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Social and Solidarity Economy

Closing the Loop

Can Social and Solidarity Organisations Accelerate the Circular Economy?

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Abstract

Today's world seems to be buzzing with excitement over the "circular economy", a concept closely aligned with Sustainable Development Goal 12. This paper examines four organisations from the social and solidarity economy, which are trying to redirect our growing streams of textile waste towards reuse and recycling, all grounded in the model of social employment. Through cross-sectoral collaborations, new social business models are emerging. The SSE-organisations discussed in this paper work with retailers, brands, technology developers and recyclers. They are reinventing the SSE's traditional model of clothing reuse, turning instead into a push factor for a circular system in which the value of all textile materials can be maximised. Whilst in early stages, these projects can signal and help anticipate the possible risks and opportunities for the SSE, as the circular transition picks up speed. The paper therefore provides first-hand insights as to the question of how the circular economy can become socially impactful, and how the social and solidarity sector can maximise its role through collaborations, whilst safeguarding its independence and social mission. Lastly, the paper also discusses the enabling factors to achieve the systemic change of SDG 12, fostering social, environmental and economic progress within hybrid collaboration models.

Keywords

Circular economy, textiles, partnerships, collaborative models, reuse and recycling, social employment

Bio

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1. Introduction

SDG 12 – a sustainable mode of production and consumption – is often framed through the lens of a “circular economy”, a concept which has gained considerable traction in recent years among policy-makers, businesses and civil society organisations (CSOs). As opposed to the “take, make, use and dispose”-paradigm, in a circular economy our material and product resources keep cascading for as long as possible.

Circular pioneers across the world are setting out to redesign production and consumption patterns, through approaches such as zero-waste design, product-life extension, repair and remanufacture services and of course recycling. This is no different in the textiles industry, a sector increasingly associated with detrimental impacts on human lives and ecosystems, and a vastly wasteful system of “throw-away” consumption. Across the globe, the equivalent of one garbage truck of textiles is landfilled or incinerated every second, while just 1% of clothing materials is recycled into new clothing (Ellen McArthur Foundation 2017). What role can the social and solidarity economy (SSE) play in rethinking and transforming these material flows?

2. Delivering on SDG 12: the case of the garment industry

Sustainable Development Goal 12 encompasses consumption as well as production modes, connecting the upstream and downstream of our globalised value chains in a joint effort towards sustainability. Of particular relevance for this paper is target 12.5: “By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse”.

Looking at the textiles sector, where global textile fibre production has expanded from an estimated 70.6 million tonnes in 2007 to 90.8 million tonnes in 2014, we can expect a further growth forecasted to reach an astronomical 130 million tonnes produced annually by 2025 (Dahlbo et al., 2017; Pensupa et al., 2017). If we continue this course, in a business-as-usual scenario, the climate impact of the apparel and footwear industry is expected to increase by 49%, which is equal to today’s total annual greenhouse gas emissions in the United States (Quantis 2018). Unsurprisingly given such rapid pace of production and consumption, growing piles of textile waste are generated across the planet. French citizens donated 210 000 tonnes in 2016 (Eco TLC). In China, which produces 65% of clothes globally, it is estimated that consumers throw away 26 million tonnes of used clothing per year (Chinese Association of Circular Economy 2016). Again in a business-as-usual scenario, we will be landfilling or incinerating more than 150 million tonnes of clothing per year in 2050 (Ellen McArthur Foundation 2017).

SSE-organisations are trying to redirect these massive waste streams towards reuse and recycling. They strive to make progress towards SDG12 and more specifically 12.5. Through four case studies, this paper demonstrates the various ways in which SSE-organisations facilitate new collaborations to reuse and reduce textile waste. Social employment is the cornerstone of all examples discussed in this paper. They all share the mission to realise societal added value, rather than profit, by creating employment opportunities for people who, for various reasons, are struggling in the regular labour market (e.g. lack of in-demand skills, disabilities, limited language skills). Next to such socio-economic objectives, sustainability and resource preservation count as important organisational values. The projects discussed in this paper are all in an early and

experimental stage. As such, they can signal and help anticipate the possible risks and opportunities for SSE, as the circular transition picks up speed.

3. Collecting, sorting, reusing and recycling

Historically, charitable organisations pioneered the development of extensive networks for the collection, sorting and trading of used clothes in the global North (Brooks 2015). These non-profits, such as Oxfam, the Red Cross or the Salvation Army, usually sell around 20% of the collected clothes in their second-hand shops, while the rest is traded overseas to finance the organisation's activities (Brooks 2015). Whilst there is controversy around such transfers from Western wardrobes to African markets (given the difficulties of African producers to compete with flows of cheap, donated clothing from the West), we should not overlook the valuable infrastructure and expertise, developed within the SSE, in the practice of collecting and sorting used textiles.

However, today a new model emerges. The quality of collected clothing and shoes has been in consistent decline over the past two decades (RREUSE 2013). African markets are showing signs of saturation, up to outright bans of imported used clothing (Minter 2018). At the same time, Western governments are exerting increased pressure to collect all textile waste - not only "rewearable" clothing which can enter re-use markets (Ljungkvist et al. 2018). As an example, the EU's Circular Economy package stipulates that Member-States will be required to run separate collections of all textile products from households as of 2025 (European Parliament 2018). To implement this legislation, national policy-makers across the EU are considering instruments such as Extended Producer Responsibility, whereby producers become responsible for the end-of-life stage of their products. Currently however, France remains the only country to have established an EPR-scheme on textiles in the EU. Yet in whichever future framework, today's dominating logic of reuse – a route essentially only suitable for high-quality garments – is wholly inadequate to a heterogeneous and voluminous textile waste stream, consisting of everything from napkins to phone cases.

In a more circular system, our resources keep on "cascading" so that their value can be maximised post-usage, hence turning from *product* back into *material*. When reuse is not an option for our old clothes and curtains, they need to be sorted based on the materials and fibres contained within, so that these can receive customised treatment for recycling. This is the premise of the circular economy. Although the business case remains challenging, the circular "buzz" has sparked a wide range of initiatives to prolong the lifetime of textile materials. In Hong Kong, consumers can bring their used sweaters and t-shirts to a garment-to-garment recycling system. These fibres are mixed with virgin fibres, spun into new yarn and eventually knitted into a new garment. Meanwhile, brands are making lofty promises to step up the use of recycled materials in their products. Surfing the trend, the SSE-sector might soon no longer (only) sell collected clothes in its second-hand shops or on to wholesalers in countries like Kenya and Tunisia, but to an entire industry that takes the textiles apart, recovers fibres, spins threads and weaves fabrics with recycled fibres.

In this early phase of the transition, several SSE-organisations are indeed reinventing themselves, turning into a push factor for a circular system. They become involved in experimental, sometimes risky collaborations with retailers, technology developers and recyclers – thereby inevitably

having to change their standard practices, up to their very identity. Yet the centrepiece of their activity remains unchallenged: providing employment to those that risk falling through the cracks of a relentlessly fast-paced labour market.

Through cross-sectoral collaborations, new social business models are emerging. Four case studies, from Belgium and the Netherlands, will be discussed in the following section:

- a) **De Collectie** is working with the sustainable fashion brand HNST, to collect and sort specifically for a closed-loop system wherein textile fibres are turned into new clothes.
- b) **Ecoso and Ateljee** are working with large-scaled enterprises to recover waste textiles, and sell or lease the products they have remanufactured through the same commercial circuits.
- c) **Leger des Heils ReShare** is engaging with the shift towards automated sorting, to create fibre recycling economies at scale.

4. Making it happen: four case studies

De Collectie: joining forces to collect and sort for the mechanical recycling of denim

In 2016, the city administration of Antwerp (Belgium) wanted to restructure the various collection permits for textile waste into one single contract. This public procurement initiative spurred five non-profit organisations to merge into a collective scheme: De Collectie. While the five organisations were already collecting used textiles independently, as a way of raising funds, they each employed a different *modus operandi*. Two of the partners (Mensenzorg and Kindervriend) are traditional charities running door-to-door collections, while the other three (Oxfam, Wereld Missiehulp and De Kringwinkel Antwerp) have a long-standing experience with container- and shop-based collections. They run sorting centres, repair shops and second-hand stores for clothing, furniture and household appliances, predominantly through social employment schemes.

De Collectie tendered successfully and now holds the exclusive right to the collection of used textiles in the city of Antwerp. The scheme not only merges its members' diverse collection channels into one network, it also set up a total of 170 collection points across the city: boxes located in schools, health funds and scouting clubs. This is a new model in a country whose urbanised landscape is punctuated by the presence of large metal containers for used textiles. The transition does take time however, as the city administration needs to adapt to a new regulatory framework, with new ways to monitor collections and fight illegal ones.

Of the textiles collected by De Collectie, around 20% is reused by the network, often resold in their second-hand circuits, while 70% is sold to other sorters. This is an average and slightly misleading figure though, which needs to be interpreted taking into account the disparity of De Collectie's members. As an example, at 48% the Kringwinkel's reuse percentage is far higher than that of the entire scheme, given their large retail infrastructure for second-hand clothing. Further, 5% is purchased by recycling industries that process textiles into wiping cloths and insulation material. The remaining fraction (5%) – often damp and dirty textiles, or non-textile elements such as toys and kitchen utensils – ends as waste. This all sounds very conventional. What's new in De Collectie however, is their dedicated sorting ("harvesting", in the circular

economy philosophy) of denim trousers. The initiative is led by De Collectie-partner Kringwinkel Antwerp.

Over the past two years, De Collectie launched a public campaign asking city residents to bring back the jeans they no longer wear. A total of 6003 pairs of jeans were collected, sorted and cleaned during the 2017 campaign. The selected jeans are sent off to Italy where they are shredded into fibres, which are spun into new yarn in Belgium, and eventually turned into pairs of new jeans. This all happens by HNST – an Antwerp-based brand of sustainably sourced denim garments. The HNST-pairs of jeans consist of 50% mechanically recycled fibres (sourced locally through De Collectie) and 50% Tencel® fibres, based on wood pulp. HNST proudly claims to produce the most sustainable jeans in the world.

With its targeted collection and sorting for mechanical recycling, De Collectie shows there is more to the SSE than the classical model of textile reuse. The collaboration with HNST is a promising social business model, yet at a very early stage. One of the challenges, next to the high costs of labour and operations, is in continuously adapting to changing sorting criteria, having to sort out very specific items for fibre recovery, when the sorting personnel has been trained at length to sort for reuse purposes – a world of difference.

Ecoso and Ateljee: remanufacturing to sell or lease through commercial circuits

Ecoso and Tomorrowland: Camp2Camp

When Belgians vacation abroad, they find themselves answering questions not about fries and chocolate, but about Tomorrowland, one of the largest and most notable music festivals which sold out its 400 000 tickets in less than one hour in 2018. On the flip side, the festival organisers are confronted time and again with massive volumes of waste (an estimated 75 tonnes per year) left behind on site, often tents, sleeping bags and camping equipment.

In the nearby city Mechelen, a non-profit organisation dedicated to the sharing economy, largely run by volunteers, spotted an opportunity. Four years later, “Camp2Camp” is a large-scale collaboration between LoveTomorrow (the sustainability platform of the Tomorrowland-festival) and Ecoso, a social workshop employing 150 people, often low-skilled or long-term job seekers, or workers with a disability. The day after the festival has ended and partygoers have returned home, a team of volunteers passes through the Tomorrowland-camping and collects all orphaned camping gear. Ecoso then sorts and cleans the various items (sleeping bags, inflatable mattresses, camping chairs, tents) and prepares them to return to the consumer. Where reuse is not possible, recycling options are put in place (e.g. bags or mosquito nets made from tents), even for small items such as zippers. The recovered camping gear is sold in the Kringwinkel-shop and also rented to future festival visitors through the Camp2Camp-project.

In the longer run however, Ecoso expects that more advanced material recycling will be required, with interventions at the design stage such as the replacement of glass fibre by aluminium, as aluminium can be recycled more easily. According to Ecoso, Camp2Camp is unlikely to become a revenue model. Having ended its first year of operations in the red, the project ran nearly break-even in 2018 in part thanks to governmental subsidies. The ambition is for the project to break even in the future, covering all expenses without subsidies. One of the pathways envisaged is to involve all festival visitors in the rental scheme, leasing the same and eco-designed camping

materials, hence prohibiting visitors to bring their own tents or mattresses. By moving entirely to such service model, the ambition to “close the loop” will become possible at scale.

Ateljee and IKEA in Gent: reuse and resell locally

Also in Belgium, the Gent-based non-profit organisation Ateljee showcases what is possible when partnering with a large commercial business: a textile production chain that is local, circular and social, all in one go.

Ateljee started off as a shelter for the homeless, with a social restaurant and a workplace where used furniture and bikes are repaired and resold – all through social employment, creating opportunities for those that are disadvantaged on the conventional labour market. In 2008, Ateljee launched “GentMade”, a collection of accessories (handbags, phone covers, toilet bags) produced from second-hand materials. But in 2017, Ateljee’s remanufacturing activities were taken to a whole new level, when they produced a collection of 2500 pieces based on unsold stock, cut-offs and other pre-consumer textile waste from the Swedish furniture giant IKEA.

The “Återställa”-collection was made up of kitchen aprons, pillowcases, baskets and placemats, all stitched and sewn in the social workshop of Ateljee. While IKEA, the initiator of the project, delivered the designs, Ateljee brought these to life in prototypes, testing and fine-tuning their practicability, quality and price together with IKEA. IKEA, who covered the sorting and transporting of textile leftover materials to the Ateljee-workshop, purchased the collection from Ateljee, based on an agreed unit price, and sold the items in their store. The unit price was inclusive of all costs incurred: labour, operations, materials (e.g. stitching thread, packaging) and transport. IKEA ran product launch campaigns to promote and market the Återställa-collection, with a promotional movie starring the Ateljee-staff, and a special event for social media influencers. When discovering the products in the IKEA-shop, customers would find a label with a picture and description narrating how it was produced, underscoring the societal value and socio-economic impact created. All in all, the project yielded an important revenue stream for Ateljee, and put the organisation in the spotlight.

Revolutionising the sorting of textile waste: Leger des Heils ReShare

As an international charitable organisation, the Salvation Army needs no introduction. What is interesting for our subject matter though, is the increasing appetite shown by its Dutch branch (ReShare) for a new model of textile recycling. The Salvation Army has long exemplified the traditional model: collecting donated garments, sorting and reselling them onto reuse markets (often in Eastern Europe) to finance charity or humanitarian efforts. Today however the Dutch branch ReShare is cooperating with advanced technology producers to join up a new supply chain of regenerated textile fibres.

ReShare is a partner in the “Fibersort”-research project, developing the Fibersort-machine (currently in the Dutch town Wormerveer) which automatically detects and sorts waste textiles based on their fibre content. Automated, material-based sorting is a huge leap, and a necessary one, for the sorting of waste textiles to become more reliable and more competitive, and to improve the economics of textile fibre recycling overall. The technology detects the types of fibres present in the fabric - a level of precision that is unattainable when sorting manually. As a result,

the fabrics can be redirected towards mechanical or chemical recycling, with consistent datasets covering their material composition.

ReShare is also a cooperation partner of the Dutch Centre for Circular Textiles, connecting a new textiles value chain in the Amsterdam Metropolitan Area. Together with local authorities and technology developers, this multi-year cooperation agreement aims to enable the local production of new textiles, based on collected textile materials. In the future, it is hoped that the textiles collected and sorted by ReShare can be re-spun into new yarn – secondary raw materials that can be processed by interior design companies in the area.

ReShare is examining how such model could work in the future. They are analysing the waste fractions in terms of volumes and specifications, as well as the operational costs of delivering sorted textiles for a mechanical and/or chemical recycling business. The big unknown, however, is how fiber-sorted non-wearable garments can be effectively returned to the beginning of the supply chain, to those businesses that develop fibres and yarns. If the demand for recycled fibres is not developed at this stage of the chain, the costs of sorting, decontaminating, warehousing and transporting will always outweigh the financial returns, particularly so in a social model with higher staff costs.

5. SSE and the circular economy: risks and opportunities

Drawing on these four case studies, we can get to the beginnings of an answer to the crucial question: how can the circular economy become socially impactful?

How can the social and solidarity economy maximise its role in a circular economy transition?

- Build coalitions: within and beyond the social economy
- Define the added value of your social business model
- Invest in your communication strategy: social does not mean free
- Embrace change and automation
- Carve out a space for the SSE early on in the changing legislative framework

A circular system typically calls for the re-engineering of an entire system and its constellation of actors involved. A single player cannot move the needle on its own. A consistent finding is that if SSE-organisations want to scale their role in textile or other material recycling, they will need to build partnerships, within and beyond the social and solidarity economy.

As an example, by working together De Collectie offered a tangible added value to the city administration, ultimately winning the collection bid. Antwerp's civil servants happily welcomed the idea of streamlining collection channels in one scheme, and found themselves absolved from the strenuous task of having to select one social enterprise or charity over another. At the same time, for SSE-organisations, each with a unique mission, identity and image, it can be difficult to coalesce as one sector, as collaborative schemes require a more intricate governance structure, with a risk of misalignment of objectives and practices.

Likewise, only by setting up cross-sectoral collaborations is it possible to manage the sheer scale of operations when turning waste into resource, connecting input and output streams in a coordinated manner. Recycling is a costly and often inefficient affair, its logistics a real headache. Ateljee in Gent greatly benefited from their easy and preferential access to input materials and to the most frequented furniture store in the area. Also, they would have not been able to pull off a sizeable product marketing campaign on their own. Had Ecoso been working on its own, the organisation would not have been able to convince, financially nor conceptually, a private firm developing industrial cleaning technology for mattresses to join the project – a crucial component in the reuse chain.

In a circular economy, SSE-organisations will need a resilient social business model to thrive. In the early phases of the transition, it will inevitably be an expensive and complex effort to collect, sort and clean waste textiles for young and volatile markets such as the leasing of camping gear or the recycling of textile fibres. Still, the SSE-sector can offer added value through their creation of social employment opportunities. SSE's subsidised social labour can somewhat mitigate the operational and labour costs in working with (textile) waste. This makes SSE an interesting candidate for collection, sorting and cleaning activities in a circular economy: paradoxically, the social employment imperative makes SSE-projects slightly more competitive in a traditional costs framework, next to the obvious socio-economic benefits realised.

In order to make this all work in the long run, SSE-organisations should not be afraid to take a fierce stance and demand appropriate compensation for the work delivered. All too often, the sector is plagued by the nebulous understanding that social somewhat means “free”. Upcycling designers and the like approach SSE-sorters expecting to receive pre-sorted shirts for free. Communicating in a transparent, clearheaded manner is particularly important when engaging with recyclers, mills and brands. It is important for the SSE to become involved in these conversations and learn about the material properties required for recycling applications, so that sorting operations can be run accordingly. In the same vein, the SSE-sector should be well-aware of what potential partners are looking for. It seems that the case of IKEA, who initially asked local authorities for a textile workshop with social credentials, is rather exceptional. Most organisations are primarily looking for a quick and efficient solution to a sustainability issue, with social values being merely an add-on. SSE-organisations therefore need to frame their services in the right way, to respond to emerging initiatives and turn these into a socially impactful partnership.

Fourth, SSE-players should not be afraid of change. Embracing automation may seem odd at first for organisations whose mission and identity rest on the provision of social labour. But automated, fibre-based sorting is in fact the key to realising and scaling up a textile recycling infrastructure and economy. If this infrastructure is underpinned by the waste hierarchy principle (reuse, then recycle), the benefits for the SSE-sector are potentially huge. With automated stages in the sorting facilities, a network of human hands will still be required to sort out high-quality garments (and assess to what extent these are still fashionable) and return them to the consumption cycle. Automated sorting will make the recycling of non-reusable textiles cheaper, hence allowing to scale collection and sorting operations overall.

Lastly, the SSE-sector needs to anticipate the legislative changes on the horizon. It should especially press for forthcoming EPR-schemes to include clauses on sorting as well as remanufacturing activities by social enterprises. In the French textiles EPR-scheme, run by Eco-

TLC, social enterprises can bid to become certified sorters, receiving financial support through textile producers' contributions. This support only covers sorting activities however - not collection or preparing for reuse through upcycling or remanufacturing. Eco-TLC does request commercial entities to support workforce integration, employing a minimum percentage of its staff through social or occupational workforce contracts. With other countries (e.g. Sweden, Belgium) exploring product stewardship legislation on textiles, the time is now for SSE-organisations to talk to policy-makers and push for both social criteria and reuse quota to be included in textiles EPR-schemes. If not, the risk is that SSE-organisations will find themselves deprived of access to textile waste, and that their initiatives to remanufacture and reuse textiles will become unviable, since disconnected from national schemes that govern textile waste streams.

How can SSE-organisations independently foster social, environmental and economic progress within new and hybrid forms of collaboration?

It is easy to say that there is a lot to gain through collaborations, when in fact there are evident risks that need to be considered, ranging from conflicts of interest, troublesome management to reputational damage. As ReShare has experienced, some fashion retailers are keen to work with charities in their take-back schemes, only to take advantage of customers' empathy with the charity's social mission, thereby reinforcing the brands' PR-efforts. It is therefore important for SSE-organisations to invest time and effort in their communication strategies, to engage with their communities and to tell the story of the circular economy from multiple angles. A story which is about recovering the value of our resources, supporting local networks (and minimising transport emissions in the process) whilst creating socio-economic impact through a more inclusive employment. When this marriage of social and ecological mission remains at the forefront, SSE-organisations are better equipped against a simple incorporation into the sustainability marketing by (certain) brands and retailers. To avoid a loss of autonomy, the SSE also needs to consider how partnerships with businesses will evolve in the future. The Camp2Camp-project for example will soon become a separate entity in the form of a cooperative, ensuring that the social partners, Tomorrowland and other private businesses involved (such as the machinery builder for mattress cleaning) can make decisions on equal footing.

The circular economy will require an open and shared innovation agenda, enabling the circulation of materials, but also of data and information. The valorisation and dissemination of SSE-experiments with "circular textiles" can inspire others to test and replicate, ultimately helping to ensure that social considerations are taken into account in future policy and business decisions. As an example, ReShare and the Fibersort-project are publishing the expected grades (compositions) for textile-to-textile recycling feedstocks, their related price ranges and material certification expectations for recyclers. Ecoso will soon disseminate a "Camp2Camp guidebook", covering amongst others their social employment approach, so that other music festivals can jump on the bandwagon.

Which are the enabling factors to achieve the systemic change of SDG12, an environment wherein the above-cited case studies can be structurally replicated?

The case studies presented in this paper are all in an early phase of operations, hardly making a profit at this stage. When it comes to the mechanical and possibly chemical recycling of textiles, it is unclear today if and where such industry will emerge. The Western world, with its lack of textile production and high labour costs, seems an unlikely candidate for any large-scale development of fibre-to-fibre recycling – although brands such as HNST prove that it is not impossible. SSE-organisations in Asia might however stand a greater chance to become collectors and sorters for fibre recycling.

Still, opportunities abound for the SSE in a circular textiles economy in the stages preceding mechanical, and possibly chemical, recycling: in the collecting, sorting, repairing and remanufacturing of waste textiles. Seizing this opportunity requires a favourable legal context. Authorities need to insert social clauses in their procurement policy for textile reuse and recycling services, as is the case in France today. With good governance, clear regulations and a fiscal regime that prioritises the taxing of energy and resources over labour, the SSE can maximise its role and value in the circular economy.

But social organisations will need to overcome their fragmented identities to coalesce as one sector and become indispensable in the textile waste landscape. The more valuable waste becomes, the fiercer the competition. Only when joining forces, can the social economy offer a meaningful alternative in public procurement or commercial markets.

One problem looming on the horizon remains however. As long as textile products are not designed to be recycled, characterised by intimate blends of fibres which are difficult to separate, the recovery of textile resources will remain plagued by inefficiencies. SSE-organisations, at the very end of the chain, lack the power to influence design and fabric choice decisions. Regrettably, collaborative approaches towards eco-design in the textiles industry are still in infancy today.

6. Conclusions

The social and solidarity economy brings local solutions to our mounting textile waste, solutions that generate social, economic and environmental value. Such triple bottom line impacts are an immeasurable asset in the transition to a more circular economy.

For the SSE-sector to thrive, the future circular economy needs to be truly built on the waste hierarchy, whereby actors are legally obliged to seek prevention and preparation for reuse of (textile) waste. With binding targets for reuse, SSE-organisations are in a good position to scale initiatives and to form new partnerships in the sorting and remanufacturing of textiles. To do so successfully and sustainably, SSE-organisations will need to embrace change and turn into skilful marketers and lobbyists, vigorously promoting and advocating for social concerns in political, legislative and business decisions.

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