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Social sustainability in an evolving circular fashion industry: identifying and triangulating concepts across different publication groups

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Abstract

Sustainability and the concept of circular economy are two of the most prominent approaches in the fashion industry to meet global challenges. Advocated by different interest groups, these concepts primarily follow an environmental and economic perspective on sustainability. In turn, the social dimension of sustainability has not been extensively explored. Performing a comparative discourse analysis, this study triangulates data from three different perspectives and unveils social sustainability-related aspects in documents related to two specific companies as well as in academic and stakeholder publications in the fashion context. We use Leximancer™ to reveal and visualize the scope and frequency of socially relevant concepts in more than 550 publications. Based on this, results show that the two fashion companies have gradually been communicating more about social sustainability-related aspects as opposed to academic and stakeholder publications. Overall, single social sustainability-related values exclusively appear in each of the publication groups, whereas others seem to reflect a mutual influence among the different players. Yet, pivotal social sustainability-related issues are missing. This corroborates scholars assuming a neglected role of the social dimension of sustainability in general and calling for a greater elaboration on social aspects in the conceptualization of a circular economy. Our results also call for a deeper follow-up analysis of communications, practices and strategies of different actors in their respective social contexts.

Keywords Circular economy · Content analysis · Fashion industry · Themes and verbal patterns · Social sustainability · Triangulation

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Soziale Nachhaltigkeit in einer sich entwickelnden zirkulären Mode- und Bekleidungsindustrie: Identifikation und Triangulation von Konzepten verschiedener Publikationsgruppen

Zusammenfassung

Die Konzepte der Nachhaltigkeit und der Kreislaufwirtschaft sind zwei zentrale Ansätze in der Mode- und Bekleidungsindustrie, um globalen nachhaltigkeitsbezogenen Herausforderungen zu begegnen. Allerdings fokussieren diese Konzepte primär auf ökologische und ökonomische Nachhaltigkeit. Die soziale Dimension der Nachhaltigkeit wurde bisher wenig erforscht. Die in dieser Studie durchgeführte vergleichende Diskursanalyse trianguliert Daten von drei verschiedenen Perspektiven und deckt soziale nachhaltigkeitsbezogene Aspekte in Publikationen von zwei zentralen Unternehmen, wissenschaftlichen Artikeln sowie Dokumenten unterschiedlicher Stakeholder im Mode- und Bekleidungskontext auf. Unter Verwendung von Leximancer™ werden aus Sicht der sozialen Nachhaltigkeit relevante Konzepte in ihrem Umfang und ihrer Häufigkeit in mehr als 550 Publikationen aufgespürt und visualisiert. Die Ergebnisse zeigen, dass die beiden Unternehmen im Vergleich zu akademischen und Stakeholder-Publikationen sukzessive mehr über soziale Aspekte kommunizieren. Insgesamt tauchen in jeder der Publikationsgruppen einzelne auf soziale Nachhaltigkeit bezogene Konzepte exklusiv auf, während andere eine gegenseitige Beeinflussung der verschiedenen Akteure widerzuspiegeln scheinen. Zentrale Aspekte der sozialen Nachhaltigkeit sind in keiner der drei Publikationsgruppen zu finden. Dies bestätigt das Erfordernis einer Konzeptualisierung sozialer Aspekte in der Kreislaufwirtschaft. Die Ergebnisse bieten auch eine zentrale Grundlage für eine tiefer gehende Analyse der Kommunikation, Praktiken und Strategien der verschiedenen Akteure in ihrem jeweiligen sozialen Kontext.

Schlüsselwörter Kreislaufwirtschaft · Inhaltsanalyse · Mode- und Bekleidungsindustrie · Themen und sprachliche Muster · Soziale Nachhaltigkeit · Triangulation

1 Introduction

The global fashion industry causes massive environmental impact and disastrous social mismanagement (e.g., violating several labor laws) in its supply chains (Pedersen and Gwozdz 2014). Various stakeholder groups including consumers, non-governmental organizations (NGOs), or institutional investors have been exerting pressure on major companies to encourage them to implement proper sustainability and risk management (Jaegler and Goessling 2020). Key drivers to implement circularity in the fashion industry particularly involve recycling and upcycling activities as well as vegan manufacturing principles (Todeschini et al. 2017). Despite differences in the concepts of sustainable development and circular economy (Ellen MacArthur Foundation 2022) regarding objectives, approaches, and impacts, both emphasize intra- and intergenerational commitment, non-economic drivers for societal change and the pivotal role of companies to advance industry transitions (Bocken et al. 2017; Geissdoerfer et al. 2018; Lahti et al. 2018).

Change is also influenced by multiple stakeholder groups, including industry players, business consultancies and associations, policy-makers, academic scholarship, and media, as well as an increasing environmental awareness in society (Korhonen et al. 2018). Stakeholder activism and an increasingly complex environment of multi-stakeholder governance and bodies affect the corporate management of transitions towards circularity and sustainability (Arenas et al. 2009; Baumgartner et al. 2020; Dawkins 2014). In

turn, the companies' ability and capacity of responding to external pressures and demands by creating sustainable value have become a core prerequisite for corporate success and becoming a socially sustainable organization (Chiappetta Jabbour et al. 2019; Galuppo et al. 2014). Thus, analyzing leading retailers and fashion brands, such as C&A or H&M, can deepen transitory insights in terms of social circularity.

Both companies have been adopting strategies and business model innovations towards circular economy to promote environmental and society-wide benefits of sustainable fashion production and consumption practices (GFA 2018; Saha et al. 2021). For example, while C&A has been pioneering product innovations regarding the concept of cradle-to-cradle (C&A 2018), H&M has been proclaiming its strategy turnaround of becoming 100% circular and renewable by 2030 in April 2017 (H&M 2018). Since governance and legitimization processes are characterized by underlying complex, uncertain and multiple values, embracing a plurality of perspectives relevant to tackling sustainability issues is considered crucial to enable a standardization and institutionalization of norms and practices in business-society relations and responsible business conduct (Grosser 2016).

These aspects also affect social sustainability that is concerned with the identification and management of positive and negative impacts, evoked by corporate activity, on people (United Nations Global Compact 2019). According to Roca-Puig (2019), "social sustainability is a quality of a hu-

man system based on a series of values or essential ethical principles (e.g., fairness, trust, equity, justice, cooperation, engagement) that foster lasting conditions for human well-being, particularly for the most vulnerable individuals or groups" (p. 917). However, in the circular economy, the social dimension has been less investigated and elaborated in terms of meaning, objectives and relevant issues (cf., Ajmal et al. 2017; Moreau et al. 2017; Sauvé et al. 2016). It is still unclear how circular economy-related strategies and concepts will promote social equity and provide benefits for society such as improvements in human rights and social justice (Millar et al. 2019).

Previous literature has failed to address the potential relevance of aspects associated with social sustainability and social compliance in a circular fashion industry and their real-world representation by fashion companies. Moreover, a consolidated view on what themes and aspects reflecting social sustainability are embedded in a circular economy is missing in existing literature. Considering social aspects could also help in order to spur further legitimization and institutionalization of the circular economy concept. Indeed, as Murray et al. (2017) stress, there is the imperative of further developing existing concepts from a holistic and integrative perspective. Moreover, the roles of stakeholders, such as NGOs and their engagement in circular transition processes, are also underrepresented (Lüdeke-Freund et al. 2018)—likewise the pressure of external stakeholders and interest groups on fashion companies to implement circular economy principles and strategies in a socially sustainable way. Therefore, a synthesis of the actual state of themes and concepts is essential that relates to social sustainability in selected companies and stakeholders' eyes—as it is unclear, how the views differ or overlap in a fashion industry increasingly moving towards implementing sustainability and circularity. Our study responds to this gap by identifying, visualizing and elaborating themes and concepts relating to social sustainability in publications across the three different groups of actors, like business related to two specific companies, academia, and the public. We further compare these concepts by discovering similarities and differences of these concepts across the coverage by corporate players, academic outlets and public interest groups, thereby allowing and presenting a multi-perspective and balanced approach.

The research approach chosen in our study appears to be highly relevant since discussions about sustainable development and the circular economy involve discourses between multiple actors with many co-existing motives and interests, perspectives and interpretations, representing 'constructive ambiguity' (Hugé et al. 2013, p. 188). While society and knowledge about it is actively constructed by discourses as structured ways of representation, they also filter particular social understandings and actions (Hugé et al. 2013).

This may imply opportunities and enablers, but also constraints and obstacles influenced through languages, meanings and interpretations, existing assumptions and perceptions, social structures and interactions or even levels of power. On a meta-level, identifying particular features of discourses among different actors helps to uncover categories and structures that are central and congruent in the representation of social constructs and, thus, mirror their significance. It also detects neglected and less important aspects, yet that could influence the acceptability and further development of such constructs and discourses in society. Our study contributes to this by shedding light on different discourses in an increasingly circular fashion industry to identify key socially related concepts in publications issued by diverse actors. By emphasizing a comparative and comprehensive approach, the study delineates from mainstream research on the circular economy that focuses on the examination of corporate case examples or academic viewpoints. Indeed, studies on stakeholder perspectives in the circular economy for fashion are missing. This needs to be addressed in order to close the gap.

First, we collect and analyze academic, corporate and stakeholder publications concerning concepts, patterns and relations. Second, we aggregate the findings across all groups examined to derive at comparative conclusions. The intention of this article is not to delineate between sustainability and circular strategies in the fashion industry or to elaborate on single fashion companies implementing sustainability approaches (e.g., in the context of fast fashion). Furthermore, it is not the study's intention to analyze the roles and spheres of influence among stakeholders in the fashion industry independently. The study contrasts themes of circularity and social sustainability of corporate publications of two specific fashion companies and academic as well as stakeholder publications. The results of this triangulation progress further research and practical implementation for further maturing and harmonizing multi-perspective notions on social sustainability in an industry sector's movement towards greater sustainability and circularity.

2 Theoretical-conceptual background

This section focuses on core theoretical streams of our research. We stress key features of the circular economy and existing as well as missing links to social sustainability in general and relating to fashion industry.

2.1 The fashion industry's movement towards implementing circular economy

Sustainability aims at the establishment of resilient systems respecting the limits of ecological viability and capacity and balancing environmental, economic and social dimensions or aspects of sustainability, triple-bottom-line approach (Arnold 2018). Sustainable development further needs changes in multiple spheres including individual, organizational, institutional, and systemic levels, as well as business model innovations for sustainability, considering the interests of multiple stakeholders (Tolkamp et al. 2018).

The textile, fashion and apparel industry is responsible for causing huge sustainability challenges throughout its value and supply chains given the prevailing principles of a linear economy model. This includes environmental harm such as rising global carbon emissions, enormous water use, non-recoverable materials, soil pollution or increasing landfill. Social impacts concern issues such as equitable and dignified working and living conditions in production countries as well as consumption patterns, relationships with garments or prevailing design standards (Brydges 2021; European Parliament 2021; Goworek et al. 2020; Ki et al. 2020; McFall-Johnsen 2020; Provin and de Aguiar Dutra 2021).

The circular economy promotes new, cyclic ways of using and treating resources from an environmental and economic point of view and forms part of holistically adapting existing or creating new business models (Bocken et al. 2016; Ferasso et al. 2020; Ellen MacArthur Foundation 2022). Based on closed loop flows of materials and energy, it aims at setting up a green, restorative and regenerative economy including the creation of new business models and employment opportunities (Geissdoerfer et al. 2018). Based on a reformulation of core principles in the circular economy, previous research has identified values, attributes, and enablers relevant for the design of circular, closed-loop supply chains, reverse logistics and product recovery. These include cascades orientation, waste elimination, economic optimization, maximization of retained value, environmental consciousness, leakage minimization, systems thinking, circularity, built-in resilience, collaborative network, shift to renewable energy, optimization of change, technology-driven, market availability and innovation (Ripanti and Tjahjono 2019).

Thus, circular economy is a concept that promotes alternative strategies and tools to tackle global sustainability challenges as mentioned above. Albeit it is closely related to the concept of sustainability, a precise definition between both ideals is still subject to scientific debate (Suárez-Eiroa et al. 2019). At its core, a circular textile and fashion economy represents "an industrial system which produces neither waste nor pollution by redesigning fibres to circulate at a high quality within the production and consump-tion system for as long as possible and/or feeding them back into the bio- or technosphere to restore natural capital or providing secondary resources at the end of use" (GIZ 2019, p. 3). Principles for circularity should cover the entire lifecycle of textile and fashion items and involve responsibilities among both producers and consumers (Brismar 2015). Amongst other issues, this includes criteria for fashion design and production (e.g., disassembly and separation, non-toxic and high-quality materials) as well as consumption (e.g., multiple users) and end-of-life (e.g., recycling stations) (e.g., Hvass 2015; Machado et al. 2019; Corvellec and Stål 2019; Hvass and Pedersen 2019; Paras et al. 2019; Sandvik and Stubbs 2019; Jia et al. 2020). Against this background, the circular economy concept has particularly been considered an important driver in order to facilitate transformation towards sustainability in this industry (Pedersen et al. 2019; Thorisdottir and Johannsdottir 2019; Goldsworthy et al. 2018; Todeschini et al. 2017). Often-cited corporate examples of circular strategies include Nike's ColourDry technology or Patagonia's Worn Wear initiative (Ki et al. 2020).

Yet, most scholarly publications considered primarily environmental and economic dimensions (e.g., Chouinard and Brown 1997; Kjaer et al. 2019; Siderius and Poldner 2021), political and legal issues (e.g., Jacometti 2019) or technological and manufacturing aspects (e.g., Shirvanimoghaddam et al. 2020). The social side of sustainability is occurring as a side, secondary and indirect effect (Ranta et al. 2018) rather than equally embedded or deliberately taken as a starting point for inquiry.

2.2 The missing social pillar of sustainability in circular economy

Circular economy and related business models (e.g., product-service systems) are considered to offering social values and realizing social sustainability, social progress and social growth. This is achieved by means of job opportunities, new work procedures and relationships, consumer comfort, skills development and promotion, corporate reputation and image appreciation or social cohesion and integration (Chiappetta Jabbour et al. 2019; Korhonen et al. 2018; Leder et al. 2020; Moktadir et al. 2020; Schwanholz and Leipold 2020). Likely, solidarity and sharing economy involve aspects such as deeper changes of social values, practices and paradigms underlying the economic system and activity. It implies fostering shifts in prevailing cultural categories and social practices and the promotion of human-embedded, inclusive thinking and sufficiency-oriented mind-sets and behaviors, non-ownership, low consumerism, social awareness and emotional attachment, a sense of community and shared responsibility, a reframing of product care and stewardship, a stronger engagement in partnerships and coop-

eration, participation and empowerment of different stakeholders or an increase of labor-intensive activities based on diverse and dignified work activities (Bauwens et al. 2020; Hobson 2019; Ki et al. 2020; Korhonen et al. 2018; Lofthouse and Prendeville 2018; Moreau et al. 2017; Schröder et al., 2020; Schulz et al. 2019).

Hirscher et al. (2018) explicitly focus on the role of social manufacturing in fashion and emphasize the importance of empowering consumers in alternative design strategies. Investigating digital sharing platforms in the clothing context, the study by Schwanholz and Leipold (2020) underlines the importance of an integrated view on (social) sustainability in strategies and innovations promoting a circular fashion economy. Other case studies investigated social enterprises or social businesses in a fashion industry integrating principles of sustainability and circularity (e.g., Fischer and Pascucci 2017; Plieth et al. 2012). Further research on social and cultural aspects in a circular textiles and fashion industry has investigated specific premises and practices, such as human perceptions of recycled garments, upcycling or soul-shopping, that could encourage changes in consumption behaviors and patterns (e.g., Hudson-Miles 2021; McEachern et al. 2020; Wagner and Heinzel 2020).

Yet, experts repeatedly criticize a subordinated and under-theorized role of social aspects in the conceptualization of the circular economy (e.g., Galvão et al. 2020; Millar et al. 2019; Velenturf et al. 2019; Hobson and Lynch 2016). Lüdeke-Freund et al. (2018) point to the limited diffusion of socially oriented concepts, beliefs, behaviors, and ideals such as sufficiency or slowing consumption. Millar et al. (2019) describe the lack of clarity and consensus concerning the exact nature and extent of impacts on a societal level in the circular economy. They miss a suitable indicator accounting for social aspects (namely, social equity) while also encompassing the other sustainability dimensions in the circular economy (Millar et al. 2019). So, a marginalized role of moral and ethical aspects such as diversity, inter- and intra-generational equality, financial equality or equality of social opportunity eventually also hampers an explicit representation of the circular economy in line with the three-pillar conception of sustainability (Kirchherr et al. 2017; Murray et al. 2017). Reflecting the negative impacts of fast fashion production and consumption, changes in human relationship to raw materials and garments, rethinking sustainability communication at the business-consumer interface or adopting new approaches, processes and standards in the design and respective education programs to enhance product longevity, to reduce absolute resource consumption levels and textile waste need to be encouraged (Brydges 2021; Dissanayake and Weerasinghe 2021; Ki et al. 2020; Mostaghel and Chirumalla 2021; Saha et al. 2021). Therefore, the social dimension in a circular economy requires more differentiated theoretical and conceptual academic investigations.

2.3 Social and circular transformation

In addition, a wide range of studies, reports and policy documents of external stakeholders exist that call for circularity to foster transformation in the fashion industry (e.g., Business of Fashion McKinsey & Company 2019; Global Fashion Agenda GFA 2019b). They point to single social sustainability-related values and aspects, such as the industry's potential of empowering and engaging consumers to promote sustainable consumption behavior based on reusing and sharing networks, swapping, Do-It-Together and collaborative consumption platforms (GFA 2019a). Further social aspects addressed relate to the role of citizens both as designers and community members as well as the characteristics of the circular fashion consumer (Brismar 2015), sufficiency and servitization as two types of circular business models (Circle Economy 2015) or the necessity of system-level change (Ellen MacArthur Foundation 2017). Incorporating the business perspective, the two globally operating fashion companies H&M and C&A will represent the business part due to their transitional activities. Despite grounding their initial business models in fast fashion, both companies have continually been communicating about their efforts to foster the implementation of sustainability and circular concepts in the fashion industry.

Therefore, the identification and critical comparative juxtaposition of social themes communicated by different actors related to fashion can cluster perspectives and push integrative transformation. Using a triangulation approach the primary objective here is to gather and blend different information to enable a more complete and holistic understanding about the integration of a social pillar in the concept of the circular economy by contrasting practice-oriented with more theoretical viewpoints (cf., Jick 1979). In particular, we shed light on these different discourses by investigating the following three research questions:

1. What themes and patterns of social sustainability-related concepts are included in the sustainability reports of global fashion companies, represented by C&A and H&M?
2. In what way do these themes and patterns deviate from discussions in the academic world and the public?
3. To what extent do these themes and patterns reflect the movement towards sustainability and circular economy in the fashion industry from a theoretical perspective?

3 Methods

3.1 Research design

Following the research design of document and discourse analysis, this study adopts the procedure of finding 'verbal patterns' on social sustainability in circular fashion, using data triangulation (Bryman 2015), as communicated by three distinct groups of actors intricately linked to the fashion industry. The first group of publications (A) embraces scientific articles. Corporate sustainability reports of two fashion retailers are included in the second group of publications (B), while the third group (C) involves media coverage and other stakeholder publications. We performed data analysis for the three years 2014, 2015, and 2018 using the automated content analysis tool Leximancer™. The selection of the final periods for data analysis is largely attributed to data limitations in the group of corporate publications of the two specific companies and the publishing years of sustainability reports. Both companies selected for this study, C&A and H&M, pursue different ways of sustainability reporting. Specifically, C&A has been publishing global sustainability reports only since 2015. Prior to that, the company issued its sustainability reports every second year. Furthermore, several sustainability reports of C&A are—if at all—only available as summary.

In contrast, H&M has been publishing annual sustainability reports since 2009. Before that, from 2002 to 2008, H&M published reports on corporate social responsibility (CSR). All reports are available in full and downloadable on the company's corporate website. In order to ensure consistency in our methodological approach and subsequent extraction, only those reports were included being available and downloadable across both companies. In total, we collected nine corporate sustainability reports between 2014 and 2018. These include four reports of C&A as well as five reports issued by H&M. According to this study's approach of performing a comparative analysis, the results presented below reflect the analysis of the sustainability reports of each company in 2014, 2015 and 2018 and, hence, allow cross-sectional and longitudinal analysis (Bryman 2015). The other two groups of publications (academic and stakeholder publications) also include data for these three periods, establishing internal validity.

3.2 Material collection

This section describes the respective process of identifying, collecting and evaluating relevant publications for the three groups (A), (B), and (C), details see Fig. 1.
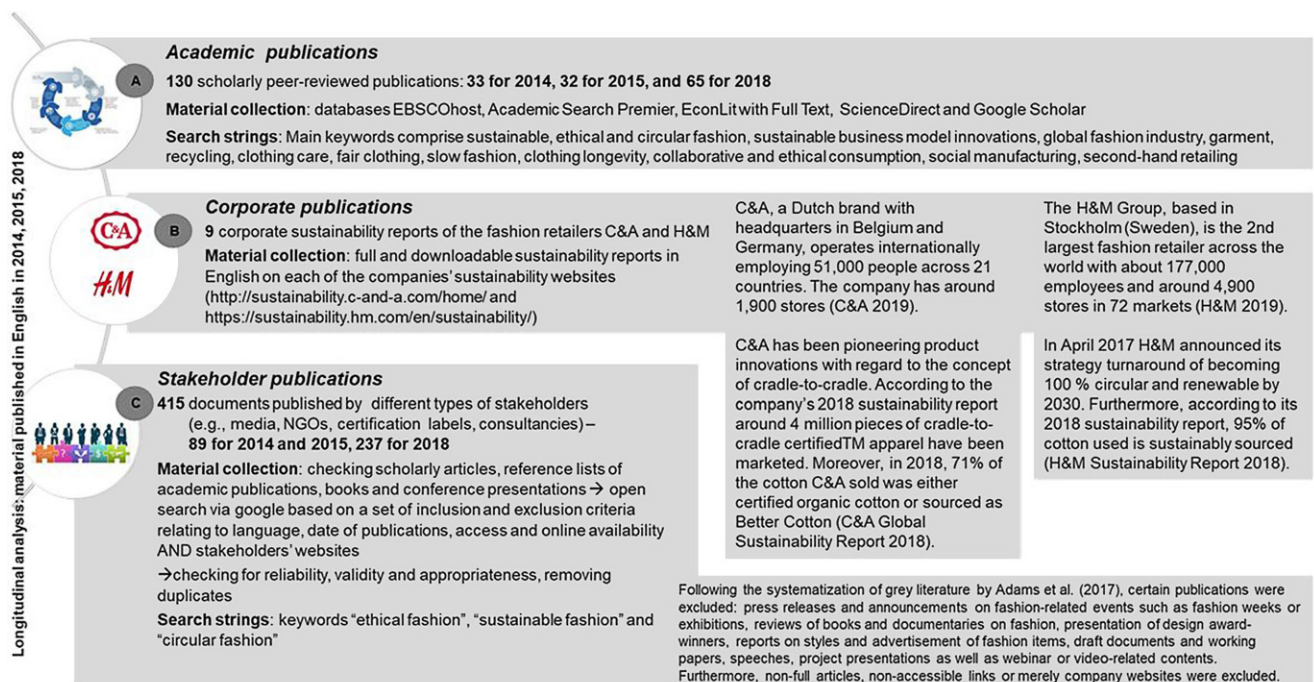
Fig. 1 Research design

3.2.1 Academic publications (A)

Scientific articles were retrieved following the methodological procedure and workflow of rigorous material collection used in systematic literature reviews (e.g. Buzzao and Rizzi 2020; De Giacomo and Bleischwitz 2020). Thereby, we followed the general procedure of collecting relevant material as presented in Beyer and Arnold (2021) and comprised several steps and criteria. Amongst others, this included database selection, sampling procedure as well as inclusion and exclusion criteria concerning aspects such as date and type of publication or language (Rajeev et al. 2017). They were adopted to this study's thematic focus and set up in advance. Illustrative details for the main criteria can be retraced from Fig. 1. In general, our procedure aimed at rigorously depicting and selecting publications in a transparent and comprehensive manner without following strictly the rules of a systematic literature review. Subsequently, the search was expanded using further article search strategies. These included the snowballing technique (Gerritsen-van Leeuwenkamp et al. 2017) as well as the screening of single reference and publication lists to expand the document base with further potentially relevant articles. Each article was individually checked for appropriateness by screening the abstract as well as the entire study in case of doubt. Articles, for instance, not related to sustainable development and/or circular economy or empirical studies focusing on multiple industries were erased from the search hits.

3.2.2 Corporate publications (B)

In line with previous research on the integration of circular economy in corporate sustainability strategies in the context of fast-moving consumer goods such as textiles and fashion (Feng and Ngai 2020; Garcia-Torres et al. 2017; Stewart and Niero 2018), we decided to focus on the analysis of corporate sustainability reports. Sustainability reports are acknowledged and extensively used in corporate disclosure (Isenmann et al. 2007). They supply information concerning issues, measures, and projects towards implementing social and environmental sustainability as well as strategies relating to circular economy. We selected the two fashion companies based on the criteria (1) economic scope of activity; (2) coverage in the media and broader public; (3) efforts concerning the integration of sustainability measures and circular economy; as well as (4) occurrence in previous articles and studies. C&A and H&M are two of the top-ten European fashion brands (Hansen and Schaltegger 2013). Both retailers can be considered to encourage a certain culture of consumerism and supporting the conventional linear model of fashion production as well as consumption (e.g., Hansen and Schaltegger 2016). Despite grounding their initial business models in fast fashion, both

companies are steadily communicating about their increasing efforts to foster the implementation of sustainability and circular concepts. Moreover, both companies have been in the spotlight of previous scholarly publications (e.g., Shen 2014).

3.2.3 Stakeholder publications (C)

Stakeholders exert pressure on companies to alter their strategies, policies, and operations along entire supply chains (Vasi and King 2012; Cordeiro and Tewari 2015; Neville 2020). The fashion industry involves a considerable number of various stakeholder groups on various levels and domains (e.g., media, policy). For example, a company's stakeholder groups include consumers, community groups, environmental advocates, labor rights groups, product health and safety associations, associations representing suppliers and entrepreneurs, governments and intergovernmental organizations as well as animal welfare groups (Camilleri 2020; Ki et al. 2020; Jakhar et al. 2019). Further stakeholders are employees, shareholders or major retail markets (C&A 2018). Stakeholder groups issue a wide range of materials such as reports, policy briefs or newspaper articles.

Given our research approach of triangulation, we considered this supplementary secondary material useful since it represents broad public awareness, external relations and impacts as well as supporting internal validity of our study. Furthermore, this was considered important since the circular economy is conceived and developed by practitioner and stakeholder reports (e.g., Kirchherr et al. 2017; Chiappetta Jabbour et al. 2019; Salvioni and Almici 2020). The stakeholders included were selected based on criteria such as closeness to the fashion industry as well as to the topics of sustainability, social responsibility and circular economy, degree of independence, scope of activities or occurrence in previous academic studies and reputation (Diekamp and Koch 2010; Gwilt 2018; Brand Eins 2018). Over 100 stakeholders were considered to reflect the great diversity of interest groups in this industry sector. Table 1 supplies the list of all stakeholders included.

3.3 Data analysis and interpretation

The research employs a content analysis based on the computer-assisted software tool Leximancer™ (version 4.50, www.leximancer.com) as it allows for a grounded approach (Zawacki-Richter et al. 2017). Important aspects are directly uncovered and emerging from the text without an 'a priori' established set of factors derived from the literature to be coded up (Sotiriadou et al. 2014). So, it alleviates disadvantages of manual coding including human subjectivity and inter-coder reliability (Bryman 2015; Young et al.

Table 1 List of stakeholders included in the group of stakeholder publications

Type of stakeholder	Specification
Media (online magazines, networks and broadcasts)	BBC News; CNN; Deutsche Welle; Ecotextiles News; Forbes; Newsweek; The Guardian; The Huffington Post; The Independent; The New York Times; Treehugger
General non-governmental, non-profit, activist and campaigning organizations, networks, think tanks and movements	Adelphi; Amnesty International; attac; Changing Markets Foundation; Christliche Initiative Romero; FEMNET; Friends of the Earth International (FoEI); Friends of the Earth Europe (FoEE); German Institute for Human Rights (GIHR); Green America; Greenpeace International; Human Rights Watch (HRW); Misereor; Oxfam; PETA; Transparency International; World Economic Forum (WEF); World Wide Fund for Nature (WWF); World Future Council (WFC)
General supporting organizations and multi-stakeholder boards	Amfori Business Social Compliance Initiative (amfori BSCI); Better Cotton Initiative (BCI); Cradle to Cradle Products Innovation Institute; Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); Ethical Trading Initiative (ETI); Fair Labor Association (FLA); RREUSE; Social Accountability International (SAI)
Political, governmental and legislation agencies, authorities, institutions and organizations	European Union (EU) including particularly European Commission, European Parliament and Council of the EU; Department for Environment, Food and Rural Affairs (Defra); Environmental Protection Agency (EPA); German Environmental Agency (Umweltbundesamt—UBA); International Labour Organization (ILO); Organisation for Economic Co-Operation and Development (OECD); World Trade Organization (WTO)
Certification labels, recycling standards and support	Fairtrade International; Global Organic Textile Standard (GOTS); Oeko-Tex®; World Fair Trade Organization (WFTO)
Business and management consultancies	Accenture; A.T. Kearney; Bain & Company; Boston Consulting Group (BCG); Deloitte; Ernst & Young (EY); KPMG; McKinsey & Company; Oliver Wyman; PricewaterhouseCoopers (PWC); Roland Berger
Fashion- and circular economy-related supporting organizations, advisory groups and multi-stakeholder consortia and boards	Circle Economy; Clean Clothes Campaign (CCC); Ellen MacArthur Foundation; Ethical Fashion Forum (EFF); European Apparel and Textile Confederation (EURATEX); European Outdoor Group (EOG); Fair Wear Foundation (FWF); Fashion For Good; Fashion Revolution; Global Fashion Agenda (GFA); Green Strategy; Labour Behind the Label (LBL); Partnership for Sustainable Textiles (Bündnis für nachhaltige Textilien); Redress; Sustainable Apparel Coalition (SAC); Textile Exchange; United Nations (UN) Alliance for Sustainable Fashion; Waste and Resources Action Programme (WRAP); Zero Discharge of Hazardous Chemicals (ZDHC) Foundation

2015; Zawacki-Richter and Naidu 2016). Main concepts and themes are inductively and iteratively discovered by a statistical examination of the frequency, (co-)occurrences and interrelations of words, (Angus et al. 2013; Harwood et al. 2015). The software differentiates between a thematic or conceptual analysis as well as a semantic or relational analysis. While the first type of analysis detects core concepts, the second type of analysis explores linkages between all concepts (Bigi et al. 2016; Thomas and Maddux 2009). The study builds on both approaches. Themes represent clusters of commonly co-occurring concepts. Overall, the analysis revealed 477 concepts among all three groups of publications investigated. To enable adequate handling and to address the research questions posed, the overall group of concepts was organized into several subgroups representing different thematic foci. These foci also include concepts of social and environmental sustainability that may inform the debate around further developing the circular economy concept in the fashion industry. In total, 12 concept maps were generated for every group and the three final years of investigation (2014, 2015 and 2018).

A two-dimensional concept map eventually visualizes clusters of similar concepts occurring in close proximity (Harwood et al. 2015; Thomas and Maddux 2009; Zawacki-Richter and Naidu 2016). In this regard, concepts are captured as groups of words that appear and are linked together throughout all the underlying sources. The concept maps also illustrate themes, which are presented as circles and include often co-occurring concepts. The themes are named after the most prominent concept in the respective cluster of concepts (Buzova et al. 2016; Harwood et al. 2015), and the concept map also displays the concepts' relative positions. Semantic relations are stronger (weaker), the closer (the further) concepts are related (Buzova et al. 2016). This relational analysis is indicated by larger (smaller) sized dots as well as more (less) thickness of lines between concepts. At the same time, closer proximity and overlaps among themes on the map show a closer relationship in the underlying textual documents (Bigi et al. 2016).

3.4 Limitations

Given the fragmented field of circular economy research and the multilayered perspectives, our study enables finding novel, objective insights and consolidates a common ground of understanding across diverse groups of publications as regards to the relevance of social aspects in circular fashion. This study lays the groundwork for more substantive analyses in subsequent studies when employing other techniques such as manual content analyses (Mayring 2015). Here, the social sustainability-related themes and concepts as identified in our study could provide a fundamental source for the formation of categories (cf. Fig. 2). At the same time, 'verbal patterns' identified and visualized in the concept maps as presented could be re-assessed

Fig. 2 Overview of main social sustainability-related concepts visualized in concept maps. (*Fields marked in *green* represent themes; *orange* marked concepts are relatively underrepresented)

Concept*	Corporate publications						Academic publications			Stakeholder publications		
	C&A			H&M								
	2014	2015	2018	2014	2015	2018	2014	2015	2018	2014	2015	2018
"awareness"			✓									
"children"			✓									
"circular"		✓	✓			✓		✓				✓
"commitment"/"committed"		✓	✓	✓	✓							
"communities"	✓	✓	✓	✓	✓							
"communication"								✓				
"consumer"/"consumers"		✓					✓	✓	✓	✓		
"consumption"		✓					✓	✓	✓			
"csr"							✓					
"customer"/"customers"	✓	✓	✓	✓	✓	✓			✓			
"dialogue"	✓											
"diversity"						✓						
"education"							✓				✓	
"employees"	✓	✓	✓									
"employment"											✓	
"engage"/"engagement"			✓									
"ethical"							✓	✓		✓		
"fair"		✓		✓	✓	✓		✓		✓	✓	
"family"										✓		
"future"		✓	✓				✓		✓		✓	
"global"/"globally"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"government"/"governments"										✓	✓	
"health"										✓	✓	
"human"	✓		✓							✓	✓	
"information"						✓	✓	✓	✓		✓	
"knowledge"	✓							✓	✓			
"legal"											✓	
"life"/"lives"/"living"	✓	✓			✓		✓	✓	✓	✓	✓	
"local"	✓		✓		✓		✓	✓	✓	✓	✓	
"long-term"						✓						
"management"	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"migrant"/"migrants"										✓		✓
"need"/"needed"/"needs"	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"network"	✓											✓
"partners"/"partnership"		✓	✓	✓	✓	✓						
"people"	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"policy"/"policies"				✓	✓	✓				✓	✓	
"poverty"										✓		
"power"										✓		
"relations"/"relationship"					✓			✓				
"responsibility"/"responsible"			✓	✓	✓		✓	✓		✓	✓	
"rights"			✓	✓	✓	✓				✓	✓	✓
"safety"/"safe"	✓		✓								✓	
"service"/"services"							✓		✓			
"share"			✓						✓			
"slow"							✓					
"social"	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
"society"										✓	✓	
"stakeholders"	✓											
"standards"			✓	✓		✓	✓			✓	✓	
"sustainability"/"sustainable"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"training"	✓	✓	✓	✓	✓	✓						
"transparency"						✓		✓				✓
"unions"										✓	✓	
"value"/"values"		✓	✓	✓		✓	✓	✓	✓	✓		✓
"violence"												✓
"vision"						✓						
"wage"/"wages"				✓	✓	✓				✓	✓	✓
"wearthechange"			✓									
"women"										✓	✓	✓
"work"/"working"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"workers"	✓		✓	✓	✓	✓	✓			✓	✓	✓
Total	**20**	**14**	**28**	**19**	**21**	**23**	**22**	**20**	**19**	**28**	**29**	**17**

and respective relations between single concepts or themes detected and investigated in a more comprehensive way.

However, our explorative research builds on documents and discourse analysis by delineating themes and concepts related to the social dimension in sustainability and circular economy by stressing similarities and differences in the communication among various interest groups in the fashion context. Specifically, the study comparatively assesses 'verbal patterns' as represented and visualized in publications from the business, academic and wider public spheres indicating separate roles of and mutual influences among various actors. Based on statistical and descriptive analyses of more than 550 documents, we consolidate what social and ethical aspects and values are communicated across these different interest groups' publications. The interpretation of data and sense-making of concept maps, relationships and patterns could be biased by an implicit or explicit knowledge of the publications and subject matter under investigation (Harwood et al. 2015; Zawacki-Richter et al. 2017). Similarly, aligning concepts to certain thematic foci

Table 2 Leximancer™ concept maps for 2014

Corporate publications

C&A	H&M
Main trends and patterns concerning themes:	*Main trends and patterns concerning themes:*

Main trends and patterns concerning themes: (C&A)
– Largest themes "c&a" and "sustainability"
– Theme "sustainability" has overlaps with two other themes, namely "supply" and "business"; yet, there is no interference with themes such as "working" or "training"; the theme includes concepts such as "strategy" and "need"
– Theme "safety" includes concepts such as "building", "bangladesh" and "fire"
– Themes "textile", "report" and "cotton" are located at the edge of the concept map

Main trends and patterns concerning themes: (H&M)
– Largest themes "industry", "chain" and "suppliers"
– Theme "commitment" is without any intersection with other themes; yet, it is directly linked with the concept "responsible" in the theme "focus"; together with the theme "actions" it is located at the edge of the concept map
– Theme "rights" has some overlapping with the two themes "suppliers" and "management"
– Theme "suppliers" comprises concepts such as "fair", "wages", "workers", "labour" and "bangladesh"
– Theme "chain" includes concepts such as "communities", "change", "impact", "value", "customers" and "climate"
– There is a direct link between the two themes "increase" and "stores"

Main trends and patterns concerning concepts: (C&A)
– Most concepts are included in the theme "sustainability" (15 concepts)
– Concept "social" is located in the theme "working", with some overlapping in the theme "c&a", yet without any direct link to the themes "sustainability" and "sustainable"
– Several spiders can be retraced in the concept map, exemplarily from the concept "sustainable" to the concepts "everyone", "products", "supply", "management" and "lives"
– There are several concept paths, exemplarily from the concept "c&a" to the concept "training" via the concepts "foundation", "support" and "programme" or from the concept "progress" to the concept "customer" via the concepts "sustainability", "global", "apparel" and "industry", thereby linking the themes "sustainability" and "working"

Main trends and patterns concerning concepts: (H&M)
– Most concepts are located in the theme "industry" (20 concepts)
– Concept "change" lies in the intersection between the themes "industry" and "chain"; it is embedded in a concept path from the concept "conscious" to "positive" via the concepts "fashion", "value", "chain", "impact", "create", "change" and "work"
– Several spiders can be retraced in the concept map, exemplarily from the concept "use" to the concepts "cotton", "reduce" and "resources"

Table 2 (Continued)

Academic publications	Stakeholder publications
Main trends and patterns concerning themes:	*Main trends and patterns concerning themes:*

Academic publications

Main trends and patterns concerning themes:

– Largest themes "fashion", "companies", "consumer" and "different"

– The concept map included a great number of themes and concepts, thereby visualizing a differentiating and holistic perspective; moreover, all themes in the concept map have an overlapping with at least two other themes

– Theme "responsibility" entails concepts such as "business", "corporate", "model" and "social"

– Theme "sustainability" includes concepts such as "systems", "strategies", "perspective", "world", "impacts", "changes", "practices" and "environmental"; it has some overlapping with four other themes, namely "management", "chain", "market" and "fashion"; furthermore, it is very close to the theme "standards"

– Theme "used" is overlapping with the themes "different", "market", "products", "clothing" and "water"

– Themes "clothing" and "fashion" appear as two separate themes in the concept map; whereas the theme "clothing" entails concepts such as "use", "waste" and "recycling", the theme "fashion" comprises concepts such as "sustainable", "marketing", "ethical", "impact" and "discussed"

– Theme "consumer" is presented between the two themes "clothing" and "fashion"; yet, it is diametrically opposed to the theme "responsibility"

– Theme "management" is in the outer circle of the concept map; it has overlaps with two other themes, namely "sustainability" and "chain"

– Theme "different" comprises concepts such as "system", "organic" and "working"

Stakeholder publications

Main trends and patterns concerning themes:

– Largest themes "industry", "brands", "fashion", "rights" and "factory"

– Theme "hours" appears at the edge of the concept map without any intersection with other themes

– Theme "industry" has overlaps with 5 other themes, namely "fashion", "brands", "local", "countries" and "china"

– Themes "companies" and "factory" are visualized as two separate themes; whereas the theme "companies" has only one intersection with the theme "brands", the theme "factory" has some overlapping with four other themes, namely "local", "wage", "countries" and "day"

– Theme "wage" is diametrically opposed to the theme "fashion"

– Theme "rights" includes concepts such as "social", "responsibility", "human", "better", "fair", "standards", "support", "important" and "ensure"

– Theme "factory" encompasses concepts such as "government", "significant", "costs", "labour", "conditions" and "health"

– Themes "hours" and "wage" are directly linked by the two concepts "migrant" and "workers"

Table 2 (Continued)

Main trends and patterns concerning concepts:	*Main trends and patterns concerning concepts:*
– Most concepts are included in the theme "market" (31 concepts)	– Most concepts are to be found in the theme "rights" (32 concepts)
– Concept map includes concepts such as "recycling", "used", "services", "waste", "cycle", "design" and "reduce"	– Concept "poverty" is located in the intersection between the themes "factory" and "wage"
– Several spiders can be retraced in the concept map, exemplarily from the concept "fashion" to the concepts "fast", "marketing", "slow", "ethical", "design", "impact", "issues" and "sustainable"	– Concept "unions" is situated in the overlap between the themes "wage" and "rights"
– Several concept paths are encompassed, exemplarily from the concept "management" to the concept "value" via the concepts "supply", "chain", "social", "responsibility", "csr", "data" and "brand", thereby linking the themes "management", "chain", "responsibility" and "companies"	– Several spiders are presented in the concept map, exemplarily from the concept "brands" to the concepts "ethical", "responsible", "sustainable", "resources", "retailers", "study" and "leading"
	– Another spider concerns the concept "living" which is related to the concepts "wage", "level", "form", "fair", "allow", "paying", "national" and "trade"
	– Concepts "conditions", "low", "long", "factory", "terms" and "asia" form the spider related to the concept "living"
	– Several concept paths can be found, exemplarily from the concept "change" to the concept "economic" or the concept "society" via the concepts "use", "global" and "development"
	– Another concept path follows from the concept "world" to the concept "impact" via the concepts "market", "clothing", "consumers", "chemicals", "fashion", "products", "water", "cotton", "design", "environmental", "h&m", "sustainable", "brands", "retailers" and "supply"

Visible concepts 100% and theme size 33%

(e.g., social sustainability) is partly a matter of researchers' subjectivity and "effectively suppressed by the manner in which Leximancer™ analyses the data" (Sotiriadou et al. 2014, p. 220). Corporate data is clearly limited and should be extended by including other fashion companies adopting circular business models and strategies as well as collecting additional data (e.g., interviews with corporate representatives).

4 Findings

The analysis results include concept maps generated by Leximancer™ for each group of the publications and year of investigation. These are presented in Tables 2, 3 and 4 and stress themes and concepts questioned in research questions one and two, thereby supplying a descriptive picture of what aspects are relevant in publications of each interest group. Answering research question one 'What themes and patterns of social sustainability-related concepts are included in the sustainability reports of global fashion companies, represented by C&A and H&M?', relevant topics provide insights from a primarily **corporate and practice perspective** and are shown in Tables 2, 3, 4, 5 and 6 and Fig. 2. In the concept maps of both companies analyzed here a quite differentiated presentation of social sustainability-related concepts is illustrated. In case of C&A this involves concepts such as "responsibility"/"responsible", "rights", "share", "commitment"/"committed", "awareness", "standards" and "fair" while for H&M concepts such as "social", "diversity" and "transparency" can be retraced. Moreover,

as shown in Table 5 in particular, C&A provides a more differentiated and holistic perspective on social sustainability.

Concerning research question two 'In what way do these themes and patterns deviate from discussions in the academic world and the public?', our analysis aims at extending the practice view by comparing them with **academic and stakeholder perspectives**. Based on this triangulation, results show that several concepts such as "migrants", "poverty", "unions" or "health" arise exclusively in respective concept maps of stakeholder publications as visualized by Leximancer™. This is also presented in Table 5. They symbolize fundamental aspects relevant to structural and institutional antecedents and conditions of social sustainability in the global fashion industry, as well as consequences of their proper implementation along global fashion value and supply chains.

Illustrating this comparison, the concept maps of C&A were visually contrasted with those of H&M. In a similar vein, the concept maps of academic publications were juxtaposed with those of stakeholder publications. Each graphic is completed with a brief textual analysis of general patterns and themes deduced from the concept map. Like previous research, using the tool Leximancer™, particular attention is given to peculiar locations of single themes and concepts as well as the tracing of concept spiders and concept paths.

Drawing on previous literature exploring the notion, indicators and criteria of social sustainability in general (Abbasi 2017; Ajmal et al. 2017; Eizenberg and Jabareen 2017; Murphy 2012) as well as in the fashion industry (Dickson and Chang 2015; Dickson and Eckman 2006; Köksal et al.

Table 3 Leximancer™ concept maps for 2015

Corporate publications

C&A

Main trends and patterns concerning themes:
– Largest themes "c&a" and "sustainability"
– Theme "future" includes a concept "consumer" and has intersection with the theme "sustainable"
– Theme "impact" involves a concept "consumption"
– There is a close link between the two themes "approach" and "global", further emphasized by the relation between the two concepts "goals" and "sustainability"
– Themes "performance" and "certified" are located at the edge of the concept map; the theme "performance" has no direct relation to social aspects
– Theme "c&a" involves intersection with the theme "impacts"; via concept paths through this theme it is also linked to the theme "sustainable"

H&M

Main trends and patterns concerning themes:
– Largest themes "impact", "customers" and "change"
– Theme "h&m" is situated at the edge of the concept map, not having any intersections with the other themes, namely "customers"; however, it has a concept path to the theme "customers"
– There is a big intersection between the themes "change" and "living"
– Theme "impact" comprises several concepts relating to the environmental dimension of sustainability such as "emissions", "climate", "energy" and "water"
– Theme "change" includes concepts such as "need", "local", "working" and "people"
– Theme "focus" embraces concepts such as "commitment", "responsible", "communities", "chain" and "partners"
– Themes "management" and "change" are connected via the link between the concepts "relations" and "markets"

Main trends and patterns concerning concepts:
– Most concepts are included in the theme "c&a" (22 concepts)
– Concept "circular" appears for the first time compared to the concept map of C&A for 2014; it is located in the intersection between the themes "sustainable" and "supply"; it is directly linked with the concept "materials", yet, not with any social-related theme or concept
– Several spiders can be depicted in the concept map, exemplarily from the concept "materials" to the concepts "products", "raw", "use", "sustainable" and "circular"
– There are several concept paths, exemplarily in the theme "c&a" from the concept "c&a" to the concept "improving" via the concepts "fashion", "strategy" and "key"
– Another concept path links the themes "supply", "operations" and "performance"; it follows from "carbon" to "performance" via the concepts "chain", "environmental", "footprint", "fair", "operations", "conditions", "working" and "suppliers"

Main trends and patterns concerning concepts:
– Most concepts are included in the theme "change" (includes 30 concepts)
– Concept "sustainable" is located in the theme "customers"; yet, it has links to the concept "global" via the concepts "better" and "initiative" which are presented in the intersections between the themes "change" and "cotton"
– Several spiders can be retraced in the concept map, exemplarily from the concept "workers" to the concepts "social", "labour", "fair" and "wage"
– Several concept paths are displayed, exemplarily from the concept "management" to the concept "impact" via the concepts "supply", "chain", "focus", "responsible", "partners", "production" and "water"

Table 3 (Continued)

Academic publications	Stakeholder publications
Main trends and patterns concerning themes:	*Main trends and patterns concerning themes:*
– Largest themes "industry" and "business" – There appears a theme "change" in the concept map; it overlaps with the themes "need" and "industry"; it is linked to the theme "fashion" by the concept path from "change" to "fashion" – "clothing" and "fashion" are visualized as separate themes in the concept map; yet, whereas "clothing" has intersections with the themes "need", "product" and "time", the theme "fashion" has an intersection with the theme "industry" only – Theme "key" overlaps with 5 themes, namely "sustainability", "industry", "need", "value" and "chain" – Theme "sustainability" is located between the themes "management" and "marketing" – Theme "business" includes concepts such as "green", "model" and "transparency" – Theme "product" comprises concepts such as "recycling", "use", "reuse", "waste", "quality" and "different" – Theme "system" involves concepts such as "action" and "development"; yet, it is located at the edge of the concept map, thereby having no direct overlaps with any other theme; however, it can be linked via concept paths	– Largest themes "working", "fashion", "bangladesh", "workers" and "company" – All themes have intersections with at least two other themes, reflecting their close connection – Theme "legal" has overlaps with 6 other themes, namely "company", "production", "working", "bangladesh", "workers" and "information"; together with the theme "production" it provides the center of the map, enclosed by all other themes – Theme "information" appears as a theme between the two themes "company" and "workers" – Theme "workers" includes concepts such as "unions", "law", "association", "international", "action", "management" and "human" – Theme "bangladesh" embraces concepts such as "health", "fire", "rana", "safety", "workers", "law", "government" and "ilo" – Theme "fashion" consists of concepts such as "impact", "future", "value", "society", "sustainable", "change" and "people"

Table 3 (Continued)

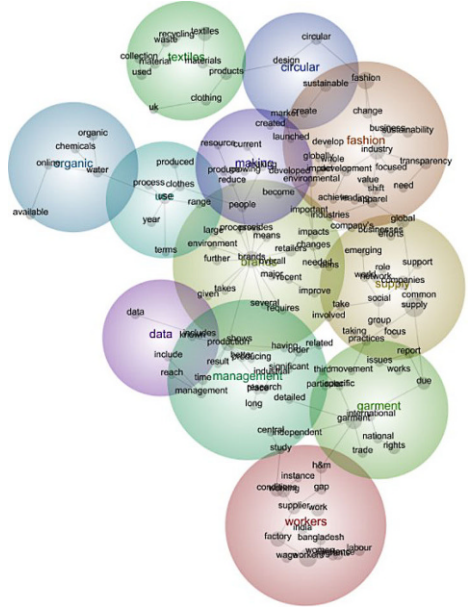| *Main trends and patterns concerning concepts:*	*Main trends and patterns concerning concepts:*
– Most concepts are included in the theme "industry" (30 concepts) – Single spiders can be found in the concept map, exemplarily from the concept "brand" to the concepts "marketing", "social", "issues", "fair" and "apparel" – Several concept paths are displayed, exemplarily from the concept "change" to the concept "economic" via the concepts "fashion", "consumption", "ethical", "consumers", "responsibility" and "social", thereby linking the themes "change", "fashion", "marketing", "sustainability" and "industry" – Another concept path links the concepts "available" and "relationship" via the concepts "data", "analysis", "model", "business", "transparency", "information", "related" and "chains" – Furthermore, there are concept paths connecting the concepts "life" and "time" via the concepts "cycle", "design" and "quality" or linking the concepts "action" and "used" via the concepts "system", "development", "process", "production", "product" and "different"	– Most concepts are presented in the theme "legal" (29 concepts) – Concepts "responsible" and "responsibility" are visualized in the theme "company" – Concepts "education", "benefits", "issue" and "trade" are displayed in the overlap between the themes "bangladesh" and "legal" – Several spiders are to be found in the concept map, exemplarily from the concepts "working" and "conditions" to the concepts "hours", "day", "sector", "better", "garment", "improve", "wage" and "important" – Another spider concerns the concept "brands" which is linked to the concepts "responsible", "supply", "public", "apparel", "order", "manufacturer", "policy", "retailers", "approach" and "company" – Several concept paths can be depicted, exemplarily from the concept "initiative" to the concept "campaign" via the concepts "industry", "global", "development", "economic" and "fair" – Another concept path links the concepts "local" to "buyers" via the concepts "legal", "benefits", "least" and "standards"

Visible concepts 100% and theme size 33%

2018), 114 social sustainability-related concepts within and across all three groups of publications were identified. This initial list was further fine-grained and narrowed down to 83 concepts selected for a later detailed examination in order to ease handling and comprehensibility. In doing so, we consolidated linguistically similar concepts in one category (e.g., "working" and "work") and erased those that were either not very informative (e.g., "feel") or that have also other than socially related connotations and meanings (e.g., "group" representing the company structure of H&M).

The authors limited the overall number of concepts based on their prior knowledge of both literature and standards in the field of social sustainability (e.g., ISO 26000; SA 8000). Ultimately, those terms and categories were selected that showed a high degree of conformity between the different theoretical sources. The concepts considered relevant for a subsequent analysis principally represent concepts that are people-centered at their core and that are essentially related to human, social and societal activities, artifacts, interactions or relations. Yet, we acknowledge that, because there is not a single conclusive definition on social sustainability in literature and many approaches co-exist, the list of concepts concerning social sustainability selected for an in-depth analysis in our study as well as our procedure of narrowing them down may also be subject to debate. An overview of the concepts is given in Fig. 2.

Fig. 2 also illustrates the temporal distribution of social sustainability-related concepts. Some concepts appear in only one year of investigation either in one group of publications (e.g., "awareness", "children" and "diversity") or two groups (e.g., "relations"/"relationships" and "share"). There are several concepts that occur consecutively, yet to a different extent among all three groups of publications and year of investigation. For example, while the concept "consumption" can be retraced consec-

utively in the group of academic publications, the concept "partners"/"partnership" appears only consecutively in the concept maps of H&M. The concept "social" is visualized only consecutively in the two groups of academic and stakeholder publications. On the contrary, the concept "responsible"/"responsibility" is visualized in all groups of publications, yet, solely in 2014 and 2015.

Similarly, the overall annual number of social sustainability-related concepts for each group of publications is presented. For example, the number of concepts visualized for C&A had risen from 20 concepts in 2014 to 28 concepts in 2018. By referring to academic publications, a decrease in the number of concepts can be retraced from 22 concepts in 2014 to 18 concepts in 2018. A steeper decline of concepts pictured can be seen in the concept maps of the group of stakeholder publications, falling from 28 concepts in 2014 to 17 concepts in 2018.

Table 5 aggregates the results within and across all three groups of publications and, thus, contrasts practice, academic and stakeholder perspectives. While several concepts play a role in each of the three groups (e.g., "circular", "local", "responsible", "standards" and "management"), other concepts appear in two groups or exclusively one group of publications. The concept "women", for instance, is presented in the concept maps of stakeholder publications only. Table 6 in the Appendix illustrates the concepts reflecting the ecological dimension of a sustainable and circular fashion industry.

Fig. 3 displays a summary of those concepts that are integrated across all three groups of publications in each year of investigation. In total, this includes 12 concepts which are distributed in a different way per year. Across all three years the overall number of social sustainability-related concepts that are relevant to all three groups of publications rises from seven concepts in 2014 to nine in 2018.

Table 4 Leximancer™ concept maps for 2018

Corporate publications

C&A

Main trends and patterns concerning themes:
– Largest themes "global", "c&a", "suppliers" and "chain"
– More themes and concepts than in the previous concept maps for 2014 and 2015, thereby reflecting a more differentiating perspective
– Theme "global" embraces concepts such as "share", "needs", "partners", "responsible" and "waste"
– Theme "circular" is positioned between the themes "fashion" and "sustainable"; furthermore, it has a large intersection with the theme "global"; the concept "circular" is directly linked with the concept "fashion"
– Theme "suppliers" includes concepts such as "safety", "workers" and "committed"
– Theme "circular" encompasses concepts such as "goal", "change", "products" and "future"

H&M

Main trends and patterns concerning themes:
– Largest themes "chain", "key" and "h&m"
– Theme "chain" is located in the center of the concept map with intersections to six other themes, namely "performance", "global", "sustainable", "circular", "partners" and "support"
– Theme "performance" has some overlapping with five other themes, namely "products", "recycled", "recycling", "h&m" and "chain"
– Theme "key" includes concepts such as "wage", "fair", "rights", "diversity", "climate" and "goals"
– Theme "partners" embraces concepts such as "labour", "policy", "standards" and "improve"
– Theme "sustainable" involves concepts such as "vision", "change", "need", "long-term" and "action"
– There appears to be a chain-like link of the themes "key", "circular", "sustainable" and "global"
– There is a large intersection between the themes "h&m", "recycling" and "performance"

Main trends and patterns concerning concepts:
– Most concepts are included in the theme "global" (29 concepts)
– Concepts "human" and "rights" are situated in the overlapping between the themes "action" and "suppliers"
– Concept "responsible" is located in the intersection between the two themes "sourcing" and "global"
– Concept "awareness" is situated in the intersection between the themes "training" and "support"
– Several spiders can be found in the concept map, exemplarily from the concept "industry" to the concepts "impact", "important", "access", "environmental" and "apparel"
– There are several concept paths in the concept map, exemplarily from the concept "waste" to the concept "customer" via the concepts "impact", "business", "global" and "sustainability"

Main trends and patterns concerning concepts:
– Most concepts are included in the theme "chain" (26 concepts)
– Several spiders can be retraced in the concept map, exemplarily from the concept "materials" to the concepts "use", "goal", "better", "water" and "products"
– Several concept paths are included, exemplarily from the concept "sustainable" to the concept "climate" via the concepts "change", "vision", "strategy", "circular" and "positive"
– Another concept path follows from the concept "recycling" to the concept "increase" via the concepts "h&m", "brands", "textile", "chain", "value", "supply", "impact" and "environmental"

Table 4 (Continued)

Academic publications	Stakeholder publications

Main trends and patterns concerning themes:

Academic publications

- Large themes "sustainability", "products", "materials", "fashion", "models" and "research"
- "consumers" and "customers" are visualized as two separate themes
- Theme "work" is located at the edge of the concept map; it has overlaps with the themes "value" and "models"
- "management" as displayed in the outer circle of the concept; yet, it has direct overlaps with the theme "sustainability"
- Theme "key" has a center position in the map, surrounded by the themes "sustainability", "fashion", "become", "study" and "values" with direct overlaps; it entails concepts such as "solutions", "alternative", "aspects", "strategies", "approach", "goal", "understanding", "development" and "sharing"
- Theme "models" is located far away from the themes "sustainability", "fashion", "consumers" and "customers"; yet, it is close to the theme "key" and involves direct overlaps with the themes "work", "value" and "research"
- Themes "fashion" and "apparel" can be found as two separate themes in the concept map with a large intersection
- Theme "become" includes concepts such as "changes", "share", "innovative", "lifecycle" and "alternative"
- Theme "materials" embraces concepts such as "recycling", "waste", "quality", "cycle", "increase", "use" and "cost"

Stakeholder publications

Main trends and patterns concerning themes:

- Largest themes "fashion", "brands", "management" and "workers"
- Themes "fashion", "textiles" and "garment" appear as three separate themes
- Theme "circular" is located between the themes "textiles" and "fashion"
- Theme "brands" involves some overlaps with 6 other themes, namely "data", "management", "supply", "fashion", "making" and "use"
- Theme "fashion" includes concepts such as "shift", "change", "development", "sustainability", "value", "transparency", "need" and "environmental"
- Theme "textiles" comprises concepts such as "recycling", "waste", "materials", "collection" and "used"
- Themes "workers" and "organic" are situated in the outer circle of the concept map
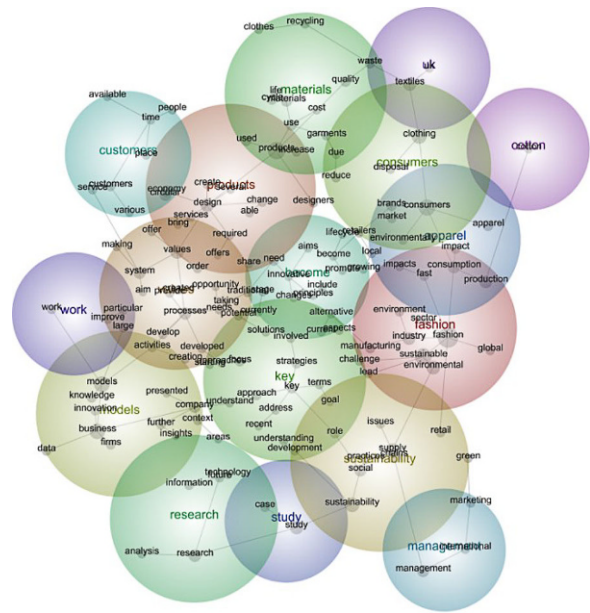
Table 4 (Continued)

Main trends and patterns concerning concepts:	*Main trends and patterns concerning concepts:*
– Most concepts are to be found in the theme "values" (27 concepts) – Concepts "goal", "role" and "development" are located in the intersection between the two themes "key" and "sustainability" – Concept "circular" appears near to the concept "economy"; it can be depicted between the themes "products" and "customers" – Several spiders can be retraced in the concept map, exemplarily from the concept "consumers" to the concepts "clothing", "apparel", "consumption", "environmental" and "brands" – Other spiders can be found with regard to the concept "fashion" which is linked to the concepts "fast", "consumption", "global", "retail", "sustainable", "sector" and "industry" or with regard to the concept "design" which is related to the concepts "create", "several", "change", "required", "services", "products" and "economy" – Several concept paths are displayed, exemplarily from the concept "green" to the concept "future" via the concepts "marketing", "international", "management", "chains", "supply", "practices", "social", "sustainability", "study" and "research"	– Most concepts are visualized in the theme "brands" (29 concepts) – Concept "social" forms part of the theme "supply" – Concepts "sustainable", "market", "create" and "launched" are located in the intersections between the three themes "fashion", "circular" and "making", respectively – Several spiders can be retraced in the concept map, exemplarily from the concept "use" to the concepts "terms", "year", "water", "process", "clothes" and "range", thereby establishing links to the themes "organic" and "brands" – Several concept paths are to be found, exemplarily from the concept "collection" to the concept "change" via the concepts "used", "material", "waste", "recycling", "textiles", "materials", "products", "design", "circular" and "fashion"

Visible concepts 100% and theme size 33%

The absolute decrease of social concepts as shown for 2015 coincides with the temporary emergence of new concepts (e.g., "fair").

5 Discussion

Our analysis of major similarities and differences of social sustainability-related concepts as communicated in three groups of publications related to the fashion industry has revealed that the concepts "fair", "global"; "life/living", "local", "management", "needs", "responsibility", "values" and "work" are constantly presented in all years of investigation. They, hence, appear to be of prime concern to all groups of actors closely linked to a circular fashion industry (see Figs. 2 and 3 and Table 5). These concepts represent the core or shared understanding or basic beliefs of social issues in the textile and fashion context. In the following, we will not elaborate on each theme and concept revealed by our analysis, but summarize and highlight core and peculiar findings pertaining to each research question.

The concepts "communities" and "commitment"/"committed" as well as "partners"/"partnership" only occur in the group of corporate publications. Looking at collaboration through a social capital lens, Leder et al. (2020) underline the role of collaborative activities, new relationships, linkages and social networks in advancing circular business models and innovation processes. Here, the concept "women"—solely addressed by the stakeholders—is of importance. Women represent a comparatively large group of consumers and thus may accept and promote alternative consumptive patterns such as donation of used clothing (Norum 2017). Women also form the major part of workforce in the global fashion industry, bearing great responsi-

bilities in terms of income generation and social care. So, employment opportunities, ethical and safe working conditions in less-affluent production countries need to be addressed.

Stakeholders, external organizations and other key target groups are also to be actively involved in circular strategies to create sustainable value. However, our findings show that even if stakeholders appear to influence corporate activities in the fashion industry, the companies develop and change towards more social sustainability and circularity in their very own, idiosyncratic way. This finding is supported by Jakhar et al. (2019) investigating that even in case of similar pressure by stakeholders, corporate responses appeared to be different reflecting great heterogeneity. Therefore, broadly discussed social sustainability requirements need to be linked to already existing norms and guidelines as well as planned regulatory initiatives to address the minimum standards concerning CSR and ethical business conduct along supply chains (e.g., ISO 26000, German Supply Chain Act). They would require a critical examination whether their provisions go well with a social-oriented circular fashion economy. Vice versa, national, European, and international standard-setting bodies and institutions, as well as other secondary stakeholders with a stake in the circular fashion economy, would-be well-advised shaping and promoting specific provisions that go beyond already existing standards and guidelines in the context of social sustainability.

In this context, the role of non-governmental and non-profit organizations needs to be highlighted, too. The organizations have repeatedly addressed moral and ethical aspects in fashion production (e.g., Clean Clothes Campaign 2020) and put pressure on fashion companies to minimize negative social and environmental impacts (Miotto

Table 5 Aggregation and categorization of social sustainability-related concepts

Corporate publications		Academic publications	Stakeholder publications
C&A	H&M		
In each group of publications			
"circular" "fair" "global"/"globally" "information" "life"/"lives"/"living" "local" "management" "need"/"needed"/"needs"		"people" "responsibility"/"responsible" "social" "standards" "sustainability"/"sustainable" "value"/"values" "work" "workers"	
In a single group of publications			
"awareness" "children" "dialogue" "engage"/"engagement" "stakeholder" "wearthechange"	"diversity" "long-term" "vision"	"communication" "consumption" "csr" "service"/"services" "slow"	"employment" "family" "government"/"governments" "health" "legal" "migrant"/"migrants" "poverty" "power" "society" "unions" "violence" "women"
In several groups of publications			
"commitment"/"committed" "communities" "partners"/"partnership" "rights" "training"		"education" "ethical"	
"knowledge"	–	"knowledge"	"knowledge"
"consumer"/"consumers"	–	"consumer"/"consumers"	"consumer"/"consumers"
"future"	–	"future"	"future"
–	"transparency"	"transparency"	"transparency"
"network"	–	–	"network"
"safety"	–	–	"safety"
"human"	–	–	"human"
"share"	–	"share"	–
–	"policy"/"policies"	–	"policy"/"policies"
–	"wage"/"wages"	–	"wage"/"wages"
–	"relations"/"relationships"	"relations"/"relationships"	–
"customer"/"customers"	"customer"/"customers"	"customer"/"customers"	–

and Youn 2020; Stringer et al. 2020). Since such interactions and dialogues are socially constructed over time and involve perspectives from multiple actors with different moral categories and perceptions, the movement towards and conceptualization of a social-oriented circular fashion economy should be complemented by debates on (re-)drawing moral boundaries and their presuppositions, especially in (new) media contexts (Shadnam et al. 2020).

Referring to research question three 'To what extent do these themes and patterns reflect the movement towards sustainability and circular economy in the fashion industry from a theoretical perspective?', our explorative study shows that several social sustainability-related concepts have been evolving concurrently between H&M and C&A, as well as between the two other groups of publications. Thereby, a mutual influence among all three groups examined is indicated. However, as shown in Fig. 2, there are a substantial number of aspects symbolizing social sustainability that are repeatedly not displayed as themes or concepts in all three groups of publications (e.g., "solidarity", "participation", "empowerment", "engagement", "appreciation", "creativity", "sufficiency", "inclusivity", "carefulness", "culture" and "justice") and need to be systematically integrated.

Fig. 3 Summary of identical social sustainability-related concepts occurring across all groups
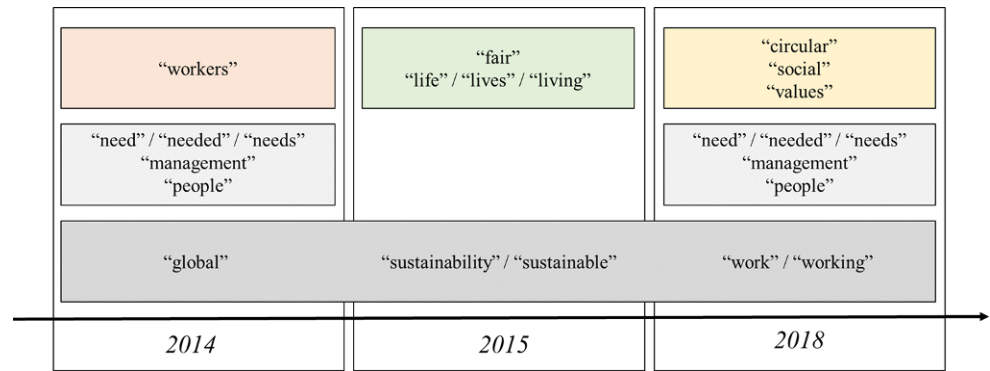
This, however, would require a different understanding of (economic) concepts and approaches such as value, citizen, time, market or exchange. It further necessitates considering the interrelatedness and embeddedness of such alternative approaches and actors within other contexts (e.g., cultural, political, ethical or material) in order to facilitate a different realization through daily social practices and routines, habits, norms and institutions (Hobson 2019; Hobson and Lynch 2016; Schröder et al. 2020). This also includes sufficiency, collaborative consumption, sharing, non-ownership and solidarity (Iran and Schrader 2017). The simultaneous occurrence of the concept "share" in the concept maps of academic publications and C&A's sustainability report in 2018 could also reflect the shift towards discussions on business model innovations for sustainability in both theory and practice.

Social innovations in a circular textile and fashion economy are disregarded in current debates among various interest groups. While this mirrors deficits in the conceptualization of the circular economy, it also illustrates both a pressing need and immense potential for scholars to undertake studies that focus more on social and cultural sustainability-related aspects in circular fashion such as slow design, degrowth, down-scaling and localized economies (Goldsworthy et al. 2018; Hobson and Lynch 2016). Moreover, all stakeholder groups need to be elaborated and evaluated aiming at triple-bottom-line considerations in the circular economy concept. The importance of collaboration, cooperation and exchange of information and knowledge among diverse stakeholders is obvious for advancing a sustainable and circular fashion industry (Todeschini et al. 2017).

Indeed, as highlighted in previous research, in current circular economy discourses an only "curtained and impoverished view of the role of citizens" (Hobson and Lynch 2016, p. 3) is prevailing. This largely de-politicized, passive role is at its core restricted to the acceptance or rejection of new business models within existing norms of greater economic efficiencies, sustained material throughputs and "an unquestioned reliance upon, and uptake of, technologi-

cally-mediated forms of social engagement" (p. 3). Thus, in fostering only weak and micro-level approaches to sustainability with an only limited idea on people and their behavior in social contexts, the current framings and narratives of the circular economy lack a debate on reducing absolute consumption levels as well as a critical exploration of antecedents, mechanisms and implications for radical changes and socio-ecological transformations enabling post-capitalist, diverse and localized economies and de-growth.

At the same time, while this could allow for a proactive presentation of changes towards sustainability and circularity, it also implies the risks of social- and greenwashing in sustainability reporting and communication. Against the background of particularly institutional complexity and multiple stakeholders' interests in the fast fashion context, companies, such as retailers, are increasingly using online communication tools to raise public and other stakeholders' awareness towards their sustainability practices and to implement reputation-added measures (Naidoo and Gasparatos 2018; Da Giau et al. 2016; Gazzola et al. 2020; Islam and Deegan 2010). While this may legitimize their business operations and promote stakeholder engagement, the success of such measures is dependent on altruistic motives, accountability and transparency in their sustainability communication practices (Miotto and Youn 2020). Yet, it raises questions regarding moral implications and boundaries of an increasing adoption of (social media and online) communication and related technologies. Here, tensions between corporate disclosure and practice become obvious, eventually inhibiting an effective amelioration of sustainability impacts (Cho et al. 2015; Garcia-Sanchez et al. 2014). Nevertheless, promoting a circular fashion economy in a socially sustainable way should imply the development of alternative and innovative business models and corporate strategies based on a holistic and extended view on value proposition and value creation (Bocken et al. 2015; Evans et al. 2017).

Based on our results we suggest the following three propositions for further research on the integration of social sustainability in a circular fashion economy:

- The more concepts of circular economy are linked to notions of social sustainability, the more sustainable the concepts become.
- The more diverse stakeholder analyses are in terms of their social requirements, the more profound are recommendations for social norms and international standards guiding responsible business conduct in a circular economy.
- The more broadly the role of consumption, consumer awareness, attitudes and behavior as well as values is reflected and rethought, the better the social dimension of sustainability is integrated into concepts of circular economy and their practical implementation by companies.

6 Conclusions and limitations

The present study investigated the evolution and integration of social sustainability-related concepts in a fashion industry progressing towards circular economy. The results contribute to extant literature and research on the circular economy in general and the circular textiles, fashion and apparel industry by employing a grounded theory approach and seminally identifying, sorting and consolidating themes and concepts with particular regard to social sustainability across three groups of publications. The shared concepts "fair", "global"; "life/living", "local", "management", "needs", "responsibility", "values" and "work" as well as underrepresented ones, for example, "empowerment", "solidarity", "sufficiency", "justice", "accountability", "culture" or "well-being" became obvious by employing Leximancer™. This outcome confirms previous studies demanding an integration of social sustainability in circular economy and calling for a more holistic framework. The findings emphasize the necessity of mutual exchange of different beliefs and views on social sustainability and circular economy, thus, resolving the plurality of understandings and questioning undefined or neglected issues.

From a **theoretical-conceptual** perspective, all interest groups reveal the inadequate systemic consideration of social, cultural and ethical norms, principles, beliefs and worldviews. Further research should examine social aspects neglected in the concept maps as discussed above (e.g., "stewardship", "de-growth") as well as explore the general role(s), engagement and commitment of the wider public including the salience of their interests and objectives (Thijssens et al. 2015) in a sustained and enduring development towards a socially sustainable and circular fashion industry.

Concerning **practical** implications, results imply a greater need for considering social aspects in further developing circular strategies in the fashion industry. Long-term perspectives, philanthropic and social-impact business models and strategies are rarely found in the fashion industry, and need to be further explored to be linked to economic values. Here, clear progress of the content-wise convergence and reconciliation with already existing and newly established international norms and standards is needed. Corporate discourses, however, may imply risks of deception, social- and greenwashing that companies need to counteract in order to enhance the legitimacy of circular transitions. Thus, further research on corporate communications could critically question specific narratives or concepts such as "wages", "policies", "commitment", "partnership" or "fair" for real-world transformations towards socially sustainable circular fashion practices and operations.

From a **methodological** viewpoint, the research is limited in terms of number of companies and years investigated. The study only provides information on communication, themes, patterns, and relations, but cannot show cause-effect-relations or causalities. Further research may employ other qualitative approaches, like, interviews with representatives and experts from each of the three groups of publications (corporate, academic, and broader public), e.g. to scrutinize gaps between communication or representation and real-world corporate activities in order to uncover blue- and greenwashing of corporate communication strategies.

7 Appendix

Table 6 Overview of main concepts relating to environmental sustainability in the fashion industry (aggregated for the year 2014, 2015 and 2018)

Concept[a]	Corporate publications		Academic publications	Stakeholder publications
	C&A	H&M		
"carbon"	✔ (1)	–	–	–
"certified"	✔ (2)	–	–	–
"chemicals"	✔ (3)	–	–	✔ (2)
"climate"	–	✔ (3)	–	–
"cotton"	✔ (3)	✔ (2)	✔ (2)	✔ (1)
"cradle"	✔ (1)	–	–	–
"disposal"	–	–	✔ (1)	–
"emissions"	✔ (1)	✔ (3)	–	–
"energy"	–	✔ (2)	–	–
"environment"	✔ (3)	✔ (1)	✔ (3)	✔ (2)
"footprint"	✔ (2)	–	–	–
"green"	–	–	✔ (3)	–
"hazardous"	✔ (2)	–	–	–
"organic"	–	–	✔ (1)	✔ (1)
"raw"	✔ (1)	–	–	–
"reach"	–	–	–	✔ (1)
"resources"	✔ (1)	✔ (1)	✔ (1)	✔ (2)
"waste"	✔ (1)	–	✔ (3)	✔ (1)
"water"	✔ (3)	✔ (3)	✔ (1)	✔ (3)
Total	**13** (24)	**7** (15)	**8** (15)	**8** (13)

Several concepts are represented in the two groups of scholarly and stakeholder publications (e.g., "disposal", "environment", "organic", "resources" and "waste"). Single concepts are visualized across all groups of publications (e.g., "cotton", "resources" and "water") or in a single group (e.g., "climate", "disposal" and "energy"). The concept "water" appears consecutively in the concept maps of corporate and stakeholder publications, yet, not in the group of academic publications

[a]Number in parentheses indicates the frequency of concept occurrence across all years of investigation

Declarations

Conflict of interest K. Beyer and M.G. Arnold declare that they have no competing interests.

Ethical standards This article does not contain any studies with human participants or animals performed by any of the authors. Informed consent was not required since the present research does not include individuals.

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