



Tackling Overproduction? The Limits of Multistakeholder Initiatives in Fashion

Alice Payne and Zoe Mellick

Queensland University of Technology, Australia

Abstract

Within global value chains, multi-stakeholder initiatives (MSIs) have become the chief means to address the environmental sustainability concerns rife throughout fibre, textile and garment production. MSIs include a wide array of non-governmental organisations, voluntary sustainability standards and reporting tools. However, MSIs can be critiqued as an incremental rather than transformative approach to environmental sustainability, firmly embedded within a green-growth paradigm. This article examines the limits and opportunities of MSIs in aiding a systemic transformation for sustainability within the fashion system. By analysing fashion-specific MSIs at two time points, 2017 and 2021, we identify that while MSI membership is growing and a degree of consolidation and harmonisation is occurring, environmental gains are offset by unrelenting growth in production. Drawing upon principles of degrowth, we propose that a scenario in which an MSI construct could have transformative power is one in which overproduction is explicitly addressed.

Keywords

Multi-stakeholder initiatives; sustainability; overproduction; fashion; environmental impact.

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Introduction

Attempts to rein in the environmental impacts of the fashion and textile industries are impeded by relentless growth in clothing production and consumption. Between 2000 and 2015, clothing sales doubled from 50 billion units to 100 billion units per annum, while the number of wears of a garment halved (Ellen Macarthur Foundation 2017). Raw material consumption follows a similar trend, with global fibre production equating to 9.4 kg per person in 2000, rising to 14 kg in 2020 and predicted to rise to 17 kg in 2030 (Textile Exchange 2021a). In this article, we examine whether the current approaches to address the environmental impact of fashion and textile production can be extended to also address overproduction and overconsumption.

Current approaches to curb environmental impact are challenged because clothing is produced within a globalised economy via transnational supply chains. In the absence of coordinated environmental regulation, over the past 20 years, a patchwork of multi-stakeholder initiatives (MSIs) has sprung up, attempting to impose voluntary environmental standards, processes or targets to improve practices from farm to farm factory. Notable textile-specific MSIs include the Better Cotton Initiative (BCI; Better Cotton Initiative 2021), the Sustainable Apparel Coalition (SAC; Sustainable Apparel Coalition 2021a), Zero Discharge of Hazardous Chemicals (ZDHC) (2021) and Textile Exchange (2021b). As the name implies, MSI members are drawn from multiple stakeholder groups, typically including brands and retailers, as well as manufacturers, non-government organisations (NGOs), unions and other civil society groups. Many offer consumer-facing standards and require membership fees for brand and retailer participation. They are numerous throughout the industry: Textile Standards identifies 77 voluntary standards, guidelines or process frameworks in operation (Textile Standards 2021). Although their aims differ, MSIs seek to reduce overall impact by transitioning the industry to better processes and production methods, offering a governance framework in the absence of robust legislation (Machek, Heinz and Tojo 2021).

However, MSIs can be critiqued as an incremental rather than transformative approach to environmental sustainability in fashion, or what Mukendi et al. (2020) identified as ‘pragmatic’ rather than ‘radical’ change in fashion. As noted by Riisgaard, Lund-Thomsen and Coe (2020: 3), although lead firms (i.e., brands and retailers) are ‘embracing sustainability on an unprecedented scale’, concerns remain that the dominance of brands and retailers within MSIs has resulted in a dilution of sustainability goals away from ‘more radical’ conceptions of environmental and social justice. In this article, we view a more radical conception as one that explicitly challenges the industry’s continued growth (see, for example, Sharpe et al. 2022). Current industry efforts have not addressed the issue of overconsumption (Niinimäki et al. 2020) but rather take an incremental approach to sustainability through signing up to MSIs that aim to improve social and environmental impacts within the chain gradually. Incremental approaches have their limitations. As Kate Fletcher (2016) has argued, incremental attempts to increase resource efficiency have been outstripped by the relentless growth in production and consumption. Fletcher’s view parallels the post-ecological political theory of sociologist Blühdorn (2016), who argued that many of the approaches to govern sustainability serve to maintain ‘business as usual’ and ultimately ‘sustain the unsustainable’.

This paper seeks to understand the limits and opportunities of MSIs in aiding a systemic transformation for sustainability, specifically, one that aligns with planetary boundaries through addressing industry’s overproduction. The paper will draw upon concepts of environmental justice, ecological economics and post-ecological political theory to examine the role of MSIs in fashion supply chains over a four-year period. The paper presents two snapshots of global brands’ and retailers’ commitments to environmental sustainability through their alignment with MSIs. In 2017, we mapped 50 retailers to the environmental MSIs in which they participate (reported in Payne, Mellick and Peterson 2017), and in this article, we draw upon these data for a fresh analysis. In the 2021 update, we updated membership figures and then examined the initiatives with the highest membership to understand the movement of brand and retailer engagement over the past four years. This paper is structured as follows. First, we examine the key environmental concerns and issues that MSIs address. Next, we present the study’s methods and then present the findings from the 2017 and 2021 data. By comparing and discussing these findings, we identify two themes of how the landscape has shifted from 2017 to 2021: first, a desire for greater quantification

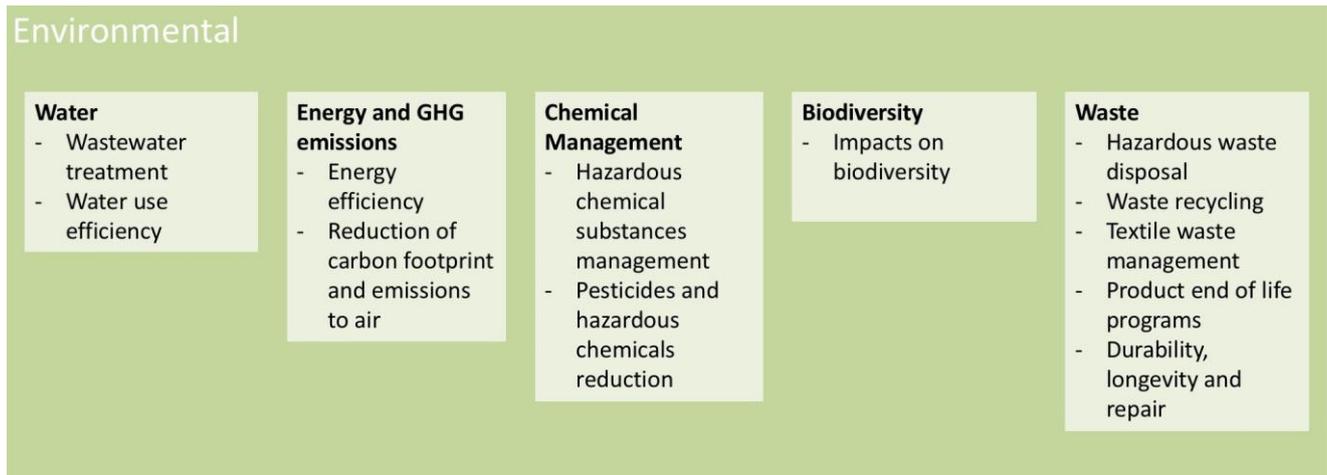
of environmental impact; second, material circularity, but neither shows acknowledgement of overproduction. The paper closes by integrating these findings through the lens of ecological economics and post-ecological theory to consider their implications and propose a future MSI that could explicitly address overproduction.

The Role of MSIs in Fashion Supply Chains

MSIs and the Key Environmental Concerns

Sustainability challenges facing the textile and apparel industries are multidimensional and intersecting, meaning that any categorisation is imperfect and does not adequately capture the entangled nature of the issues. For example, chemical run-off that pollutes river systems is both an environmental issue and a social sustainability issue for the wellbeing of communities downriver. Nonetheless, categorisations help to understand the underlying sustainability challenges and several studies have identified methods to gauge industry action on the various issues. Kozłowski, Searcy and Bardecki (2015) identified 87 sustainability indicators from 14 apparel brands through a content analysis of Corporate Social Responsibility reports. Their study also identified a lack of consistency around sustainability indicators. Other studies have conducted interviews with fashion buyers to determine sustainability issues of concern to retailers (Henninger, Alevizou and Oates 2016; Winter and Lasch 2016). Karaosman, Morales-Alonso and Brun (2017) conducted a systematic literature review of sustainability integration within fashion operations from academic literature and proposed an approach for examining a firm's integrated design of product, process and supply chain strategies. Although most conceptions of sustainability encompass the three pillars of environmental, social and economic sustainability, in this article, we focus on environmental sustainability issues as a means to bound the study, drawing particularly on the integrated framework of Karaosman, Morales-Alonso and Brun (2017) as well as the Global Reporting Initiative (2016).

In the category of environmental issues, aspects of concern include water, energy and greenhouse gas (GHG) emissions, chemical management, biodiversity and waste. There is a consensus around the critical need for hazardous chemical and substance management across supply chain tiers (Rajeev et al. 2017; Shen 2014; Winter and Lasch 2016). Energy and GHG issues include management and reduction of emissions and energy efficiency, highlighted by Shen (2014), Henninger, Alevizou and Oates (2016) and Winter and Lasch (2016). Water sustainability issues include practices such as reducing water use generally (Shen 2014), wastewater treatment (Karaosman, Morales-Alonso and Brun 2017; Winter and Lasch 2016), water-use efficiency in farming practices and water recycling (Karaosman, Morales-Alonso and Brun 2017). Biodiversity impacts, particularly prevalent in the production of raw materials such as cotton and viscose, are highlighted by Karaosman, Morales-Alonso and Brun (2017). Issues around textile waste include pre-production waste (offcuts and unsold clothing) and post-consumer waste (clothing waste to landfill; Payne 2015). In Figure 1, we draw on the above literature to summarise the environmental sustainability issues by aspect (termed water, energy/GHG, chemical, biodiversity and waste) and sub-aspect, the practices involved in addressing these aspects.



Abbreviation: greenhouse gas (GHG)

Figure 1. Summary of textile and apparel environmental sustainability issues by aspect and sub-aspect

MSIs in Fashion Supply Chains

As in many global industries, within fashion and textiles production, there is a proliferation of MSIs at various stages in the supply chain, and they are increasingly becoming a means to operationalise sustainability within the chain (Changing Markets Foundation 2022; Derkx 2013; Derkx and Glasbergen 2014; Giovannucci, von Hagen and Wozniak 2014). Specifically, ecolabels, that is, environmentally focused MSIs, may be sponsored by environmental NGOs, governments or industry associations (Li and van ’t Veld 2015) and are a key way for retailers to communicate to customers a garment’s sustainability criteria as well as the retailer’s overarching commitment to sustainability (Clancy, Froling and Peters 2015). However, the ever-growing number of third-party organisations involved in supply chains also presents challenges. These organisations operate outside government and are formed by many stakeholders coming together. The proliferation of MSIs, with dozens in operation, has resulted in the need for a ‘meta-governance’ that, in turn, regulates and coordinates them, leading to the rise of international governance initiatives such as ISEAL Alliance (Derkx and Glasbergen 2014; Potts et al., 2014). Derkx (2013: 1) commented that the expanding numbers of MSIs are largely ‘uncoordinated’ as many MSIs address overlapping sustainability issues and compete for membership within the same sector. They may be connected to one region or be global.

In addition to the challenges posed by the expanding numbers of MSIs, their intimate relationship with brands is also problematic: their representatives sit on boards and working groups, they fund the initiatives’ work through membership fees, and the more members that sign up, the greater the influence and capacity an MSI has to make a change. Machek, Heinz and Tojo’s (2021) study of nine Swedish brands that were each signed up to three MSIs—SAC, Sweden Textile Water Initiative and Textile Exchange—found the ‘discourse within the MSIs tend to be dominated by a few large brands’ (2021: 199). The authors acknowledged a general scepticism around the ability to make change as brands conducted the MSI initiatives voluntarily, yet the authors also acknowledged the complexity of making change within the extended globalised context of the fashion supply chain, noting that MSIs play a role in ‘enhancing sustainability’ (Machek, Heinz and Tojo 2021: 210). Interviews with the nine brands revealed that the value of MSIs was around access to information and tools, connection to experts (i.e., academia) and collaboration, not competition, around common sustainability issues. Criticisms were around the finances and resources associated with participating, especially with the fee structure for SAC. Asymmetrical power in the decision process of MSIs meant decisions were not always transparent, which ‘might mean privatisation of standards’ (Machek, Heinz and Tojo 2021: 209). This study demonstrates how larger companies with the resources can dominate the de facto governance of environmental sustainability in their supply chains. However, MSIs do enable the forming of shared commitments and collaborations to address a focus area.

Positioning MSIs within Sustainability Discourse

The concept of sustainability, upon which the MSIs hinge, 'is so successful not although but precisely because it is highly unlikely to disrupt the order of consumer capitalism' (Blühdorn and Deflorian 2019: 12). Ingolfur Blühdorn and Michael Deflorian (2019) argued that these approaches to collaborative governance by networks of multiple stakeholders in MSIs and the like are how the 'politics of unsustainability' is governed. They argued that the decentralised forms of multi-stakeholder governance ('modern environmental governance') 'are a societal practice for the collaborative management of sustained unsustainability' (Blühdorn and Deflorian, 2019: 12). Similarly, David Hausknost (2019) identified the structural barriers to societal transformation for environmental sustainability as a 'glass ceiling' that cannot be overcome through conventional politics. Related critiques of MSIs and their ambiguous pathway towards enabling sustainability and justice—while simultaneously maintaining the status quo—have been raised by scholars writing about food systems (Parker and De Costa 2016; Parker, Johnson and Curll 2019).

As the previous section demonstrated, identifying and quantifying the environmental impacts of fashion production is well established. More difficult, though, is determining what a sustainable system should look like, given the industry's global reach, industrial scale and continual growth. Writing in 2016, Fletcher (2016: 21–22) noted the proliferation of MSIs in fashion supply chains yet argued their environmental gains are offset by overall growth:

Resource savings brought by efficiency drives have, in the same period that improvements have been introduced, been outstripped by higher rates of consumption of clothes, increasing the impact of the system at large. Viewed as a whole, things have got worse, not better. Increasing the throughput of materials is their mechanism. Yet this is spectacularly detrimental: continuous expansion of use of materials is fundamentally at odds with the finite nature of the resource base.

One attempt to grapple with material throughput has been the notion of the circular economy (CE), which is an approach to keeping resources in use for longer, including reclaiming materials by turning them into new products. However, this approach could also have an adverse effect through increasing demand. This conundrum was theorised as Jevon's paradox in 1865, which introduced the notion that greater efficiency in the use of a resource can paradoxically lead to greater consumption of the said resource, also known as the 'rebound effect' (Zink and Geyer 2017). In a fashion paradigm where consumption needs to be reduced, the risk of the rebound effect would further exacerbate the bigger problem rather than become a solution.

Challenging the Growth Narrative

Outside the dominant sustainability narrative in which MSIs sit, other propositions offer alternatives. Since the 1970s, the dominant growth narrative of consumer capitalism has been critiqued by heterodox economists and systems thinkers. The *Limits to Growth* report of 1972 used systems modelling to examine outcomes if humanity maintained its course of economic growth with its associated resource extraction and pollution, with the majority of scenarios predicting a societal collapse in the mid-twenty-first century (Meadows, Randers and Meadows 2005). Despite technological innovation in recent decades, updates on the original modelling by Turner (2008, 2012) and Herrington (2021) demonstrated that the world has tracked closely to the original 'business-as-usual' scenario, predicting a decline in economic growth by the mid-twenty-first century. The work of ecological economist Herman Daly (1992) proposed 'steady-state' economics without continual growth. Subsequent economic analyses included Tim Jackson's (2009) proposal of recasting the nature of prosperity away from economic growth and Kate Raworth's (2017) 'doughnut economics', which proposed that economic growth occurs within the safe operating space for humanity bounded by an 'ecological ceiling' and a 'social foundation'. Importantly, scholarship from the Global South has highlighted that the root causes of unsustainability are far deeper than an economic model built on continual growth. Rather, root causes are what Mignolo (2007) termed as modernity/coloniality, a 'matrix of power' (Quijano 2000) in which the systemic, ongoing injustices of

colonisation are in service to a mode of being, Eurocentric modernity, which subjugates the living world and much of humanity in service to its aims.

Implicit in this ‘politics of unsustainability’ is a commitment to green growth, defined by Wiedmann et al. (2020: 6) as the view that ‘economic growth can be decoupled from environmental impacts and is necessary to provide sustainable technical solutions’. What, then, are the alternatives? A more radical conception for sustainable prosperity would be one founded on principles of sufficiency and degrowth, with degrowth defined by Kallis et al. (2018: 292) as ‘a process of political and social transformation that reduces a society’s throughput while improving the quality of life’. Degrowth, post-growth and ecological economics, stemming from Daly’s steady-state economics in the 1970s through to Latouche (2004) in the 2000s, present as a radical alternative to the ‘green-growth’ incrementalism of the industry and, arguably, of the MSIs themselves. A wide array of challenges to the dominant neoliberal economic narrative have therefore emerged. In the following sections, we explore the degree to which these alternative narratives can be reconciled with the MSI approach to sustainability.

Method

In this study, we take two periods of time, four years apart, to compare the movement of MSI membership in fashion supply chains. This study was undertaken through a desktop survey of annual reports and websites of companies and MSIs. First, in 2017, we selected 50 textile and apparel brands and retailers for analysis, chosen based on highest annual revenue as well as high volume of production (see Table 1). The term ‘retailers’ is used to describe a range of branded fashion and homewares firms, including Inditex (including specialty retail chains such as Zara, Pull & Bear and Massimo Dutti), department stores such as Marks and Spencer and brands such as Nike. The firms chosen represented a sampling of multinational Asia–Pacific, North American, and European companies, including sportswear, outdoor mass-market and fast fashion.

Table 1. Retailer sample

Brands (28)	Companies (22)
1. Abercrombie and Finch	1. Adidas Group
2. American Eagle Outfitters	2. ANN Inc
3. ASOS plc	3. Armani
4. Burberry	4. Bestseller
5. C&A / C&A Foundation	5. Fast Retailing (Uniqlo)
6. Cotton On	6. Gap Inc
7. Eileen Fisher	7. Hanes Brands
8. Esprit	8. IC Group
9. Forever 21	9. Inditex (Zara)
10. G-Star RAW	10. John Lewis
11. H&M	11. Kering
12. Hugo Boss	12. L Brands (Victoria Secret)
13. IKEA	13. Marks & Spencer
14. Kathmandu	14. Next PLC
15. Lacoste	15. Nike Group
16. Levi Strauss	16. PVH (Tommy Hilfiger)
17. Lindex	17. Tesco
18. Lululemon	18. TJX Companies
19. Marni	19. VF Corporation
20. Michael Kors	20. Walmart
21. New Balance	21. Wesfarmers (Target, Kmart)
22. Nudie Jeans	22. Woolworths Holdings (Country Road Group)
23. Patagonia	
24. Primark	
25. Puma (Kering)	
26. Ralph Lauren	
27. Target Corporation	
28. Ted Baker	

Retailers are headquartered in the following regions: European Union (EU) and United Kingdom (UK) (25/50 retailers), North America (20/50), Asia-Pacific region (4/50) and Africa (1/50). The disproportionately high representation of North American and EU/UK retailers in the sample reflects the nature of the apparel industry, in which the world's most powerful brands and retailer operations are typically based in the wealthiest nations.

In part 1 of this study, we examined the top 50 MSIs that target environmental sustainability supply chain issues, determined by the number of retailer members. The first sample was taken from January to June 2017 and the second from January to June 2021. After mapping MSI to company, we tallied the total number of MSIs that addressed each environmental aspect and their proportion to the total number of top initiatives. For example, signing up to the ZDHC (Roadmap to Zero, 2021) demonstrates a retailer's commitment to reducing the chemical intensity of garment and textile production and, therefore, can be mapped to the environmental aspect of 'chemical use' as identified by Shen (2014), Winter and Lasch (2016) and Rajeev et al. (2017). The emergent themes discussed in the following sections serve to isolate the environmental sustainability messages and issues of greatest concern to the textile and apparel industry at that time.

In part 2 of the study, in 2021, we reviewed the original mapping and updated the top MSIs' connections to retailers to examine their movement over time. As with the 2017 study, we undertook this mapping through desktop research, matching MSI to retailer membership. We then examined more deeply the shifting role of MSIs, by honing in on several that changed over time. We collected industry grey literature (MSIs' own reports and industry publications such as *Sourcing Journal*, *Just Style* and *Business of Fashion*) on why shifts in the MSIs seemed to occur.

Findings

The findings are structured in three parts. First, we examine the 2017 findings, which present a vivid picture of the intense activity between MSIs and brands and retailers. Second, we re-examine the connections between MSIs and retailers in 2021 compared with 2017, identifying key changes in industry approach between the two periods. Last, we draw from this comparison to further explore the emerging shifts.

The State of Play in 2017: Analysis of 50 Retailers and Their MSI Partnerships

The 2017 top initiatives are captured in Table 2. The MSIs with the highest membership were BCI (32/50 retailer members), SAC (29/50) and Textile Exchange (26/50). Popular environmental initiatives tended to focus on energy management (specifically, lowering carbon emissions), such as World Resources Institute's GHG Corporate Standard (24/50 retailers). Retailers also signed up to a high number of voluntary sustainability standards that address reducing harmful substances in textile manufacturing. For example, retailers ensured compliance with the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) program (mandatory for EU-based entities, voluntary for others) (18/50 retailers). Retailers became members of MSIs such as ZDHC (23/50 retailers) or were third-party certified through organisations such as Bluesign (12/50 retailers), OEKO-TEX (13/50 retailers) and Global Organic Textile Standard (13/50 retailers).

Table 2. MSIs mapped to retailer membership, 2017

Rank	Multi-Stakeholder Initiative	# Members
1	Better Cotton Initiative	32
2	Sustainable Apparel Coalition / Higg Index	29
3	Textile Exchange	26
4	Global Reporting Initiative	25
5	World Research Institute's Greenhouse Gas Protocol Corporate Standard	24
6	Zero Discharge of Hazardous Chemicals	23
7	United Nations Global Compact	22
=8	Forest Stewardship Council (Control Union)	22
=8	Carbon Disclosure Project	20
=9	Canopy	16
=9	Leather Working Group	16
=10	AFIRM Group Restricted Substances List	15
=10	Greenpeace Detox Solution	15
=11	Fashion Positive	14
=11	Global Fashion Agenda's Call to Action	14
=12	Global Social Compliance Programme	13
=12	Global Organic Textile Standard (Control Union)	13
=12	LEED certification (United States Green Building Council)	13
=12	Oeko-Tex Standard 100	13
=13	His Royal Highness The Prince Of Wales: Sustainable Cotton Communiqué 2025	12
=13	Bluesign	12
=14	Clean by Design	11
=14	Partnership for Cleaner Textile	11
=15	Made-By (MODE Tracker)	9
=15	Supplier Ethical Data Exchange / Sedex Members Ethical Trade Audit	9
=15	Business for Social Responsibility Water Quality Guidelines	9
=16	Partnership for Sustainable Textiles / Textilbuendnis	7
=17	Cotton made in Africa	6
=17	Sustainable Clothing Action Plan 2020 - Waste & Resources Action Programme	6
=18	Organic Cotton Accelerator	5
=19	Australian Packaging Covenant	5
=20	Circular Economy 100 / Ellen MacArthur Foundation	5
=21	Sustainable Accounting Standards Board	4
=21	The Sustainability Consortium	4
=21	Yarn Ethical and Sustainable Sourced	4
=21	Business for Social Responsibility - Clean Cargo Working Group	4
=21	Cradle to Cradle Products Innovation Institute + Cradle-to-Cradle certification	4
=21	Energy Star*	4
=21	Rainforest Alliance	4
=22	Cotton LEADS	3
=22	Textile Exchange Organic Cotton Roundtable	3
=23	Australian myBMP Cotton	2
=23	B Corp	2
=23	Dutch Covenant / Dutch Agreement on Sustainable Garments and Textile	2
=23	International Integrated Reporting Council	2
=23	Sustainable Fibre Alliance	2
	Environmental only focus	
		Environmental and social focus

From this information, it is possible to identify the environmental aspects of greatest concern to the top MSIs by mapping the issues they seek to address. We mapped each MSI to environmental aspects to determine the percentage of the top 50 MSIs that addressed a particular aspect (see Figure 1). The aspects of water and chemical usage were the top two environmental issues addressed by initiatives, followed by energy and GHG emissions as an equal third. The fourth was biodiversity, and the fifth was waste and recycling:

1. water management issues
2. chemical management issues
3. energy/GHG issues
4. biodiversity
5. waste and recycling.

This list should not be narrowly interpreted as the only environmental priority areas for retailers; rather, it provides insight into the activity levels occurring within all these aspects throughout supply chains and where the most MSI activity appears. The next sections explore the changes in these initiatives between 2017 and 2021.

The State of Play in 2021: Small Shifts

The 2021 update of the MSIs (see Table 3) revealed a degree of movement and harmonisation as MSIs sought to develop joint understanding around measurements, values and reporting for sustainability. Some MSIs (e.g., Made-By) disappeared altogether, while many remained stable. Four of the top five initiatives grew in membership, with four to five retailers joining each. Additionally, three key MSIs—Textile Exchange, ZDHC and SAC—together with a funding body known as Apparel Impact Institute, formed a new organisation under one initiative collectively known as The Apparel Alliance. This harmonisation follows the trend among cotton programs to come together; for example, the BCI benchmarked to cotton certifications in Australia (myBMP), Brazil (ABR) and Africa (CmiA). The biggest jump in retailer participation was observed in two initiatives focused on the CE: the Ellen Macarthur Foundation (EMF) and the Global Fashion Agenda.

Table 3. MSIs mapped to retailer membership, 2021 update

Rank	Multi-Stakeholder Initiative	# Members	Change since 2017
1	Better Cotton Initiative	36	+4
2	Sustainable Apparel Coalition / Higg Index	35	+5
3	Textile Exchange	31	+5
4	Zero Discharge of Hazardous Chemicals	25	+2
5	World Research Institute's Greenhouse Gas Protocol Corporate Standard	24	None
6	Forest Stewardship Council (Control Union)	22	None
=7	United Nations Global Compact	21	None
=7	Global Reporting Initiative	21	-3
=7	Global Fashion Agenda (strategic partners / circular partnership)	21	+7
8	Carbon Disclosure Project	20	None
=9	AFIRM Group Restricted Substances List	16	+1
=9	Canopy	16	None
=9	Leather Working Group	16	None
10	Greenpeace Detox Solution	15	None
11	Fashion Positive	14	None
=12	Global Social Compliance Programme	13	None
=12	Global Organic Textile Standard (Control Union)	13	None
=12	LEED certification (United States Green Building Council)	13	None
=12	The Microfibre Consortium	13	New
=12	Oeko-Tex Standard 100	13	None
=13	Ellen MacArthur Foundation Circular Economy 100	12	+ 7
=13	Bluesign	12	None
=14	Clean by Design / Natural Resources Defence Council	11	None
=14	Partnership for Cleaner Textile	11	None
15	Supplier Ethical Data Exchange / Sedex Members Ethical Trade Audit	10	None
=16	Business for Social Responsibility Water Quality Guidelines	9	None
=16	Changing Markets Roadmap signatory (Dirty Fashion - Viscose)	9	New
=17	Cotton LEADS	6	+2
=17	Organic Cotton Accelerator	6	+1
=17	United States Cotton Trust Protocol	6	New
=17	Textiles 2030 - Waste & Resources Action Programme	6	New
18	Australian Packaging Covenant	5	None
=19	Cotton made in Africa	4	-2
=19	Sustainable Accounting Standards Board	4	None
=19	Yarn Ethical and Sustainable Sourced	4	None
=19	Business for Social Responsibility Clean Cargo Working Group	4	None
=19	Cradle-to-Cradle certification	4	None
=19	Energy Star*	4	None
=19	Rainforest Alliance	4	None
=20	Dutch Covenant / Dutch Agreement on Sustainable Garments and Textile	3	+1
=20	B Corp	3	+1
=21	International Integrated Reporting Council	2	None
=21	Sustainable Fibre Alliance	2	None
=21	The Sustainability Consortium	2	-2
N/A	Australian myBMP Cotton	0	-2
	Environmental only focus		Environmental and social focus

Themes of Key Changes

When comparing the 2017 and 2021 findings, we examined further the MSIs that grew in membership and identified two themes around how these MSIs changed over time. For MSIs like SAC and BCI, it is clear that there are contentions around how environmental impact is measured (particularly around fibres). Second, there is a trend towards circularity as an enabler of sustainability; however, we consider the framing of circularity in these MSIs as aligning with ‘green growth’ and sidestepping the problem of overproduction. The comparison between 2017 and 2021 also shows that the MSI landscape is becoming more complex, for although MSIs retain membership, they aim to consolidate influence through harmonisation and seek to speak the same language through agreed measurements.

Changes in Measurement and Quantitative Tracking

One significant change between 2017 and 2021 was that the MSI Made-By went into administration in 2018 (Matthews 2018). Although not publicly available anymore, Made-By benchmarked 27 fibres across five classifications from Class A (best) to Class E (worst), based on six parameters, including GHG emissions; human toxicity; eco-toxicity; energy; and water and land (Made-By 2017). The Class A best fibres included mechanically recycled polyester and nylon, linen and hemp, and recycled cotton and wool. Class E, the worst fibres, included viscose, conventional cotton, nylon, rayon, elastane and wool. Fibres for which not enough data were available were listed as unclassified. The model was simplistic, with animal fibres such as wool and silk unclassified, and their data on water use in cotton were generalised. Made-By also did not share its methodology for scoring publicly. Although Made-By addressed that its rankings had limitations, this lack of methodological transparency demonstrates that caution needs to be exercised when relying on tools that seek to simplify impacts.

The SAC is another key player influencing how sustainable fibres are defined. Established in 2010, SAC’s current member companies (including brands, retailers and manufacturers) are estimated to be responsible for more than one-third of the apparel and footwear produced globally. The SAC developed the Materials Sustainability Index and Higg Index, which have become widely used by industry to score a material’s impacts from fibre production to the final product. It is important to note the key differences here, as Made-By only scored the fibre, whereas the Materials Sustainability Index included the manufacturing stage. This ‘score’ has been an important factor in the improved sustainability ratings that H&M (one of the funders of SAC) and others regularly report. However, metrics and the question of what should be measured have been contested. For example, the validity of the Materials Sustainability Index data has come into question as some fibre scores appear to rely on data from one factory or study, extrapolated out to represent a fibre’s overall impact (Kassatly 2019; Laitala, Grimstad Klepp and Henry 2018). Interestingly, in 2020, the Materials Sustainability Index was taken down from public view due to criticism surrounding the credibility of its scoring system (Chua 2020; Mowbray 2020). Yet, in mid-2021, SAC announced that it would launch a transparency program to share environmental footprint information under its Higg Index (Chua 2021), which would ‘address current gaps and opportunities, but also evolving consumer, stakeholder, and government demands over time’ (Sustainable Apparel Coalition 2021b: 4). While this statement acknowledges the incompleteness of the data currently available, it shows a continued desire to quantify impact. Relatedly, more criticality around data and their use has emerged in the fashion industry. For example, a recent report by the Transformers Foundation investigated the ‘misuse’ of data around cotton. They found that there is a lack of harmonisation of data, especially regarding cotton as a fibre, which is produced under different geographic and climatic conditions. They discouraged the use of global statistics and developed a framework to teach a range of audiences, from retailers to consumers and NGOs, how to understand data to prevent the spread of misinformation (Lanfranchi and Cline 2021).

Turning now to focusing on BCI and Textile Exchange, their change over time also reflects headwinds within the industry, which seek only to quantify the impact of fibres rather than question production and growth. For example, BCI, a sustainable cotton initiative, has evolved since 2017 from providing broad standards around farming practices to taking a Lifecycle Inventory approach, which captures and quantifies environmental impacts such as litres of water used during production (Pasztor 2021). Similarly,

Textile Exchange, a certifications initiative, recently released the Global Fibre Impact Explorer (2022) in 2021, which examines different fibre options and rates their risk. This development demonstrates that there has been much work and a push for more lifecycle studies around fibre. However, another side of this development is that the focus on reducing environmental impact often privileges efficiency over sufficiency. In other words, the focus is on reducing impact rather than reducing overall resource consumption, which makes these models susceptible to Jevon's paradox, whereby increased efficiency in the use of a resource can lead to greater consumption of that resource (the rebound effect). Further, these changes do not consider clothing utilisation, longevity and durability, which are important factors when considering how to curb overproduction and overconsumption.

Circularity

Although concerns around textile waste were well in evidence in the 2017 findings, as the fifth most important issue, our analysis from 2021 demonstrates that the concept of the CE has been increasingly offered as a solution. The two MSIs that jumped the most in membership between 2017 and 2021, the EMF and Global Fashion Agenda, are both focused on CE. Notably, in 2017, EMF released its report, *A New Textiles Economy* (Ellen Macarthur Foundation 2017). EMF's definition of a CE includes eliminating waste and pollution, circulating products and materials and regenerating nature. More recently, EMF states, 'a circular economy decouples economic activity from the consumption of finite resources' (Ellen Macarthur Foundation 2021b). This statement unequivocally aligns with the green-growth narrative and is echoed in EMF's subsequent report on new business models for circularity (Ellen Macarthur Foundation 2021c). New business models such as rental, repair, remaking and resale are proposed as circular alternatives to business as usual with the potential to decouple environmental impact from economic growth; however, despite isolated exemplars of these new business models, the vast number of retailers are founded on a model of selling new clothes. In 2017, five of the 50 brands and retailers were aligned with EMF, and by 2021, this number had risen to 12, with many more implementing EMF's circular initiatives around waste reduction. For example, EMF's Jeans Redesign initiative, founded in 2019, brought together 90 brands and manufacturers to establish circular denim guidelines for the industry (Ellen Macarthur Foundation 2021a). This initiative represents a significant push to increase the industry's efficiency and reduce pollution and waste. However, while of deep importance, it does not address the continued growth in production, and some have questioned the initiative's efficacy (Warren 2021). Importantly, EMF recognises the role of policymakers in implementing fee-based Extended Producer Responsibility (EPR) schemes that can incentivise brands and retailers to move to cleaner and circular processes (Ellen Macarthur Foundation 2021c).

Another MSI that has gained traction around circularity is the Global Fashion Agenda (GFA), with its membership rising from 14 retailers in 2017 to 21 retailers in 2021 from the 50 retailers examined. Stemming from the Copenhagen Fashion Summit (established in 2011 by the Nordic Fashion Association), GFA's website was first launched in 2018. GFA has a strong focus on circular fashion to drive its agenda of transforming the industry. Its strategic partners include brands and retailers ASOS, BESTSELLER, H&M Group, Kering, Nike, PVH, Ralph Lauren and US Target, alongside manufacturers Fung Group and fellow MSI, the SAC (Global Fashion Agenda 2021a). Their Circular Fashion Partnership includes many more brands, manufacturers and recyclers (Global Fashion Agenda 2021b). Like EMF, GFA's stated goal is to 'champion change management and forward-looking approaches to progress by redefining measures of success and decoupling growth from resource constraints'. For GFA, their 'transformational principles for fundamental change in fashion' include better wage systems, sustainable materials, circular fashion and embracing the fourth industrial revolution (Global Fashion Agenda 2021a). While laudable, these principles are no different to the standard sustainability aspirations put forth by brands and retailers and MSIs and, thus, are arguably not transformational in the way that a degrowth, decolonial agenda would be transformational.

EMF and GFA have undoubtedly become leaders in circularity since 2017. Their mission is premised on the idea that circularity is the key to fixing fashion, and they have successfully gained industry buy-in. However, explicitly, their position promotes green growth, in which resource use is decoupled from continued economic growth. This is despite the well-established links between growing affluence and

greater environmental impact (Wiedmann et al. 2020). The most recent figures from Textile Exchange demonstrate how far from achieving circularity the industry is in the face of continual growth. In 2021, 92% of all fibre was from virgin materials, and of the 8% made from recycled content, 7% was from recycled plastic bottles. Fibre production grew 37% between 2010 and 2020 and is predicted to grow by a further 36% to 146 million tonnes per annum in 2030 (Textile Exchange 2021a). Even substituting less environmentally friendly fibre with lower-impact and recycled fibres, the relentless growth in fibre production will mean that the environmental gains of substituting one fibre for another (however ‘circular’) will be lost by consuming more fibre overall.

The truth of this is well illustrated by Kering’s data from their Environmental Profit and Loss (EP&L) reporting, 2015–20. Since 2015, luxury conglomerate Kering has reported the environmental impact of their production alongside their revenue. Their figures are encouraging in that they demonstrate that some decoupling of revenue growth from environmental impact is possible. For example, in 2015, their EP&L figure per 1,000 Euros of revenue was granted a score of 51, brought down to 43 in 2018, then down to 34 in 2020, a steady reduction in impact over time. However, because their revenue almost doubled between 2015 and 2018, their actual environmental impact in 2018 was 48% higher than in 2015. Yet, if they had maintained their 2015 EP&L figure, their 2018 environmental impact would have been far worse, at 73% higher than in 2015. In other words, while some decoupling of environmental impact from revenue growth is possible through deploying cleaner processes, some limits must be addressed for the transformational change required. It is clear also that the benefits of reducing environmental impact will be lost if overall production continues to grow unabated. In the final part of the paper, we examine what a model for an MSI that tackles overproduction might look like.

Discussion: Proposal of an MSI To Address Overproduction

As the findings suggest, although there is a considerable movement within the most prominent MSIs to unite the industry under goals of sustainability and circularity, this movement is explicitly within a green-growth paradigm. Following the analysis of Blühdorn (2016), the notion of sustainability implied is one in which continued growth (in production, in affluence, in consumption) is non-negotiable. While *what* is being produced may change to be more circular or cleaner, mentions of producing less are rare. An MSI that proposes a sufficiency mindset among producers or consumers is incompatible with societal expectations. This situation is an example of the glass ceiling limiting transformation that Hausknot (2019) identified and is a limit to the MSI mode of governance led by stakeholders for whom such a transformation is at odds with their core purpose. A more powerful mechanism would be for policymakers to take action, with applying EPR schemes to clothing as one means to alter production and consumption patterns.

Setting aside policymakers’ actions, could MSIs play a role in a more radical transformation in line with ecological economics? To inform an MSI that can address overproduction, key characteristics would be needed to be included in the model. For example, MSIs have the following characteristics: targets or missions, multi-stakeholders (such as NGOs, councils, brand and retail members, other civil society organisations), sharing of information and expertise, governance structure and, in some cases, consumer recognition. A model informed by ecological economics could place goals and targets around growing no more than a certain per cent per annum or committing to keep production levels stable at the levels of previous years, as well as continuing to reduce environmental impact. Retailers who are members of the MSI could commit to only using resources that can be renewed or used in line with planetary boundaries. These targets already largely align with the aims of Textile Exchange: the key difference is that an accounting mechanism could track the volume produced over time. As the quantification discussion earlier in the paper showed, attempts to quantify the relative environmental impacts of different materials over the full life cycle are already contentious. Simplifying the process by setting a baseline of the number of units of clothing that can be produced in a given year would be a radical proposition that could cut through the ambiguity and greenwash and tackle the overall problem of ever-growing material throughput.

An MSI for overproduction could commit members to conducting an EP&L and considering a set percentage rise per year. For example, as discussed earlier, in Kering's EP&L report, 2018 and 2020 had similar revenues, but the environmental impact was lower in 2020 due to Kering's actions, such as using lower-impact materials. However, if Kering had maintained revenues at 2015 levels, this would have resulted in a far steeper decline in environmental impact, which is an essential goal for the entire industry. It is possible to imagine such a scheme could be taken up by a consortium of privately owned companies that might be better placed to make the radical change required. Further, an MSI model that explicitly considers overproduction could form part of a larger mindset shift, signalling a change for retailers or other current MSIs to align with sustainability conceptions that can be sustained. The speculative nature of such an MSI brings into stark relief the systemic barriers to change within fashion. The current orthodoxy does not question growth; indeed, two of the most influential MSIs place economic growth at the core of their sustainability aims, even though there is little evidence that environmental impact can be meaningfully decoupled from the continued growth of production at scale. Nonetheless, since June 2021, when our data collection concluded, several reports and articles have cited the need for major changes in production and consumption (Changing Markets Foundation 2022; Martinko 2022; Sharpe et al. 2022), suggesting this orthodoxy may be shifting.

Conclusion

In the absence of appropriate regulation to govern fashion's supply chains, MSIs have become the de facto framework to address the environmental injustices rife within the industry. In this article, we sought to understand both the limits and opportunities of MSIs in aiding a systemic transformation for sustainability in fashion. MSIs have been critiqued as an incremental rather than transformative approach to environmental sustainability, one that serves to 'sustain the unsustainable' and is firmly embedded within a green-growth paradigm. To examine the role and reach of MSIs, we drew upon 2017 dataset mapping 50 global fashion retailers to the MSIs to which they had declared membership, identifying the top environmental issues of concern over time. We then re-examined these data in 2021, observing the changes in MSIs over time. The sheer number of MSIs, many of which address overlapping sustainability issues, demonstrated the complexity and confusion around retailer partnerships, with many retailers taking a portfolio approach by partnering with many MSIs. Through tracking the movement of initiatives at two time points four years apart, we identified that while MSI membership is growing and a degree of consolidation and harmonisation is occurring, gains are offset by unrelenting growth in production. Drawing upon principles of degrowth, we propose that a scenario in which an MSI construct could have transformative power is one in which overproduction is explicitly addressed.

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Correspondence: Alice Payne, Associate Professor in Fashion in the School of Design, Queensland University of Technology, Brisbane, Australia. a1.payne@qut.edu.au

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