Sustainable consumer trends

Web scraping and AI analysis

Science Park Borås, 7 July 2021

Sweco would like to thank Dreamify for the data analysis and all the people who have contributed time and effort to the analysis:

Advisory board: Eva Eiderström (Naturskyddsföreningen), Andreas Reibring (Kairos Future), Sebastian Christner (Sweco), Nina Wolf (Göteborgs stad), Johan Dahlström (Kinnarps), Nina Fall (IKEA), Johanna Jigmo Linde (Staples), Jacob Saternus Eriksson (Main Home, Företagarna Göteborg), Marielle Krus (Bubble Room), Birgitta Losman (Science Park Borås), Erik Valvring (Science Park Borås), Erik Bresky (Science Park Borås), Gabriella Wulff (University of Borås), Martin Rosenström (Handelsanställdas förbund), Ola Palmgren (Handelsanställdas förbund), Louise Wintzell (Ridestore), Johanna Stål (Camino Magasin), Weine Wiqvist (Delegationen för cirkulär ekonomi), Lilian Ivstam (Sweco), Lars Holmberg (Sweco), Gabriel Christner (Dreamify), Alexandra Davidsson (Föreningen medveten konsumtion), Hanna Ljungkvist (Profu).

Interviews: Sam Sundberg (Svenska Dagbladet), David Thurfjell (Södertörns University), Henning Gillberg (Repamera), analyst (Sellpy), employee (Stadsmissionen), Rasmus Carlsson (Tibro Hantverksakademi).

Table of contents

The report p.4
Sustainable consumption p.6
Consumer trends p.9

Ten consumer themes related to sustainable consumption 2021
1. Travel p. 15
2. E-commerce p. 18
3. Better design in single-use products p. 22
4. Minimalism p. 26
5. Measuring sustainable consumption p. 28
6. Recycled and natural materials p. 31
7. Second-hand and repaired clothing p. 36
8. Consumer activism p. 44
9. Home life p. 48
10. Food and beauty products p. 53

Appendix. AI analysis: sustainability tweeters p. 55

The report

This report analyses sustainability-related consumer trends from the first half of 2021. Sweco undertook the assignment on behalf of Science Park Borås (Sweden), which publishes a report on sustainable consumer trends annually. Science Park Borås works with innovation in smart textiles, sustainable consumption and societal development

Ten sustainability-related consumer themes are analysed in separate chapters:

1. Travel
2. E-commerce
3. Better design in single-use products
4. Minimalism
5. Recycled and natural materials
6. Measuring sustainable consumption
7. Second-hand and repaired clothing
8. Consumer activism
9. Home life
10. Food and beauty products

Each of these themes encompasses several trends identified by web scraping (the automated extraction of data underlying websites) and artificial intelligence (AI) analysis of over 940,000 posts on Instagram and Twitter between October 2020 and April 2021. The Swedish company Dreamify conducted this analysis on behalf of Sweco. The posts were created in Greater Stockholm and in seven larger global metropolitan areas: Berlin, London, New York, Los Angeles, Mumbai, Taipei, and Hong Kong. These regions were chosen because changes in consumer trends first appear in metropolitan areas. Access to data is also relatively good there.

The report focuses on sustainability-related consumer trends in Sweden, from a global perspective. By analysing content and hashtags in extracted posts, we identify topics that were common on Instagram and Twitter (or uncommon, in the cases of travel and e-commerce), trending or fading, and that were associated with sustainability by social media users. How users relate different themes to each other is highlighted. Twitter posts are analysed using AI to generate information about active sustainability tweeters (see Appendix). Consumer trends are examined in terms of their maturity, trajectory and driving forces using qualitative methods, and results generalised to all of Sweden. The ambition is to ascertain whether ongoing trends are polarising or uniting attitudes and consumption patterns of different groups of consumers, and highlight similarities and differences in how prepared the groups are to adopt more sustainable consumption. To gather information from different perspectives, Sweco convened an advisory board with Science Park Borås to which experts were invited to discuss preliminary results. Sweco also conducted interviews with entrepreneurs, scholars, and experts, and reviewed surveys, research studies, as well as business and government reports on sustainable consumption and consumer trends.

Summary: ten themes

Travel by air is usually topical on social media in spring each year but has been out of bounds during the pandemic and therefore not inspired consumers. Amid resurging interest in going abroad, travelling is now making a comeback as a sustainability issue. As more people travel abroad, staycations and local outdoor life are likely to draw less interest. Business travellers' share of tourism will remain below pre-pandemic levels, making personal travel more important to the tourism industry. Travelers are demanding both more sustainable travel options and increased security when booking a trip.

Despite the global surge in online shopping since the outbreak of Covid-19 and forecasts of continuous growth throughout 2022, e-commerce attracted little attention in sustainability-related discussions on social media in the first half of 2021. Consumers associate sustainability with materials and gadgets more than services. Online shoppers are likely to consider sustainability more as the spread of Covid-19 slows, restrictions are eased, and e-commerce stops being a necessity in everyday life. For many companies e-commerce has low or negative profit margins. Swedish consumers will likely soon have to accept higher prices in return for more sustainable delivery solutions.

Just like in 2020, disposable single-use plastics (SUPs) are the form of waste that consumers dislike the most. Consumers have become more knowledgeable about the plastic issue and their focus now seems to be shifting away from mere aversion, to recycling and better design of SUPs. Up until 2025, the EU, USA, China, and India are progressively tightening legislation to restrict the use of non-degradable plastics in consumer goods. Producers are responding, and more sustainable substitutes for things such as PET bottles, straws, and cotton buds are topical on social media.

Minimalism is a minor theme that is associated with sustainability on social media. Recent trends suggest Swedish consumers may have passed peak minimalism and that the term's air of sustainability will fade as consumers move towards a new normal. Minimalist aesthetics reached high levels of popularity prior to the pandemic but after 16 months of lockdown, the appeal of minimalism's simplicity and predict-ability has diminished.

With the EU and other major economies introdu-cing new laws tackling single-use plastics (SUPs) and introducing producer responsibility schemes, new methods and metrics to quantify sustainability are required. Many consumers claim to lack the knowledge necessary to opt for better products and producers, especially when buying food and textiles. They want clear information at the time of the purchase. More and more companies are presenting highly visual sustainability metrics to online shoppers, often as an emotional justification for consumption. Social sustainability remains harder to quantify than emissions and waste volumes.

Consumer activism concerns issues such as fair fashion and how to consume ethically. Social sustainability is becoming increasingly important to activists. Black Lives Matter, LGBTQ+ and feminism are the big themes of 2021, together with consumer rights, tech monopolies, and pandemic-induced poverty. Activism mainly takes place online in the form of slacktivism and activists act both by supporting socially responsible firms and boycotting producers that are perceived as unethical. Techwear (or dark-wear) is emerging as one of few fashion styles with activist connotations.

Materials and products marketed as re-cycled or natural are engaging stylish creators, techno-optimists, and consumers who prefer eco-friendly and toxin-free products. Consumers consider materials like vegan leather, organic cotton, and recycled polyester as counter to waste, SUPs, and the artificial. None of these materials trending on social media are recycled from fibre to fibre yet such materials are highly sought after by consumers. New technology raises the hope for a commercially viable textile recycling.

The 2020-trend of **reusing clothes** (whether vintage, thrift, repaired, or resized) continues. The supply of second-hand clothes grows as more thrift stores go online, and surveys indicate that Swedes are becoming increasingly aware about fashion's dark side. Lockdowns and boredom have stimulated people to think about wardrobe and identity. Craft trends (#upcycling) contribute to an increasing interest in fun, unique, and timeless garments. The second hand and repairs market is growing. Profitability, however, remains low and many consumers who claim to like the idea of thrifting do not cough up the cash. Growing consumer commitment to secondhand cannot be taken for granted.

The home has been one of the sustainability themes on social media during the pandemic. Trending attitudes to living and consuming bear clear resemblance to sentiments of previous eras such as national romanticism at the turn of the last century and the counterurbanisation green wave of the 1970s. People have spent a lot more time at home than usual, stimulating purchases of furniture and furnishings. Craft trends such as furniture restoration are attracting a lot of interest. This increased fascination for home life and rural ways is also driven by demographics: Swedes belonging to relatively large age cohorts of mil-lennials born between 1988 and 1993, who not long ago moved to big cities, are now starting families and thus seeking larger housing.
Similar trends can be seen in areas like **food and beauty products.** Here, sustainability continues to be associated with vegetarian/ vegan, locally grown, and organic, character-istics that many consumers equate with healthy and natural products. Regenerative agriculture fascinates consumers who worry about food waste and dream about past ways.

Sustainable consumption

Society's transition to a more sustainable consumption is important for reducing negative impacts on climate, environment, and human health. Sustainable consumption is defined in Sustainable Development Goal 12 of the UN Agenda 2030. This report focuses on households' consumption: the consumption of goods and services by private end consumers that generates the greatest greenhouse gas emissions, with transport, food, and housing being the biggest sources.

Environment, jobs, communities, people

Researchers and individuals talking about sustainability usually mean developments that are positive for the environment. Environment-related questions such as climate change and waste also dominate Agenda 2030 goals and discussions of sustainability on social media. But sustainable development also means creating value, jobs, and income to guarantee increased prosperity, standards of living, working conditions, and health. Sustainable consumption must therefore be environmentally, socially, and economically sustainable.

Sustainable consumption = lower consumption?

The goal of the UN Environment Program is to decouple economic growth, human development, and prosperity from resource use and environmental impact. Reduced consumption is not mentioned explicitly in Agenda 2030, and is therefore not an end in itself. Government initiatives for reducing consumption are rare. Consumption drives economic growth and technological development, which in turn leads to increased prosperity and reduced poverty. Countries with large ecological footprints have higher levels of income and top various wealth indices.

The question of whether sustainable consumption must also mean reduced consumption is a subject of ongoing debate. On social media, sustainability is often linked to reduced consumption: whoever pledges to buy fewer things will often receive likes and status. These consumers, however, rarely engage in deeper criticism of consumption or the economic system. Unlike the financial crisis of 2008 the Covid-19-pandemic has not given rise to such sentiments. American economist Lewis Perkins is one of the researchers rejecting the claim. Consumption has many design problems, but the world has no consumption problem, Perkins argues. He claims the global population is growing too fast for a reduction in consumption to be realistic or even desirable. If goods and services are designed better, consumption could increase globally whilst also becoming more sustainable. Other experts take an opposite stance, arguing that consumption must both become better and smaller in total if the goals of Agenda 2030 are to be achieved. Ulrika Holmberg, from the Centre for Consumption Research at the University of Gothenburg, sees a need to focus on trends that are already sustainable or easy to change, whilst at the same time pointing out the need to buy less.[1] Those needs apply mainly to well-off groups with a relatively high level of consumption. Low-income groups who consume little do not in the same way contribute to our consumption being unsustainable, even if the goods and services they consume are unsustainable.

Agenda 2030

Target 12.1. Implement the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.

Target 12.2. By 2030, achieve the sustainable management and efficient use of natural resources.

Target 12.3. By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains.

Target 12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agree international frameworks.

Target 12.5. By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

Target 12.6. Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

Target 12.7. Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

Target 12.8. By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development.

Target 12.A. Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.

Target 12.B. Develop and implement tools to monitor sustainable development impacts for sustainable tourism.

Target 12.C Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions.

Figure 1. Agenda 2030, Goal 12: Sustainable Production and Consumption.

Sustainable consumption is key to a circular economy

A circular economy is an economy with sustainable production and consumption patterns, in which materials and products are recovered, reused, and recycled as far as possible instead of being thrown away and replaced by virgin materials and new products. Circularity necessitates new business models in companies, but not necessarily a lower consumption. A product may sell less if its life cycle is extended but at the same time this likely means increased demand for related services such as repairs. Circular economy is not a widely used term. Search data shows it is mainly googled in EU member state capitals, most notably in Brussels, where in 2020 the EU adopted an action plan for circular economy. According to the AI analysis, circular economy is a theme among active sustainability tweeters in Stockholm, but less so in the other metropolitan regions.

Consumer scientists often criticise narratives in which consumers are held responsible for making sustainable choices, given that shortcomings at the societal level often prevent individuals from changing old habits.[2] Consumers cannot know if the products they place in recycling bins are recycled, incinerated, or exported. Swedish consumers consider it a responsibility of government and companies to promote more sustainable consumption with better information and products with improved price, comfort, or availability.[3] The analysis also indicates that consumers often think of sustainability in binary terms: either my responsibility or the government's. Transport and housing account for much of households' climate impact. But as indicated in the data analysis, discussions about consumption on social media tend to gravitate a lot towards things such as fashion and furnishing and choices such as shopping at thrift stores, buying organic, and trying to reduce household waste.

The EU waste hierarchy illustrates how consumer trends can contribute to a more circular consumption. It shows society's priority to reduce waste generation with each step upward, such as when garbage is incinerated for energy instead of disposed of in a landfill, indicating that consumption is becoming more sustainable or circular.

> ” People relate to consumption more than economics. That is why I prefer to speak about circular consumption.
>
> \- Henning Gillberg, CEO
> online tailor store Repamera

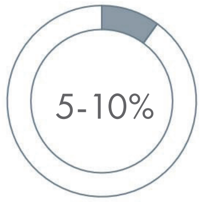
Figure 2. The EU waste hierarchy.

Consumer trends

Trend generally means the direction of a movement. Consumer trends refer to how markets and consumption are developing, processes which may last a few years and are strongly influenced by media. A trend's impact on how people actually consume is affected by other trends that have their own logic and time cycle: seasonal trends (holidays), styles and fashion, the economic situation, and long-term megatrends (digitalisation, climate change).

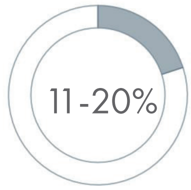
Value-action gaps hamper the transition to more sustainable consumption

Swedes today are more concerned for the environment than in 2017 with a majority describing it as important to take care of the environment and try to consume more sustainably. However, studies indicate that increased environmental awareness does not always translate into action. Scientists at The University of Gothenburg who studied the Greta effect on Swedes' attitudes between 2017 and 2019 noticed a significant increase in concerns about the environment and a growing willingness to politically prioritise the environment, but no evidence of changed consumer behaviour.[4] Flight shame could not be linked to reduced air travel. Value-action gaps describes when people consume in ways contravening their own values. In a 2021 survey conducted by Zalando with 2,500 participating fashion consumers from Germany, Sweden, and the UK respondents were asked contradictory questions about their attitudes to sustainability as well their consumption habits. The results suggest, in line with conclusions from other recent studies, that value-action gaps exist in several areas often associated with sustainable consumption.



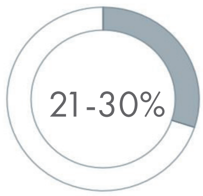
Small value-action gaps

- Pick cheap products.
- Pick quality products.
- Choose responsible brands.



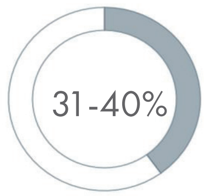
Moderate value-action gaps

- Buy from companies with eco-friendly production.
- Never buy just because something is on sale.



Significant value-action gaps

- Pay for a brand name.
- Choose fair labour.
- Take self-responsibility as consumer (firms are not solely responsible).
- Don't let social media influencers affect purchasing decisions.



Major value-action gaps

- Repair or adjust torn or ill-fitting clothes
- Buy second-hand clothes.
- Make sure fashions brands have transparent value chains before purchasing their clothes.

Figure 3. Value-actions gaps among Swedish, British, and German fashion consumers. Source: Surveys and interviews by Zalando, 2021.[5]

Value-action gaps vary between groups and over time. Their size indicates the extent consumers are ready to make more sustainable choices, but instead end up going for less sustainable alternatives. The gaps are generally small when it comes to price and quality, where almost all consumers practice what they preach: people want low prices, and buy the cheapest option. Major gaps are noted for buying second-hand clothing, repairing clothes, and making sure that producers have transparent value chains. According to Zalando, four out of ten fashion consumers agree that the latter is important, but act differently.

Class and attitudes to sustainable consumption

Large value-action gaps often indicate that sustainable choices are less attractive than the alternative. This report concludes that consumers in general perceive price, comfort, and availability as strong incentives to make or not make more sustainable choices. This is a big obstacle for many to take the first step up the "sustainability ladder" (see p.14), as making sustainable choices is often both more time consuming and costly than the alternative.[6] On an individual level, and ultimately on societal level, increasing prosperity changes living standards and values that may influence consumer choices in a more sustainable direction. Those who increase their income cause a greater environmental impact through their consumption, whilst at the same time often becoming less interested in material things and more oriented towards values such as the environment and human rights.[7] Engaging in less-material consumption does not equal consuming more sustainably. However, the phenomenon does highlight that sustainability values are related to status and class as they correlate with high income and higher education.

Social media make consumer trends more interactive

Covid-19 has contributed to the digitalisation of consumption, work, and leisure. Social media use has increased during the pandemic, making it increasingly important as an indicator of where consumer trends are heading. Today, over a billion people worldwide have an account on Instagram or Twitter, which are used globally (although not in China). Firms, NGOs and public authorities are also active on the platforms. Users are mostly younger than 45 years old. Instagram has a slightly younger clientele than Twitter. (The AI analysis indicates that active sustainability tweeters are usually between 25 and 40 years old). The 65+ age group is the fastest growing user group on Instagram. The allure of social media lies in the fact that it is free, open to all, and that messages can be created, edited, viewed, and debated with texts, pictures, and movie clips. Hashtags (#) allow users to link posts to specific topics and target groups. The choice of hashtag can indicate interest in sustainability, lobbying for sustainability, or marketing products as sustainable. That a sustainability-related topic is trending on social media thus primarily means that it is actively described as green or sustainable and that it is drawing a lot of positive attention.

Social media is reducing the barrier between consumers and producers and between trends and consumers, making consumer trends increasingly interactive. Meanwhile, more consumers also see themselves as producers. Influencers on Instagram contribute to this perception by advertising (producing) ideal images of consumption. Studies indicate that influencers who market their consumption as green or sustainable are rarely seen as trustworthy by social media users.[8] At the same time, these users also claim to appreciate role models who can provide inspiration and show them how to make more sustainable choices in everyday life.[9]

Consumer preferences uncertain during the pandemic

The corona pandemic has restricted consumer choices and changes in underlying preferences will remain difficult to determine as long as the pandemic continues. Global forecasts point to households increasing their expenditures throughout 2021. There is a pent-up desire to consume, lockdown restrictions are being eased, and household savings are now at record-high levels. Yet these are polarising trends, at least in the short term. According to a global consumer survey by Accenture from May 2021, four out of ten consumers reported being worried, withholding consumption, and avoiding crowded places. Nearly as many respondents reported being eager to return to pre-pandemic living and consuming patterns as soon as possible.[10] That more people are flying abroad and increasing their consumption can be described as a setback to environmental sustainability. Studies suggest that people who feel they have been consuming sustainably for a while become more likely to make choices they know are bad for the environment.[11] Acknowledging the downside of consumption may have helped justify the unwelcome turn life took during the pandemic. A similar pattern was observed in Sweden during the financial crisis of 2008, when there was a surge in interest in environmental issues. Once the crisis subsided consumption started to pick up again.[12]

Consumers will arrive at a new normal when the spread of infection subsides globally and there is a stabilisation in how people organise their social networks around work, school, entertainment, friends, and family. American sociologist and physician Nicholas Christakis estimates this will happen around 2024.[13] It is the social impacts that will linger the longest after travel and infection control restrictions are abolished. In 2021, health will not just be a matter of avoiding Covid-19, due to vaccine rollouts and broader interest in well-being and quality of life. Increasing global poverty, deepening economic inequality, and the spread of tech monopolies are making social and economic issues more important for people's understanding of sustainable consumption.

What drives our purchases?

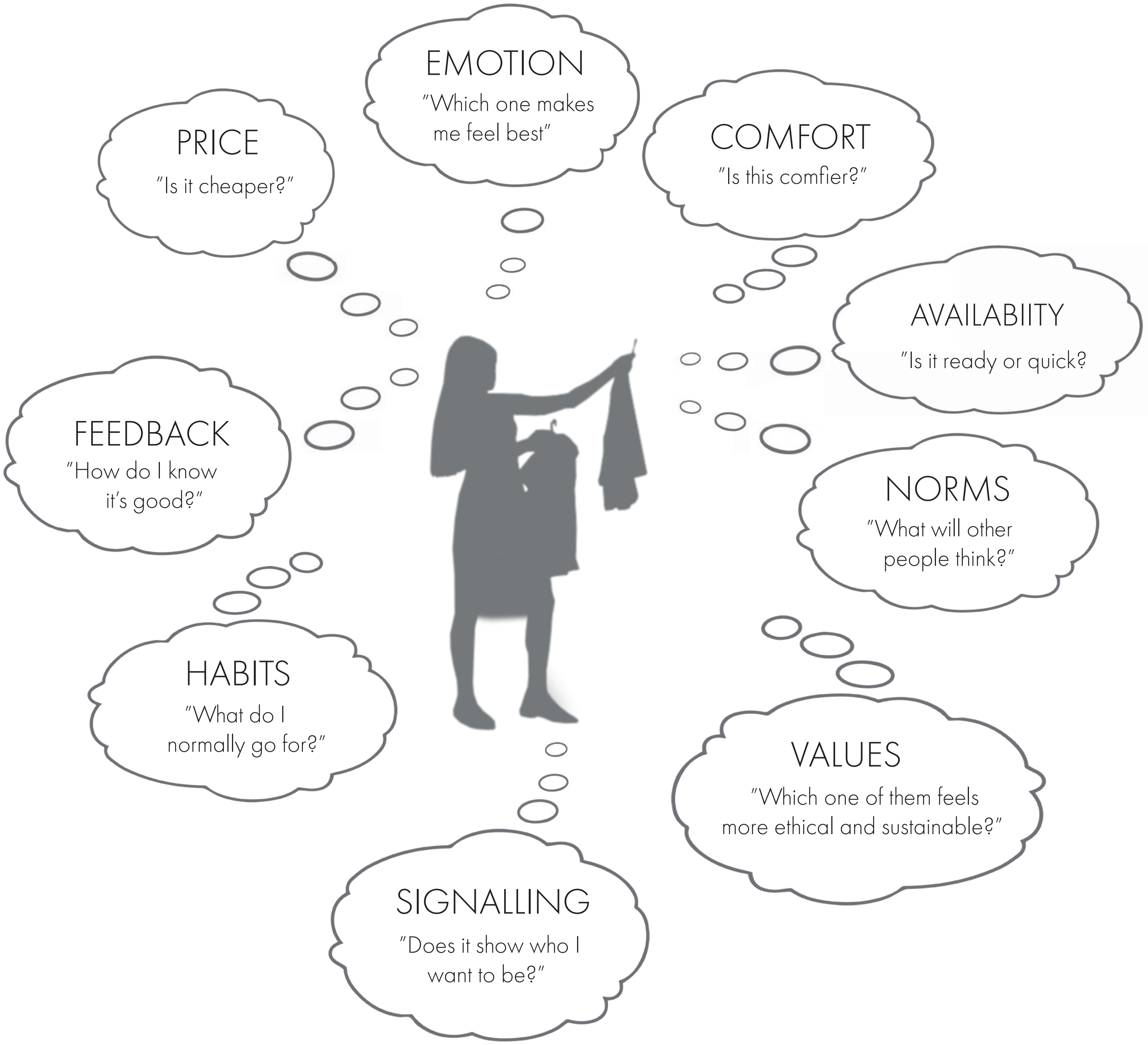


Figure 4. Factors that may incientivice or discourage more sustainable consumer choices. Research summarised by the EU Parliament.[14]

Sustainability ladder

Driving forces

Information

Price

Comfort/availability

Norms

Feedback

Driving forces

Purchasing power

Political engagement

Inspiration

Networking

Don't care. The consumer does not reflect on what's sustainable or unsustainable prior to purchasing decisions. However, this is not to say his or her lifestyle is necessarily unsustainable, especially.

Commited. The consumer has both knowledge and ability to make sustainable choices on most occasions where it is possible to do so. He or she opts for the most sustainable choice if it is equally or more attractive.

Purposeful. The consumer makes more active choices, such as preferencing (buycotting) products from responsible producers and boycotting unethical companies and offerings. He or she spreads information and encourages others to live more sustainably.

Figure 5. The sustainability ladder. A simplified illustration of consumers' path to a more sustainable consumption.[15]

1. Travel

We are travelling again

Travel was the area where Swedes' consumption decreased the most during the pandemic.[16] Private travel by air was down 83 percent in Q1 2021 compared to the same period in 2019. It is therefore unsurprising that travelling abroad is making a comeback. In April 2021 four out of ten adult Swedes reported planning a trip abroad at some point later in the year.[17] However, consumers eager to travel were also often cautiously waiting. According to Visiting Sweden, self-reported travel sceptics were more numerous than those who avoided public transport and crowded places out of concern for Covid-19. Half of those who answered the organisation's survey in April 2021 agreed with the statement that it is irresponsible for companies to advertise for trips abroad.[18] Cautious consumers formed a substantially larger group than so-called revenge travellers who were eager to start flying – various studies estimated that in June 2021, this group encompassed about ten percent of Swedish consumers. Pandemic-induced travel scepticism is expected to linger throughout 2021. It will not be before 2022, at the earliest, until it is reduced to a marginal phenomenon.

Swedes' willingness to fly shrouded in obscurity

Flight shame as a consumer trend died down during the pandemic, but air travel did not become positive on social media. Recent consumer surveys covering the topic are confounded by the pandemic and the value-action gaps around air travel identified by Swedish researchers in 2019. The share of Swedes saying they believe (or hope) they will soon be traveling by air as often as before the pandemic varies between 80 percent and 60 percent in different studies.[19] The rest generally say they want to fly less than prior to covid-19, with a smaller group stating they want to travel more than before.

People want to travel safe and sustainably

In the first half of 2021, elderly Swedes at higher risk from coronavirus were more sceptical to travelling than younger people. However, demographic change marked by an aging population, and people enjoying good health longer in life, suggest that in the long run older people are likely to become more eager to travel, making them more important to the tourism industry. Elderly people value security relatively high when booking a trip; spontaneous travel may thus become relatively less frequent in the future. Transparent conditions for travel insurance, cancellation policy, rebooking possibilities, and good information from organisers on how security is guaranteed during the trip are already valued as more important than before the pandemic.[20] Thomas Jakobsson, chief economist at Swedish industry organisation Visita, believes that both private travel and business travel will be rising in absolute numbers, driven by economic growth and population increase. Yet consumers' aversion to aviation as harmful to the environment remains deep-rooted. Companies and destinations face stronger incentives to offer more sustainable ways of travelling, especially as decreasing shares of business tourists (the most profitable tourists) force companies to focus on less profitable private tourists. Ecotourism, an often-expensive form of tourism that is claimed to promote the environment and the interests of locals, could become a more common offer.

Social media data indicates that users are obsessed by things considered authentic, which they often equate with sustainability. Travel marketed as social ecotourism may thus become more common to European destinations where societies have suffered socially and economically under the corona crisis, or to cities previously burdened by overtourism that are now promoting a quality tourism that is less disturbing to local residents. Trains are becoming a more attractive mode of transportation to Swedes bound for the continent. Direct services have commenced between Stockholm and both Berlin and Hamburg. A direct service to Paris is planned later in 2021.

Less staycation and outdoor recreation

With travel abroad rebounding, the staycation trend is expected to decline, albeit to levels higher than before the pandemic. The same is also likely for domestic outdoor recreation – one of many minor themes that Instagram users associate with sustainable consumption, with functional clothing (#activewear) a common theme. David Thurfjell, professor of religious studies and author of *Granskogsfolk – how nature became the religion of the Swedes*, tones down the image of outdoor life as something driven by interest in sustainability. Instead, he sees it as a clearly individualistic trend, with sustainability as a minor driving force among many others for his interviewees about the reasons why they venture off into nature. The outdoor activities boom of 2020, which is described in the 2020 consumer trend report from Science Park Borås, was driven by middle-class people temporarily deprived of choices for how to spend their holidays, and spurred by a culture promoting the adoption of more and more hobbies on which they spend a lot of money but little time.

That can hardly be labeled sustainable consumption. According to Thurfjell one can generalise two types of outdoor consumers: gadget-loving techno-optimists, and back-to-nature enthusiasts whose aesthetic preferences are more nostalgic. When the first group get back to old hobbies, nature activities will likely be more dominated by the latter group. The outdoors boom has made this group pickier. They like well-constructed goods of rustic materials, and everyday functional clothing without garish colours or large tags. They avoid large department stores, preferring instead smaller shops with natural aesthetics and a toned-down appearance. According to the analysis, social media users associate many things perceived as green and natural (everything from potted plants to vegetarian food) with sustainability. The same pattern seems to affect how consumers value companies. Naturkompaniet, Haglöfs, Södra Skogsägarna and Ramlösa were *some of the* nature-oriented companies with improved ratings in 2021 from Swedish consumers in the annual survey Sustainability Brand Index.

2. E-commerce

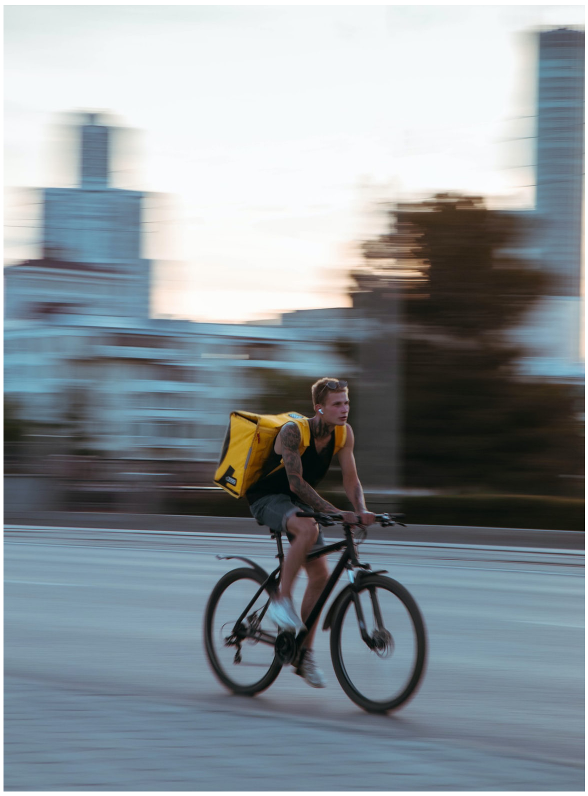
Sustainable e-commerce arouses little interest

"I'm really longing for that roar from the consumers!". Quoted in Dagens Nyheter on June 7th 2021, that wish came from PostNord's Sustainability Manager Sofia Leffler Moberg and referred to a greater consumer commitment to sustainable e-commerce. Such a commitment is nowhere to be found in Sweco's social media analysis. There is, however, a clear commitment from companies seeking to understand what customers value about e-commerce and what they intend to buy online and in physical stores after the pandemic – two preferences that have been constantly changing since the onset of the pandemic in March 2020.

E-commerce hit a record high in 2020 following 20 years of uninterrupted growth. Sectors in Sweden with the largest turnover from e-commerce (fashion, footwear, beauty and health) and where online sales grew fastest (groceries, furniture, home decor) are popular topics in sustainability-related discussions on social media.[21] But it is goods that engage consumers, not services. This binary way of thinking is illogical: goods and services are closely intertwined in corporate value chains, from fashion to travel and groceries. Goods sold online cannot be sustainable with unsustainable logistics. Products sold online can, all other things being equal, generate a lower climate impact than goods purchased in stores, if transportation is efficient and customers avoid additional purchases: often, neither condition is true. This is the opinion of Ulf Johansson, Professor of Marketing at Lund University. According to Johansson, Swedish consumers have become used to unsustainable online shopping.

Many expect deliveries to be cheap or free, with precise delivery times, flexible cancellation opportunities, and generous return terms.

E-commerce growth will likely slow in 2022, yet online shopping is expected to continue growing after the spread Covid-19 has subsided, when e-commerce ceases to be a necessity to manage everyday life. It certainly has been essential for the elderly who have been at risk of serious illness from Corona. In 2020, the 65+ age group in Sweden had the fastest increase in online shopping, with groceries and pharmacy goods accounting for most of the growth.
The elderly, whose share of the population is growing fast, is an increasingly digital group where the share that shop online at least once a month (37%) still remains far below that of Swedish consumers overall (77%).[22] Surveys indicate that many of seniors who started shopping online in 2020 appreciate the comfort and availability offered by e-commerce.[23]



Speed and precision trump sustainability

According to PostNord's E-barometer for Q1 2021, a majority of Swedes consider it important that products they order online have been produced and delivered "with the highest possible consideration to sustainability". During the pandemic, however, this preference has clearly faded. Most consumers now state they prefer both a faster delivery and to their door over alternatives with lower environmental impact, if prices are the same. In 2021, 19 percent stated that they would choose the delivery with lower environmental impact (2019: 29%);[25] the number is likely to be somewhat lower in practice assuming a value-action gap. That more people now opt for home deliveries is partly a pandemic effect. Yet few consumers can be expected to voluntarily opt for higher prices and lower availability than what they are used to. Many consumers also put responsibility on producers and logistic companies for making deliveries more sustainable.[26]

> "Yesterday it finally arrived at our door, our luvly ecological Xmas tree! Exactly on time & smooth site where u can track the delivery!!
>
> - Stockholm, Instagram, 2020

77 %	31%
of Swedish e-consumers shopped online at least once a month (on average) during Q1 2021.[24]	The share of Swedish retail expected to take place online in 2030, according to estimates by the Swedish Trade Federation. In 2020, the share was 14 percent.[27]

E-commerce retailers are acting on viability problems

1. Consumers shop more online

- Price war between retailers.
- Digitalisation makes online shopping easier.
- Consumers avoid stores and restaurants (Covid-19).

2. Unsustainable development for e-commerce retailers

- Increased purchases and return rate (emissions and waste volumes surge).
- Profitability problems.
- Polarisation among e-commerce retailers (big companies cope with low profitability better than SMEs).
- Stressful working conditions in last-mile logistics.

3. Retailers act

- Freight rates are increasing.
- Problematic customers are blocked.
- Better packages and more efficient transports.

E-commerce companies act on viability problems

The fact that many companies' e-commerce operations have low profit margins gives companies a vested interest to push deliveries in a more sustainable direction, not least in the fashion industry, which has some of the highest return rates. According to a Swedish study from 2019 free returns were a loss-making deal for many Nordic fashion companies already before the pandemic; analysts now expect increased competition between companies in fashion's low-cost and middle segments.[28] A majority of Swedish e-retailers are now working to reduce air and packaging material in delivery packages to save input materials and cut back on transports.[29] Pressure is also increasing from China, the world's largest e-commerce hub, where in 2025 non-degradable plastics will be banned in parcel deliveries. In Q1 2021, 19 percent of online-shopping Swedes bought at least one product from China.[30]

Companies are charging more for deliveries and returns to deter customers from unnecessary purchases and reduce return rates. One question is how willing consumers will be to shop from foreign suppliers offering cheaper, less sustainable deliveries. (In 2020, e-commerce giant Amazon launched operations in Sweden.) Even if prices increase, shopping online will still be more accessible and convenient than shopping in person. If retailers give consumers clear information about why delivery fees are increasing, they could appeal to some of the decision factors that make consumers opt for more sustainable choices: information, values, and the feeling of making a difference. More online consumers will then be able to take the first step up the sustainability ladder.

Companies in the analysis

Hong Kong-based **Natpak** produces boxes, bottles, and other SUPs for consumer articles such as watches, glasses, and cosmetics. Packages are designed together with corporate customers selling the products, and they are made from materials that are either bio-degradable or recycled and recyclable. All plastics used by Natpak have been recycled from SUPs bought from Plastic Bank: an organisation collecting marine plastic debris from local communities in South-East Asia, where it is gathered from streams, rivers, and beaches.

Some companies go further than price increases. E-commerce giants **Boozt** and **Asos** both follow a *Fair use Policy* to identify and block problematic customers who make many purchases whilst also having high return rates.

3. Better design in single-use products

Aversion to plastic – a maturing consumer trend

Single-use plastics (SUP) are the form of waste that engages and frightens most on social media. The trend exploded in 2018, as Ocean Consevatory reported that the ten most common forms of marine debris gathered by the organisation worldwide were different SUPs. It culminated in January 2020 with the #saynotoplastic campaign on social media. By then deteriorating ocean environments had become the environmental issue that worried Swedes and other Europeans the most, more than global warming.[31] As a consumer trend, aversion to plastic has now persisted for several years, stepping back somewhat during the pandemic amid growing consumer commitment to social issues such as poverty and discrimination. This direction is likely to continue with an increased focus on biodegradable SUP substitutes and recycling rather than on plastic itself.

Substitutes to SUPs are trending 2021

Aversion to plastic is now entering a new phase as tighter legislation puts producers and retailers under increased transition pressure. Agreed in 2019 and to be introduced between 2021 and 2025, EU's Disposable Plastics Directive regulates the use of non-biodegradable plastics in several consumer products. It also extends companies' producer responsibility to inform consumers and introduce better designed products on the market. The US, China, and India will simultaneously impose a series of similar bans and restrictions. Companies have already begun to respond to pressure from legislators and consumers. SUPs made from degradable materials are drawing increased attention on social media. Examples of such trending SUP substitutes include PET bottles, plastic bags, and straws available in different materials, as well as bamboo-based cotton swabs and toothbrushes. Consumers are thereby offered alternatives to plastic SUPs that have a degradation time of up to 500 years and often end up in nature or in landfills. None of these substitutes can be disposed of in nature without becoming litter, and bamboo viscose is often produced with chemical-laden methods problematic from a sustainability point of view. But compared to non-biodegradable SUPs, these substitutes could contribute to mitigating global environmental problems at the bottom of the waste hierarchy.

Consumers are increasingly well-informed but less willing to make sacrifices

According to the data analysis, social media users generally see plastic as the opposite of recyclables and natural products. They consider it their right to be able to avoid microplastics and toxins, especially in food and beauty products. And they do not want the waste from their consumption to affect humans, animals, or nature. Swedish consumers are getting more informed about the need to decrease plastic waste but continue to consume lots of SUPs. Though products of substitute materials are demanded, consuming fewer products does not engage consumers. This exemplifies why EU's Disposable Plastics Directive provides producers with incentives to develop more sustainable alternatives. In 2020, analyst firm HUI Research investigated Swedes' motives for buying SUPs for takeaway food, including single-use cups. The most common reason was saving time for relaxation and socialising.[32] Devotion to make sacrifices – to take the second step up the sustainability ladder – was low. About half of the respondents stated that they would rather stop buying products than pay more, and many put responsibility on producers to make more sustainable producers easily available.

EU's directive on single-use plastics (SUPs)

	Ban	Decreased usage	Better designs	Standardised mark schemes	Extrended producer responsibility	Extended recovery targets	Increase consumer awareness
1. Cigarette butts				●	●		●
2. Plastic food wrappers					●		●
3. Plastic beverage bottles			●		●	●	●
4. Plastic bottle caps			●		●		●
5. Plastic grocery bags					●		●
6. Other plastic bags							
7. Straws and stirrers	●						
8. Plastic takeout containers		●			●		
9. Plastic lids	●			●			●
10. Foam takeaway containers					●		●

Figure 6. Regulatory requirements in EU's directive on single-use plastics to be introduced between 2021 and 2025, illustrated against the ten most common forms of marine plastic debris worldwide.

After aversion to plastic, recycling

In addition to focusing more on new materials, social media users are also shifting attention from plastic litter itself towards recycling – one of the strongest associations to sustainability on Instagram and Twitter. The EU aims to increase the proportion of plastic packaging that gets recycled by 2030. There is an important difference in this context between material recycling and energy recycling (incineration for heating) that has yet to engage social media users who likely lack awareness and consider the issue academic. In Germany and the UK, recent reports indicate that many consumers overestimate how much of the SUPs sorted for recycling is converted into new plastic packaging. They underestimate the amount that is energy recycled, or exported as plastic waste to countries where it is often deposited in landfills.

60 %

of all plastic ever produced has ended up in nature, waste dumps, or landfills.[33]

90 %

of annual global plastic production is dumped, deposite or burned.[34]

Companies in the analysis

American **Wiser Bottle** produces single-use plastic bottles. The material has same properties as PET but is free from Bisphenol-A (BPA) and biodegradable. When deposited in a landfill, the bottle decomposes 55 times faster than a non-degradable PET bottle.

Wheat straw is a company selling straws made from a by-product of wheat production, namely wheat straws. The residue is retrieved from farms near Wheat Straw's factories.

Technical difficulties in automatically extracting plastics from large volumes of waste have long complicated recycling attempts. **Stockholm Exergi** has commissioned a new sorting facility in Brista, outside of Stockholm, where six machines use laser technology to help extract 75 percent of the plastics in general waste.

4. Minimalism

Minimalism has peaked

Social media users discussing minimalism often mean both an aesthetics and a lifestyle. Minimalist aesthetics can be understood as simple and clear lines, harmonious colour schemes, symmetries, conscious selection of fewer items, as opposed to redundancy and disparate styling. In simplified binary thinking, minimalism becomes an opposite to unsustainability. Lifestyle minimalists (life simplifiers) usually describe their lifestyle as a strategy to avoid unnecessary disturbances to everyday life (#declutter). Today's minimalism bears a connection to tech and the Silicon Valley of the noughties, to "the impersonal face of technology, industry and trade."[35] It was personified by Steve Jobs himself, and the design of the products he presented to the world press, always wearing the same black outfit and grey gym shoes. Today minimalism is not a trending theme on social media. Minimalist aesthetics seem to have peaked. Fashion sociologist Lars Holmberg sees a 1960s style that re-emerged in 1990s' Paris as a reaction to the 1980s' extravagances, which today has reached the final stage of all trends: popularity in broader consumer groups. The turn away from minimalism is visible among creative and style-conscious groups interested in retro furniture and furnishings. Interviewed for this report, a restorer of designer furniture notes how these customers get increasingly interested in furniture and furnishings from the 1970s, a period known for its many patterns, irregular design language and its warm, strong colours of fiery yellow, brown, maroon, sunshine yellow and moss green. According to the restorer, until recently these customers followed a minimalist retro trend à la 1950s and 1960s marked by clear lines, and uniform, cooler color tones.

The pandemic has taken away many of the advantages of a minimalistic lifestyle. "The pandemic has made a mockery of Minimalism", The Atlantic reported in April 2020. Demand for a more predictable everyday life with less whimsy has diminished. The glow of Silicon Valley has also faded as protests against tech monopoly emerge as a trending activist issue on social media in 2021. The entrepreneurial guiding stars of the 2020s are no longer Steve Jobs but rather Elon Musk and Petter Stordalen, people with an image that is anything but minimalistic. Minimalism was probably never a sustainability trend in the first place: there is scant evidence that minimalist tendencies make people reduce consumption. Overcrowding, on the other hand, is an anything-but-sustainable driving force behind minimalism. According to the AI analysis, minimalism is currently trending in Mumbai. Many Indians live in crowded and expensive housing. As the country went into lockdown in 2021, many started looking for ways to improve quality of life. (This phenomenon was identified in last year's consumer trend report from Science Park Borås, following worldwide shutdowns at the outbreak of the pandemic). Hence the current trend with stripped-down interior design and colours cooler and more monochromatic than traditional Indian color palettes and variegated patterns. Japanese minimalism too can partially be seen as a consequence of small living spaces.

5. Measuring sustainable consumption

Consumers need information to take the first step

Better and more accessible information is needed when the EU's Single-Use Plastics Directive increases producers' responsibility to inform consumers about materials and offer products with standardised certification.
In the Swedish Government's inquiry 2020:72, a similar responsibility is proposed for textile producers and retailers in Sweden. According to the Swedish Environmental Protection Agency, 49 percent of Swedes (2017: 45%) consider it important to "know how my purchases affect the environment".[36] Meanwhile, more than half claim to lack sufficient knowledge and access to information about sustainable choices and labels, in particular when shopping for textiles. As many as four out of ten fashion consumers in Sweden, Germany and the UK consider transparent value chains as an important feature of firms without actually acting on it when buying clothes. To take the first step up the sustainability ladder, these consumers likely need clear information: in social media feeds, inside stores, or on e-commerce apps.

> Transparency means lighting up darkness so that we can see all the people along the value chain. Those who sew garments, spin fibres and pick cotton
>
> - London, 2021, Instagram

Credibility is the be-all and end-all for standardised information

Sustainability certifications are pointless if they are not seen as credible. As many as 45 percent of Swedish consumers feel confused about what is sustainably produced food despite, or perhaps because of, the numerous marks that have been around for decades.[37] These suffer from a lack of common structures and content. Swedish studies suggest that it is the converted who look for such marks when shopping for groceries. Textile certification such as Global Organic Textile Standard (GOTS) for organic textiles, which is trending according to the data analysis, is probably particularly vulnerable to excessive labelling that risks confusing shoppers. Consumers' value-action gaps are smaller for food (quality) than for cotton (transparency).

Companies act on consumer demand

GOTS is one of several certification marks and standards that appear in the analysis of posts from Twitter and Instagram. There is a consumer interest in such marks that could help customers to quickly assess whether companies or products fulfill basic sustainability criteria. As described in the 2020 consumer trend report from Science Park Borås, companies have begun to give consumers what they want. Put differently, companies have understood how sustainability can be quantified to justify consumption. Purchases must create feelings of sustainability and solidarity and give the impression that the customer's choice makes things better, or at least not worse, for the environment and other people. Information must also be visually appealing. Customers prefer simple metrics, even if they are taken out of context: carbon dioxide emissions and chemical use (kg), energy (Mw), water consumption (l).[38] Such inputs can be quantified relatively easy, whereas the impact of consumption on people is more difficult to communicate.

Companies in the analysis

Sellpy, a Swedish retailer selling second-hand clothes online, presents metrics to the customer for each purchase estimating water consumption and carbon dioxide emissions saved compared to purchasing new clothes.

Payment service company **Klarna** presents customers with an estimate of CO_2 emissions for each purchase. Figures such as 112 kg of carbon dioxide are difficult to translate into big or small environmental impact. However, customers get some satisfaction as well as information about a smaller environmental footprint than in physical stores and about the green initiative Klarna One.

6. Recycled and natural materials

Companies in the analysis

In 2021, **Sydsvenska Avfall (SYSAV)** will put SIPTEX into operation: the world's first large-scale facility for automatic sorting of textiles by different materials and qualities. It enables a large, even flow of textiles to be separated for recycling and reuse, which is impossible using manual sorting. SIPTEX has previously received project financing from VINNOVA in collaboration with a number of partners,[39] including Re:NewCell.

Re: NewCell recycles cotton using a method with relatively small input of water and chemicals, thereby generating a virgin viscose from which fibres of such quality can be spun that no new, non-recycled fibres need to be interwoven to guarantee the quality of the fabric. Re: NewCell collaborates with Levi's and H&M and has an agreement with a Chinese viscose manufacturer. The company, which has a factory in Kristinehamn, Sweden, has been granted a loan from the European Investment Bank, and is now scaling up with a second production facility outside Sundsvall.

In 2019, **Södra Skogsägarna** patented a method for separating cotton and polyester in mixed fabrics. It enables material recycling of cotton And energy recycling of polyester fibers. Until recently, it has been difficult to untwine mixed fabrics – a large share of all garments produced globally – in a way that would make recycling profitable.

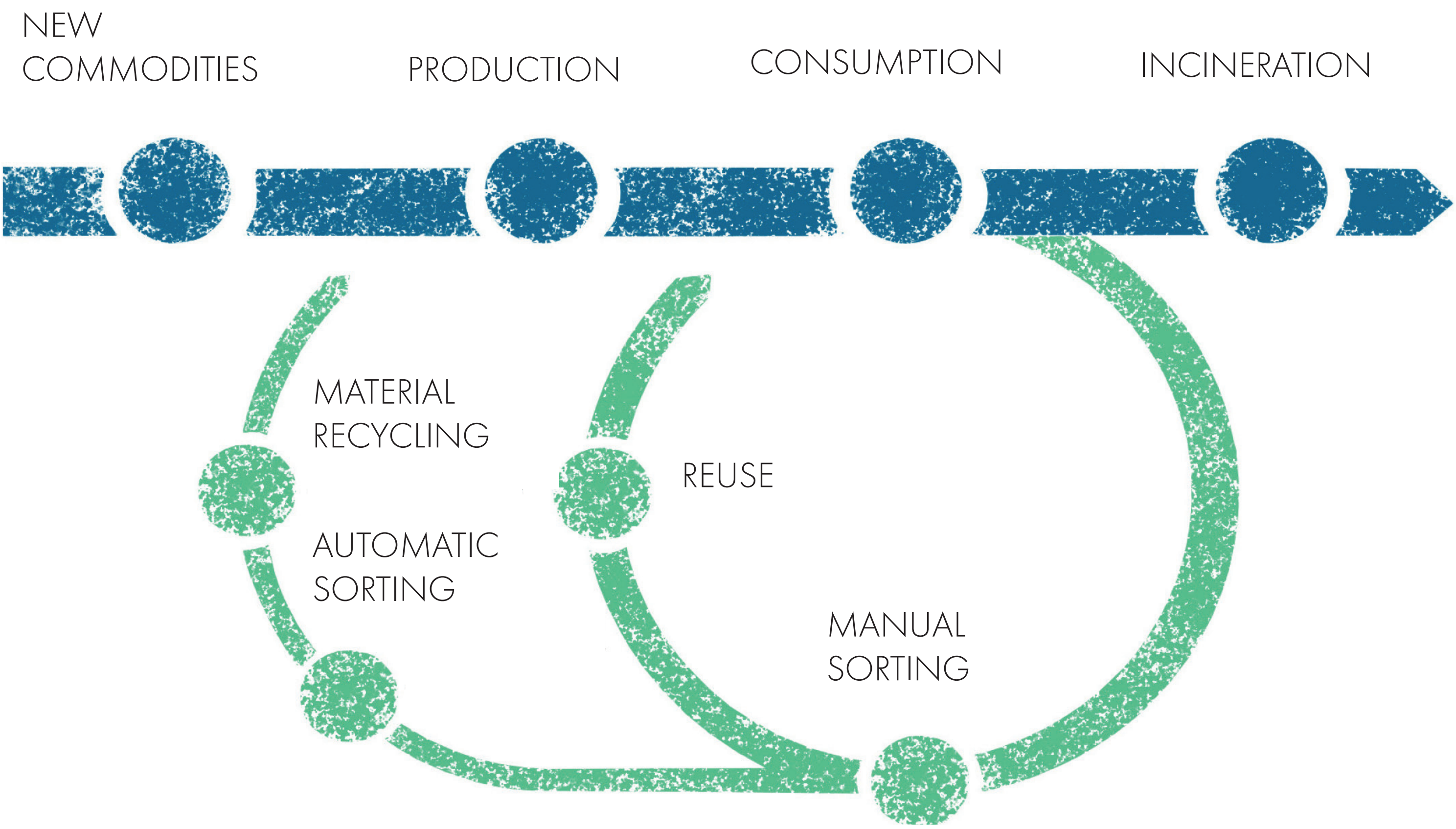


Figure 7. Circular production and consumption of fashion.
The figure is based on figure made by SYSAV.[40]

Is recycling becoming profitable?

Today no significant textile recycling is occurring anywhere in the world. In Sweden, only 5 percent of all textiles placed on the market each year get recycled (EU: 1%).[41] Garments that do not get repaired or sold are transformed into inferior products (downcycled), recycled for energy (incinerated for heating) or exported. For consumers, exported garments are "out of sight, out of mind". Increased textile recycling in conjunction with reduced consumption of virgin materials is important to make fashion consumption circular. The examples mentioned above – SYSAV, Re: NewCell, Södra Skogsägarna – show how new technology could help increasing profitability in fiber-to-fiber recycling. Fibers are the key. New technology facilitates large-scale energy recycling of synthetic fibers that otherwise get burned or deposited in a landfill, and material recycling of cotton fibers into virgin pulp viscose more sustainably than typical viscose production. Viscose is acellulose-based synthetic fiber made from wooden or bamboo pulp already available in different material qualities such as lyocell and rayon. Social media users' big interest in sustainable fashion and all things recycled suggests that many consumers may be ready to opt for recycled viscose instead of cotton. Viscose is not as durable as cotton, but breathes equally well, wrinkles less and retains colour better.

Recycled polyester

Recycled polyester is currently the only recycled fabric that is both trending on social media and easily accessible to many consumers. Polyester has long had a reputation as unnatural, but its status has increased with recycling which is strongly associated with sustainability. Today, recycled polyester is found in everything from vests to t-shirts and underwear. The material is subject to a greenwashing debate. Critics point out that recycled polyester fibers usually get blended with virgin ones, and that recycled fibers often come from PET bottles that are not ocean plastic. When PET bottles are converted to polyester fibers instead of being recycled into new bottles, they cannot be reconverted into bottles later. In addition, polyester is a major source of microplastic emissions into the ocean. Proponents of recycled polyester point to the high and growing demand for the material: 30 percent of all garments sold in Sweden are sewn from polyester fabric (globally: 55%).[42] Carbon dioxide emissions from recycled polyester are up to 80 percent lower than from virgin materials, and globally, only 10 percent of all PET bottles manufactured each year get recycled, despite large and increasing demand.[43] The rest is incinerated, deposited in landfills, or ends up in nature. The argument is that the trend with recycled polyester may contribute to increase demand for PET bottles and thus improve profitability in and rate of collection and recycling. This would require improved waste management and for consumers to be able to see the origin of fibers when shopping for clothes. If PET bottles were retrieved in Sweden, where the recycling rate is closer to 90 percent, choosing recycled polyester is not improving sustainability.

Vegan and natural materials

Another ongoing trend identified in last years' consumer trend report is that fashion brands are launching products made from materials marketed as healthy, non-toxic, and biodegradable. Consumers seem to like these materials, which generally are also more sustainable than the alternatives. The downside is that consumption gets successfully positioned as a solution to consumers wanting to make more sustainable choices and generate less waste. According to the analysis, more and more companies are opting for vegan materials. Vegan has a strong association with sustainability on social media: it attracts groups on the lookout for green and non-toxic groceries and clothes, but also techno-optimists fascinated by new, exciting materials. Vegan leather, which is not actually new but one of several 1970s trends identified in data analysis, can be made of different materials such as cork or pineapple, but also commonly plastic.

Organic cotton – not recycled cotton

Text analysis shows a long-term positive trend for recycled cotton, indicating it is getting googled more frequently globally. Meanwhile, Sweco's analysis reveals that the word is not a trend on social media. This reflects that recycled cotton is in demand but not being produced. The recycling process tends to make cotton fibers shorter, rendering them harder to spin; recycled fibers are therefore often mixed with virgin ones to guarantee the quality of cotton fabric. However, something that is currently trending is organic cotton, especially for children's clothing and reusable face masks, which are considered more durable, stylish, and comfortable than disposable masks.

Companies in the analysis

French shoe brand **Veja** makes sneakers from vegan leather and other materials such as natural rubber, ricin oil, sugar canes, banana oil and soy.

In 2018, **Adidas** launched its classic shoe model Stan Smith made entirely of recycled polyester. In 2021, Adidas is set to start selling Futurecraft Loop: a shoe made of polyester that is both recycled and recyclable.

Organic cotton – a minor contributor

Organic cotton is ordinary cotton grown organically on a small scale using organic fertilisers (manure) and and rainwater. Carbon dioxide emissions are up to 46 percent lower than for conventional cotton.[44] Of all materials used to make textile fabrics, conventional cotton arguably has the largest social and environmental impact. Cotton cultivation requires copious irrigation, fertilisers and pesticides, polluting arable land and risking the health of growers and pickers. More Swedes claim to know such facts today than in 2018.[45] That organic cotton is trending signals that more people are willing to choose more sustainable cotton, but how many and how willing is hard to say. Children's garments and facemasks are likely associated with health, and so have a small value-action gap, whereas for other cotton garments sustainability might instead be associated with fair production methods and transparent value chains, which have a large value-action gap. It is unclear how many fashion consumers know that only one percent of all cotton grown globally is organic. The trend is positive, but currently only a minor solution in the transition of fashion consumption.

> "Aint gonna lie, fell down the rabbit hole ... Doing your bit for our planet made easy. I'm pairing this organic cottton skirt with this tee"
>
> - Los Angeles, Instagram, 2021

49%	4,1%
49 percent of all garments sold in Sweden are made of cotton. Globally, the figure is 27 percent.[46]	That is how much global cotton consumption is expected to increase in 2021, according to estimates by the US Department of Agriculture.

Companies in the analysis

Information is also necessary to guarantee trust in organic cotton. Scandals surrounding fake organic cotton have hit India, where half of all organic cotton is harvested. New Zealand company **Oritain** has developed a method for tracing cotton and analysing soil, climate, and cultivation methods at the growth site. It enables companies to distinguish between genuine and fake

7. Second-hand and repaired clothing

Increased interest in vintage

The interest in second-hand clothing and repairing one's garments has risen sharply since 2020. Like e-commerce, this is a trend that unites different groups of consumers regarding attitudes and shopping habits. Surveys indicate that Swedes from all groups are becoming more eager to buy second-hand garments and repair their clothes.[47] In several interviews, business owners confirm this picture. They point to several driving forces. As mentioned, Swedes are becoming more knowledgeable about fashion's unsustainable downsides. Data from Instagram shows that second-hand clothing is trending parallel to an increased interest in extending the lifetime of existing garments (#slowfashion). More people want to turn their back on old patterns in which ever more clothes are bought and used fewer and fewer times before being thrown away. The lifecycle of an average garment today is half as long as it was 20 years ago.[48] Digitalisation has made it easier to shop online and get an overview of things for sale on the vintage market. The process of collecting and selling garments has become more convenient, and despite rising prices thrifting remains cheaper than buying new clothes. In Sweden, reduced VAT rates on repairs of and alterations to shoes, leather goods, clothing and home textiles have also made it cheaper to repair and improve the fit of clothes, which is often suboptimal in mass-produced garments.

> " The best thing about this vintage jacket? it was waste free: no plastic or packages, no tags. Only what you need
>
> \- London, 2021. Instagram

53 %

53 percent of Swedes would consider buying more of their clothes second-hand: 33 percent say "maybe" and 22 percent "absolutely".[51]

50 %

Half of Swedes would consider repairing or sending clothes for repairs more often. (2018: 40 %)

Motives for repairing and thrifting in Sweden

Mending and tailoring

- Garments are worn out (62%).
- Garments are ill-fitting((49%).
- Clothes are tattered (40%).

Shopping secondhand

- Cheap (61%).
- Better for the environment (57%).
- Finding fun/unique garments (31%).

- Price was a particularly important impetus for people living in rural areas, low-income earners and people relatively uninterested in fashion.

- Environment was a particularly important impetus for women, the well-educated and consumers with a high self-reported interest in the environment.

- Finding fun/unique garments was a particularly important impetus for women, the well-educated and people interested in fashion.

Another impetus, which was pointed out in last year's consumer trend report, is the ongoing trend of crafts and creative recycling (#recycling). Upcycling means refining or repairing something, such as tattered clothes, into something new and valuable. Old-fashioned skills are now seen as hip and are spreading to young fashion consumers. Young people (18-29 years) are the group that buys most new clothes, and up to four out of ten fashion consumers in Sweden, Germany and the UK claim they do not get clothes repaired despite wanting to do so, mainly due to lack of knowledge and motivation but also because new basic garments are cheap and easily available.[49] If these value-action gaps are reduced, more people could take a step up the sustainability ladder. Results from surveys made by the Swedish Environmental Protection Agency suggest that clothes are often thrown away because they are torn or because they do not fit anymore.[50] Upcycling has received traction thanks to the boredom of lockdown during which people have had more time and less money at their disposal. Social media is key to the the upcycling trend, which is interactive: fans go online and show garments they have sewn up, ask around for ideas and give tips to others (#upcyclingideas). Documenting the transformation from ragged to unique is a way to show off creativity and signal that you are making a difference for the environment.

The upcycling trend seems to be driven mainly by amateurs, although some individual creators are making money on it. However, companies are also important. Many upcycled garments sold commercially are sewn from scrap yarn and the like (#deadstock). Outdoor-oriented Patagonia has long gone a step further than that with collections of clothes sewn from old garments. Levi's Jeans, whose fans have long upcycled jeans and jackets, has tailor-made stores where customers can get tips and help sewing their garments. Vintage brands are also driving the trend: Swedish Beyond Retro and Stadsmissionen Remake both sew up garments from donated materials. 2020 marked the breakthrough for British C2C website Depop, where people can buy and sell upcycled clothes without intermediaries.

> You always find good second-hand clothes online that are cheap. Just look at these grungy and edgy garbs that I found
>
> - Berlin, 2021, Instagram

Three requirements to increase vintage after the pandemic

The increased interest in second-hand clothing and repairing is important as it gives more people opportunity to make their fashion consumption more sustainable. At a societal level, it is clear that people – especially frequent buyers – have to buy less new garments, repair more of what they have in their wardrobes, and recover old textiles instead of throwing them in the bin. Although the trend will soon leave the early engagement phase that began at the onset of the pandemic, over half of all Swedes still say they never buy second-hand clothing.[52] Below, three key factors are identified that could help to sustain the trend so that more consumers can take the first step up the sustainability ladder by choosing second hand and having their garments repaired.

1. Avoid individual greenwashing

More second-hand sales are only more sustainable if purchases of new garments are reduced. This insight is often overlooked by vintage fans on social media. In interviews, owners and employees at thrift stores confirm that some consumers seem motivated by feelings of consumption shame — they buy more vintage to avoid having to buy less new stuff. According to the data analysis, it is clear that social media users who show an interest in second-hand often also say they want to lower their consumption in general. Value-action gaps in these areas are large, however, and vintage-oriented consumer groups also buy relatively many new garments.[53] These buyers also include active sustainability tweeters as well as leading Instagram influencers – people who influence what others see as sustainable consumption and who likely want to highlight their own choices as sustainable. Differences in interest for thrifting and mending follow a broader polarisation between different groups in sustainability-related issues: women claim to be more interested in the environment and second-hand clothing than men, city dwellers show more interest than rural residents, younger people more than the elderly, and so on. Low-income earners, who repair and thrift a lot despite their environmental orientation, is the exception that confirms the rule. But it is disputed whether increased interest in second-hand clothing would actually lead to reduced consumption. In Zalando's 2021 survey, around half of respondents admitted to having compensated for purchases of new garments with "climate-smart choices" elsewhere.[54] Young women, the group that purchases the most clothing and who are most likely to leave garments hanging unused in the wardrobe, are more likely than others to cite sustainability as the main motive for shopping vintage clothing. Conversely, interest in second-hand clothing is often low in groups that buy relatively few new clothes. Older people buy on average a quarter as many garments as those younger than 29 years. At the same time, the elderly (and men in general) are most likely to throw out clothes in the trash bin. It could be a problem if interest in second-hand clothes gets uncritically equated with being sustainability-oriented and other people feel judged, as positive messages are crucial for attitude change.

20 %

The projected growth of global second-hand fashion markets in 2021, according to estimates by Zalando.

194%

A conservative estimate of CO2 emissions prevented when someone buys a second-hand garment instead of a new item.[55]

Groups most eager to buy second-hand clothing in Sweden

- Women
- The youngsters (< 29 year)
- Low-income earners (yearly income < € 150 000)
- Households with three or more members
- People interested in fashion
- Environment-oriented consumers

2. Maintaining consumer commitment in the new normal

During the Covid-19-pandemic, many stores have had record volumes of unsold clothing in stock and private individuals have donated clothes in record quantities. Therefore, a rebalancing will likely happen after 2021. People have had lots of spare time to reflect on issues such as wardrobe and identity, and many have devoted themselves to what consumer scientists Elias Mellander and Magdalena McIntyre refer to as *fashion detachment*: a kind of materialistic detox during which one promises oneself to buy less new in order to prioritise relationships and free themselves from the philosophy of consumption.[56] Recovering and repairing more things is a conceivable first step in such a transformation. Vintage and repairs may stand for harmony and continuity, whereas new purchases and unused garments represent chaos and superficiality. This is a reaction to previous overconsumption, which according to McIntyre and Mellander sometimes triggers further consumption as the closet might need a makeover to become harmonious.

> ” There are several versions of oneself reflected by clothes [...] once these clothes were me, and to get rid of such garments is like throwing away that part of myself.
>
> - Fashion researcher Kajsa Quintero on young women's difficulties to get rid of clothes they never wear

Data from Instagram shows how fashion brands, with concepts such as #capsulewardrobe, offer customers new ideas for new trends. (In 2020, record amounts of outdoor clothing were sold for a hobby that in chapter 1 is predicted to already have peaked). According to a survey made by Swedish Environmental Protection Agency, people who throw away clothes rarely do so because their closets need decluttering. Similarly, Mellander and McIntyre point out that those who engage in fashion detachment often have a hard time cleaning out newer clothes and fun and unique garments – the items that are most in demand on the vintage market. Nostalgia and future plans are often given as excuses (”these jeans will probably fit later”).

3. Reducing market failures on the vintage market

Nowhere near all garments are recycled today. Everyday garments – the majority of the clothes produced and sold worldwide – are not nearby as coveted as more status-filled garbs. According to the Swedish Environmental Protection Agency, most clothes that end up in the trash do so because they are worn out, torned, stained or don't fit. The consequence of the large value-action gap between consumers' desire to repair clothes and actually doing it is that large quantities of clothes are never repaired or resold but instead thrown away, downcycled or exported.

Consumers' inability to dry clean and mend is a minor problem in this context. Arguably, an upcycling trend on social media has a limited potential to increase know-how among the general populace. Instead, the big obstacle is that entrepreneurs today are rarely able to repair and sell used everyday garments at a profit. "It is time-consuming to repair and sort garments for renting or selling on the second-hand market", says Henning Gillberg, CEO of Repamera. Swedish labour taxes are too high in relation to the productivity that can be achieved as well as to what customers are willing to pay for basic garments on the second-hand market. (Price is the strongest motive for thrifting instead of purchasing new garments). VAT is also added on all purchases: 25 percent on second-hand clothes, and 12 percent on reparation and customisation.

Used pieces of clothes that sell well

- **Children's clothes and maternity clothing** worn temporarily with a focus on function.The analysis of Instagram posts suggests hashtag #circulent is often used in posts relating to children's clothing.

- **Clothes for special occasions** (evening gowns, tail-coats).

- **Unique garments** that are fun and creative.

- **Timeless and exclusive garments** where ageing or patina is desirable.

Companies in the analysis

Swedish **kindof.se** is an online-based secondhand retailer that offers customers a personal shopper. Customers fill out a form stating their wishes and measurements. A video meeting is held where customer and "shopper" talk of expectations and ideas. Then the customer gets a small set of hand-picked second-hand clothes in the mail once every other week.

Profitability problems prevent companies on the second-hand market from creating value to each other, even though it would speed up the transition towards a more sustainable consumption. Occasional exchanges take place between different companies. Charity organisations accept unsold garments from second-hand companies, and in turn donate worn textiles to tailors where they are used as repair material. However, it is rare for thrift stores, tailors and dry cleaners to exchange services in preparing everyday-garments for sale.

More and more larger fashion brands offer repair, cleaning and an assortment of used clothes in their stores. H&M started in 2017, and through H&M group the retail giant owns shares in outlet sales (Afound) and online sales of second-hand clothes (Sellpy). A circular market for basic garments run by fashion brands themselves can provide solutions for more sustainable consumption, but the fundamental problem also applies to these companies.
If repairs of everyday garments are to be carried out with increased sustainability as a drive, at low or negative profit, then revenues need to increase in other ways than through increased sales of new clothes. Increased prices are one way, new business models another – for example subscriptions for rental clothes.
According to a survey from the Swedish Environmental Protection Agency, one third of Swedes would consider renting clothes (more often) if they knew it made a difference to the environment.

> ” My protip for vintage shopping is to know your measures by heart. Why? Because vintage sizes often differ from modern sizes. So go find a tape measure
>
> - Berlin, 2021. Instagram

8. Consumer activism

Today’s activists both select and deselect

Consumer activism refers to activities that aim to make companies change in line with consumers’ interests and values. Trends visible today concern both topics and methods. Consumers actively opt for (buycott) companies they consider to be good and sometimes they avoid (boycott) companies, goods or services for political, ethical or environmental reasons. Activism also includes demonstrations or campaigns for or against businesses. The starting point is an idea that consumers can and should exercise their market power to influence how products and services are designed, distributed, marketed and sold. On the sustainability ladder, activist consumers are found on the third step, where active choices are made to buy or not buy products or services as part of maintaining a sustainable lifestyle.

Activists are middle class

Consumer activism is class-related. Shopping organically and repairing everyday garments is more expensive than the alternative, and price is the mother of consumer choices. Boycotting and buycotting correlates, like holding environment-oriented opinions, with having high level of education. According to the AI analysis, active sustainability tweeters are generally well-established, highly educated, and active in creative professions and IT. For the representative AI personas from North America and Europa, twitter posts focus on anti-consumerism and influencing companies with active and conscious choices. Black Lives Matter, LGBTQ and feminism are common themes there. In the Asian cities, themes lean towards consumer protection, infection control (Covid-19) and health in general. Studies point to differences between buycotters and boycotters. Buycotters (who actively choose to buy from companies considered fair and sustainable) are generally younger and predominantly female, and social media is more important for their activism than for boycotters. Fridays For Future protests started by Greta Thunberg have mainly engaged young women and girls which indicates that activists can relate personally to her.

Activism goes digital

Consumer activism is nothing new and fashion has always been at its centre. In the 1870s, major campaigns were held in Britain to promote fairer cotton production, and similar initiatives have sprung up ever since. Covid-19 has accelerated the ongoing trend of consumer activism going online where it takes on the form of ”slacktivism” or ”clicktivism”. Slacktivism means expressing one’s support for something by simple means such as sharing a link on social media or signing an online petition. When topics such as ethical fashion trend on social media, they do so through slacktivism. Despite criticism that online campaigns lack commitment, many have had a real political impact. The outrage against ocean plastics, which arguably contributed to the ongoing wave of sharpened legislation globally, occurred mainly through slacktivism. In India, aversion to SUPs has recently become connected withonline women’s rights activism. Slacktivism concerning taboos about the female body and sexual abuse, aversion to single-use plastics in womens’ sanitary products and the resulting vast amounts of rubbish, has called attention to the situation of Mumbai ragpickers: poor, ”casteless” people without protective equipment who scavenge landfills for sellable scraps and recyclable materials.

Black Lives Matter (BLM) has also mainly emerged through online activism. On social media, the movement which peaked in 2020 got another upswing in January 2021 after a predominantly white mob stormed the US Congress at Capitol Hill in Washington D.C. BLM activists have encouraged people to buy from black-owned businesses. In the case of BLM, slacktivism has helped to spread knowledge, street demonstrations have been arranged and large sums have been fundraised to activist organisations. Companies have understood that consumers' value-action gap is small when it comes to buycotting responsible business; the number of fashion brands employing non-white models have also increased sharply since 2020. BLM shows that consumers expects companies to be purpose-driven and address social issues. However, they must do so in a credible and dignified manner. Burger King was hit by a protest storm after the company's Twitter advertisement on the international Women's Day 2021, which attempted a humorous approach ("women belong in kitchen") to signal that Burger King is a good workplace for women.

Social issues dominate

Since the outbreak of the pandemic, consumer activists have been focusing more on people and less on gadgets, a direction that can be assumed to continue into 2022. Corona has brought serious consequences for the groups hit hardest by the pandemic. It is expected to drive between 100 to 150 million people worldwide into extreme poverty. Consumers' attention shift towards social issues took off with an engaging information phase on social media in 2020. Through UN campaign Leave no one behind, information was spread about social and economic vulnerability in the wake of the corona crisis, especially in Asia where cotton is grown and clothes are produced. The campaign has now waned (except in Germany) and the trend has entered a new phase in which consumers are demanding more. They expect more measures to safeguard employee health and well-being, whilst at the same time supporting local communities where goods are produced. On social media, this is manifested by users who encourage each other to purchase sustainable and conscious fashion as well as locally produced food, which many equate with sustainability and organic food. However, inadequate information prevents many from assessing companies and their value chains: socially sustainable consumption remains hard to quantify. In 2021, the trend of discussions to support small enterprises has decreased in many countries amid eased corona restrictions. This trend, which began early in the pandemic, and which was particularly strong in the United States where there is a strong tradition of charity, was about supporting the companies affected by shutdowns in society. The rationale was to prevent entrepreneurs from bankruptcy and people from losing their jobs.

Techwear – 2021's activist fashion

Consumer activism is mainly about fashion, yet activist fashion is unusual. Techwear / darkwear is the only style identified in the analysis to be trending and as having an activist affiliation. This niche style is inspired by police, science fiction, and cyberpunk and preferences high functionality and very dark colours. While not a new style, it is being promoted as sustainable and cutting edge. There is an association on Instagram between Techwear / Darkwear and #wyrok na kobiety (Polish for verdicts against women), a slogan used by protestors against the Polish government's legislation to restrict abortion rights. The style's dystopian aesthetic resonated with many of the activists who participated in this winter's demonstrations in Poland.

In early 2021, SvD (Svenska Dagbladet) journalist Sam Sundberg went undercover on Instagram, posing as a fashion influencer on the global techwear scene. He argues that there is nothing inherently sustainable in techwear. On the contrary, because of the style's focus on functionality and weather resistance many of the clothes are made of polyester with toxic surface treatments (DWR). There is awareness of these issues among techwear fans, but for many it is a low priority. According to Sundberg, many fans nevertheless think they are consuming ethically because they buy vintage clothes, choose fewer but more expensive garments and thus do not support overproduction and the wear-and-discard mentality of fast fashion, which is generally despised on the techwear scene.

Techwear activism leans to the left. Discussions take place mainly in closed forums and concerns issues such as Black Lives Matter, transgender issues, Hong Kong and democracy, Xinjiang (ethnic persecution of Uighurs, unethical cotton production), social conditions in the textile industry, and tech monopoly. Fans both buycott and boycott companies. It is difficult to say if the style will achieve popularity but it does not appear to be unifying. That techwear has been trending among adolescents during the pandemic years of 2020 and 2021 is hardly a coincidence. Many young enthusiasts have a dystopian view of the future, having lived with feelings of depression during the corona crisis and frustrations about generational divides in sustainability-related issues. (Intergenerational social and economic inequality has increased during the pandemic – but on the climate issue, generations' views have begun to converge in many countries). Techwear is becoming a kind of armor against an environment hostile in many ways, protecting against the elements, CCTV surveillance and theft. The garments are full of rarely-used functionality and the wearer exudes a prepper and ready-to-go attitude.

> ” Many Techwear fans believe that boomers have destroyed the world. They feel powerless amid climate crisis and a widespread inequality caused by a capitalism they abhor but feel they cannot get rid of.
>
> - Sam Sundberg, Swedish journalist

> ” They call it sad, but they're the outsider looking in
>
> - Techwear fan, Hong Kong, 2021

9. Home life

Home: an important arena for sustainable consumption

Consumption of durable goods and furnishings increased in 2020, as people spent a lot more time than usual at home whilst also putting a hold on other purchases. 41 percent of Swedes who bought something online in 2020 purchased goods in this category. Accordingly, analysts now expect a negative year-on-year growth of consumer expenditures for 2021.[57] Global online second-hand retailer Etsy, which specialises in selected vintage gadgets, has been trending on Instagram. Etsy is the only second-hand company on the top-ten list of the most visited foreign e-commerce sites by Swedes in 2020.[58]
The common thread for these trends is that home has been particularly topical since the outbreak of the pandemic. Reports from Statistics Sweden (SCB) indicate that more people are now moving out of Greater Stockholm and the Gothenburg region than moving in, not accounting for immigration. The same trend can be seen in several other metropolitan areas wordwide. One factor behind this is clearly temporary: many millennials belonging to big age cohorts born between 1988 to 1993 are currently having children, something that makes many from central urban areas move to suburbs or beyond. Contributing to this trend are also high and growing housing costs in metropolitan areas and the fact that many people now have the opportunity to work from home. According to the AI analysis, housing issues are often debated by active sustainability tweeters in Los Angeles and Mumbai, but not in Stockholm. A third factor is the craft trends that also apply to furniture and furnishings. In sustainability-related discussions in Swedish on Instagram, Swedes often use words like circular consumption (#cirkulärekonomi) and regenerative to describe house life and rural lifestyles which are then portrayed as something natural in contrast to the pulse of the city. The craft trend captures the spirit of the times with migration from the cities, fashion detachment, the desire to buy less, as well as the growing fascination for thrifting and repairing, into something reminiscent of Swedish romantic nationalism at the turn of the last century and the counterurban green wave of the 1970s. In both cases the idolisation of crafts was central to the spirit of the age as a counterreaction by people harbouring feelings of mistrust and delusion after 30 years of divisive technical, social, and economic change. This is also the case today. Just like Swedish author Ellen Key at the turn of the last century, Greta Thunberg today puts children's perspective front and centre when demanding politicians speed up the transition to a more sustainable consumption. There is a desire to value specific places – *somewheres* – which have long stood in the shadow of generic cosmopolitan *anywheres*. The somewhere resident has a trump card over the travel-happy counterpart: the association to sustainable consumption.

> ” At the same time, Ellen Key strived to promote everyday life and foster a more caring and relationship-oriented world. Criticism was directed towards consumption and mass production of home furnishings. Instead, traditional crafts and traditions of ordinary people were emphasised, new patterns were mixed with older styles.
>
> \- Nationalmuseum of fine Arts, Stockholm: *Nationalromantiken*

A retro market in transformation

Retro furniture and design are trending on Twitter and Instagram where Swedish users express interest in the supposedly slow and caring life-styles of times long past. On Instagram, sustainable furniture gets associated with hashtags like #cultural heritage, #crafts and #rural life. Users are fascinated by techniques for restoration: marbling, decorative painting, upholstery, conservation, and furniture painting. Despite the pre-industrial nostalgia, Danish design beats Empire and Georgian furniture when creative and fashion-conscious customers get to choose. In Sweden, the market for modernist retro furniture is mainly in the big cities; middle-class women are the largest customer group while elderly people buy less frequently. This is the experience of a furniture restorer interviewed for this report. As is the case of second-hand fashion, the market is in transition. Many thrift stores sell both clothes, furniture and furnishings whereas boutiques with more exclusive stock usually specialise. The market is getting deeper and broader, just like that for vintage fashion. There is an increase of premium retailers sourcing from auctions and established channels that help to push up prices which makes the market more profitable, although without necessarily increasing availability and reusage of furniture. Much of the unique, exclusive retro furniture in high demand today would certainly have been sold years ago, but probably at a lower price.

The market is also growing online with new companies and individual restorers. Newcomers are partly riding the same upcycling trend that applies to second-hand fashion. Here too, many restorers document the process from the find to the sale on social media. It is often forgotten or discarded pieces of furniture that get restored. There is often a moral to it highlighting the downsides of mass consumption – this was thrown away, now it is a stylish piece of retro furniture, and you want it.

Same market failures as for vintage fashion

Second-hand furniture is a market hampered by low profitability: labor costs are high, labor productivity low, and new furniture is cheap and easily accessible. Compared to fashion, many retailers selling vintage furniture also have a relatively uneven inflow of goods. An entrepreneur who was interviewed for this study believes that many Swedes – above all elderly consumers – still see the process around second-hand furniture as inconvenient and would therefore, out of sheer habit, rather go to a bulk recycling station and dump their valuable pieces, thereby missing out on lots of money. Special unloading areas for furniture have become common sights in Swedish recycling stations whose managers have noticed that people discard a lot of valuable furniture and furnishings.

The market is also growing outside the retro segments. Large furniture producers are now acting quickly to ride the trend. According to an IKEA analyst, low prices are the main motive for those who go shopping at the giant retailer's second-hand departments whose most common customer group are low-income earners wanting to pick up a bargain. In 2020, IKEA opened its first purely second-hand store in the specialist second hand mall *Re-tuna* outside the Swedish city Eskilstuna: a pilot scheme that IKEA plans to further develop in 2022.
Only a fraction of IKEA's material flows ever end up in its second-hand sections, but the symbolic value is important. The launch is part of a long-term strategy by IKEA to make consumption and production more sustainable until 2030.
An analyst from KINNARPS, a Swedish firm selling office furniture to companies and public sector organisations, describes a market that is swiftly moving towards more flexible business models. This entails a shift away from product perspectives towards functional perspective, and increasing customer expectations that suppliers take responsibility for furniture over the entire life cycle. This requires more service orientation to increase value creation amid prolonged life cycles and fewer sales of brand-new goods. Many office-based organisations are uncertain of what working life will look like in the new normal after the pandemic. Thus, many want the option to quickly scale up and down furniture solutions and not be tied up with large quantities of stock. Suppliers can solve it in different ways. Deposit-refund schemes are a possibility; another option is leasing models with services included to maintain furniture and to broker inventories between organisations with different needs.

10. Food and beauty products

Green and toxin-free consumers are setting the trend

Food and health are important themes in sustainability discussions on social media. Once again, sustainability is associated with terms like vegetarian, locally grown and organic, which are all considered to be the healthy and natural. This is a result of long-running environmental trends and declining real consumer prices for food: Swedes today spend about a third less of their real income on food than in 1980.[59] Accordingly people have been able to afford more and more expensive food over the last decades. Globalisation of food production is a strong driving force behind this: close to half of all groceries consumed in Sweden are imported. This is not viewed positively by green and toxin-free consumers who long for old ways of farming. On social media these consumers are getting increasingly engaged by such things as probiotics, bio-fertilisers, home cultivation and self-sufficiency (#growyourownfood).

Contributing to the trendare the unusually large groups of thirtysomethings who recently moved from apartments to houses. They are also interested in regenerative agriculture, which has trended somewhat on social media in 2021. Reasons for this probably include both increasing insight into the importance of making food production more sustainable and romantic notions of how food production once was and therefore should be. Green and organic consumers are also pushing other trends appearing in social media discussions about sustainable lifestyles, many of which are not new but now carry more activist undertones. One example is cultivating many plants at home (#plantlover), something many users associate to a natural and plastic-free life and commitment against climate change. Besides groceries, the trends also revolve around beauty products such as hair care products and skin lotions. Especially in Los Angeles, whereactivist-oriented themes – for example hair color *pulp riot* and purpose-driven hair care company *Cult + King* – often appear in discussions about toxin-free products and the importance of supporting small local companies that sell ethical products. E-commerce is a key to trend regarding both beauty items and food. Groceries were the category in which Swedes' online purchases increased the most in 2020 and the elderly were the main driving force behind the trend. Various polls indicate groceries are one of the categories where younger consumer groups are less willing to shop online. Profitability problems are common in grocery e-commerce, indicating a need for new business models.

> ” ... she has opened a nostalgia café and decorated it with furniture from a bygone era in a way that brings together the past and the future
>
> \- Stockholm 2021, Instagram

> ” ... meet this - a clean vegan, low-waste and waterless shampoo, a.k.a my new favourite brand
>
> \- Los Angeles 2021, Instagram

Appendix. AI analysis

Who are the active sustainability tweeters?

In this report, artificial intelligence (AI) has been used to analyse posts made in each of the eight urban regions to produce information on Twitter users who (1) tweet a lot, and (2) devote a relatively large proportion of their tweeting to posting new texts and sharing existing posts on sustainability-related topics identified as trending in the first half of 2021. Sustainability tweeters are thus people whose tweets likely contribute to shaping other people's views about sustainable consumption. The analysis has resulted in eight AI personas: one for each metropolitan region. Each AI persona can be understood as a median user who creates opinion in sustainability issues.

Sustainability tweeters summarised

- Highly educated and well established.
- Creative professions or IT.
- Open and status conscious.
- Postmaterialist values.
- Fashion, social issues and climate anxiety are popular topics.
- Equally likely to be an "anywhere" (nomad) or a "somewhere".
- Price sensitive (high cost of living).
- Slacktivists (not street protesters).

Stephanie, Los Angeles

Demographics

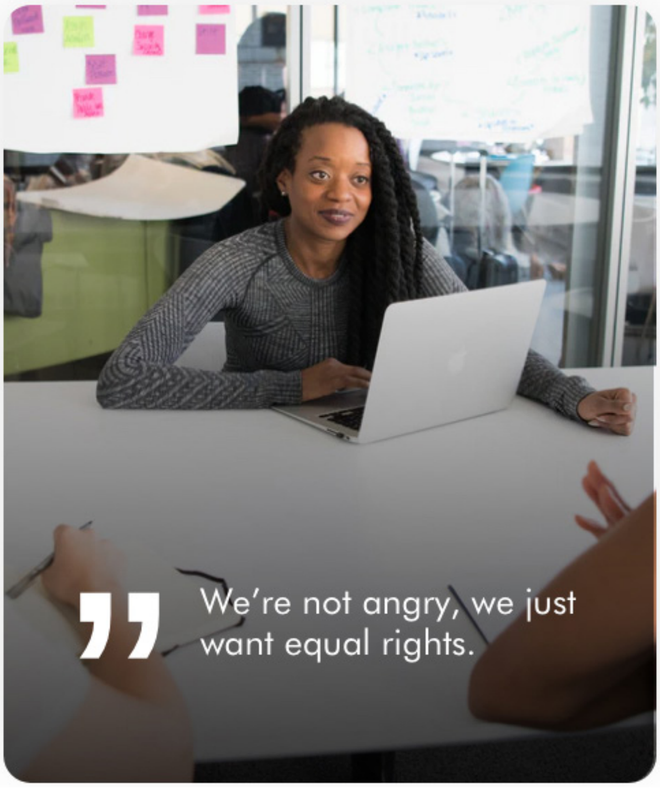
- 25-30 yrs.
- Public employee, journalist/photographer or art director.

Preferences that may affect consumption

- Shop from purpose-driven companies.
- Climate anxiety and avoids plastic waste.
- Price sensitivity.
- Buy vegan and toxin-free.
- Support local businesses and vulnerable communities.

Areas of interest

- Design and photography.
- Social issues, identity politics.
- Sustainable (ethical) fashion and design.
- Asian food.



Stephanie tweets in an activist tone, and she is more into buycotting than boycotting. Ethical fashion is an ideal to price-sensitive Stephanie, who is mostly interested in local companies, preferably black-owned, feminist or pro-HBTQI+. She tweets a lot about charity in local and regional contexts, something very important in the US: Americans donate far more than Swedes. Refugee issues are high on Stephanie's agenda (here, she draws parallels to forest fires in California), as are inequality and housing costs – issues that became more topical during the pandemic. She is also interested in how firms can contribute to strengthening communities in poor parts of California.

Jessica, New York

Demographics

- Woman (white), 30-40 yrs, living with partner and children.
- Law or PR.

Preferences that may affect consumption

- Longing for quality time (lockdown boredom).
- Price sensitive.
- Non-toxic and healthy products (children).
- Support local companies and avoids the spread of Covid-19.

Areas of interest

- Sustainable fashion.
- Growing potted plants at home (#greenliving).
- Exercise and beauty products.
- Rental clothes and creative recycling ideas.

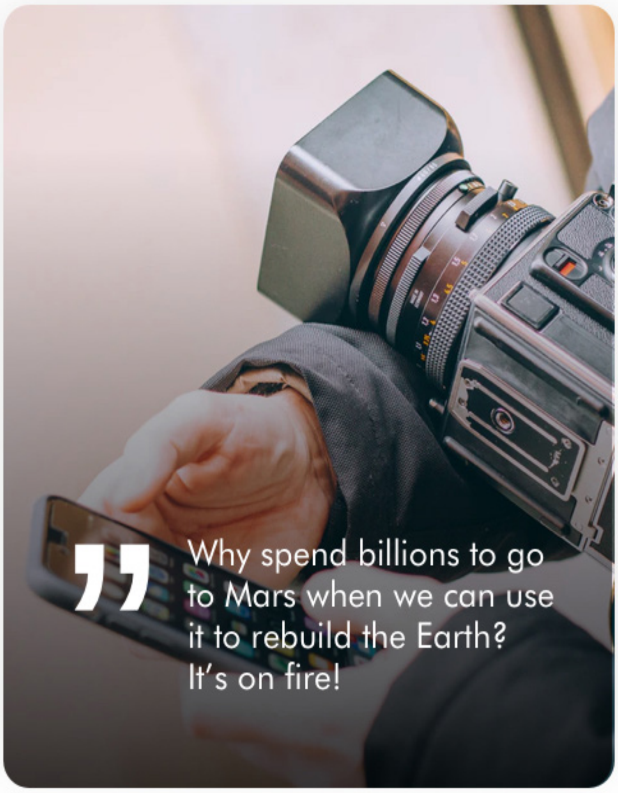
Jessica lives with husband and children (conscious family). She calls herself an "Expert" on Twitter, is bored and burdened after life in lockdown with telework and remote education. Tweets about the longing for quality time (joy, travel) indicate that the family will soon increase their consumption. She is interested in fashion, finds vintage and handmade things fun and tweets about clothes, shoes and accessories. The rental clothing company Rent the Runway is something she likes (though it is unclear if she is a customer). And Storage Wars is still a fun concept, right? She has done most of her shopping online since March 2020. Like her children, she has worn handmade facemasks made of organic cotton which are durable and good for health. Bargains interest Jessica, who has become more price sensitive. However, this is not something she puts in a political context.

Alex, London

Demographics
- Content creator, writer, author.
- Man/woman, 25-35 yrs.

Preferences that may affect consumption
- Make a difference globally.
- Ethical shopping.
- Avoid plastic and generating waste.
- Climate anxiety and health consciousness.
- Techno-optimism (sharing economy, transport).

Areas of interest
- Sustainable fashion.
- Politics and global questions (US).
- Food and cooking.
- Art and design.



An anywhere tweeting under the motto "my opinions are my own". Alex looks at London and global perspectives: the planet, worldwide and Europe, but not England. He or she is particularly interested in the US and compares the development there with that in the UK. Fashion is central to Alex's interest in sustainability, encompassing everything from ethical fashion to ecoluxury. Price issues are not something Alex writes much about. He or she sees marketing as important to sustainable consumption and believes that both companies and consumers have a responsibility to make sustainable choices. Alex appeals to the good in people, and mixes in war metaphors for the climate crisis. Alex, who is worried about plastic rubbish, is very fascinated by new, biodegradable SUPs.

Kuan-ling, Taipei

Demographics
- Programmer, man 40-45 yrs.

Preferences that may affect consumption
- Climate anxiety (children) and health awareness.
- Wishes to travel again.
- Concerns about the spread of infection (Covid-19).
- Open technical solutions.
- Political concerns for Beijing.

Areas of interest
- Technology and programming.
- Personal finance and investments.
- Politics (economy, climate, China).
- Board games and cooking.

Kuan-Ling lives together with wife and children. An experienced programmer who's into stocks, travel, board games and basketball. He tweets somewhat anxiously about Covid-19, climate, economy and tech monopoly. Kuan-lin is a cautious techno-optimist and slacktivist who thinks the government is mostly engaged in greenwashing and digital surveillance. Digital technology is of course the solution to the problems. He has a rebellious side and likes both the open-source operating system Ubuntu and Bitcoin. Young people should start striving for financial independence (FYRE) at an early age, through purposeful saving and investment, Kuan-Ling thinks. He sees himself as Taiwanese, not as Chinese, and is concerned about the Chinese claim to Taiwan, which he refers to as colonial. At the same time, he's very aware of Taiwan's economic dependence on China. He really likes the USA (basketball) and the technology nation Germany is also a favourite.

Raj, Mumbai

Demographics

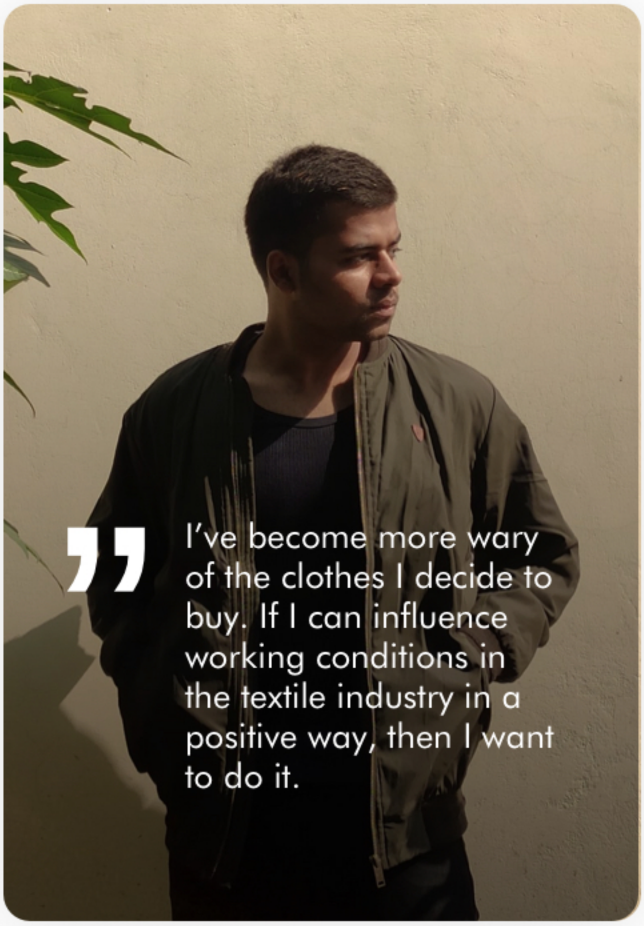
- IT-consultant, 30-40 yrs.

Preferences that may affect consumption

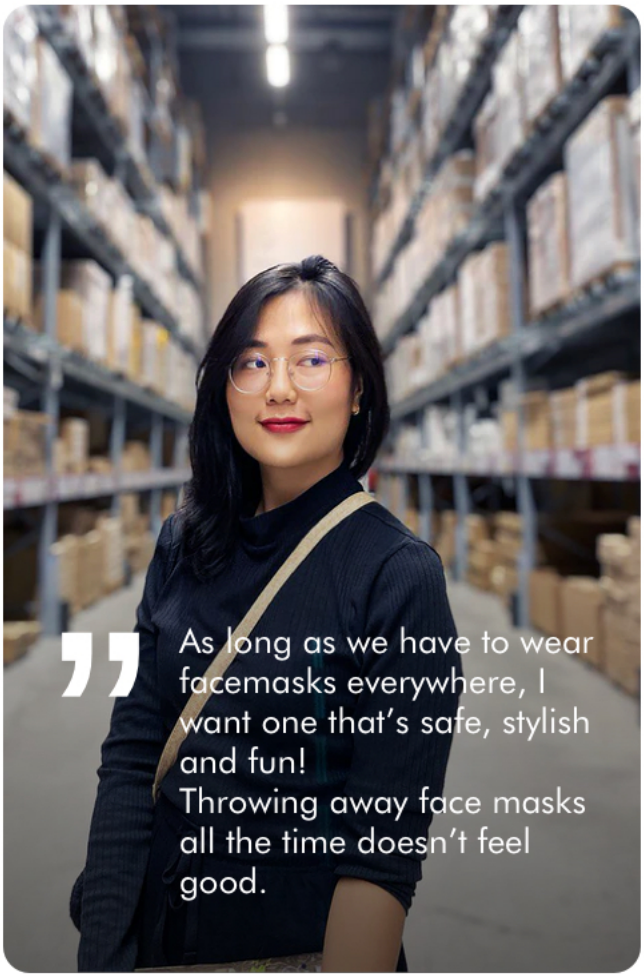
- A simpler and more just life, ethical fashion.
- Increased cost of living (price sensitivity)
- Techno-optimism (social issuses, e-commerce)

Areas of interest

- Outer-suburban nature and growing potted plants at home
- IT and programming.
- Sustainable fashion and consumer rights (empowerment)



Raj is a techno-optimistic somewhere who cares more for Mumbai than for global issues. He holds a positive view on initiatives that empower Indian consumers, preferably using digital technology! Clothing purchases must be made with brand awareness, Raj argues. During the pandemic, he has drawn critical attention to the textile industry’s environmental footprint and poverty among textile workers. He writes a lot about affordable purchases: like many others in India’s middle class, his home is overcrowded. Lockdown life in the spring of 2021 reinforced his life-simplifying side and he has gained interest in minimalist decor, greenery and harmony.
Raj continues to buy more of his durable goods online.



Suki, Hong Kong

Demographics

- Economist or writer, 25-33 yrs.

Preferences that may affect consumption

- Health concerns (Covid-19, smog).
- High cost of living (price sensitivity).
- Natural products (green and toxin-free).
- Creative / unique garments and sustainable packaging (e-commerce).

Areas of interest

- Fashion and design / bargains (preferably online).
- Japanese culture.

Suki lives with her partner, without children. To Suki, sustainability is mainly a matter of affordable fashion and health, mostly toxin-free beauty products. Hong Kong is expensive and Suki is constantly looking for affordable bargains. She is interested in both Chinese (silk!), Western and Japanese influences, the latter of which are more popular in Hong Kong than in mainland China. Suki was an early adopter of handmade face masks (organic cotton) which she wears out on the town. Already prior to the pandemic, she made a lot of her purchases online via Alibaba, Etsy, and Taobao; she finds sustainable packaging company Natpak to be cool.

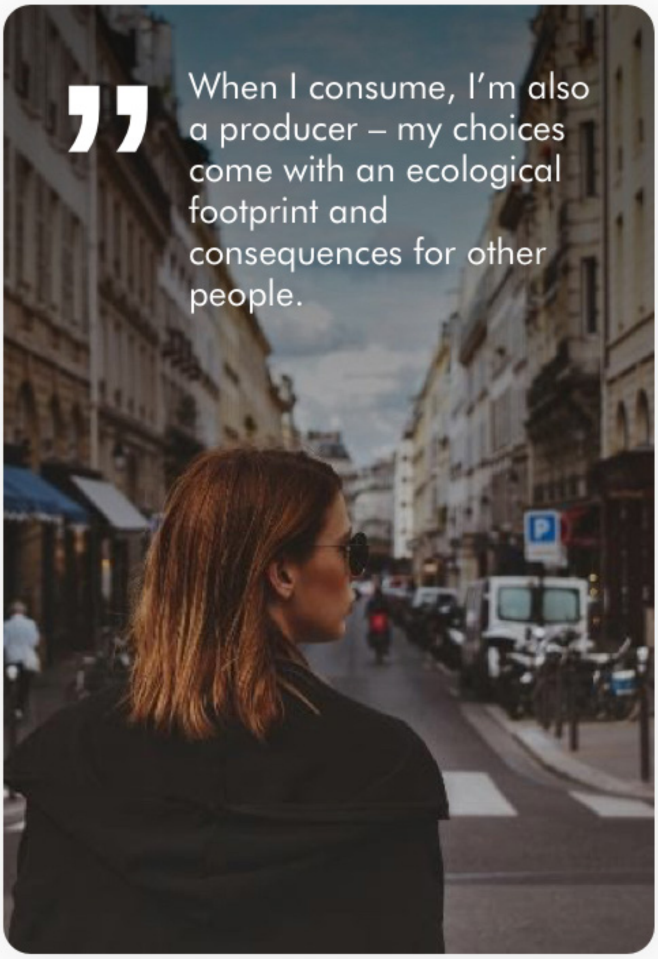
Amanda, Stockholm

Demographics
- Communicator, lobbyist, journalist, or project manager.
- 25-30 yrs. or 35-45 yrs.

Preferences that may affect consumption
- Feminism, pro-HBTQ, vegetarian.
- Climate anxiety and health consciousness.
- Openness for new trends.

Areas of interest
- Circular consumption / economy.
- Exercising and food (sustainable food production).
- Fashion and design (Nordic), vintage.
- Consumer rights and global issues (identity politics).

Amanda lives with her partner and works in a creative profession. A style-conscious and creative anywhere who tweets in English and Swedish about local and global things. She writes a lot about rights, is proactive and trusting - everyone can influence with their own choices, you can do it if you want! Her sustainability commitment is both for personal reasons and career reasons. She wants to increase her status by catching on to sustainable trends early on.



Marco, Berlin

Demographics
- 3PL coordinator, 30-40 yrs.

Preferences that may affect consumption
- Consumption-critical self-image.
- Parenting.
- Willingness to travel again (ecotourism).
- Gadget interest and techno-optimism (digitisation, electrification).

Areas of interest
- Environment and transparent value chains.
- Technology and e-commerce.
- Fashion and design.
- Sharing economy (visionary delivery models).

Marco lives with his partner and small children and works at a logistics company. He misses traveling and has started looking at ecotourism. Marco is crazy about gadgets and believes the family's electric car definitely contributes to society's green transition. Techno-visionary ideas such as crowdshipping and sharing economy in general also fascinate Marco, a man with a consumption-critical self-image rooted in the ecological movement of his parents' generation. How to get these two sides together is something Marco often thinks about. He also reflects upon whether he and his family should really stay in noisy Berlin; those who have moved away from the city to smaller cities during the pandemic have made an impression on him.

End notes

1 Göteborgs Universitet, 2017. Konsumton och hållbarhet - hur går det ihop?
2 McIntyre, Magdalena, 2020. Att använda det som finns i garderoben: En litteraturöversikt om konsumenters attityder till begagnade kläder
3 Naturvårdsverket, 2020. Hållbara textilier: Slutmätning. Rapport konsumentundersökning 2020; Krav, 2021. Den hållbara maten. Zalando, 2021. Attitude-Behaviour Gaps. Handelns utredningsinstitut, 2020. Skatt på engångsartiklar, etc.
4 Jagers, Matti, Oscarsson & Persson, 2019. "How dare you? Gretaeffekter på svensk miljö- och klimatopinion."
5 Hosta, M. & Žabkar, V. 2020. Antecedents of Environmentally and Socially Responsible Sustainable Consumer Behavior, Journal of Business Ethics, 2020.
6 Inglehart, R. (1977). The Silent Revolution: Changing Values and Political Styles Among Western Publics. Princeton: Princeton University Press.
7 Zalando, 2021. Attitude-Behaviour Gaps
8 Ibid.
9 Ibid.
10 Accenture, 2021. How will Covid-19 change the consumer?
11 Europaparlamentet, 2020. Sustainable consumption: Helping consumers make eco-friendly choices.
12 Roos, Magnus, 2021. Miljöintresset växer – trots pandemin.
13 Christakis, Nicholas, 2020.Apollo's Arrow · The Profound and Enduring Impact of Coronavirus on the Way We Live
14 Europaparlamentet 2020. Sustainable consumption: Helping consumers make eco-friendly choices
15 Science Park Borås/Kairos Future, 2020. Hållbar konsumtion & livsstilar.
16 Roos, John-Magnus m.fl., 2021. Konsumtionsrapporten 2020.
17 Visit Sweden, 2021. Temperaturmätning: resefunderingar bland svenskar i april.
18 Ibid.
19 Ibid.; Sveriges Natur, 2021. Flyget efter pandemin.
20 Visit Sweden, 2021. Temperaturmätning: resefunderingar bland svenskar i april.
21 Roos, Magnus m.fl, 2021. Konsumtionsrapporten 2020.
22 Riksbanken, 2020. E-handel blir allt vanligare.
23 Svensk Handel. Läget i handeln, 2021. Roos, John-Magnus, 2020. Så många äldre e-handlar idag.
24 Postnord, 2021. E-barometern, Q1.
25 Ibid.
26 Svensk Handel. Läget i handeln, 2021.
27 Ibid.
28 Karlsson & Oghazi, 2021. The impact of free returns on online purchase behavior: Evidence from an intervention at an online retail. McKinsey, 2021. State of Fashion.
29 Postnord, 2021. E-barometern, Q1.
30 Jagers, Matti, Oscarsson & Persson, 2019. "How dare you? Gretaeffekter på svensk miljö- och klimatopinion"; Euromonitor International, 2021. Top 10 global consumer trends 2021.
31 Jagers, Matti, Oscarsson & Persson, 2019. "How dare you? Gretaeffekter på svensk miljö- och klimatopinion.
32 UNEP, 2021. Plastic Pollution - it's time for a change.
Euromonitor International, 2021. Top 10 global consumer trends 2021.
UNEP, 2021. Plastic Pollution - it's time for a change.
33 HUI Research, 2020. Skatt på engångsartiklar.

34 Unites States Environmental Protection Agency, 2021. Plastics: Material-specific data. Handelns utredningsinstitut, 2020. Skatt på engångsartiklar, med flera.
35 The Atlantic, 23-04-2020. The Pandemic Has Made a Mockery of Minimalism.
36 Naturvårdsverket, 2020. Hållbara textilier: Slutmätning.
37 Krav, 2021. Den hållbara maten
38 See for example: Mueller, Jeffrey, 2018. The tyranny of metrics.
39 SYSAV, 2021. Siptex som forskningprojekt.
40 Ibid.
41 Mistra Fashion Future: The outlook report 2011-2019; White Paper on textile recycling.
42 Ibid.
43 TNO Utrecht, 2020. A circular economy for plastics
44 Mistra Fashion Future, 2020. The outlook report 2011-2019; White Paper on textile recycling; Mistra Fashion Future, 2019. Environmental Assessment of Swedish Clothing Consumptiton - six garments, sustainable future.
45 Naturvårdsverket, 2020. Hållbara textilier: Slutmätning.
46 Mistra Fashion Future, 2020. The outlook report 2011-2019; White Paper on textile recycling; Misrta Fashion Future, 2019. Environmental Assessment of Swedish Clothing Consumptiton - six garments, sustainable future
47 Naturvårdsverket, 2020. Hållbara textilier: Slutmätning.
48 Greenpeace, 2017. Wegwerfware Kleidung.
49 Zalando, 2021. Attitude-Behaviour Gaps
50 Naturvårdsverket, 2020. Hållbara textilier: Slutmätning.
51 Ibid.
52 Ibid.
53 Ibid.
54 Zalando, 2021. Attitude-Behaviour Gaps; Naturvårdsverket, 2020. Hållbara textilier: Slutmätning.
55 Emmaus, 2019. Återbruksbarometern.
56 Mellander & McIntyre, 2021. Fashionable detachments: wardrobes, bodies and the desire to let go.
57 Postnord, 2021. E-barometern, Q1 2020.
58 Ibid.
59 Livsmedelsverket, 2019. Matkronan. Maten och våra pengar.
Mellander & McIntyre, 2021. Fashionable detachments: wardrobes, bodies and the desire to let go.
Postnord, 2021. E-barometern, Q1 2020.
Ibid.
Livsmedelsverket, 2019. Matkronan. Maten och våra pengar.

The report has been partly financed by Circular Hub which is operated by Science Park Borås in cooperation with IDC West Sweden AB. EU project Circular Hub is primarily financed by the European Regional Development Fund and and Region Västra Götaland (Västra Götaland Regional Council).