (Ellen MacArthur Foundation, 2013; Geissdoerfer et al., 2018a).

Even if managerial literature tends to place SE and CE paradigms under the umbrella concept of sustainability (Dentchev et al., 2016; Geissdoerfer et al., 2017; Evans et al., 2017), extant studies seem to privilege (with noteworthy exceptions, e.g., El Chaarani and Raimi, 2021) either CE or SE from time to time, neglecting their possible integration for business model innovation (Geissdoerfer et al., 2018b). In a recent systematic literature review about entrepreneurship and CE, Suchek and colleagues identify SE in CE as a relevant theme, still underexplored in literature (Suchek et al., 2022). Furthermore, in dealing with circular business models (Ünal et al., 2019; Centobelli et al., 2020; Lüdeke-Freund et al., 2019), literature lacks in describing good implementation practices (Kirchherr et al., 2017; Cullen and De Angelis, 2021; Villa Todeschini et al., 2017). What is missing is a holistic view (Centobelli et al., 2020), meaning to focus "not just on what businesses do (e.g., what products and services they produce to serve needs in addressable market spaces) but also on how they do it (e.g., how they bridge factor and product markets in serving the needs of customers)" (Zott et al., 2011, pp. 1036–1037).

This paper aims to contribute to such literature gap and addresses the following research question:

> "What are the core dynamics taking place in sustainable business models leveraging on both CE and SE?"

By referring to 'core dynamics', this paper is meant to investigate the interplays between CE and SE that occur in circular and social businesses, to be seen from a managerial perspective. For the purpose, it is proposed a qualitative single case study research in the clothing recycle sector. Due to the infant stage of conceptualizations of CE and SE in combination with each other (Suchek et al., 2022; Stratan, 2017; Henriksson et al., 2019), it was believed appropriate an inductive-abductive research approach (Gioia et al., 2012; Dubois and Gadde, 2002) routed to grounded theory development (Strauss and Corbin, 1998), and letting "the theory emerge from the data" (Schweiger et al., 2018, p. 660).

Abbreviations: CE, Circular Economy; GM, Gioia methodology; NPOs, non-profit organizations; SD, system dynamics; SE, social entrepreneurship.

E-mail address: f.costanza1@lumsa.it.

https://doi.org/10.1016/j.jclepro.2022.135216
Received 30 May 2022; Received in revised form 19 October 2022; Accepted 15 November 2022
Available online 22 November 2022

The approach combines Gioia methodology, or GM (Gioia and Chittipeddi, 1991; Gioia et al., 2012; Gehman et al., 2018) and system dynamics, or SD (Forrester, 1961; Sterman, 2000; Wolstenholme, 1990) to propose a 'dynamic grounded model'. GM, being well suited to study poorly investigated phenomena (e.g., Stigliani and Ravasi, 2012; Pratt et al., 2006), in the thought of the same proponent (Gioia), must not be envisioned as a method or a template to be automatically and a-critically applied, but it is open to innovation and integration with other methodologies (Gioia et al., 2012, pp. 25–26). At the same time, SD was privileged since it allows to depict the dynamic relationships among different elements in complex systems (Sterman, 2000). Thus, considering previous applications of GM and SD, and building on similarities and complementarities of these methodologies, it is proposed an integrative research framework, which is then applied to the organization under study. SD structures and the emergent dynamic grounded model favor a deep analysis of the circular and social business under investigation, disclosing a transition process from pure nonprofit to social entrepreneurship, and activable synergies between social mission and commercial business.

The paper is organized as follows: after this 'Introduction', it is proposed a brief 'Theoretical Background' about SE and CE. In the 'Methodology', the case study approach and the research framework are described. 'Research Findings' are then illustrated and discussed. Finally, the 'Conclusion' section summarizes main contributions of the study, limitations and future research directions.

2. Theoretical background

SE has been reaching growing attention as a valuable mean to address social challenges all over the World (Dees et al., 2004; Roberts and Woods, 2005; Zahra et al., 2009). In general, social enterprises can be defined as individuals or private organizations "seeking business solutions to social problems" (Thompson & Doherty, p. 2006, p. 362). Then the entrepreneurial behavior is aimed at social ends rather than profit objectives, stimulating innovative activities in both pre-existing and new ventures (Hibbert et al., 2005; Harding, 2004). Given its intrinsic social change orientation (Drayton, 2002), SE promotes responses to needs and issues that the public sector and the commercial market are not able to properly address (Mulgan, 2006; Lettice and Parekh, 2010), e.g., skills and job creation, services improving the life quality of individuals and communities, new processes of labor market integration (OECD, 2011).

They are hybrid organizations (Battilana et al., 2012; Battilana and Lee, 2014) combining for-profit and non-profit organizational activities (Dacin et al., 2011; Shaw, 2004; Hockerts, 2006) through the development of commercial businesses, the pursuing of social value, and the generation of sustainable financial revenue streams (Gold et al., 2019; Reynolds and Holts, 2020). Since SE "can imply either the creation of a social mission-oriented for-profit or a business-oriented non-profit entity" (Robinson, 2006, p. 95), there must be many manifestation forms, from for-profit firms seeking to create social value to NGOs and charities (Lasprogata and Cotten, 2003).

As a result, SE belongs to the families of sustainable (Evans et al., 2017; Lozano, 2018) and inclusive (Yunus et al., 2010; Hahn, 2012) business approaches, thus competing "with for-profit organizations in value proposition" and seeking to understand "how value is delivered to consumers and other stakeholder groups" (Gold et al., 2019, p. 263). In so doing, social enterprises, instead of being driven by wealth accumulation and profit maximization for shareholders and owners, reinvest their surpluses in business expansion or in the community (Harding, 2004; Hartigan, 2006).

In the context of this study, SE is paired with CE, a production and consumption paradigm aiming to minimize resource exploitation, emissions, and waste without compromising economic growth, with the subversion of the traditional linear economy (based on the sequence of material extraction, transformation, and disposal) through processes of resource recovery and re-circulation (Ellen MacArthur Foundation, 2013; Geissdoerfer et al., 2017). According to a recent systematic literature review (Suchek et al., 2022), the combination of SE and CE is still an overlooked theme in literature and represent a promising research area, given the potential role of SE in the introduction of innovative and sustainable business models, like the circular ones (Dentchev et al., 2016).

CE postulates to rethink products, services, and business models, incorporating durability, re-use, repair, refurbishment, and recycling (Ellen MacArthur Foundation, 2013, 2015). The paradigm has its roots in natural sciences and engineering studies, such as industrial ecology, where operational learning occurs from cyclical, renewable and cascading natural flows (Graedel, 1996); and cradle-to-cradle product design strategies (McDonough and Braungart, 2003), founded on the consideration of products' entire value chains and life cycles, in search of eco-effectiveness (Braungart et al., 2007).

CE conceptualizations in management, still at an early stage (Korhonen et al., 2018; Kirchherr et al., 2017) focus on the development of circular business models (Linder and Williander, 2017; Crainer, 2013; Lewandowski, 2016), i.e., business representations suitable to put in practice CE principles by incorporating elements that slow, narrow, and close resource loops (Geissdoerfer et al., 2018a). Since circular business models create and/or modify organizational and inter-organizational resource loops (Geissdoerfer et al., 2018a, 2018b), they can be source of competitive advantage through the recovery of value, which is lost along the traditional linear models (Yang et al., 2016).

The linear economy incorporates significant wastes of resources along the supply chain (Murray et al., 2017), material scarcity and negative environmental impacts, prospectively undermining the humanity survival and development (Ellen MacArthur Foundation, 2013). On the contrary, CE takes full advantage of the value embedded in products by maintaining them as long as possible into the economy and minimizing waste. It acts through four kinds of loops: product-life extension, redistribution/reuse, remanufacturing and recycling (Ellen MacArthur Foundation, 2020).

In dealing with circular business models' design, literature lacks in describing good implementation practices (Kirchherr et al., 2017). So far, CE contributions still privilege a "Boolean on or off approach" (Urbinati et al., 2017), not discussing how firms can adapt their business models to this new paradigm in practical terms. In the context of CE studies, a certain relevance is assumed by the textile and clothing sectors, whose environmental impacts have been remarked in literature (Ghisellini et al., 2016; Sandin and Peters, 2018).

Only recently, the consumer's role in making this sector more circular has been included in research agenda (Camacho-Otero et al., 2019). Scholar contributions seem fragmentary and contradictory in this sphere. On the one side, malpractices attributable to low-cost throw-away fashion are explored (Christopher et al., 2004; Fletcher, 2010; Villa Todeschini et al., 2017). On the other side, research shows how consumers start to be more attentive to purchase sustainable goods, and they are also willing to pay a higher price to get them (Bocken et al., 2016). According to Christopher et al. (2004), today's fashion markets are characterized by high volatility of the demand, the need for product availability and short products' lifecycles, where seasons are measured in months and sometimes in weeks. In this context, the lack of consumer acceptance of circular offerings represents an important barrier for the transition to CE (Camacho-Otero et al., 2019; Kirchherr et al., 2017).

3. Methodology

This study was conducted through a research framework combining case study research, GM, and qualitative SD. The following headings will justify the methodological mix and describe its main features.

3.1. Case study identification

To study the interplay between SE and CE from a managerial perspective, this paper proposes a qualitative approach, deemed suitable to gain a rich understanding and deeper insights about multidimensional and dynamic phenomena (Van Maanen, 1979; Birkinshaw et al., 2011). The research strategy is based on the case study methodology, chosen for its suitability to investigate "a contemporary phenomen in depth and within its real-world context" (Yin, 2018, p. 15). A representative single-case (Creswell, 2009) organization has been identified "to capture circumstances and conditions of an everyday situation" (Yin, 2018, p. 50). Single-case studies bring the advantage to allow thorough analyses of novel/poorly investigated topics (like the combination of CE and SE), to incorporate detailed data gathering within long timeframes and to perform agile temporal comparisons (Alexius and Furusten, 2020).

The case selection was aligned with the intent to choose a "theoretically useful case" (Eisenhardt, 1989, p. 533), i.e., susceptible to enlarge the current understanding of SE and CE relationships.

The choice therefore has fallen on Al Reves, whose identification fits specific criteria. In particular, the candidate organization had to:

- be active in a relevant sector for CE → the clothing recycle was a focus privileged for the relevant environmental impact of the textile and clothing industry (Haseeb et al., 2020; Sajn, 2019; Sandin and Peters, 2018);
- be embedded in a territorial context relevant for social innovation → the administrative and operational headquarters of the organization are in Sicily, an Italian southern region that, according to national statistics, presents among the worst socioeconomic performances in terms of health, levels of education, school dropouts, unemployment and youth unemployment, percentage of NEETs (Neither in Employment or in Education or Training);
- belong to both CE and SE 'worlds': Al Reves was born in late Nineties as a pure non-profit organization, or NPO, and since July 2012 Al Reves holds the legal status of social cooperative, operating in the clothing recycle and in the re-integration of weak social categories (immigrants, former prisoners, etc …). Looking at *Atlante Italiano dell'Economia Circolare* (Italian Atlas of Circular Economy), an online platform which maps Italian organizations implementing CE principles, in Sicily there are just two circular organizations within the clothing and textile sector: Al Reves, social cooperative which practices secondhand sale and creative recycle from textile waste; and Orange Fiber, LTD producing ecological fabrics from residues of the citrus processing industry. Considering the research focus on SE, Al Reves was considered most suitable, since it holds the legal status of social cooperative (type B). Indeed, according to the Italian Law n. 381/1991, this kind of organizations, belonging to the third sector, has the scope of the human promotion and social integration through economic activities (agricultural, industrial, commercial or services), aimed at the employment of disadvantaged people. Such organizations are protagonists of social innovation processes and can be considered a relevant manifestation of SE (Travaglini, 2012; Eurofound, 2019).

3.2. Gioia methodology

GM is one of the most considerate approaches to theory building with qualitative research (Gehman et al., 2018). The proponent of the methodology, Denny Gioia, is Professor of Management at the Penn State's Smeal College of Business (Pennsyvalnia). In the early Nineties (Gioia and Chittipeddi, 1991), He pioneered his grounded theory-based methodology, widely quoted in literature (5308 citations on Google Scholar at date 26 May 2022). It was also codified in a more recent paper (Gioia et al., 2012), referring to inductive organization studies and claiming to help them in achieving qualitative rigor without renouncing to concepts and ideas' generation.

Although admitting the usefulness of different data sources, in Gioia's view the main instrument to lead the research is the semi-structured interview to key informants within organizations (Gioia et al., 2012). To encourage the discovery of new concepts, the researcher captures their sensemaking (Gioia and Chittipeddi, 1991), a process by which individuals provide interpretations of reality and construct the meaning of their own experiences (Sonenshein, 2007, 2010).

Following Van Maanen (1979), Gioia distinguishes between 1st and 2nd order data analyses. In the 1st order analysis, open and axial coding (Strauss and Corbin, 1998) identify concepts and categories, being denoted by labels or phrasal descriptors in adherence to informants' jargon. These items are the basis for the 2nd order, theory-driven analysis, whose goal is to identify more comprehensive concepts/themes and, ultimately, overarching aggregate dimensions (Gioia et al., 2012). The emergent theoretical concepts/themes could be ascribable to already existing literature, or being "nascent", i.e., poorly addressed by former studies or investigated within different research domains (Gioia and Chittipeddi, 1991; Corley and Gioia, 2004). All the concepts, themes and aggregated dimensions are summarized in a matrix, called "data structure" (see Fig. 1 for an example), which is at the same time a visual representation and a proof of scientific rigor (Gioia et al., 2012). From the data structure, it is possible to articulate a grounded theory model (see the example in Fig. 2), portraying the dynamic relationships between main 2nd order concepts/themes (Corley and Gioia, 2004).

Due to its suitability for theory development and creativity boosting, GM has exerted an extreme fascination among management and organization science scholars (e.g., Patvardhan et al., 2015; Anand et al., 2007; Balogun and Johnson, 2004). Thus far, only one study applying GM to SE in CE has been retrieved. This is the research by Zaccone and colleagues, who investigated how hybrid organizations adopt CE business models to contribute to sustainable development (Zaccone et al., 2022). On the contrary, in the context of studies on SE, Ong and colleagues adopted GM to analyze youth participation in SE activities (Ong et al., 2020); Yitshaki and Kropp developed a model linking motivations, opportunity recognition, and prosocial activities in SE (Yitshaki and Kropp, 2016); whilst Chandra and Paras used GM to study the capacity of SE organizations to deal with disaster recovery (Chandra and Paras, 2021). In CE inquiry, GM has been applied to identify key competencies for circular products design (Sumter et al., 2020), rethink value creation and stakeholder relationships (Tapaninaho and Heikkinen, 2022), study dynamic capabilities in successful operationalization of CE strategies (Khan et al., 2019), or analyze the rebound effect of CE initiatives (Siderius and Poldner, 2021). In these studies, GM has been used in an 'orthodox' way, without considering the integration with other methodologies. In this regard, Denny Gioia himself recognizes the fear of a distorted use of his methodology. The mushrooming GM-based studies hold the same design, like they automatically apply a cookbook, envisioning the methodology as a method or a template; on the contrary, GM

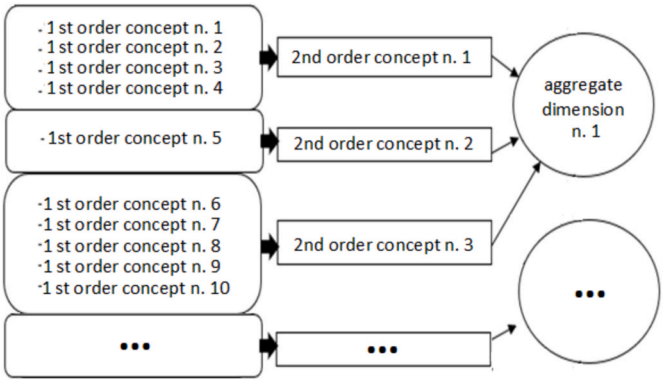


Fig. 1. Example of data structure. Source: adapted from Gioia et al. (2012).

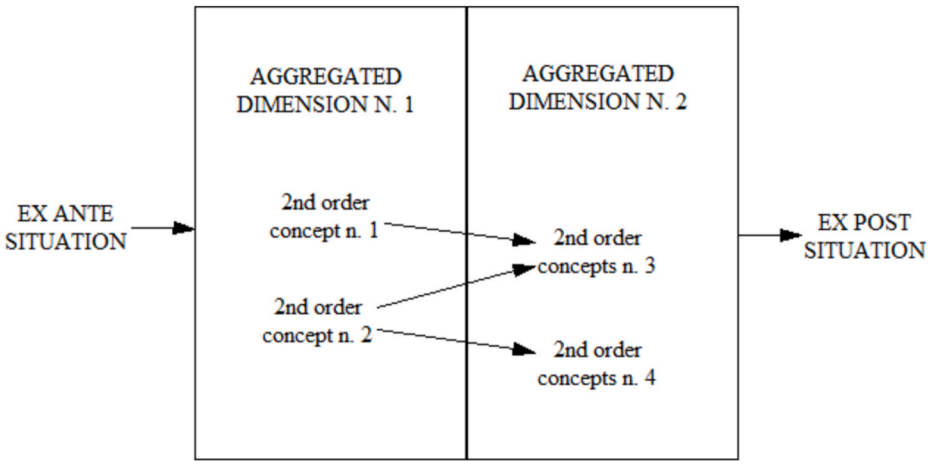


Fig. 2. Example of grounded theory model. Source: adapted from Gioia et al. (2012).

is open to innovation and integration with other methodologies and tools (Gioia et al., 2012).

3.3. SD qualitative modelling

SD is a research methodology and a modelling technique developed in the Sixties by Jay Forrester (1961) at MIT (Boston). Its foundations lay in system science and cybernetics and adopts a set of interrelated graphical and mathematical tools. SD scholars (Richardson, 1991; Roberts et al., 1983; Sterman, 2000) have elaborated modelling guidelines, starting with the statement of a dynamic issue, continuing with the construction of stock-and-flow and causal loop diagrams about the system under investigation (qualitative SD modelling), and converging to the formulation of a mathematical model consenting to run scenario simulations (quantitative SD modelling).

In Wolstenholme (1990) and Coyle (2000), the phase of diagram construction and analysis is a soft, qualitative branch of SD, also called "systems thinking" (Checkland, 1985), providing interesting results both as a stand-alone methodology or as preliminary step before mathematic formalization.

In general terms, SD explores the behavioral dynamics of social, economic, or ecological complex systems through the feedback relationships among the parts (Sterman, 2000; Maier, 1998). Stock-and-flow diagrams are mapping tools helping in the representation of networked and feedback-based processes of accumulation/depletion of material, information, and money (Sterman, 2000). These maps are connoted by flexibility: it is possible to represent hard and soft variables (Homer and Oliva, 2001), assuming a micro, a macro or meso perspective (Bianchi, 2010). Fig. 1 shows an example of a stock-and-flow structure within the traditional retail trade.

There are three types of variables in the diagram: stocks, flows and auxiliaries. Stocks reflect cumulated levels of resources, are measured by quantities in certain moment and are denoted by rectangles. In the Fig. 1, there are three stocks ('People in the Store', 'Cumulated Profits' and 'Perceived Quality of Products').

Flows are the rates influencing the level of the stocks over time, are measured by quantities per time unit and graphically are pipes inflowing or outflowing the stocks (e.g., 'People Entering' and 'People Going Out' in Fig. 3). Also, bi-flows (with their specific notation; e.g., 'Change in Perceived Quality of Products') are synthetic variables representing stocks' net rates of change (difference between inflows and outflows), particularly suitable for dealing with soft variables (Sterman, 2000). The auxiliaries (circles) perform various function: helping calculations, bringing constant/exogenous parameters to the model, or synthesizing

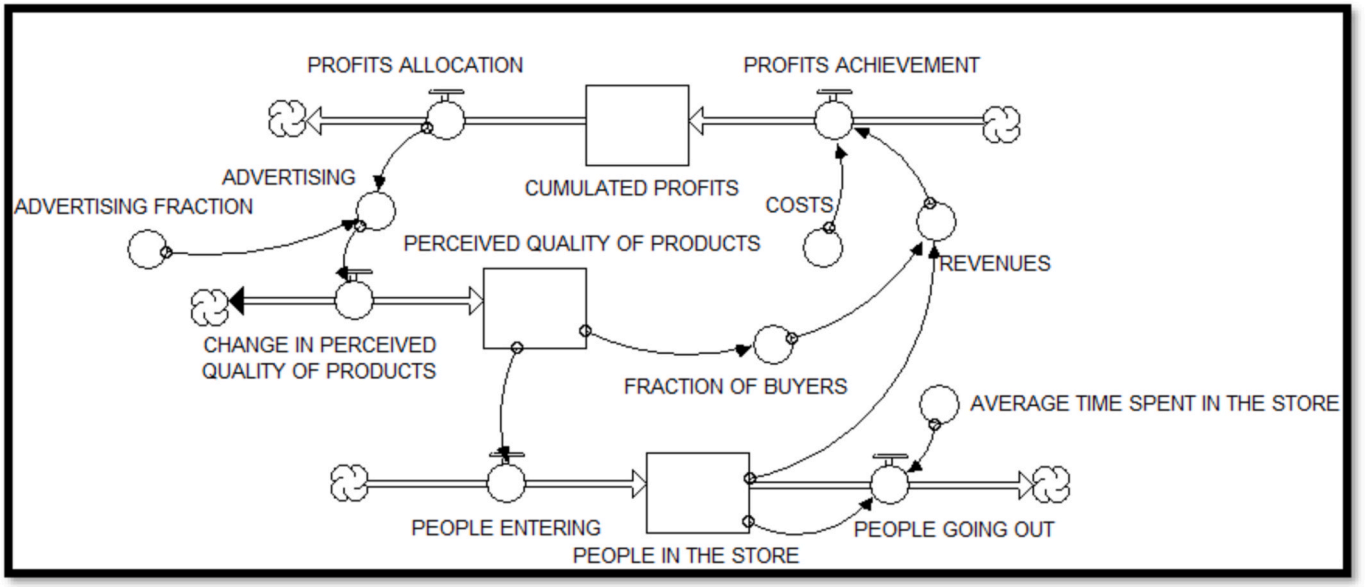


Fig. 3. Example of stock-and-flow diagram. Source: own elaboration.

system's partitions that the modellers decide not to focalize. Auxiliaries, together with stocks, can affect the flows linked to other stocks, directly or through auxiliary variables.

Previous studies adopted qualitative SD to deal with industrial dynamics (Lin et al., 2006), corporate entrepreneurship (Bloodgood et al., 2015), human resource management (Masnick and McDonnell, 2010), and sustainable business models (Abdelkafi and Täuscher, 2016). In SE and CE inquiries, quantitative SD modelling is prevalent to face alternative resource allocations to commercial activity and social action in social enterprises (Moizer and Tracey, 2010), to address CE issues in the food supply chain (Kazancoglu et al., 2021), and to link product design and business model strategies (Franco, 2019). However, in the context of this study, a qualitative approach is deemed suitable to gain a richer understanding of the complexity (and novelty) of sustainable business models incorporating both SE and CE. SD models, based on key informants' mental databases about the functioning of a certain system (Sterman, 2000), are often criticized for opacity and subjectivity in the translation of informants' inputs into model structures (Luna-Reyes and Andersen, 2003. For this reason, SD modelling rigor can be enhanced by including grounded theory and case study research (Kopainsky and Luna-Reyes, 2008).

3.4. Combining GM and SD

The research framework was elaborated by considering many circumstances. In general terms, a case study can benefit from methods triangulation (Yin, 2018; Shenton, 2004). Furthermore, looking at previous applications of SD and GM, it is believed that the two methodologies can be validly and fruitfully combined.

SD and GM are usually adopted as stand-alone methodologies to face SE and/or CE issues (e.g., Zaccone et al., 2022; Ong et al., 2020; Kazancoglu et al., 2021; Franco, 2019). Few studies have expressively attempted a combination of GM and SD, and none of them targets social and circular business models. Moellers et al. (2019) use GM to investigate the validity of SD models in enhancing managers in business model innovation. The output of their study is a set of theoretical propositions, whereas SD models are just tools for illustrative purposes. On the contrary, the work of Schweiger et al. (2018), which combines GM and SD to analyze the organizational resistance to change, represents a relevant reference point in the context of this study. As Schweiger et al. (2018), the research framework proposed in this paper is based on coding from interviews, iterative modelling and sharing models with key informants. However, if in Schweiger et al. (2018) the combination of GM and SD is instrumental to SD model building, in the present research a mutual support of both methodologies is acknowledged. Indeed, the rigor of SD operational modelling is enhanced by including GM coding procedures, while linking and conceptualization activities for GM-based grounded models can be enriched and corroborated by SD modelling.

Specifically, the joint adoption of GM and SD is based on the consideration of their similarities and complementarities, summarized in Table 1. The fact that GM and SD share some common features is the premise for their compatibility; whilst each methodology presents its own specificities and lacunas that pave the way for its complementary adoption with respect to the other.

GM and qualitative SD have a similar view about the informants' contribution to the research process. Both approaches assume that organizational informants and researchers are knowledgeable agents (Gioia et al., 2012) whose sensemaking (Gioia and Chittipeddi, 1991) or mental models about how a certain system works (Sterman, 2000) are the key sources for model-based theory building (Luna-Reyes and Andersen, 2003).

Both GM and SD assign importance to linking. In GM, the use of boxes and arrows captures the interrelations between concepts, themes, and dimensions emerging from coding. Even SD sets relationships among factors in a targeted system.

Another similarity is the articulation of the modelling process. Beyond different denominations, it is possible to identify a first macro-phase of qualitative data retrieval and analysis, and a second macro-phase of modeling activities. However, the level of transparency (i.e., the disclosure of the logical modelling process) varies. In GM it decreases when passing from the first to the second phase, the opposite occurs along SD modelling.

The building of GM's data structure is clear, but a complete explanation on how to switch to the grounded theory model is not provided. Gioia claims the model to be justified by informants' quotes and a general coherency with the contents of the data structure (Gioia et al., 2012). The latter has a horizontal orientation: it represents the emergence of theoretical concepts (2nd order) from empirical ones (1st order), not contemplating vertical relations between 2nd order concepts. Then the informants' quotes play a crucial role in bridging this "conceptual leap" (Gioia et al., 2012). Thus, in order to substantiate GM-based grounded models and making them more transparent and trustworthy, further proof tools should be taken into account. SD can serve this scope. It forces operational thinking and interconnection between variables and concepts in a flexible manner. Through visual tools, it allows researcher-informants' model co-construction, review, and validation, forcing a shared understanding of the investigated phenomena. In this study, it helps in explaining the links between 1st order concepts (which are transformed into SD model variables), making explicit their variegated interrelationships. It is also used as an input for the grounded theory model, and further validates the connections between 2nd order concepts.

Complementarily, in SD the elicitation of informants' mental databases and their translation into models is often criticized for opacity and subjectivity (Luna-Reyes and Andersen, 2003). More modelling rigor for theory building is called by associating SD with grounded theory and case study research (Kopainsky and Luna-Reyes, 2008). Thus, GM-based quotations and categories in the data structures could ground SD model building and be translated into stocks, flows and auxiliary variables (Luna-Reyes and Andersen, 2003), thereby creating a more rational modelling path.

Finally, contrary to SD, GM models are built with a linear approach

Table 1
Similarities and complementarities among GM and SD. Source: own elaboration.

Features	GM	Qualitative SD	Similarity	Complementarity
Informants' view	Sensemaking	Mental model	X	
Type of data	Qualitative	Qualitative	X	
Modelling macro-phases	1) Building of the data structure 2) Articulation of grounded theory model	1) Data gathering for modelling 2) Modelling	X	
Importance of links	High	High	X	
Level of transparency of each macro-phase	1) High 2) Low	1) Low 2) High		
Model scope	Theoretical	Operational		X
Model components	2-nd order concepts/themes and aggregate dimensions	Stocks, flows and auxiliary variables (possible to articulate models in modules)		
Model morphology	Linear	Circular		X

(summarized by the sequence cause-process-effect), not containing any element of circularity that instead characterizes complex systems (Tapia et al., 2021; Murray, 2006).

3.5. Research framework

Considering the key features of GM and SD, the paper proposes an integrative research framework being applied to the case Al Reves. The sources of evidence are:

- Institutional documents → these are the constitutive act and the statute of Al Reves. According to the Italian Civil Code, social cooperatives are established through a public act, made up of two documents: the constitutive act, whose scope is the creation of the juridical person; and the statute, regulating the social cooperative's functioning.
- Web contents → consulted the Facebook page of Al Reves and two organizational websites, one describing the social cooperative in general terms, and one devoted to the social dressmaking activity and the e-commerce.
- Observations → observed two educational sessions, conducted by members of the social cooperative interacting with 40 students (20 for each session, aged 15–18 years). During the observations the author took field notes on relevant information, interactions, and insights.
- Interviews → two semi-structured interviews have been carried out to investigate CE and CE manifestations within the organization. The key informants are: one of the founders, responsible for management and organization; and an external consultant, in charge of process management, funding and administration. Despite the employment of multiple data sources, as in Gioia et al. (2012), the interviews were the main tool for data gathering, with a question protocol being revised in pace with the research progresses and the modeler's understanding of the investigated system. Specifically, the interview questions explored the organization's business model, paying specific attention to the production and social inclusion processes, the consumer characteristics, the stakeholder engagement strategy, the financing mechanisms.

The research framework was articulated into two modeling blocks (macro-phases) represented in Fig. 4. The first block (steps 1–6) privileged the inductive reasoning to elicit key informants' mental models, or sensemaking. The interview inputs were translated into 1st order concepts first, and then in an operational SD model, or SD model. The process was iterative: after interviews, the researcher open coded the transcripts, isolated similar events, actions, or interactions and grouped them in key categories and sub-categories (Corbin and Strauss, 1990, p. 12). A similar analysis has been done on the author's notes took during observations. It was decided to perform manual instead of computer-aided coding, fearing, as Kirchherr et al., that "automatic coding would be too mechanical to lead to meaningful results" (Kirchherr et al., 2017).

At the beginning, 1st order coding was performed on interview transcriptions and field notes (step 1). Firstly, 86 concepts have been identified and analyzed. Eliminating analogous concepts and merging close ones, 30 first-order concepts were reached in representation of the informants' vision of 'what's going on'. Then, they were 'exploded' into the SD model (step 2), built through the SD software iThink (Isee Systems).

To pass from 1st order coding to SD modelling, the researcher had to transform each concept into one or more model variables. This process implied an evaluation of the concepts' suitability to be portrayed as stocks, flows, or auxiliaries. The links between variables were inferred through the informant-centric coding, and by following the SD modelling rules (e.g., only flow variables can directly make stocks to change, Sterman, 2000). The sketch of the SD model was shared with the interviewees for validation (step 3). To be sure to 'talk the same language', preliminary to show the model to the informants, the meaning of SD terms was briefly explained, providing examples.

The informants proposed adjustments to the model (step 4), in terms of variable inclusion/exclusion and links' identification. In this way, the SD model represents a collaborative match between empirical data and holds a twofold function: validation, since it ensures the inter-subjective confirmation of 1st order concepts and their links; and illustration, because it provides a visual representation of firm's processes.

In providing feedbacks to the model, the informants gave new/deeper explanations of key dynamics, thus stimulating the refinement of existing 1st order concepts (step 5). New concepts were generated and others, previously eliminated, were restored. At the end of the process, the total number of 1st order concepts was equal to 35. New 1st order concepts thus contributed to the final version of the SD model (step 6).

The second block of the research framework (steps 7–9) consisted of the grounded theory articulation. Inputs to the process were the 1st order concepts and the SD model produced in the previous phase. The research has shifted to abduction (Gioia et al., 2012), which, in searching for the best explanation of empirical data, continuously went "back and forth" from data to theory (Dubois and Gadde, 2002, p. 555).

In step 7, the 1st order concepts were aggregated into 16 more theoretical concepts/themes. This 2nd order analysis had the scope to provide a wider perspective, going beyond the organization under study and being relevant for the research domain (Gioia and Chittipeddi, 1991, p. 442).

The theoretical concepts/themes were further reduced in aggregate dimensions (step 8). Finally, in step 9, a grounded theory model, emerged from the joint consideration of 1st order concepts, 2nd order concepts/themes, aggregate dimensions, and the operational SD model. This is also called 'dynamic grounded model', due to the SD participation in the modelling strategy.

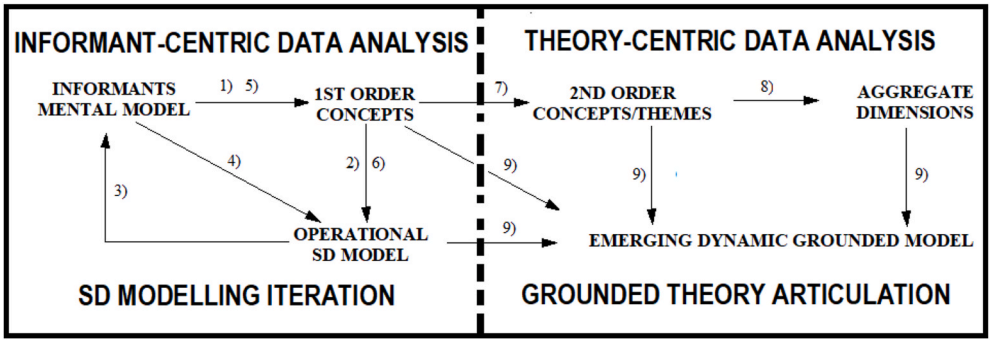


Fig. 4. Research framework integrating GM and SD. Source: own elaboration.

4. Findings

The main findings of the study are two modelling outputs: the SD model and the dynamic grounded model. The GM-based data structure is reported in Appendices A and B.

The SD model is articulated into modules, i.e., portions describing relevant dynamics which are homogenous according to criteria defined by both the informants and the modeler. The modelling acknowledges that social entrepreneurs base their reputation on product validation by consumers and community positive appraisal for their social causes (Suchek et al., 2022). Accordingly, both the commercial business and the social mission find place in the SD structures. Concerning the commercial business, two strategic areas have been identified: 'Circular Economy Strategic Area' (Fig. 5) and 'Education Strategic Area' (Fig. 6). The social mission was analyzed by considering two different phases of Al Reves life emerged during the interviews: the start-up as a pure non-profit (Fig. 7) and the current phase of SE (Fig. 8). The SD model also captures the specific finalism of social enterprises, that, not driven by wealth accumulation and profit maximization for the ownership, rather reinvest their surpluses in business expansion or in the community (Harding, 2004; Hartigan, 2006). These occurrences are portrayed in the module 'Financial Dynamics' (Fig. 9). Finally, the emergent dynamic grounded model (Fig. 10) offers a theoretical synthesis of insights from the SD model and the GM-based data structure.

4.1. SD model: Circular Economy Strategic Area

The 'Circular Economy Strategic Area' (Fig. 5) is made of 12 physical stocks, 12 flows, 4 auxiliary variables and 14 link arrows. From the left, the production process starts with the stock of 'Purchased Materials', fed by the inflow 'Purchasing Rate' and drained by the outflow 'Clothes Production Rate'. The latter is in turn an inflow to the 'Tailoring Clothes', that, together with the stock of 'Secondhand Clothes' (links 7–8), flows by 'Filling the Stock', thus accumulating into the 'Clothes in Stock'.

Al Reves segmented its demand in two consumer groups: the price sensitive, preferring secondhand clothes at a cheaper price, and the quality sensitive, preferring to pay more to reward the quality of tailoring clothes. Then the 'Clothes in Stock' are depleted by the 'AR (i.e., *Al Reves*) Sales', which converge into the 'AR Clothes Sold'.

Up to this point, the accumulation process takes place within the physical structures of the store. Hence the model tracks the 'fate' of the clothes after the sale. The stock of 'Obsolete Clothes Ready to Waste' is alimented by two inflows: 'AR Clothes Obsolescence Rate' and 'Other Clothes Obsolescence Rate'. This sequence embodies the linear economy paradigm. From this precise zone of the model the circular experience starts, and the 'Obsolete Clothes Ready to Waste' stock can be reduced by various mechanisms.

Firstly, by promoting the waste separation and activating the 'Clothes Collection', which recirculates clothes in the production process by inflowing the 'Old Clothes Collected' stock. After sanitation, clothes can be conveyed to two alternative circular paths: reuse, where old clothes are destined 'To Secondhand Shop' and by this way will be sold; and recycle, where the stock 'Recycled Materials and Semifinished Products' participates in the tailoring process (link 6), thus reducing the 'Purchasing Rate'. This is also lowered by 'Individual (textile) Donations' (link 1) and 'Commercial and Industrial Waste' (link 2), both contributing to the 'Clothes Production Rate'.

Another way to act on the stock of 'Obsolete Clothes Ready to Waste' is by lowering its inflows through the 'Clothes Repairing Rate'. The latter fills in the stock of 'Clothes Repaired', extends the life of clothes and reduces their physical obsolescence (links 11–12). Three main influences affect the sales: 'Quality of Products' (link 10), 'Investments in Diversification' (link 9) and the stock of 'Responsible Consumers', resulting from 'Fast Fashion Consumers' through 'Change in Responsible Consumer Base'.

The importance of the responsible consumers, also remarked in other parts of the model, can be envisaged in the key informants' words as translated into 1st order concepts (see appendix A). In first place, a definition is provided: *"A consumer who is responsible from both the social and the environmental point of view"*, where "*The circular business allows to differentiate products and to intercept a demand sensitive to environmental issues*". Furthermore, *"Those who donate clothes are not financially rewarded but only registered in a donor register"*. In absence of extrinsic compensation to responsible behaviors, other mechanisms are taken into consideration. Indeed, the responsible consumption is conceived as a dynamic process (*"Consumer conversion from fast fashion consumer to responsible consumer through donation and circular consumption"*), based

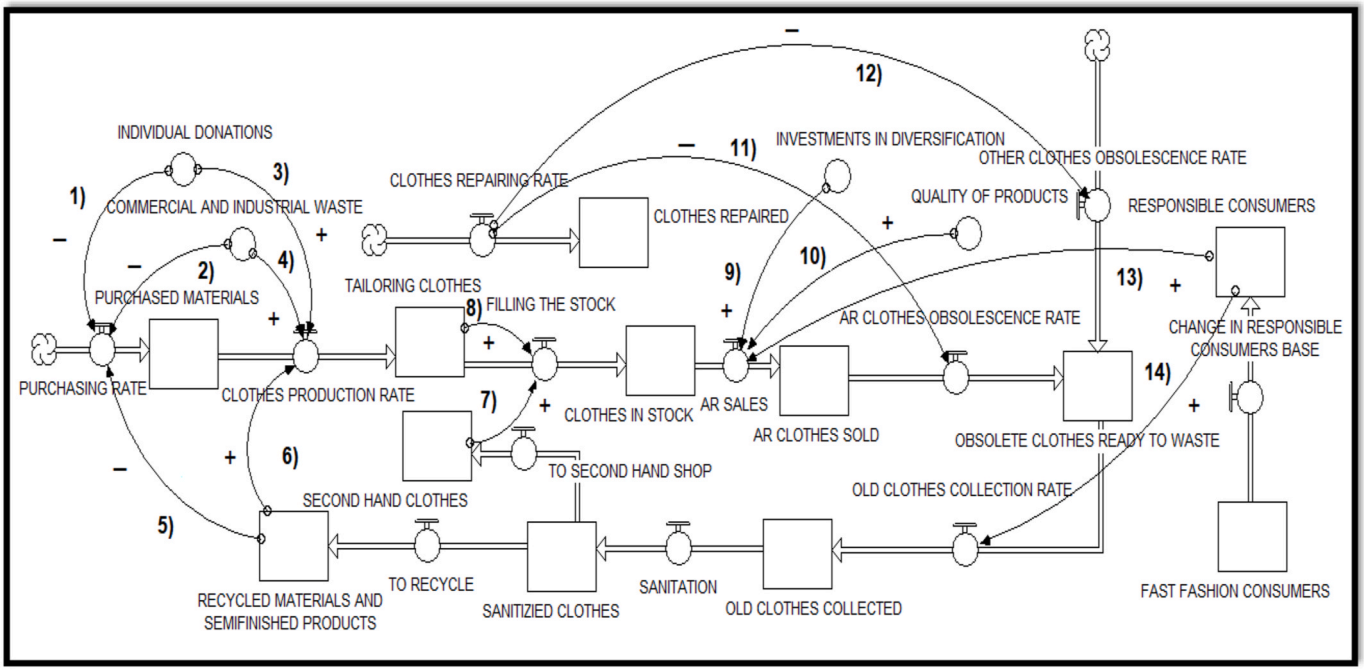


Fig. 5. SD Model – Circular Economy Strategic Area. Source: own elaboration.

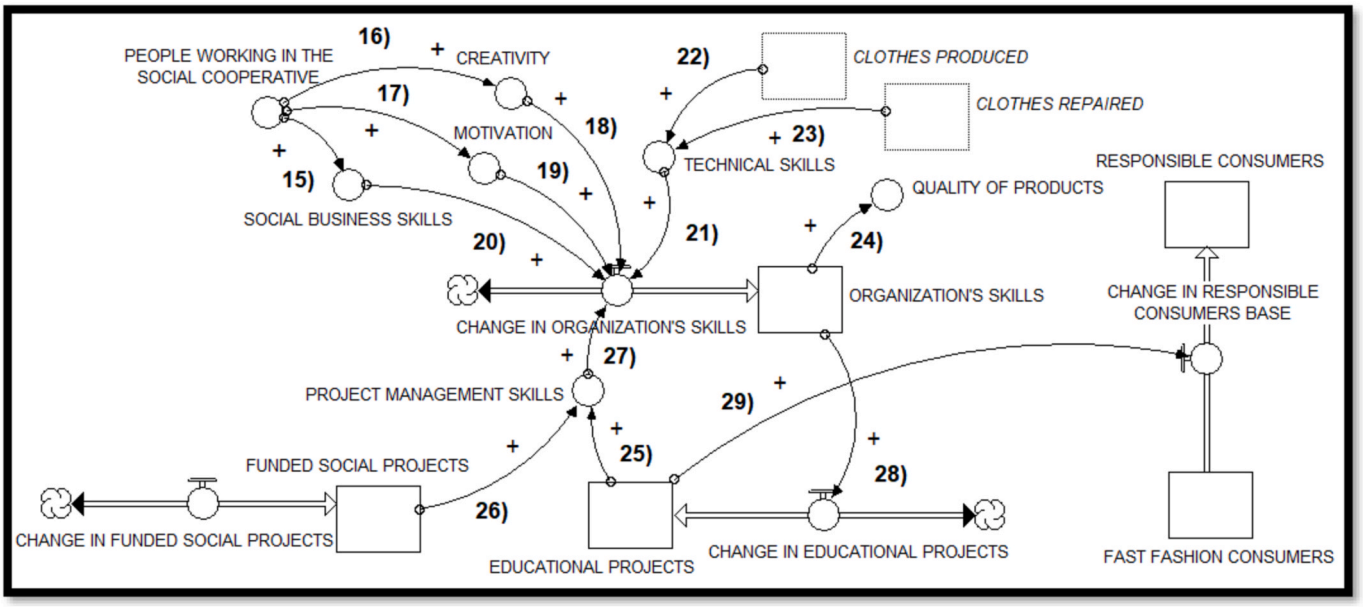


Fig. 6. SD Model – Education Strategic Area. Source: own elaboration.

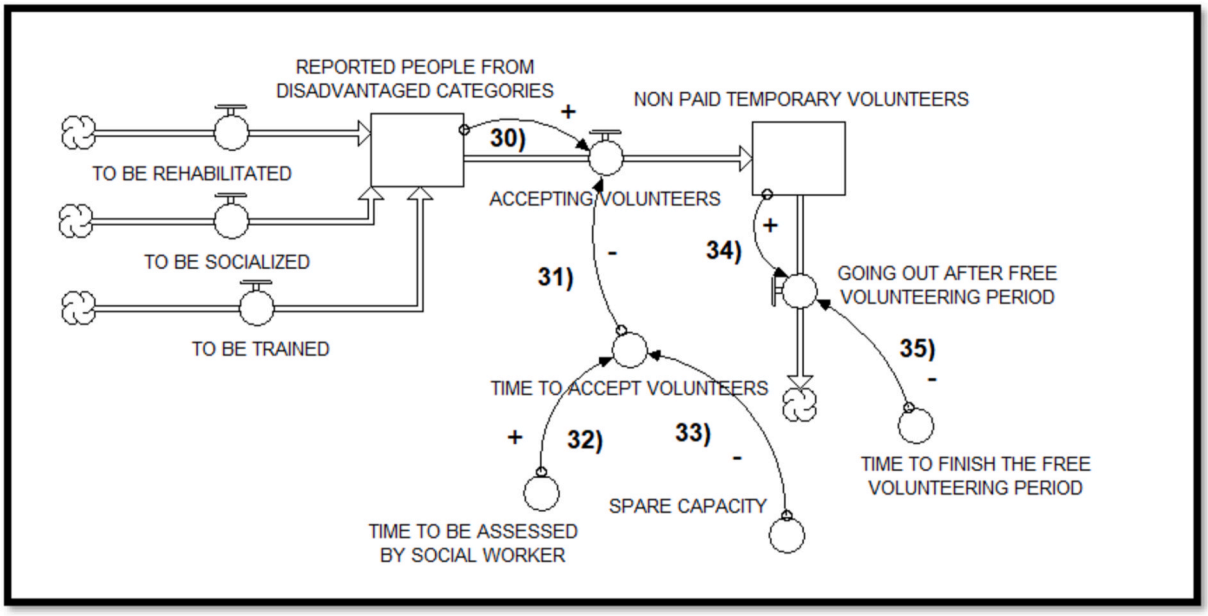


Fig. 7. SD Model – Social Mission in the non-profit phase. Source: own elaboration.

on storytelling ("*We tell the social story of our products*") and learning ("*We explain to the people the importance to maintain products as long as they can, to repair clothes instead of buying new ones, to donate old clothes, and to buy second hand or recycled material-made clothes"*).

4.2. SD model: Education Strategic Area

The 'Education Strategic Area' (Fig. 6) is made of 7 stocks, 4 flows, 6 auxiliary variables and 14 link arrows (numbered 15–28). Some stocks also belong to other modules (e.g., 'Clothes Produced', 'Clothes Repaired', 'Responsible Consumers).

As a starting point to describe this module, it is worth recalling some 1st order concepts (see Appendix A). In general terms, *"The commercial business includes many educational activities about social aspects, circular economy, and tailoring skills"*. About the nature of the projects, these are "*Educational projects about social aspects, circular economy, and tailoring skills (free of charge and/or publicly* funded*) for both school aged and working aged, disadvantaged and non disadvantaged people"* and *"Educational projects within university internship"*. The commercial business leverages on *"Skills formation through design, production and repairing activities, education, project management, and networking"*.

To translate these inputs into the model, it is represented the stock of 'Organization's Skills', varied by the bi-flow 'Change in Organization's Skills'. This in turn depends on several factors: 'Creativity' (link 18),

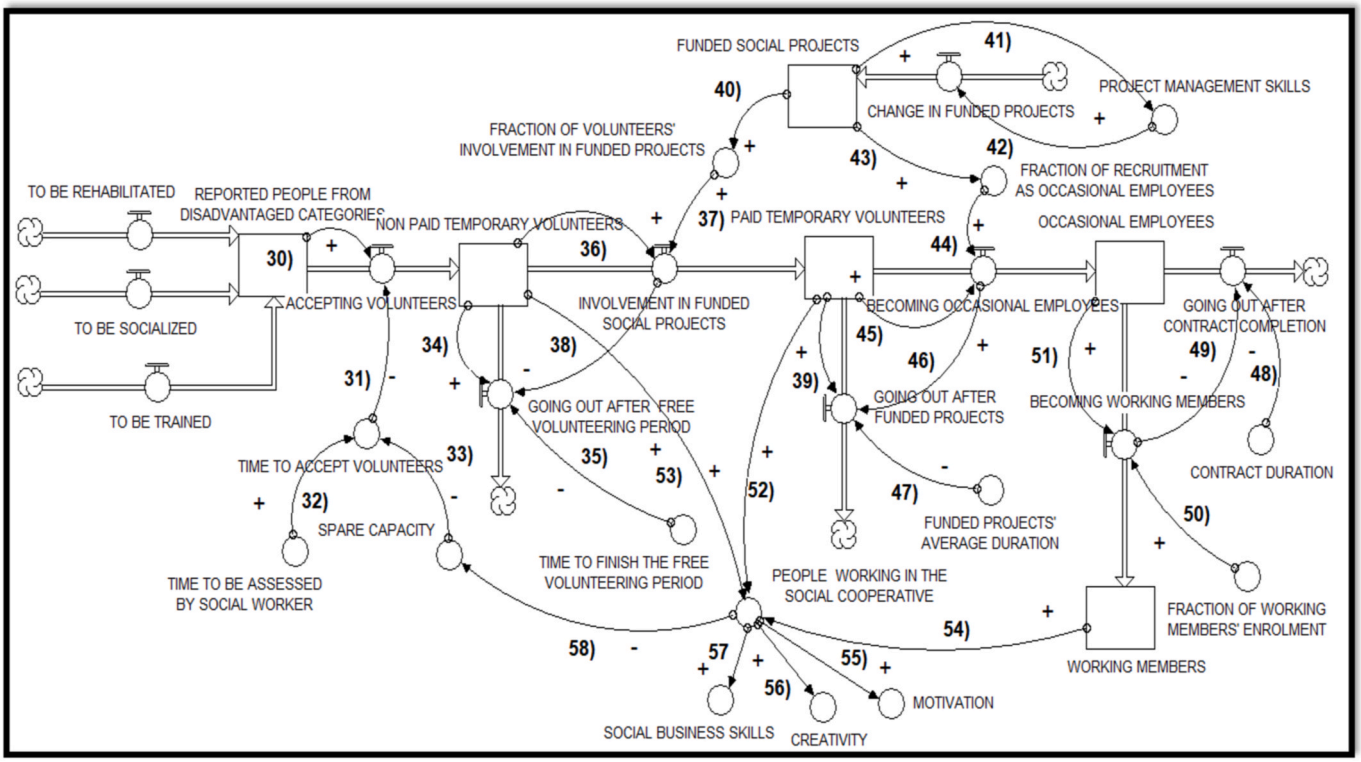


Fig. 8. SD Model – Social Mission in the SE Phase. Source: own elaboration.

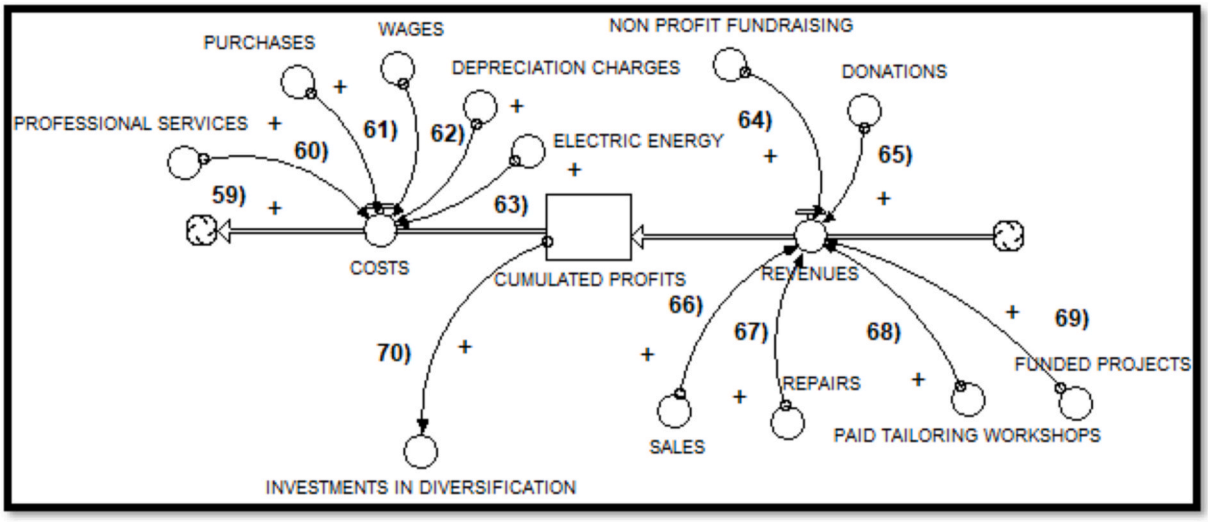


Fig. 9. SD Model – Financial Dynamics. Source: own elaboration.

'Motivation' (link 19), 'Social Business Skills' (link 20), 'Technical Skills' (link 21), 'Project Management Skills' (link 27). The first three items are affected by the 'People Working in the Social Cooperative' (links 15–17), whose dynamics will be deepened in the next heading. The variable 'Technical Skills', resulting from learning by doing, is affected by the stocks 'Clothes Produced' and 'Clothes Repaired' (links 22–23). The variable 'Organization's Skills' influences the stock 'Educational Projects' through the bi-flow 'Change in Educational Projects' (link 28). Then the 'Project Management Skills' result from the cumulated experience in dealing with two kinds of projects: the mentioned "Educational projects" (link 25) and the "Funded Social Projects" (link 26). The latter are projects of inclusion of disadvantaged categories into the production process, thus pertaining to the 'Social Mission' module. However, they also contribute to the 'Education Strategic Area' through project management skill formation.

4.3. SD model: social mission

The 'Social Mission' module was built by considering two different phases of Al Reves life emerged from the interviews and reported in the

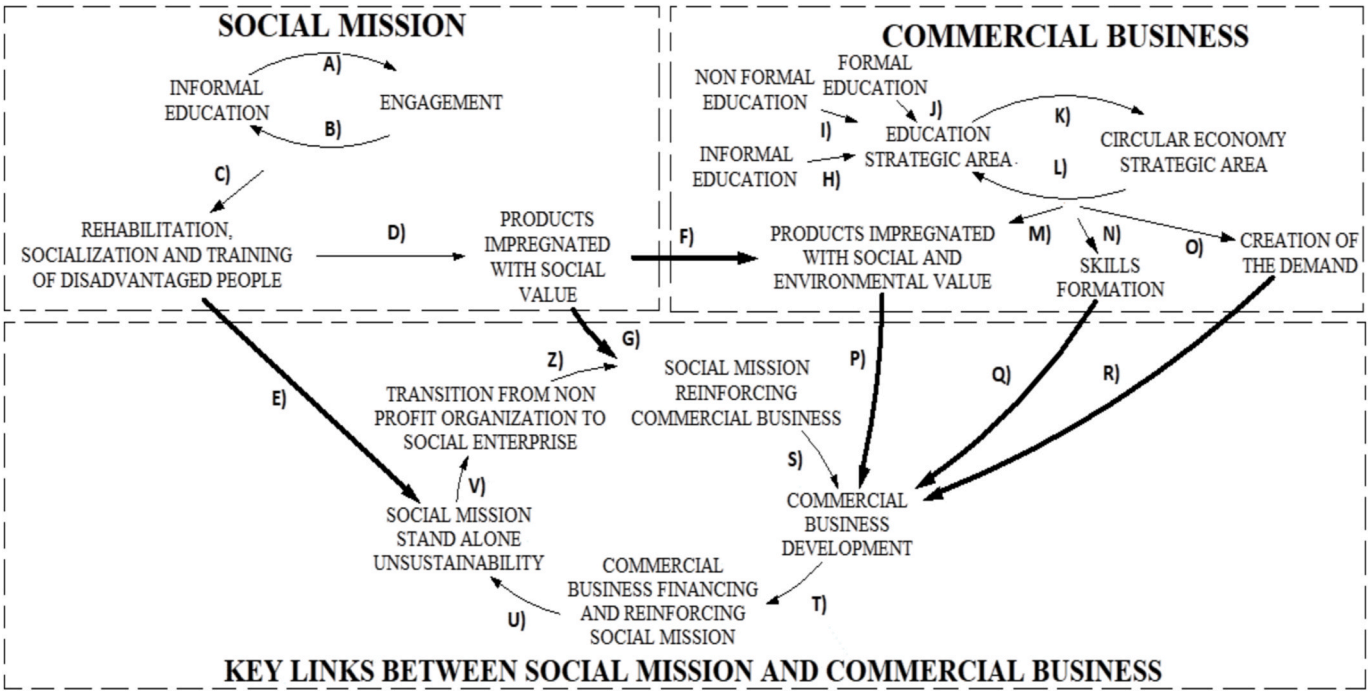


Fig. 10. Dynamic Grounded Model. Source: own elaboration.

1st order coding (see Appendix B): the *"Start-up as a fully self-financed non-profit association"* and the *"Transition from pure non-profit to a social entrepreneurship (social cooperative)"*. Two versions of the 'Social Mission' are proposed: in the non-profit phase (Fig. 7) and in the SE phase (Fig. 8).

The SD model of the non-profit phase is made up of 2 stocks, 5 flows, 3 auxiliary variables and 6 link arrows (numbered 30–35). Looking at Fig. 7 from the left, three flows feed the stock of 'Reported People from Disadvantaged Categories': people 'To be Rehabilitated', 'To be Socialized' and 'To be Trained'. The distinction of these paths comes from the informants' words (see Appendix B): *"In our social project we provide the rehabilitation, socialization, and training courses for disadvantaged social categories (people reported by municipality, prison management, social services, and the local health authority)"*. Specifically, people 'To be Rehabilitated' are former prisoners or people who have had problems with criminal justice; people 'To be Socialized' have physical or mental disabilities; and people 'To be trained' are characterized by socioeconomic disadvantage (e.g., immigrants).

These groups represent the potential volunteering labor force. The stock of 'Reported People from Disadvantaged Categories' moves to the stock of 'Non-Paid Volunteers through the flow 'Accepting Volunteers'. This is affected by two influences: the originating stock (link 30), i.e., the basin of human resources for the social activity, and the 'Time to Accept Volunteers' (link 31), which in turn depends upon the 'Time to be Assessed by Social Worker' (link 32) and the organizational 'Spare Capacity' (link 33). This bottleneck is due to physical and procedural constraints. On the one hand, the organization cannot host an illimited number of people in its own spaces; on the other hand, the Italian regulations impose the assessment by a social worker before starting any rehabilitation, socialization, and training. Disadvantaged categories take part to Al Reves tailoring activities as 'Non-Paid Temporary Volunteers', whose outflow is 'Going out after Free Volunteering Period', affected by its originating stock (link 34) and the 'Time to Finish the Free Volunteering Period' (link 39), normally fixed by the social project.

These dynamics, in the words of informants, were unsustainable: *'Our social activity is uneconomic because it is carried out free of charge, and the 'free' work done by the disadvantaged people is poorly qualified and requires the* support *of a social worker"*. Notwithstanding, the 'social business idea' has been successful to some extent: *"When we started as a pure non-profit organization, charitable consumers used to buy our products because they were produced by disadvantaged social categories"*.

In 2012 Al Reves was transformed into a social cooperative. In 1st order concepts, it is possible to highlight the reasons of the decision (*"The social cooperative is instrumental from an economic point of view"*), and its effects: the fact that *"We totally depend on the business sector, otherwise the organization would not be self-sufficient"*, and the need to make a *"Distinction of the social project and the entrepreneurial tool"*. The new legal form coincided with changes to pursue a SE project: a new business model, articulated into the 'Circular Economy Strategic Area' and the 'Education Strategic Area', presented above; and an enhanced social mission, portrayed in Fig. 8.

In the SE phase, the 'Social Mission' was represented by adding new stock-and-flow structures to the previous model. These integrations acknowledge a growing organizational complexity disclosed by the development of the business sector. As a result, the new 'Social Mission' module contains 6 stocks, 11 flows, 13 auxiliaries and 29 links (numbered 30–58).

In Fig. 8, three flows of disadvantaged people, 'To be Rehabilitated', 'To be Socialized' and 'To be Trained', converge to the stock of 'Reported People from Disadvantaged Categories', that will enter the organization (flow 'Accepting Volunteers') with a timing ('Time to Accept Volunteers') that depends on social worker's assessment and the organizational 'Spare Capacity' (links 31–33).

Contrary to the former phase, the current 'Social Mission' provides opportunities of a more stable job placement. The stock 'Non-Paid Temporary Volunteers' ceases to have only one way out (the outflow 'Going out after Free Volunteering Period'), because some volunteers are kept working in the company through funded projects. These people move to the stock 'Paid Temporary Volunteers' through the flow 'Involvement in Funded Social Projects'. This is in turn is affected by:

- the previous stock ('Non-Paid Temporary Volunteers', link 36), i.e., the basin of potential participants to funded projects; and
- the 'Fraction of Volunteers' Involvement in Funded Projects' (link 37), related to the availability of 'Funded Social Projects' (link 37).

The creation of a new outflow from 'Non-Paid Temporary Volunteers' reduces the flow 'Going out after Free Volunteering Period' (link 38), thus consolidating the social reintegration of disadvantaged people. Afterwards, people exit the stock 'Paid Temporary Volunteers' through the flow 'Going out after Funded Projects', affected by the previous stock (link 39) and the 'Funded Projects' Average Duration' (link 47).

In alternative to 'Going out after Funded Projects', the flow 'Becoming Occasional Employees' creates a movement towards 'Occasional Employees', a stock accumulating the portion of 'Paid Temporary Volunteers' (link 45) that could benefit of a fixed-term employment contract ('Fraction of Recruitment as Occasional Employees', link 44). These further job opportunities are made possible, again, by the availability of 'Funded Social Projects' (link 43). Accordingly, the flow 'Becoming Occasional Employees' subtracts people from 'Going Out after Funded Projects' (link 46), in turn depending upon 'Funded Projects' Average Duration'. According to 'Contract Duration', the stock of 'Occasional Employees' is depleted by 'Going Out after Contract Completion' (link 48). In alternative to this route out, some occasional employees take the way 'Becoming Working Members'. This means to be formally part of the social cooperative as 'Working Members'. The flow is affected by the 'Fraction of Working Members' Enrolment' (link 50), which in turn depends on national regulations about the minimum number of people from disadvantaged categories to be included in the corporate social structure. Then, the possibility to become a working member reduces the flow 'Going out after Contract Completion' (link 49).

Summing up 'Non-Paid Temporary Workers' (link 53), 'Paid Temporary Volunteers' (link 52) and 'Working Members' (link 54), 'People Working in the Social Cooperative' affects the 'Spare Capacity' (link 58) and then the possibility to start a new working chain. It also influences 'Social Business Skills' (link 57), 'Creativity' (link 56), and 'Motivation' (link 55). Notably, in this version of the 'Social Mission' module, the 'Spare Capacity', is more analytical to account for the greater complexity. The bi-flow 'Change in Funded Social Projects' influences and is influenced by 'Project Management Skills' (links 41–42). As evidence of the interrelationships existing between the different sections of the model, these skills are also formed through learning by doing dynamics within the 'Education Strategic Area', concerning other types of projects (educational projects on CE and SE). Overall, the module creates a functional and motivating metaphor, connecting CE principles and the inclusion dynamics of disadvantaged people: *"We are all "ex" of something"*, *"We recycle people as we recycle things"* (Appendix B).

4.4. SD model: Financial Dynamics

The module 'Financial Dynamics' (Fig. 9) is made by one single stock ('Cumulated Profits'), alimented by the inflow 'Revenues' and depleted by the outflow 'Costs'. The latter are due to the acquisition of 'Professional Services' (link 59), e.g., for project management and tax consultancy; 'Purchases' (link 60) whose size is reduced thanks to recycling mechanisms activated in the CE strategic area; 'Wages' (link 61), paid to cooperative members for their activities; 'Depreciation Charges' (link 62) of machinery and plants; and 'Electric Energy' (link 63). The social cooperative does not pay any rent, as it benefits from the concession of an asset confiscated from the mafia, to be used for social purposes according to the Italian regulation (Legislative Decree 159 of 2011, article no. 48).

'Revenues' belong to both the social mission and the commercial business: 'Non-Profit Fundraising' (links 64), 'Donations' (link 65), 'Sales' (link 66), 'Repairs' (link 67), 'Paid Tailoring Workshops' (link 68), 'Funded Projects' (link 69). The 'Cumulated Profits', not distributed to shareholders as required by the Italian legislation (Legislative Decree 112 of 2017), are instead reinvested in the organization. Some 'Investments in Diversification' have been identified by the key informants (Appendix B): "*We are investing to diversify the commercial activity"*, and *"Our organizational learning processes allowed us to intercept three segments of consumer (*price-sensitive, quality-sensitive, and environmental and social issues-sensitive*)"*. In any case: *"We must push on customization and product quality otherwise we will be supplanted by low-cost industrial competition"*.

4.5. The emergent dynamic grounded model

The emergent dynamic grounded model (Fig. 10) offers a theoretical synthesis of the previous research efforts. It puts together insights from the SD models and the GM-based data structure. It compacts three aggregate dimensions: 'Social Mission', 'Commercial Business' and 'Key Links between Social Mission and Commercial Business', symbolized by dashed boxes and bold block letters. Inside each box, there are 2nd order concepts, related by arrow links (noted by capital letters). The thicker arrows connect aggregate dimensions.

The 'Social mission' is dominated by mechanisms of mutual reinforcement of informal education and people's engagement (links A-B). Specifically, *"The valorization of people through their insertion in the production process reduces their social discomfort"*, *"The inclusion of disadvantaged categories in the production process allows their social, human, and psychological redemption"*, providing *"Job education"* and *"Learning processes: language, tailoring skills, social skills, creativity enhancement"* (1st order concepts, Appendix B). For these reasons, the SD model, in both non-profit and SE phases (Figs. 7 and 8), portrays a chain of weak categories being the target of the organizational social mission. The latter is permeated by adult-adult informal education, consisting of nondidactic learning settings embedded in meaningful activities, where learning empowers people through the contribution to "real productive goals and connections with a larger community" (Rogoff et al., 2016). This virtuous loop impacts on the 'Rehabilitation, Socialization and Training of Disadvantaged People (link C) and results in 'Products Impregnated with Social Value' (link D), goods produced by weak social categories. Such a description corresponds to the "pure non-profit soul" of the SE organization, i.e., to be inclusive and to pursue social outcomes for populations/communities/stakeholder groups (Chell, 2007; Hahn, 2012; Korosec and Berman, 2006).

The 'Commercial Business' is, on the other hand, animated by the reciprocal enhancement of the business strategic areas: education and CE (link K and L), where the former is affected by informal, non formal, and formal education mechanisms (links H, I and J). In the SD model, variables such as 'Responsible Consumers', 'Quality of Clothes', 'Clothes Produced', 'Clothes Repaired' trigger learning by doing dynamics concerning company and consumers' skills, both technical and non-technical. More explicitly, the CE and education interplay produces three effects:

- 'Products Impregnated with Social and Environmental Value': circular products result differentiated (Stein et al., 2020) and non commodified (D'Aveni, 2010) in the eyes of a responsible consumer. This is obtained through production (application of CE principles to clothes and to people: *"We are all "ex" of something"*, *"We recycle people as we recycle things"*), and communication mechanisms of circular and social values ("*We tell the social story of our products*")

from the 'Commercial Business' (link M), and the 'Social Mission' (link F).

- 'Skills Formation' (link N): this concept encloses formation mechanisms of technical, project management, social business, creativity skills and motivation, already described in the SD model. The fact that skill enhancement informs the entire organization (*"… through design, production and repairing activities, education, project management, and networking"*), confirms how capacity building is a key component of CE implementation (Lopes de Sousa Jabbour et al., 2019), and reflects SEs' innovativeness and willingness to mobilize ideas, capacities, resources, and social arrangements (Alvord et al., 2004).
- 'Creation of the Demand' (link O): since CE is not a fully established paradigm yet, organizations like Al Reves contribute to promote its affirmation in the community. In fact, consumers are mostly familiar with linear models and expect products based on this traditional paradigm. Their limited knowledge and awareness of CE practices and opportunities can slow the CE transition. Then, it is crucial to communicate CE benefits to consumers (Guldmann, 2016), so that network externalities are likely to function (Henry et al., 2021). In the light of the SD model, the creation of the demand occurs through the flowing of people from 'Fast Fashion Consumers' to 'Responsible Consumers' stocks. The consumers' conversion takes place both in the 'Circular Economy' and 'Education' strategic areas.

In the 'Circular Economy Strategic Area', the consumer is not just involved in the last part of the value chain (i.e., buying circular products), but contributes to the entire production process (through donation, clothes' usage extension, repairing). The SD model embodies the following CE practices: redistribution/reuse, remanufacturing, recycling, and product-life extension (Urbinati et al., 2017). Redistribution/reuse is ascribable to the secondhand shop activity, whilst remanufacturing and recycling to the tailoring clothes activity. Product-life extension, normally consisting of designing products to endure more (Ellen MacArthur Foundation, 2013; Bocken et al., 2016), assumes a specific connotation in Al Reves business model. Indeed, it implies company educational endeavors towards the consumer. Beside supply-side efforts of longlasting product design, the circular philosophy manifests by dissuading consumers from fast fashion habits, stimulating them to conscious purchases, to use clothes as long as possible, and to repair them instead of buying new ones. This dynamic of product co-creation (Prahalad and Ramaswamy, 2000; Ramaswamy, 2009) implicitly educates consumers to responsible behaviours, not just at the purchasing but also at the use phase (Bocken, 2017; Bocken et al., 2016). Accordingly, Al Reves behavioral education demonstrates a certain coherence in defending environmental values, even with the sacrifice of some revenue streams. This fact prompts to make a critical comparison with contradictory circular practices, occurring when take-back policies in large clothing retailers provide financial vouchers for the next purchases, thereby encouraging more fast fashion consumption (Corvellec and Stål, 2017).

More explicit mechanisms of consumers' education take place within the 'Education Strategic Area', with the provision of specific projects for raising people awareness on CE and SE themes. In this context, education occurs in a more complex and reticular way than in the 'Social Mission'. Learning concerns workers, as well as disadvantaged social categories and student groups. The importance of CE education is not new in literature (e.g., Andrews, 2015; Mendoza et al., 2019; Kopnina, 2019); however, the privileged focus is on formal education imparted at schools and universities' settings. In Al Reves, formal, informal, and non formal learning modalities are intertwined within the operational settings, disclosing new roles and opportunities for companies in promoting CE education. Such educational activities assume nuanced connotations, going beyond CSR and being part of the commercial business and its attitude to create shared value (Porter and Kramer, 2011).

The aggregate dimension 'Key Links between Social Mission and Commercial Business', receives inputs from the other dimensions. Specifically, from the 'Social Mission' descends the 'Social Mission Stand Alone Unsustainability' (link E), stimulating the 'Transition from Non-profit Organization to Social Enterprise' (link V). This, by mean of 'Products Impregnated with Social Value' (link G), conduces to 'Social Mission Reinforcing the Commercial Business' (link Z). The latter (link S), together with 'Product Impregnated with Social and Environmental Value' (link P), 'Skills Formation (link Q), and the 'Creation of the Demand' (link R) affects the 'Commercial Business Development', which in turn acts by 'Financing and Reinforcing (the) Social Mission'. In this way, the loop is closed (link U). i.e., the 'Social Mission Stand Alone Unsustainability' is counteracted by adopting a business model characterized by sustainable revenue streams (Evans et al., 2017; Lozano, 2018; Gold et al., 2019). Nonetheless, the 1st order coding (see Appendix B) provides important insights to understand the interrelatedness between CE and SE: *"The environmental aspect is linked to the social one"*; *"Circular economy has two meanings for us since it embraces both environmental and social aspects"*; *"The circular economy is a 'gimmick' to empower communities"*; *"The communication of the social aspects reinforces the circular one"*.

This portion of the grounded model opens to general reflections about the interplay social-commercial businesses within the transition to SE. Al Reves, at a certain point, was 'forced' to change from pure non-profit to social cooperative, and the new legal form allowed substantial changes in the business model. In key-informants' words (Appendix B): *"We totally depend on the business sector, otherwise the organization would not be self-sufficient"*. This shift gives the possibility to catch "Funding *sources from both the for-profit and non-profit spheres"*. The coexistence of social mission and commercial business remarks the hybrid qualification of Al Reves, seeking at the same time to generate profits, environmental and social changes (Reynolds and Holts, 2020; Battilana and Lee, 2014).

5. Conclusion

This paper investigated the interplay between CE and SE in a sustainable business model. A qualitative case study research in the clothing recycle sector combined qualitative SD and GM and provided as main outputs an operational SD model and a dynamic grounded model. Many literature contributions can be identified.

Firstly, the case shed empirical light on the core dynamics taking place in social and circular firms. Such a focus responds to the call for more management studies combining SE and CE (Suchek et al., 2022), facing CE's implementation practices (Kirchherr et al., 2017) and sustainable business models' storytelling (Phillips et al., 2019). Notably, the scientific literature originating CE is not ascribable to the managerial and organizational spheres (Korhonen et al., 2018), and only recently the strategic management domain started to pay attention to CE as a driving paradigm for product and business model innovations (Linder and Williander, 2017; Urbinati et al., 2017). Conversely, SE is a well-established paradigm to favoring business model innovation and sustainability (Cullen and De Angelis, 2021; Dentchev et al., 2016; Smitskikh et al., 2020). The SD and the dynamic grounded models proposed in this study have shown the mutual reinforcement of SE and CE principles in the organization under analysis.

Secondly, the paper takes up the challenge to enlarge the narrow focuses connoting the CE field. This normally pays attention to financial

and environmental aspects (natural, manufactured and financial capital), neglecting the development/enhancement of the human capital (Nogueira et al., 2019), as well as the ethical implications of inclusion, equity and other social aspects (Murray et al., 2017, p. 567). The case shows a complex causal tissue on the consumer's role in CE acceptance and diffusion (Chamberlin and Boks, 2018; Geissdoerfer et al., 2017; Kirchherr et al., 2017), where people flow from fast fashion to circular consumption, and "the customer can be effectively engaged in a circular business model to maximize companies' value" (Centobelli et al., 2020, p. 1745). The SD model portrays organizational good practices of consumers' involvement through implicit and explicit processes of education.

Thirdly, the study shows the transition from a traditional nonprofit organization (NPO) to a social enterprise. The dynamic grounded model virtuous loops, embracing social, environmental, and educational aspects, could represent a potential evolution path for NPOs' transformation. Becoming a social enterprise is felt as an almost compelling exit for NPOs (Ko and Liu, 2021), whose operations are tested by the reduction of private/government funding (Dart, 2004; Liu and Ko, 2014). Socially oriented organizations like Al Reves, incorporating commercial processes (Fitzgerald and Shepherd, 2018) can generate "entrepreneurial profit" for a given social project (Tracey and Jarvis, 2007, p. 671), thus achieving financial self-sufficiency (Maier et al., 2016; Pache and Santos, 2013). Then, the pursue of social value goes hand in hand with a sufficient profitability allowing the reinvestment and the ongoing development of the business model (Lozano, 2018).

Fourthly, the paper fits into the debate on how social enterprises accommodate commercial and social duality (Cooney, 2006; Pache and Santos, 2013). Specifically, the case study shows the activable synergies between social mission and circular business, and therefore between social and environmental aspects. In this regard, the ecological sensitivity, paired with the maintenance of a human diversity (the 'social homologous' of the biodiversity), are business catalysts. In turn, they are enhanced through wide-ranging educational mechanisms and the suitability of the hybrid legal models for business development and reinvestment of sustainable profits. The SD model portrays examples of uncaptured value's recovery (Yang et al., 2016), showing circular paths alternative to linear ones, representing source of competitive advantage. A peculiar feature of the investigated circular business model lays in its attitude to internalize losses of value concerning both products and people. As circular paths consider the potential utility still extractable from every single product, to understand if it can be reused by the same consumer, repaired, resold, or creatively recycled, so disadvantaged people are not to be treated as a valueless burden for society. If they are given a second chance through work education and learning by doing, they hold development potentials and can create value.

Overall, the study illustrated how commercial business and social mission can enhance each other when the former leverages on CE and education (of disadvantaged categories, consumers, and civil community) and is able to communicate products' social and environmental values. In the case study, education transversally connotes the entire grounded model and contributes both to the offer (producing goods by educating weak social categories) and the creation of the demand (through consumer conversion from fast fashion to responsible consumption). Finally, the paper provided a methodological contribution, by proposing an interpretive, participative, and iterative approach integrating SD and GM. The integrative research framework successfully applied to the case study, could be repurposed for similar research works.

The study has also important practical implications. Firstly, it shows how the coexistence of social mission and commercial business is not to be solved neither by creating a hierarchical order, nor by balancing conflicting interests according to prevalent governance forces. On the contrary, synergies between social and economic activities need to be known and boosted by SE managers. As shown in the case under investigation, CE and education can represent at the same time stimuli and organizational glues. Secondly, the communication and diffusion of best practices within case studies like the Al Reves, are likely to boost emulation mechanisms of circular and social business initiatives. Thirdly, in confirming the importance of education for the transition to CE, the paper discloses new and nuanced roles for enterprises (both social and 'non-social') in shaping responsible consumers, somehow questioning the educational supremacy of schools and universities, at least as concerns CE. Accordingly, public decisionmakers should keep in mind that the transition to CE may benefit from day-to-day educational efforts of enterprises, thereby a more systematic use of this kind of interventions could find place in social policy agendas.

This research is no free from limitations. In the first place, it is based on a single, representative case study. If this fact brings a rich understanding of the organization under analysis, future research efforts could improve the trustworthiness of modelling outputs and findings by including more organizations, even looking at other territorial contexts and economic sectors. In the second place, the data analysis is based on the activity performed by a single coder. In order to avoid biased interpretation of data, next studies could enroll more people in the textual coding, preferably in an odd number, so that the identification of concepts, variables and links could result from interpersonal validation, with clear majorities guiding the model building and theorization. In the third place, only two interviews have been conducted. This circumstance, albeit mitigated by triangulating other data sources (e.g., observations, institutional documents), could have affected model structure and boundaries. Future research could investigate the mental models of a wider number of key informants, also investing suppliers and institutional stakeholders. Finally, the paper adopted a qualitative methodology, which appeared suitable for facing a relatively new and underexplored research topic. However, future studies could apply quantitative methods, allowing to focus specific aspects of circular and social business models, the identification of representative samples and the generalization of results.

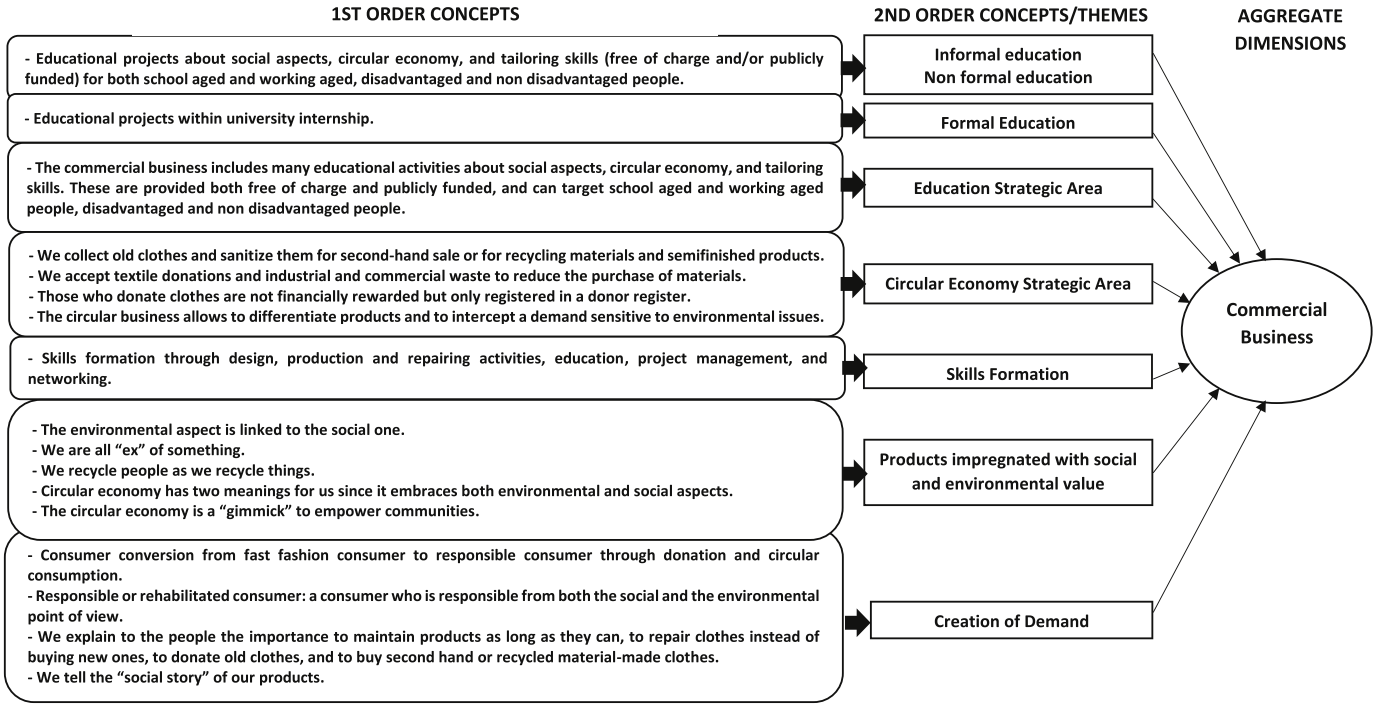
Declaration of competing interest

The author declares that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

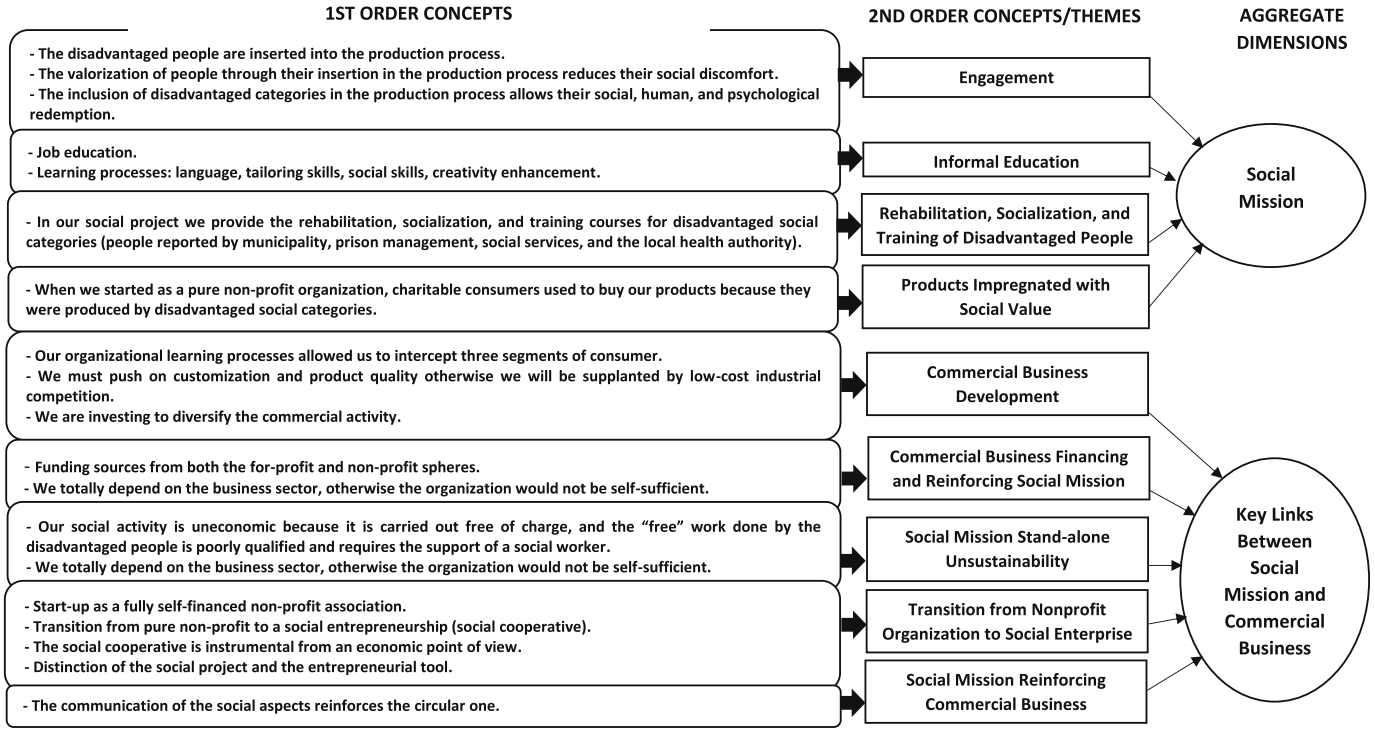
Data availability

Data matrices are included in the appendices.

Appendix A. Data structure - first part



Appendix B. Data structure - second part



References

Abdelkafi, N., Täuscher, K., 2016. Business models for sustainability from a system dynamics perspective. Organ. Environ. 29 (1), 74–96.

Alexius, S., Furusten, S., 2020. Enabling sustainable transformation: hybrid organizations in early phases of path generation. J. Bus. Ethics 165, 547–563.

Alvord, S.H., Brown, D.L., Letts, C.W., 2004. Social entrepreneurship and societal transformation: an exploratory study. J. Applied Behav. Sci. 40, 260–282.

Anand, N., Gardner, H.K., Morris, T.I.M., 2007. Knowledge-based innovation: emergence and embedding of new practice areas in management consulting firms. Acad. Manag. J. 50, 406–428.

Andrews, D., 2015. The circular economy, design thinking and education for sustainability. Local Econ. 30 (3), 305–315.

Balogun, J., Johnson, G., 2004. Organizational restructuring and middle manager sensemaking. The. Acad. Manag. J. 47, 523–549.

Battilana, J., Lee, M., 2014. Advancing research on hybrid organizing. Insights from the study of social enterprises. Acad. Manag. Ann. 8 (1), 397–441.

Battilana, J., Lee, M., Walker, J., Dorsey, C., 2012. In search of the hybrid ideal. Stanford Soc. Innovat. Rev. 12, 51–55.

Bianchi, C., 2010. Improving performance and fostering accountability in the Public Sector through System Dynamics modelling. From an 'external' to an 'internal' perspective. Syst. Res. Behav. Sci. 27 (4), 361–384.

Birkinshaw, J., Brannen, M., Tung, R., 2011. From a distance and generalizable to up close and grounded: Reclaiming a place for qualitative methods in international business research. J. Int. Bus. Stud. 42 (5), 573–581.

Bocken, N., 2017. Business-led sustainable consumption initiatives: impacts and lessons learned. J. Manag. Dev. 36 (1), 81–96.

Bocken, N.M.P., De Pauw, I., Bakker, C., Van der Grinten, B., 2016. Product design and business model strategies for a circular economy. J. Industrial Production Eng. 33 (5), 308–320.

Braungart, M., McDonough, M., Bollinger, A., 2007. Cradle-to-cradle design: creating healthy emissions. A strategy for eco-effective product and system design. J. Clean. Prod. 15, 1337–1348.

Camacho-Otero, J., Boks, C., Pettersen, & I.N., 2019. User acceptance and adoption of circular offerings in the fashion sector: insights from user-generated online reviews. J. Clean. Prod. 231, 928–939.

Centobelli, P., Cerchione, R., Chiaroni, D., Del Vecchio, P., Urbinati, A., 2020. Designing business models in circular economy: a systematic literature review and research agenda. Bus. Strat. Environ. 29, 1734–1749.

Chamberlin, L., Boks, C., 2018. Marketing approaches for a circular economy: using design frameworks to interpret online communications. Sustainability 10, 2070–2096.

Chandra, Y., Paras, A., 2021. Social entrepreneurship in the context of disaster recovery: organizing for public value creation. Publ. Manag. Rev. 23 (12), 1856–1877.

Checkland, P., 1985. Achieving 'desirable and feasible' change: an application of soft systems methodology. J. Oper. Res. Soc. 36, 821–831.

Chell, E., 2007. Social enterprise and entrepreneurship: towards a convergent theory of the entrepreneurial process. Int. Small Bus. J. 25 (5), 5–26.

Christopher, M., Lowson, R., Peck, H., 2004. Creating agile supply chains in the fashion industry. Int. J. Retail Distrib. Manag. 32 (8), 367–376.

Cooney, K., 2006. The institutional and technical structuring of nonprofit ventures: case study of a US hybrid organization caught between two fields. Voluntas Int. J. Voluntary Nonprofit Organ. 17 (2), 137–155.

Corbin, J., Strauss, A., 1990. Grounded theory research: procedures, canons, and evaluative criteria. Qual. Sociol. 13 (1), 3–21.

Corley, K.G., Gioia, D.A., 2004. Identity ambiguity and change in the wake of a corporate spin-off. Adm. Sci. Q. 49, 173–208.

Corvellec, H., Stål, H.I., 2017. Evidencing the waste effect of product-service systems (PSSs). J. Clean. Prod. 145, 14–24.

Coyle, G., 2000. Qualitative and quantitative modelling in system dynamics: some research questions. Syst. Dynam. Rev. 16 (3), 225–244.

Crainer, S., 2013. Squaring the circle. Bus. Strat. Rev. 24 (4), 13–19.

Creswell, J.W., 2009. Research Design. Qualitative, Quantitative, and Mixed Methods Approaches, third ed. Sage, London.

Cullen, U., De Angelis, R., 2021. Circular entrepreneurship: a business model perspective. Resour. Conserv. Recycl. 168, 105300.

D'Aveni, R., 2010. Beating the Commodity Trap. Harward Business Press, Boston.

Dacin, M.T., Dacin, P.A., Tracey, P., 2011. Social entrepreneurship: a critique and future directions. Organ. Sci. 22 (5), 1203–1213.

Dart, R., 2004. Being "business-like" in a nonprofit organization: a grounded and inductive typology. Nonprofit Voluntary Sect. Q. 33 (2), 290–310.

Dees, J.G., Anderson, B.B., Wei-Skillern, J., 2004. Scaling social impact. Stanford Soc. Innovat. Rev. 1, 24–32.

Dentchev, N., Baumgartner, R., Dieleman, H., Johannsdottir, L., Jonker, J., Nyberg, T., Rauter, R., Rosano, M., Snihur, Y., Tang, X., van Hoof, B., 2016. Embracing the variety of sustainable business models: social entrepreneurship, corporate intrapreneurship, creativity, innovation, and other approaches to sustainability challenges. J. Clean. Prod. 113, 1–4.

Drayton, B., 2002. The citizen sector: becoming as entrepreneurial and competitive as business. Calif. Manag. Rev. 44 (3), 120–132.

Dubois, A., Gadde, L.-E., 2002. Systematic combining: an abductive approach to case research. J. Bus. Res. 55 (7), 553–560.

Eisenhardt, K.M., 1989. Building theories from case study research. Acad. Manag. Rev. 14 (4), 532–550.

El Chaarani, H., Raimi, L., 2021. Determinant factors of successful social entrepreneurship in the emerging circular economy of Lebanon: exploring the moderating role of NGOs. J. Entrepreneurship Emerging Economies. https://doi.org/10.1108/JEEE-08-2021-0323.

Ellen MacArthur Foundation, 2013. Towards the Circular Economy, vol. 1. Retrieved February 10, 2022, from: https://www.ellenmacarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf.

Ellen MacArthur Foundation, 2015. Circularity Indicators: an Approach to Measuring Circularity. Retrieved Retrieved May 10, 2021, from: https://www.ellenmacarthurfoundation.org/assets/downloads/insight/Circularity-Indicators_Project-Overview_May2015.pdf.

Ellen MacArthur Foundation, 2020. The Built Environment Two Circular Investment Opportunities towards a Resilient Low-Carbon Economic Recovery. Retrieved Retrieved May 10, 2021, from: https://www.ellenmacarthurfoundation.org/assets/downloads/The-Built-Environment.pdf.

Esposito, M., Tse, T., Soufani, K., 2018. Introducing a circular economy: new thinking with new managerial and policy implications. Calif. Manag. Rev. 60 (3), 5–19.

Eurofound, 2019. Cooperatives and Social Enterprises: Work and Employment in Selected Countries. Publications Office of the European Union, Luxembourg.

European Commission, 2019. *The European Green Deal*. 11.12.2019 COM(2019)640. European Commission, Brussels.

European Commission, 2020. *A New Circular Economy Action Plan for a Cleaner and More Competitive Europe*. 11.3.2020 COM(2020), vol. 98. European Commission, Brussels.

Evans, S., Vladimirova, D., Holgado, M., Van Fossen, K., Yang, M., Silva, E.A., Barlow, C. Y., 2017. Business model innovation for sustainability: towards a unified perspective for creation of sustainable business models. Bus. Strat. Environ. 26 (5), 597–608.

Fitzgerald, T., Shepherd, D., 2018. Emerging structures for social enterprises within nonprofits: an institutional logics perspective. Nonprofit Voluntary Sect. Q. 47 (3), 474–492.

Fletcher, K., 2010. Slow fashion: an invitation for systems change. J. Design, Creative Process Fashion Industry 2 (2), 259–265.

Forrester, J.W., 1961. Industrial Dynamics. The MIT Press, Cambridge (Reprinted by Pegasus Communications, Waltham).

Franco, M.A., 2019. A system dynamics approach to product design and business model strategies for the circular economy. J. Clean. Prod. 241, 118327.

Gehman, J., Glaser, V., Eisenhardt, M., Gioia, D., Langley, A., Corley, K.G., 2018. Finding theory-method fit: a comparison of three qualitative approaches to theory building. J. Manag. Inq. 27 (3), 284–300.

Geissdoerfer, M., Morioka, S.N., Monteiro de Carvalho, M., Evans, S., 2018a. Business models and supply chains for the circular economy. J. Clean. Prod. 190, 712–721.

Geissdoerfer, M., Savaget, P., Bocken, N.M.P., Hultink, E.J., 2017. The Circular Economy – a new sustainability paradigm? J. Clean. Prod. 143, 757–768.

Geissdoerfer, M., Vladimirova, D., Evans, S., 2018b. Sustainable business model innovation: a review. J. Clean. Prod. 198, 401–416.

Ghisellini, P., Cialani, C., Ulgiati, S., 2016. A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. J. Clean. Prod. 114, 11–32.

Gioia, D.A., Chittipeddi, K., 1991. Sensemaking and sensegiving in strategic change initiation. Strat. Manag. J. 12, 433–448.

Gioia, D.A., Corley, K.G., Hamilton, A.L.(, 2012. Seeking qualitative rigor in inductive research: notes on the Gioia methodology. Organ. Res. Methods 16 (1), 15–31.

Gold, S., Chowdhury, I.N., Huq, F.A., Heinemann, K., 2019. Social business collaboration at the bottom of the pyramid: the case of orchestration. Bus. Strat. Environ. 29 (1), 262–275.

Graedel, T.E., 1996. On the concept of industrial ecology. Annu. Rev. Energy Environ. 21, 69–98.

Guldmann, E., 2016. Best Practice Examples of Circular Business Models. The Danish Environmental Protection Agency, Copenaghen.

Hahn, R., 2012. Inclusive business, human rights and the dignity of the poor: a glance beyond economic impacts of adapted business models. Bus. Ethics Eur. Rev. 21 (1), 47–63.

Harding, R., 2004. Social enterprise: the new economic engine? Bus. Strat. Rev. 15 (4), 39–43.

Hartigan, P., 2006. It's about people, not profits. Bus. Strat. Rev. 17 (4), 42–45.

Haseeb, M., Haouas, I., Nasih, M., Mihardjo, L.W.W., Jermsittiparsert, K., 2020. Asymmetric impact of textile and clothing manufacturing on carbon dioxide emissions: evidence from top Asian economies. Energy 196, 117094.

Henriksson, M., Hultman, M., Johansson, N., Kaijser, A., Wallsten, B., 2019. Social and ecological entrepreneurship in a circular economy: the need for understanding transitional agency. In: De Bruin, A., Teasdale, S. (Eds.), A Research Agenda for Social Entrepreneurship. Edward Elgar Publishing, Cheltenham: UK, pp. 113–127.

Henry, M., Schraven, D., Bocken, N., Frenken, K., Hekkert, M., Kirchherr, J., 2021. The battle of the buzzwords: a comparative review of the circular economy and the sharing economy concepts. Environ. Innov. Soc. Transit. 38, 1–21.

Hibbert, S., Hogg, G., Quinn, T., 2005. Social entrepreneurship: understanding consumer motives for buying the Big Issue. J. Consum. Behav. 4 (3), 159–172.

Hockerts, K., 2006. Entrepreneurial opportunity in social purpose business ventures. In: Mair, J., Robinson, J., Hockerts, K. (Eds.), Social Entrepreneurship. Palgrave Macmillan, Basingstoke, UK, pp. 142–153.

Homer, J., Oliva, R., 2001. Maps and models in system dynamics: a response to Coyle. Syst. Dynam. Rev. 17, 347–355.

Kazancoglu, Y., Ekinci, E., Mangla, K.S., Sezer, M.D., Kayikci, Y., 2021. Performance evaluation of reverse logistics in food supply chains in a circular economy using system dynamics. Bus. Strat. Environ. 30, 71–91.

Khan, O., Daddi, T., Iraldo, F., 2019. Microfoundations of dynamic capabilities: insights from circular economy business cases. Bus. Strat. Environ. 29, 1479–1493.

Kirchherr, J., Reike, D., Hekkert, M., 2017. Conceptualizing the circular economy: an analysis of 114 definitions. Resour. Conserv. Recycl. 127, 221–232.
Ko, W.W., Liu, G., 2021. The transformation from traditional nonprofit organizations to social enterprises: an institutional entrepreneurship perspective. J. Bus. Ethics 171, 15–32.
Kopainsky, B., Luna-Reyes, L.F., 2008. Closing the loop: promoting synergies with other theory building approaches to improve system dynamics practice. Syst. Res. Behav. Sci. 25, 471–486.
Kopnina, H., 2019. Green-washing or best case practices? Using circular economy and Cradle to Cradle case studies in business education. J. Clean. Prod. 219, 613–621.
Korhonen, J., Nuur, C., Feldmann, A., Birkie, S.E., 2018. Circular economy as an essentially contested concept. J. Clean. Prod. 175, 544–552.
Korosec, R.L., Berman, E.M., 2006. Municipal support for social entrepreneurship. Publ. Adm. Rev. 66 (3), 448–462.
Lasprogata, G.A., Cotten, M.N., 2003. Contemplating enterprise: the business and legal challenges of social entrepreneurship. Am. Bus. Law J. 41, 67–113.
Lettice, F., Parekh, M., 2010. The social innovation process: themes, challenges and implications for practice. Int. J. Technol. Manag. 51, 139–158.
Lewandowski, M., 2016. Designing the business models for circular economy—towards the conceptual framework. Sustainability 8 (43), 1–28.
Lin, C.H., Tung, C., Huang, C., 2006. Elucidating the industrial cluster effect from a system dynamics perspective. Technovation 26, 473–482.
Linder, M., Williander, M., 2017. Circular business model innovation: inherent uncertainties. Bus. Strat. Environ. 26 (2), 182–196.
Liu, G., Ko, W.W., 2014. Charity retailing in the UK: a managerial capabilities perspective. J. Small Bus. Manag. 52 (3), 390–406.
Lopes de Sousa Jabbour, A.B., Rojas Luiz, J.V., Rojas Luiz, O., Chiappetta Jabbour, C.J., Ndubisi, N.O., Caldeira de Oliveira, J.H., Horneaux Junior, F., 2019. Circular economy business models and operations management. J. Clean. Prod. 235, 1525–1539.
Lozano, R., 2018. Sustainable business models: providing a more holistic perspective. Bus. Strat. Environ. 27 (8), 1159–1166.
Lüdeke-Freund, F., Gold, S., Bocken, N., 2019. A review and typology of circular economy business model patterns. J. Ind. Ecol. 23, 36–61.
Luna-Reyes, L.F., Andersen, D.L., 2003. Collecting and analyzing qualitative data for system dynamics: methods and models. Syst. Dynam. Rev. 19 (4), 271–296.
Maier, F.H., 1998. New product diffusion models in innovation management. A system dynamics perspective. Syst. Dynam. Rev. 14 (4), 285–308.
Maier, F., Meyer, M., Steinbereithner, M., 2016. Nonprofit organizations becoming business-like: a systematic review. Nonprofit Voluntary Sect. Q. 45 (1), 64–86.
Masnick, K., McDonnell, G., 2010. A model linking clinical workforce skill mix planning to health and healthcare dynamics. Hum. Resour. Health 8 (1), 11–20.
McDonough, W., Braungart, M., 2003. Toward a sustaining architecture for the 21st century: the promise of Cradle-to-Cradle design. Ind. Environ. 26, 13–16.
Mendoza, J.M.F., Gallego-Schmid, A., Azapagic, A., 2019. Building a business case for implementation of circular economy in higher education institutions. J. Clean. Prod. 220, 553–567.
Moellers, T., von der Burg, L., Bansemir, B., Pretzl, M., Gassmann, O., 2019. System dynamics for corporate business model innovation. Electron. Mark. 29, 387–406.
Moizer, J., Tracey, P., 2010. Strategy making in social enterprise: the role of resource allocation and its effects on organizational sustainability. Syst. Res. Behav. Sci. 27, 252–266.
Mulgan, G., 2006. The process of social innovation. Innovations: Technology, Governance & Globalization 1 (2), 145–162.
Murray, A., Skene, K., Haynes, K., 2017. The circular economy: an interdisciplinary exploration of the concept and application in a global context. J. Bus. Ethics 140 (3), 369–380.
Murray, J., 2006. Cybernetic circularity in teaching and learning. Int. J. Teaching Learning Higher Education 18 (3), 215–221.
Nogueira, A., Ashton, W.S., Teixeira, C., 2019. Expanding perceptions of the circular economy through design: eight capitals as innovation lenses. Resour. Conserv. Recycl. 149, 566–576.
OECD, 2011. Fostering Social Innovation to Address Social Challenges. Workshop Proceedings, OECD. Retrieved July 21, 2021, from. https://www.oecd.org/sti/inno/47861327.pdf.
Ong, D., Shang, L., Chandra, Y., Hamidi, M., Abd Wahab, H., 2020. The role of social entrepreneurship for youth purpose development. J. Asian Public Policy 14 (2), 272–290.
Pache, A.-C., Santos, F., 2013. Inside the Hybrid organization: selective coupling as a response to competing institutional logics. Acad. Manag. J. 56 (4), 972–1001.
Patvardhan, S.D., Gioia, D.A., Hamilton, A.L., 2015. Weathering a meta-level identity crisis: forging a coherent collective identity for an emerging field. Acad. Manag. J. 58, 405–435.
Phillips, W., Alexander, E.A., Lee, H., 2019. Going it alone won't work! The relational imperative for social innovation in social enterprises. J. Bus. Ethics 156, 315–331.
Porter, M.E., Kramer, M.R., 2011. Creating shared value. Harv. Bus. Rev. 1–17. January-February.
Prahalad, C.K., Ramaswamy, V., 2000. Co-opting customer competence. Harv. Bus. Rev. 78 (1), 79–88.
Pratt, M.G., Rockmann, K.W., Kaufmann, J.B., 2006. Constructing professional identity: the role of work and identity learning cycles in the customization of identity among medical residents. Acad. Manag. J. 49, 235–262.
Ramaswamy, V., 2009. Leading the transformation to co-creation of value. Strat. Leader. 37 (2), 32–37.
Reynolds, N., Holts, D., 2020. Sustainable development and profit? A sensemaking perspective on hybrid organisations and their founders. Bus. Strat. Environ. 30 (4), 2147–2159.
Richardson, G.P., 1991. System dynamics: simulation for policy analysis from a feedback perspective". In: Fishwick, P.A., Luker, P.A. (Eds.), Qualitative Simulation Modeling and Analysis. Advances in Simulation, vol. 5. Springer, New York, NY, pp. 144–169.
Roberts, D., Woods, C., 2005. Changing the World on a Shoestring: the Concept of Social Entrepreneurship. University of Auckland Business Review, Autumn, pp. 45–51.
Roberts, N.H., Andersen, D.F., Deal, R.M., Grant, M.S., Shaffer, W.A., 1983. Introduction to Computer Simulation: the System Dynamics Modeling Approach. Addison-Wesley, Reading, MA.
Robinson, J., 2006. Navigating social and institutional barriers to markets: how social entrepreneurs identify and evaluate opportunities. In: Mair, J., Robinson, J., Hockerts, K. (Eds.), Social Entrepreneurship. Palgrave Macmillan, Basingstoke, UK, pp. 95–120.
Rogoff, B., Callanan, M., Gutiérrez, K., Erickson, F., 2016. The organization of informal learning. Rev. Res. Educ. 40, 356–401.
Sajn, N., 2019. Environmental Impact of the Textile and Clothing Industry what Consumers Need to Know. EPRS European Parliamentary Research Service. PE 633.143, January. Retrieved July 20, 2021, from. https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/633143/EPRS_BRI(2019)633143_EN.pdf.
Sandin, G., Peters, G.M., 2018. Environmental impact of textile reuse and recycling - a review. J. Clean. Prod. 184, 353–365.
Schweiger, S., Stouten, H., Bleijenbergh, I.L., 2018. A system dynamics model of resistance to organizational change: the role of participatory strategies. Syst. Res. Behav. Sci. 35, 658–674.
Shaw, E., 2004. Marketing in the social enterprise context: is it entrepreneurial? Qual. Mark. Res. Int. J. 7 (3), 194–205.
Shenton, A.K., 2004. Strategies for ensuring trustworthiness in qualitative research projects. Educ. Inf. 22, 63–75.
Siderius, T., Poldner, K., 2021. Reconsidering the circular economy rebound effect: propositions from a case study of the Dutch circular textile valley. J. Clean. Prod. 293, 125996.
Smitskikh, K., Titova, N.Y., Shumik, E.G., 2020. The model of social entrepreneurship dynamic development in circular economy. Revista Universidad y Sociedad 12 (5), 248–253.
Sonenshein, S., 2007. The role of construction, intuition, and justification in responding to ethical issues at work: the sensemaking-intuition model. Acad. Manag. Rev. 32 (4), 1022–1040.
Sonenshein, S., 2010. We're changing or are we? Untangling the role of progressive, regressive, and stability narratives during strategic change implementation. Acad. Manag. J. 53 (3), 477–512.
Stein, N., Spinler, S., Vanthournout, H., Blass, V., 2020. Consumer perception of online attributes in circular economy activities. Sustainability 12, 1914.
Sterman, J.D., 2000. Business Dynamics Systems Thinking and Modeling for a Complex World, first ed. McGraw-Hill Companies, New York.
Stigliani, I., Ravasi, D., 2012. Organizing thoughts and connecting brains: material practices and the transition from individual to group-level prospective sensemaking. Acad. Manag. J. 55, 1232–1259.
Stratan, D., 2017. Success factors of sustainable social enterprises through circular economy perspective. Visegrad J. Bioecon. Sustain. Dev. 1, 17–23.
Strauss, A.L., Corbin, J., 1998. Basics of Qualitative Research, vol. 2. Sage, Thousand Oaks.
Suchek, N., Ferreira, J.J., Fernandes, P.O., 2022. A review of entrepreneurship and circular economy research: State of the art and future directions. Bus. Strat. Environ. 31 (5), 2256–2283.
Sumter, D., De Koning, J., Bakker, C., Balkenede, R., 2020. Circular economy competencies for design. Sustainability 12, 1561.
Tapaninaho, R., Heikkinen, A., 2022. Value creation in circular economy business for sustainability: a stakeholder relationship perspective. Bus. Strat. Environ. 31, 2728–2740.
Tapia, C., Bianchi, M., Pallaske, G., Bassi, A.M., 2021. Towards a territorial definition of a circular economy: exploring the role of territorial factors in closed-loop systems. Eur. Plann. Stud. 29 (8), 1438–1457.
Thompson, J., Doherty, B., 2006. The diverse world of social enterprise: a collection of social enterprise stories. Int. J. Soc. Econ. 33 (5/6), 399–410.
Tracey, P., Jarvis, O., 2007. Toward a theory of social venture franchising. Enterpren. Theor. Pract. 31 (5), 667–685.
Travaglini, C., 2012. The generation and re-generation of social capital and enterprises in multi-stakeholders social cooperative enterprises: a system dynamic approach. Rev. Adm. 47 (3), 436–445.
Ünal, E., Urbinati, A., Chiaroni, D., Manzini, R., 2019a. Value creation in circular business models: the case of a US small medium enterprise in the building sector. Resour. Conserv. Recycl. 146, 291–307.
Urbinati, A., Chiaroni, D., Chiesa, V., 2017. Towards a new taxonomy of circular economy business models. J. Clean. Prod. 168, 487–498.
Van Maanen, J., 1979. Reclaiming qualitative methods for organizational research: a preface. Adm. Sci. Q. 24 (4), 520–526.
Villa Todeschini, B., Nogueira Cortimiglia, M., Callegaro-de-Menezes, D., Ghezzi, A., 2017. Innovative and sustainable business models in the fashion industry: entrepreneurial drivers, opportunities, and challenges. Bus. Horiz. 60, 759–770.
Wolstenholme, E., 1990. System Enquiry: A System Dynamics Approach. Wiley, Chichester.
Yang, M., Evans, S., Vladimirova, D., Rana, P., 2016. Value uncaptured perspective for sustainable business model innovation. J. Clean. Prod. 140 (3), 1794–1804.

Yin, R.K., 2018. Case Study Research and Application. Design and Methods, sixth ed. SAGE, Thousand Oaks.
YinBloodgood, J.M., Hornsby, J.S., Burkemper, A.C., Sarooghi, H., 2015. A system dynamics perspective of corporate Entrepreneurship. Small Bus. Econ. 45, 383–402.
Yitshaki, R., Kropp, F., 2016. Motivations and opportunity recognition of social entrepreneurs. J. Small Bus. Manag. 54 (2), 546–565.
Yunus, M., Moingeon, B., Lehmann-Ortega, L., 2010. Building social business models: lessons from the Grameen experience. Long. Range Plan. 43 (2–3), 308–325.
Zaccone, M.C., Santhià, C., Bosone, M., 2022. How hybrid organizations adopt circular economy models to foster sustainable development. Sustainability 14, 2679.
Zahra, S.A., Gedajlovic, E., Neubaum, D.O., Shulman, J.M., 2009. A typology of social entrepreneurs: motives, search processes and ethical challenges. J. Bus. Ventur. 24, 519–532.
Zott, C., Amit, R., Massa, L., 2011. The business model: recent developments and future research. J. Manag. 37 (4), 1019–1042.