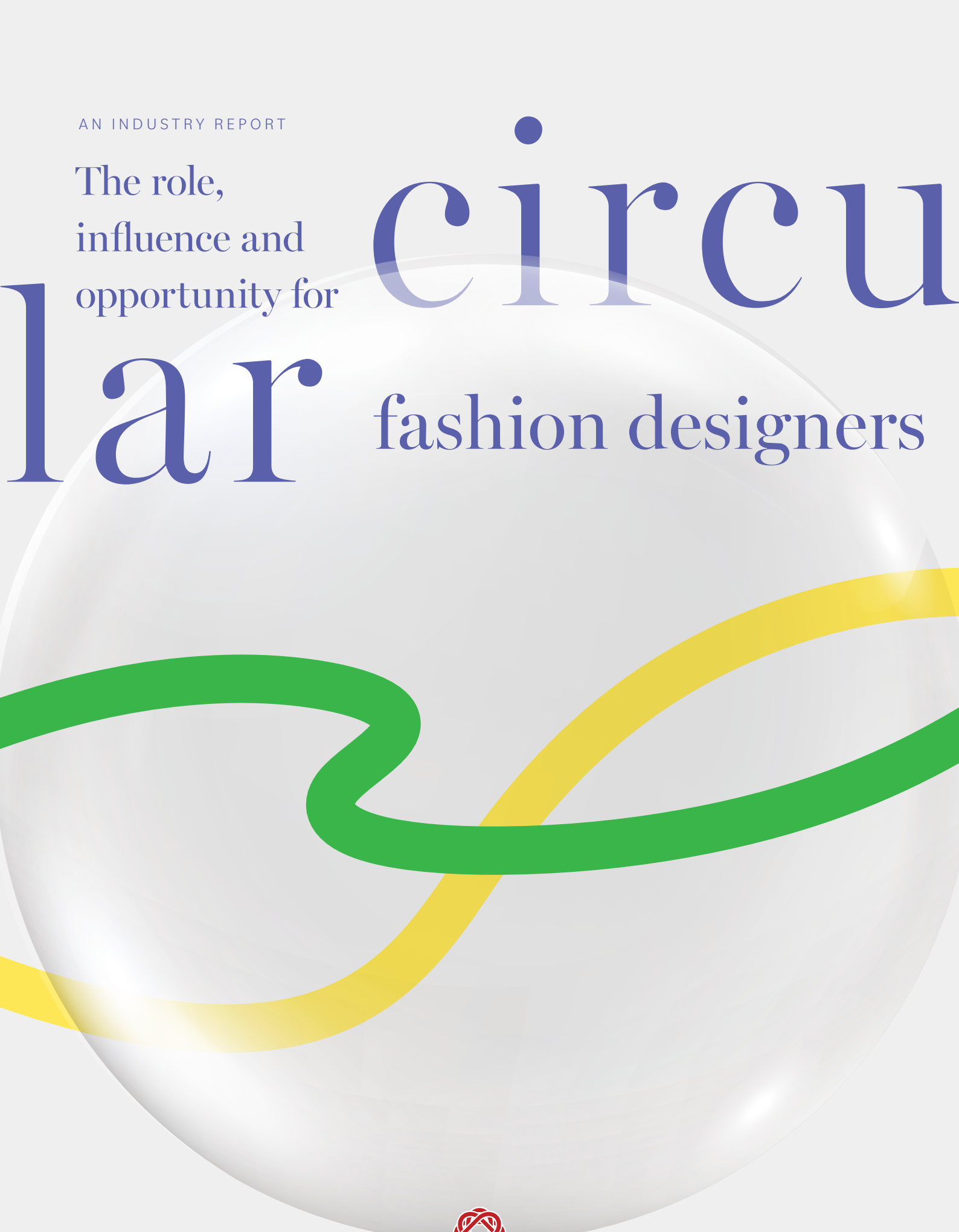
AN INDUSTRY REPORT

The role, influence and opportunity for circular fashion designers



REDRESS

THE VF FOUNDATION

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Executive Summary

Fashion is one of the world's most polluting industries. Approximately 100 billion apparel items are produced per year, representing a 50% increase since 2006, with the majority of clothing being landfilled or burned within one year of production.[1] The fashion industry currently contributes up to 10% of global CO2[2] and on its current trajectory is projected to use 25% of the world's carbon budget by 2050.[3]

The current fashion industry's linear 'take-make-dispose' system poses a significant environmental threat. The industry must transition to a circular fashion system, which takes into account the entire life cycle of a product, reusing resources so that nothing goes to waste. Currently, this transition is slow and insignificant. Less than 1% of material used to produce clothing is recycled into new clothing.[4]

Much work is needed to transition to a circular fashion system, including transforming the fashion design stage.[5] It is estimated that 80% of a product's environmental impact is influenced by decisions made at the design stage. Therefore, industry needs to recognise and support the role, influence, and opportunity for fashion designers and design teams to become better informed and empowered decision-makers at the critical design stage to drive the circular fashion industry.

Redress, the Asia-focused NGO educating and empowering the fashion industry and consumers to reduce clothing's negative environmental impact by shifting to circular solutions, conducted this research to understand the barriers of implementing circularity at the design stage for fashion companies manufacturing in China and Southeast Asia, which accounts for approximately 60% of global exports of garments, textiles, and footwear[6]; identify opportunities to support design teams in driving the transition to a circular model; and provide the industry with recommendations to inform greatest areas of opportunity for impact.

The research included literature reviews and a survey (conducted in May 2023) which was answered by 195 fashion professionals from 36 countries, ranging from 1–20+ years of experience, working within the fashion industry, such as fashion designers, creative directors, product developers, merchandisers, consultants, and freelance designers. Forty individuals also provided qualitative data through a combination of individual interviews and small focus groups conducted in English and Chinese (June 2023). These included fashion professionals working within both small and established companies producing apparel for the European, Chinese, and Southeast Asian markets, along with five educators specialising in design and sustainability.

[1]UBS - $2.5trn industry at risk - What if consumers stop buying disposable clothes

[2]UNFCCC (2018), UN Helps Fashion Industry Shift to Low Carbon

[3]World Bank (2019)

[4]Ellen MacArthur Foundation (2017), A New Textiles Economy. Retrieved from ellenmacarthurfoundation.org/a-new-textiles-economy

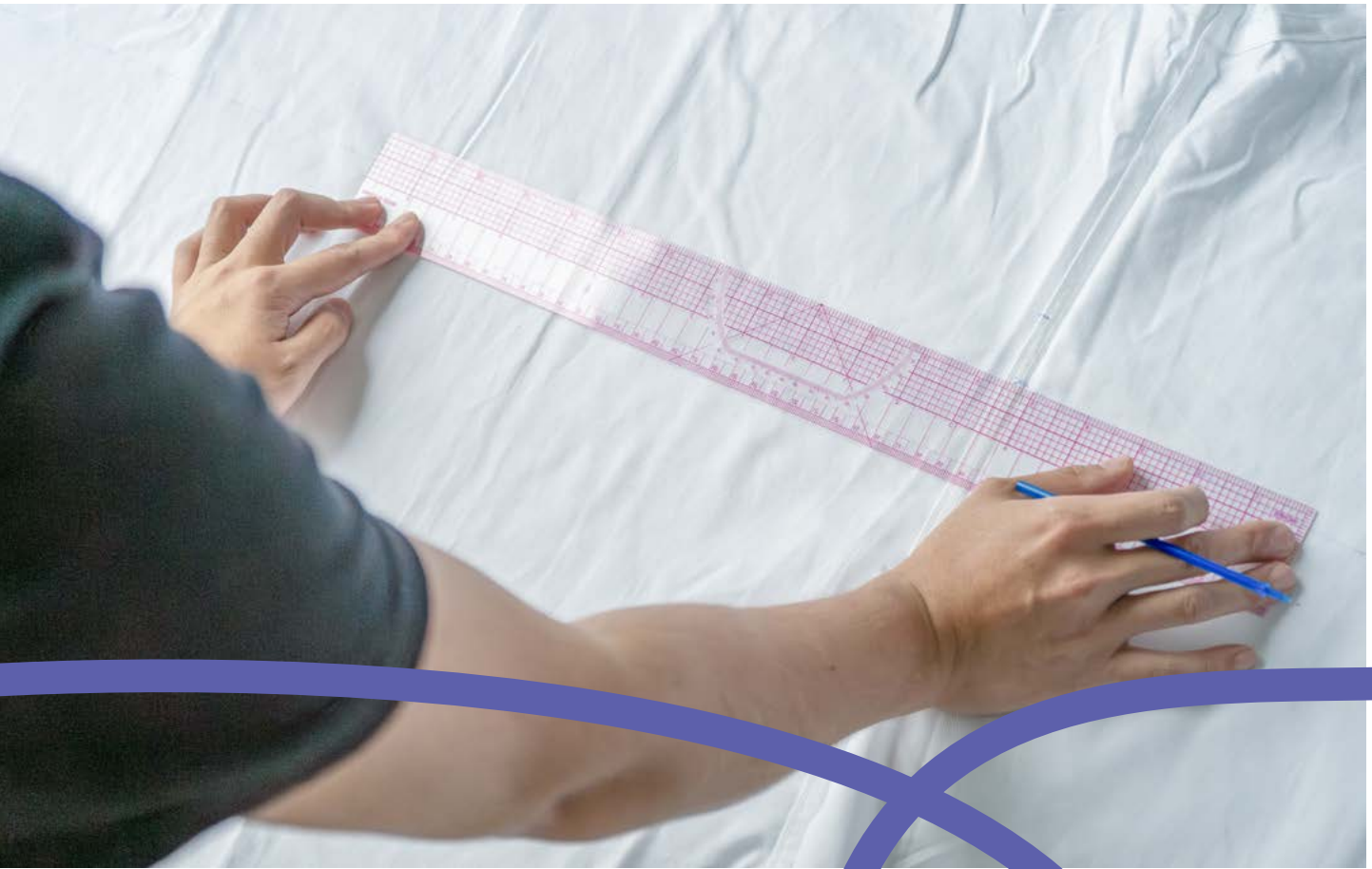
[5]EU Science Hub (2018): Sustainable Product Policy

[6]International Labour Organization (2022) Greening the Sector

The key findings of the study included the following:

- There is a circular design knowledge gap, with 79% of all respondents agreeing, either somewhat or strongly, that implementing circular design poses challenges;
- There is a financial barrier for circular design, with 71% of all respondents saying that cost is a resistance factor when choosing materials to reduce environmental impacts; and
- There is lack of commitment and collaboration from top management, as illustrated by this comment from an interviewee: "The progress towards sustainability is ongoing and requires a top-down approach, where senior management sets policies and goals, followed by cascading objectives at lower levels."

This industry report is not without limitations: the current sample size may limit the degree of representativeness of the population data. Therefore, future studies could consider expanding online and offline channels and increasing the sample size. The report is also limited in its ability to provide an unbiased and fair view of the impact and barriers of these stakeholders in creating circular fashion products. The results may be influenced by the opinions of specific stakeholders, and readers should exercise caution when interpreting them.



Based on our findings, our key recommendations include the following:

Close the Knowledge Gap: Education and Capacity Building

- Build the foundation of "sustainability literacy" starting from universities by integrating related topics into education curricula
- Implement training programmes and cross-divisional sharing sessions to upskill and reskill designers in acquiring additional technical, business, and sustainability knowledge
- Emphasise the importance of accurate and honest knowledge-sharing between design teams and fabric suppliers to facilitate more sustainable material sourcing

Readdress Financial Barriers

- Promote longer-term investments by larger companies in sustainable materials to increase availability and supply and to drive down material costs for all
- Reposition profit margins and reallocate resources for strategic integration of sustainability and circularity into product design
- Invest into digital design tools to reduce burden on fashion practitioners, allowing them the additional capacity to creatively implement circular practices

Create a more collaborative and supportive working structure

- Unite the entire organisation towards a common sustainability and circularity goal
- Promote top-down facilitation of cross-divisional decision-making
- Give sustainability leads more resources and empowerment to influence senior leadership

While the value of a circular system is widely acknowledged, the successful implementation of circular practices requires supportive organisations and knowledgeable designers working collaboratively. Without adequate support, designers may struggle to exercise their influence, even with the right knowledge — and will not be able to meet their potential in driving the transition to a circular system for fashion.

Background and the Case for Circularity

Fashion's environmental issues are getting worse

The fashion industry globally is an estimated $2.5 trillion annual business, or approximately 3% of global GDP.[7] Fashion is one of the world's most polluting industries. Approximately 100 billion apparel items are produced per year, representing a 50% increase since 2006, with the majority of clothing being landfilled or burned within one year of production.[1] Every second, the equivalent of one garbage truck of textiles is landfilled or burned.[8] An estimated 92 million tons of textile waste is created annually from the fashion industry.[9] The fashion industry contributes up to 10% of worldwide carbon emissions, consuming more energy than both the aviation and shipping industries combined.[10]

It's getting worse: Global apparel and footwear consumption may rise by 63% in 2030.[11] Textile waste is estimated to surge by about 60% between 2015 and 2030, with an additional 57 million tons of waste being generated annually, reaching an annual total of 148 million tons, which is equivalent to annual waste of 17.5kg per capita across the planet.[9] On the current trajectory, the fashion industry is projected to use 26% of the world's carbon budget by 2050.[12]

Consequently, our planet faces unparalleled challenges of climate change and environmental degradation, causing extreme weather to become more frequent and intense.

The urgency of this issue is underscored by projections that we are on track to exceed the 1.5°C climate threshold within this decade.[13] To prevent an irrevocable shift in our planet's climate, sweeping and immediate changes are imperative. As a key player in the global economy, the multi-billion-dollar fashion industry must also participate in this transformative shift.

Transformational shift is necessary. Linear fashion must become circular.

The global fashion industry's conventional linear ('take-make-dispose') model is a significant environmental threat. We must transition to a circular fashion system, the system that takes into account the entire life cycle of a product and its impact on the planet where resources are used and nothing goes to waste.

However, the transition towards a circular economy is progressing more slowly than anticipated. In the fashion industry, less than 1% of material used to produce clothing is recycled into new clothing.[4] During the Copenhagen Fashion Summit 2017, 90 companies, representing only 12.5% of the global fashion market, have signed and committed to focus on four key areas of circular fashion.[9]

[7] Euromonitor International. (2023). Apparel and Footwear. Retrieved from www.euromonitor.com/search?term=World+Market+for+Apparel+and+Footwear

[8] Ellen MacArthur Foundation. (n.d.). Redesigning the future of fashion. Retrieved from ellenmacarthurfoundation.org/topics/fashion/overview

[9] Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry. Retrieved from www.globalfashionagenda.com/publications-and-policy/pulse-of-the-industry

[10] European Parliament. (2021). The impact of textile production and waste on the environment. Brussels: European Parliament.

[11] European Environment Agency (EEA). (2019). Textiles and the environment in a circular economy.

[12] Ellen MacArthur Foundation. (2017). Fashion and the circular economy. Deep dive.

[13] World Meteorological Organisation (2023), Global temperatures set to reach new records in next five years. Retrieved from public.wmo.int/en/media/press-release/global-temperatures-set-reach-new-records-next-five-years

For the fashion world, circular business models present an opportunity to protect the environment with the reduction of greenhouse gas emissions by approximately 25%.[14] In capturing the opportunity, sustainable and circular fashion business models are estimated to grow from 3.5% of the global fashion market to 23% by 2030, potentially amounting to $700 billion in market share.[15]

Unfortunately, in circular fashion transformation, fashion stakeholders are not innovating fast enough, in part due to lack of financial investment. According to Fashion for Good, for the fashion industry to achieve a step change in sustainability through innovation by 2030, the fashion industry needs $20–30 billion of financing per year to develop and commercialise disruptive solutions and business models that will meet shifting consumer preferences and regulatory pressures. Of this, nearly half of the financing opportunity lies at the beginning and end of the value chain, where raw materials and end-of-use solutions (reuse and recycling) have the highest impact potential.[16]

According to financial analysts, there is an urgent investment need in fashion circularity and the longer-term theme of a circular economy. Reallocation of resources and training may be warranted to deliver the supply chain of the future. The workforce would require upskilling and reskilling, especially in textile-dependent markets. Investing in R&D specific to circularity—from recycling to new materials—would help maintain competitiveness beyond costs.[17]

Fashion designers and the design stage plays a vital role in transformation.

It is estimated that 80% of a product's environmental impact is determined at the design stage.[5] As the industry begins to embrace circularity, designers are positioned as the key decision-makers in driving the paradigm shift towards a circular fashion industry. Thus, they must clearly define their role, influence, and opportunity to align with this trend.

From emerging designers with small start-ups to experienced designers in large established companies, fashion designers at all levels have the potential to contribute to the move towards circularity. In order to understand where designers can maximise their role to reduce environmental impact, we first need to understand what the design stage is and who is involved in the decision-making process to expose both barriers and opportunities to embed circularity in products.

[14] McKinsey & Company and Global Fashion Agenda. (2020). Fashion on Climate
[15] Ellen MacArthur Foundation. (2021). Circular Business Models - Redefining Growth for a Thriving Fashion Industry
[16] Fashion for Good and Boston Consulting Group (2020). Financing the Transformation
[17] UBS Insights (2023), Perspectives: Fashion industry change. Retrieved from: www.ubs.com/global/en/wealth-management/insights/chief-investment-office/sustainable-investing/2022/sustainable-investing-perspectives.html

Focusing on Asia

Asia is grappling with a significant waste crisis, compounded by its growing dominance in the global fashion market. In fact, Greater China was projected to surpass the United States as the world's largest fashion market in 2019.[18] In addition, between 2015 and 2022, China, the European Union, Bangladesh, Turkey, Vietnam, and India maintained their positions as the world's largest clothing exporters in terms of value.[19] Notably, Asia is responsible for approximately 60% of global exports in garments, textiles, and footwear.[20]

External converging factors — regulation and consumers — are weighing in

Regulation looming:

To keep driving the momentum of sustainable development, globally various regulatory bodies are taking concrete actions to promote change. In March 2022, the European Union (EU) introduced the new EU Strategy for Sustainable and Circular Textiles, which targets the entire lifecycle of textile products through initiatives like the Circular Economy Action Plan (CEAP) and The European Green Deal. This strategy aims to establish a coherent framework to address the overproduction crisis and the associated environmental and social problems. By 2030, the goal is for textile products traded within the EU to be durable and recyclable, predominantly composed of recycled fibres, free of hazardous substances, and manufactured with social rights and environmental awareness.[21]

These new regulations, and those that will inevitably follow, will have an indelible impact on the apparel supply chain in Asia, where 70% of the EU's textiles are made.[17] As the industry moves forward, fashion companies can anticipate increased regulatory risks and heightened public scrutiny related to sustainability and circularity.

Consumers wanting change:

Consumers everywhere are increasingly sustainability-conscious. Fashion choices extend beyond aesthetics and comfort — they are becoming a reflection of individual values and beliefs. More consumers seek fashion items labelled as "sustainable" or "circular", and are prepared to pay a premium for such products.[22] Nearly all consumers (98%) believe that brands should contribute positively to the world.[23]

[18] McKinsey & Company and the Business of Fashion (BoF). (2019). State of Fashion 2019 report.

[19] Dr. Sheng Lu. (2015). Global Apparel & Textile Trade and Sourcing

[20] International Labour Organisation (2021). Greener clothes? Environmental initiatives and tools in the garment sector in Asia. Retrieved from www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_800026.pdf

[21] European Commission. (2022). EU Strategy for Sustainable and Circular Textiles. Retrieved from environment.ec.europa.eu/strategy/textiles-strategy_en

[22] Ciasullo, M., Maione, G., Torre, C., & Troisi, O. (2017). What about Sustainability? An Empirical Analysis of Consumers' Purchasing Behavior in Fashion Context. Sustainability (Basel, Switzerland), 9(9), 1617–. doi.org/10.3390/su9091617

[23] Futerra Consumer research. (2019). The honest generation are here. Are you ready?

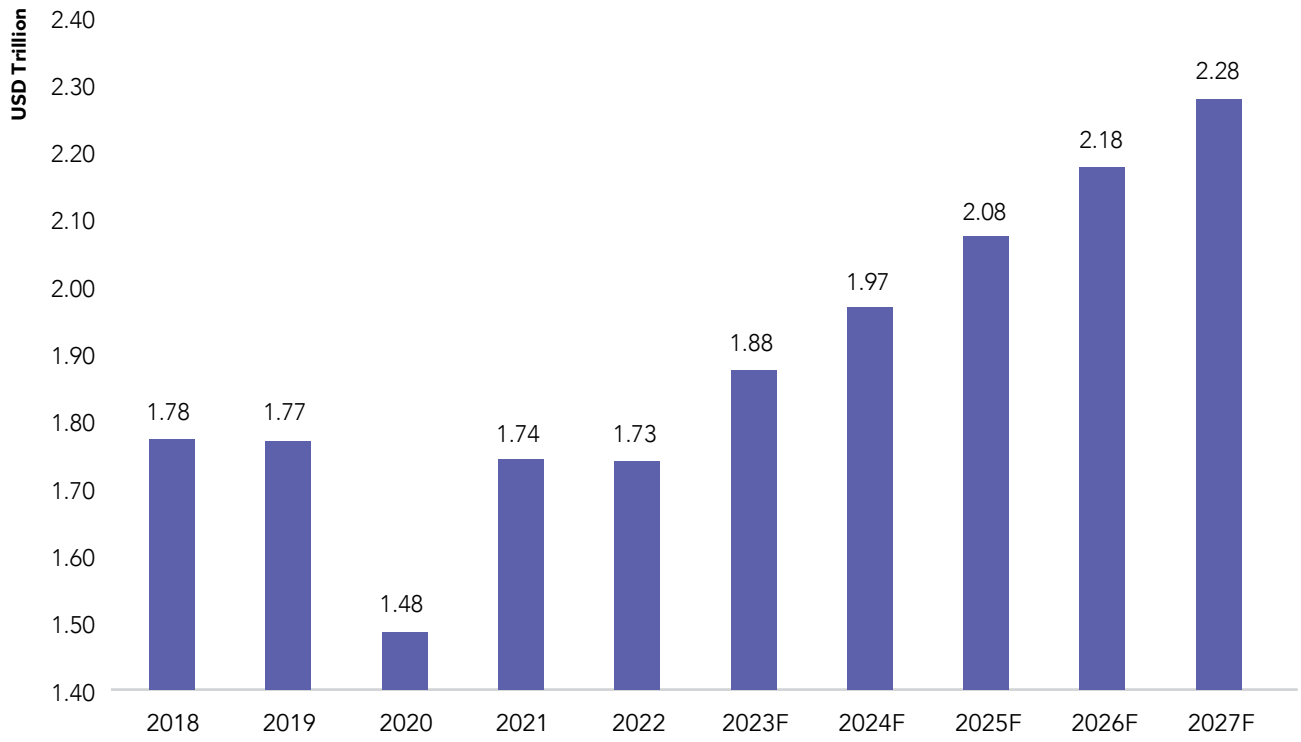
Purpose of this Report

With this research, Redress sought to address a gap in publicly available information on the topic of implementing circularity in the fashion industry, and specifically at the design stage in Asia.

Focusing on the global manufacturing hotspots of China and Southeast Asia, we set out to better understand the barriers of implementing circularity within the design stage for fashion companies producing in the region; identify opportunities to support design teams in driving the transition to a circular model; and provide the industry with key findings and recommendations for greatest areas of opportunity for impact.

For Redress, as an Asia-focused NGO working to educate and empower the fashion industry and consumers to reduce clothing's negative environmental impact by shifting to circular solutions, the research results inform our strategy and greatest opportunity areas for impact.

Global Apparel and Footwear Market (2018-2027F)



Defining Circularity and the Design Stage

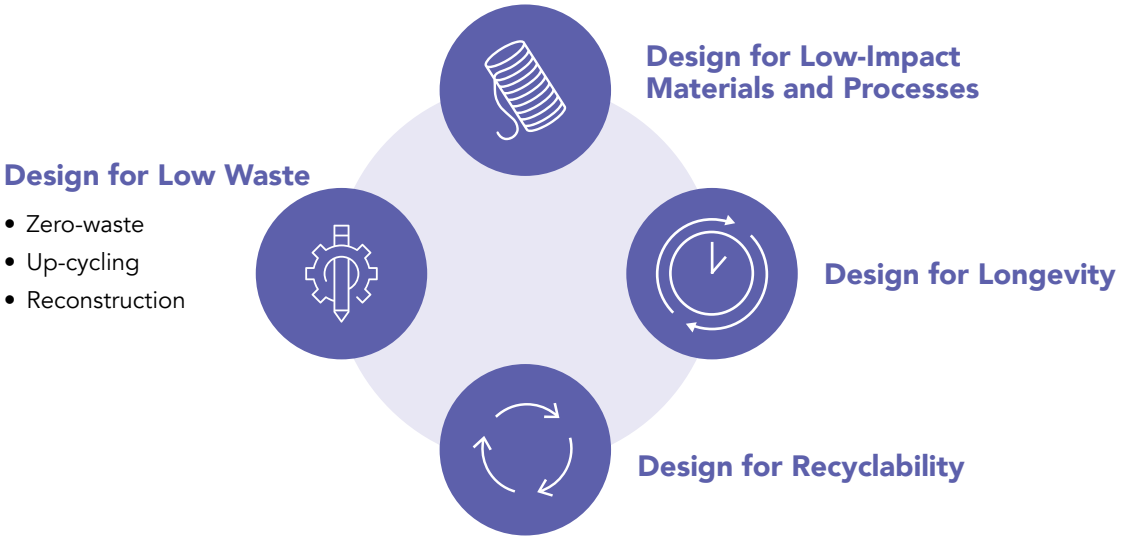
The terms "sustainability" and "circularity" are interrelated but not synonymous.

"**Sustainability**" is a broader concept that encompasses environmental, social, and economic considerations. With an aim to meet present needs while ensuring the ability of future generations to meet theirs, it strives to avoid natural resource depletion (planet), prevent worker exploitation (people), and provide economic benefits (profit).

"**Circularity**", on the other hand, specifically focuses on the environmental aspect of sustainability. It offers a model that takes into account the entire life cycle of a product and its impact on the planet. Instead of a traditionally linear production and consumption model — where finite resources are taken from nature to make products, that are then used for a period of time, and finally disposed of as waste — a circular system operates in a closed loop, where materials and resources are reused, recycled, or regenerated, minimising waste and promoting continuous use. It takes a "cradle-to-cradle" approach, meaning products are designed with the intention of being part of a perpetual cycle, where they can be continuously repurposed or returned as a resource for something else.

With extensive ways to embrace circularity in fashion, circular practices could potentially be applied to every design stage, including material sourcing, pattern design, manufacturing, and post-use recycling. It requires the active involvement of all stakeholders across the whole organisation, and even investors and consumers. Nevertheless, designers play a potentially crucial role in driving circularity as they are well-positioned to identify issues and address them early in the production cycle through their designs.

At Redress, we advocate four core circular design strategies to guide emerging fashion designers to reduce their environmental impact:



Design for Low Waste:
to tackle the waste issue at source

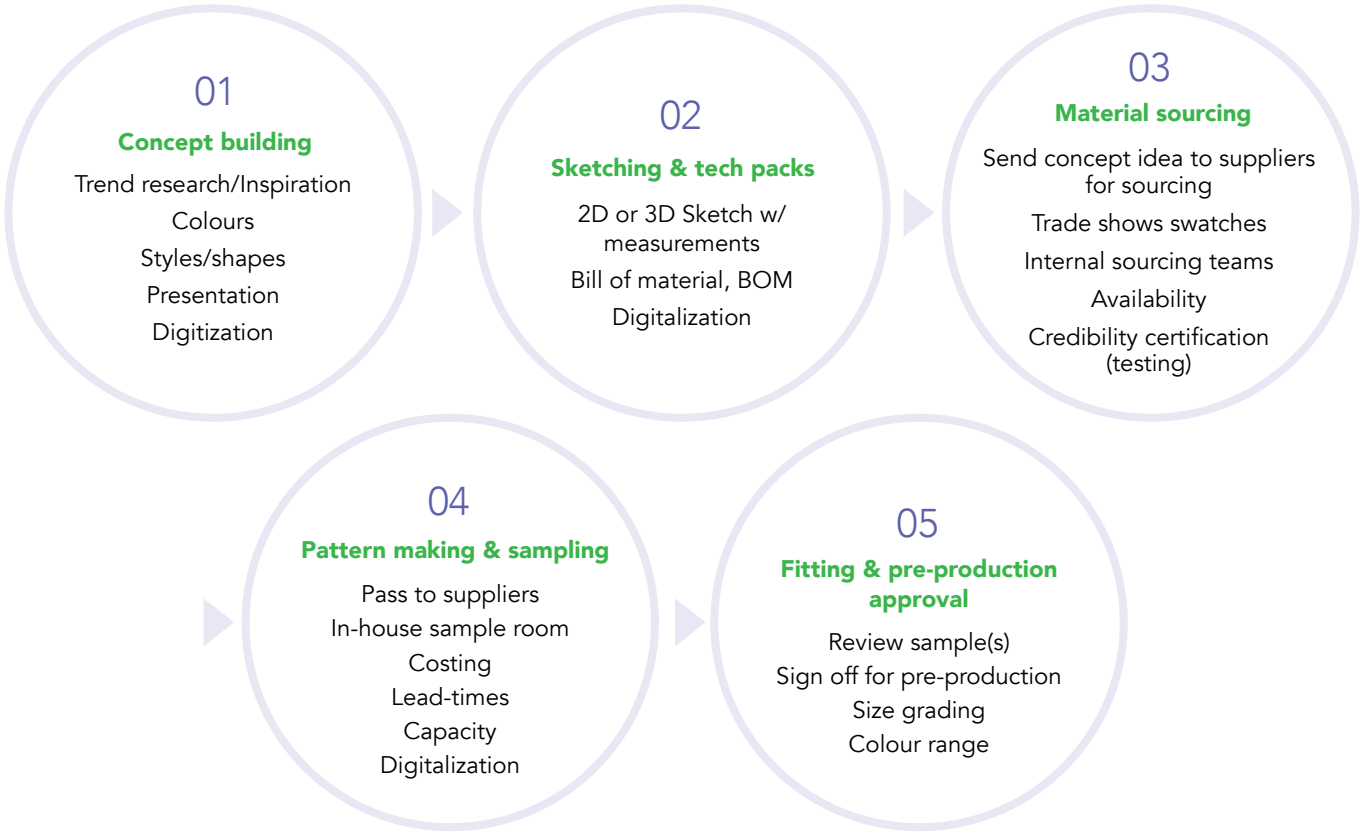
Design for Low-Impact Materials and Processes:
to eliminate negative impacts such as pollution

Design for Longevity:
to extend the lifespan of garments

Design for Recyclability:
to ensure valuable resources never become "waste"

Defining Design Stage and the Role of the Designer

The design concept is an essential part of the fashion design process, where designers create the initial concept and vision for their fashion collection. The design stage is critical to the success of a fashion collection, as it sets the tone and direction for the entire process. Designers must balance creativity with practical considerations, such as cost, manufacturing requirements, and target market preferences.



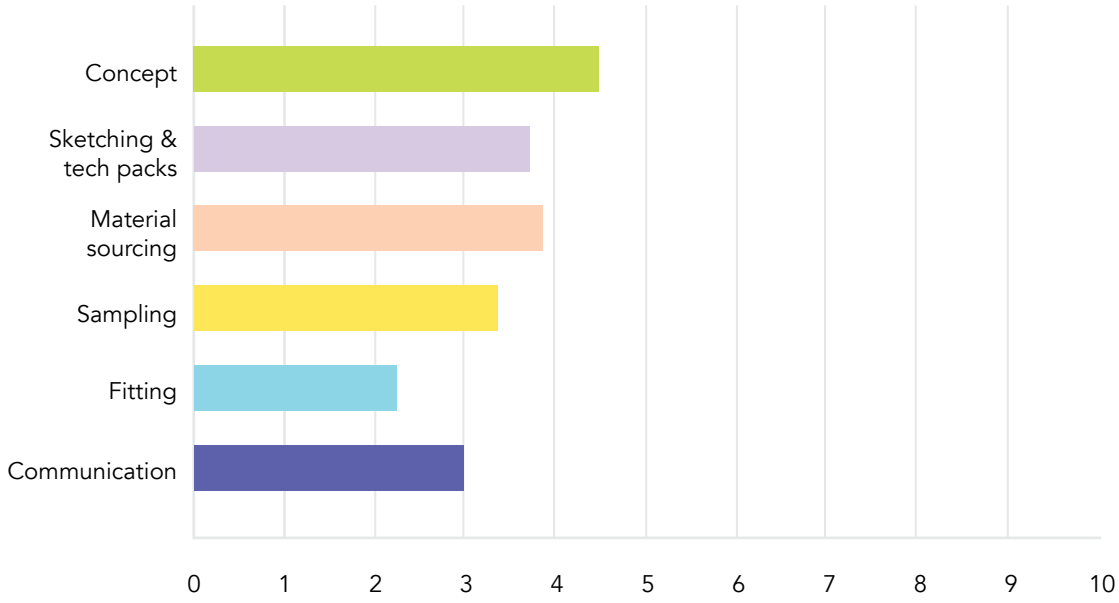
In order to support the role of designers in accelerating circular fashion, we must first understand the processes at the design stage. The flow chart above demonstrates the design procedures, which emphasises how fashion designs are established from ideation to patterns that can be produced at scale. Even though each step may slightly differ from company to company, and particularly between start-ups and large brands, the overall design stage can still be categorised into five key steps.

Starting with concept building, research needs to be undertaken at this stage to determine the colours, prints, styles, silhouettes, and trends that will influence the designer's inspiration. Presentations are then given to in-house creative directors, buyers, fabric sourcers, merchandisers, and sales to settle the final concept and theme. The next procedure would be sketching design ideas and creating the designed garment tech packs, which include 2D or 3D sketches with measurements and Bill of Material (BOM). After this stage, pattern and fabric technicians get involved. Material sourcing can be handled in-house through procurement or sourcing departments, but is also heavily outsourced through suppliers who may have their own in-house development, source through trade relationships, seasonal shows, and availability on the open market. Third-party certification of the material, such as OEKO-TEX, RWS, BLUESIGN, or GRS may be requested according to the needs of the brand.

Once the material is decided and available, a pattern is created and a sample of the garment is made in order to check the workmanship and quality, which in turn can determine the cost, lead time, and other factors. Finally, after the samples are reviewed and approved, the design reaches its final stage: fitting and pre-production approval. Size grading and colour range is also decided at this stage.

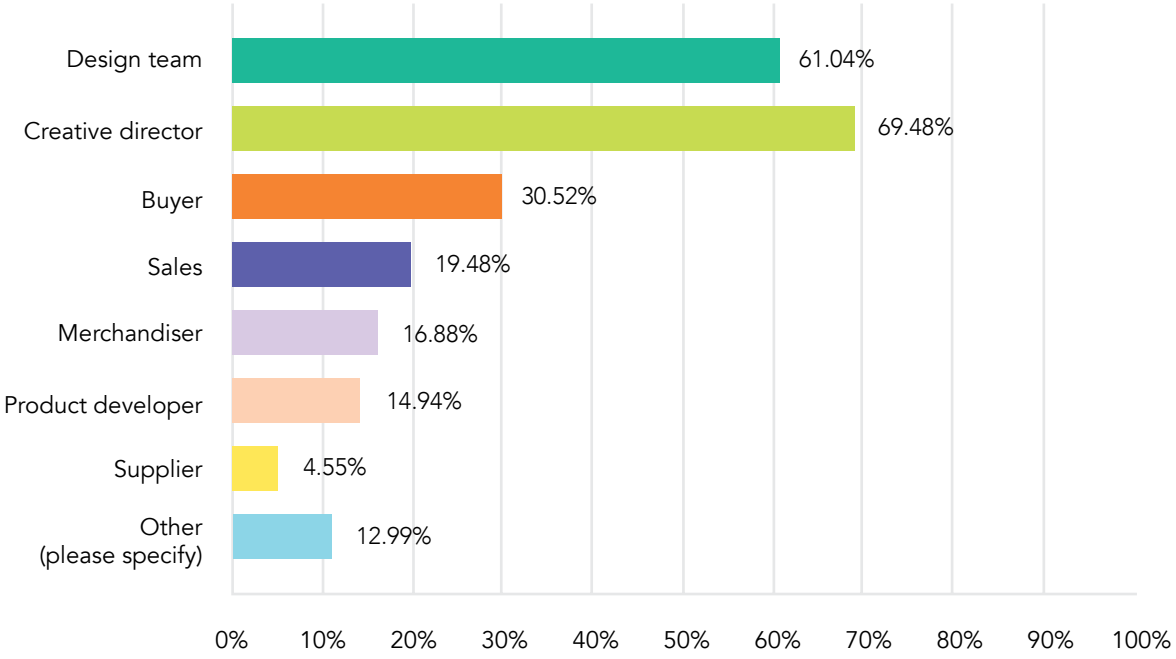
While fashion designers are involved in every step of the design stage, they spend most of their time on concept building, sketching, creating tech packs, material sourcing, and sampling. With the development of new technologies, digitalisation is increasingly part of the design stage, especially for applications at the stages of concept building, sketching, tech pack development, pattern-making, and sampling.

Across the design stage, which of the following occupies the majority of your time?



Concept building is an essential part of the fashion design process, where designers create the initial concept and vision for their fashion collection. The design stage is critical to the success of a fashion collection, as it sets the tone and direction for the entire process. However, it is essential to recognise the gap between designers and the other factors and participants in the design stage. Designers must balance creativity with practical considerations such as cost, manufacturing requirements, and target market preferences. Designers may create the garment design, but the final approval is typically a collective decision resulting from the myriad of decisions made across the design team. That involves any number of players including the creative director, product developer, buyer, procurement, pattern cutter, technician, merchandiser, and sales.

Who is involved for the final decision for the concept creation?



The results show that designers play a vital role, from building the concept to colour, mood, trends, and pre-production approval. Their responses also indicate that a significant number of decisions are made by non-design management. These observations reveal a distinct gap in the current decision-making processes.

Methodology and Limitations

I. Methodology

The focus of this industry report is particularly on Asia, which accounts for approximately 60% of global exports of garments, textiles, and footwear[18], with the aim of gathering a holistic view of the challenges and opportunities in pursuing circularity at the design stage. We conducted a review of relevant market literature to identify the purpose and key problem areas we wanted this research to focus on, and also conducted quantitative and qualitative interviews. The entire research process consisted of seven key stages as shown in the diagram below.

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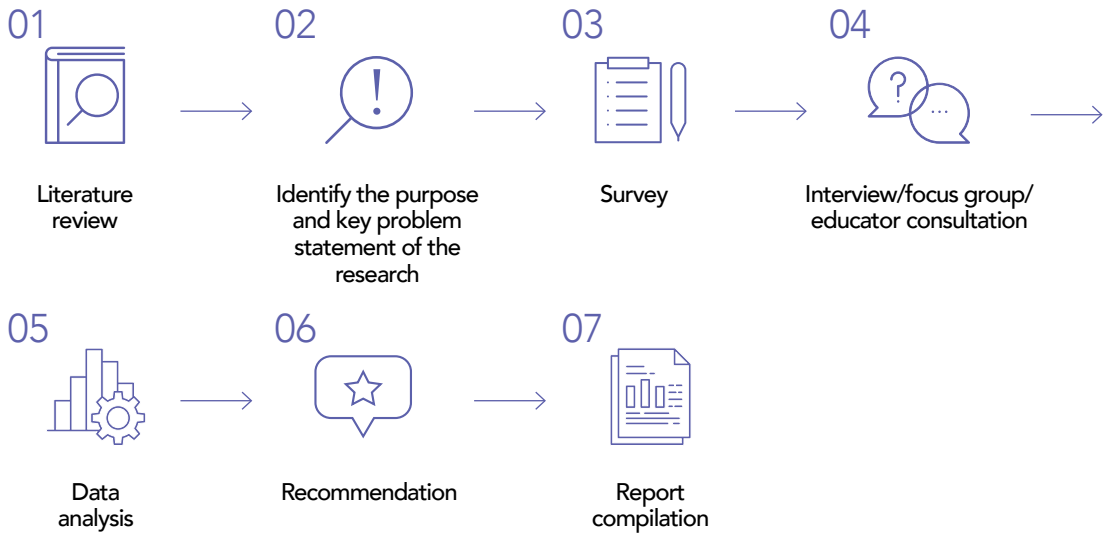


To investigate the decision-making challenges and opportunities faced by fashion designers at the design stage, online surveys were distributed in May 2023 targeting designers who work with companies manufacturing in China and Southeast Asia (SEA). A total of 195 fashion professionals from 36 countries working within the design stage responded to the survey, representing a mix of fashion designers, creative directors, product developers, merchandisers, consultants, and freelance designers. The majority of respondents (166) participated in the English survey, while 19 and 10 respondents completed the Traditional Chinese and Simplified Chinese surveys, respectively. Respondents currently work in micro companies (46% work with less than 10 people) to established companies (23% work with more than 250 people) and have a range from 1–20+ years of experience working in the fashion industry. Represented professionals primarily worked in Hong Kong, China, India, the United Kingdom, the United States, the Philippines, Singapore, Australia, and Bangladesh, working with suppliers in China and Southeast Asia for production.

Apart from surveying fashion designers, separate rounds of interviews, focus groups, and educator consultations were also conducted with fashion professionals from various disciplines to deepen our understanding of the circularity efforts of industry players as well as their perspectives on driving circularity in fashion. Starting in June 2023, our team interviewed 40 fashion professionals working within companies producing apparel for the European, Chinese, and Southeast Asian markets, along with 5 educators specialising in design and sustainability.

II. Limitations

While the research covers a wide variety of participants from the fashion industry, it is limited in its ability to provide an unbiased and fair view of the impact and barriers of these stakeholders in creating circular fashion products. The findings of this pilot study offer groundbreaking insights into integrating circularity at the design stage. However, the results may be influenced by the opinions of specific stakeholders, and readers should exercise caution when interpreting them.

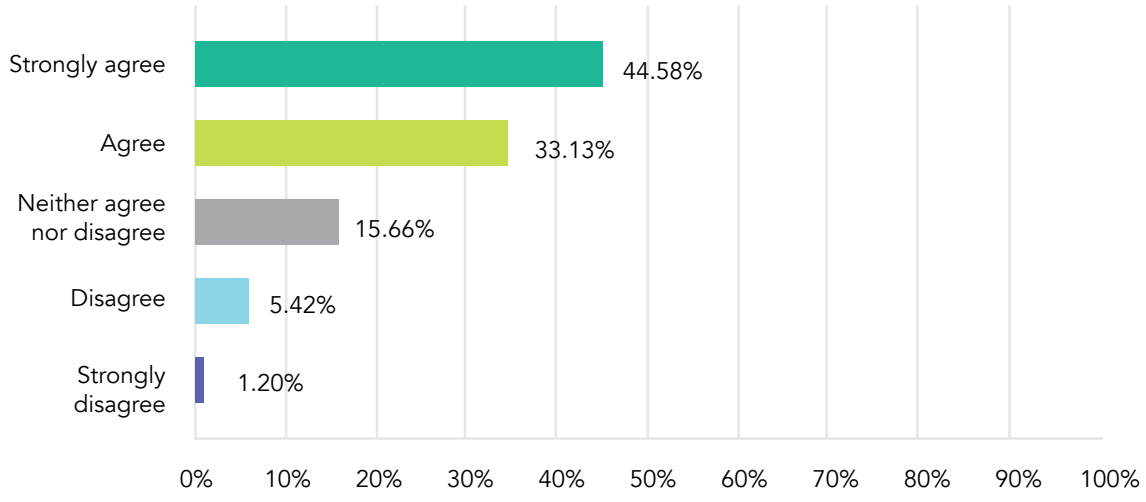
Specifically, the Redress team distributed an online survey through social media channels and emails to their network over a two-month period to capture the perspectives of a wide range of fashion design professionals. This introduces the possibility of frame coverage bias, as the sampling may exclude designers who do not have access to these online channels.

Another limitation lies in how the survey questions were designed to reach a wide range of respondents, resulting in responses that may not be detailed or offer conclusive evidence in some cases.

Additionally, while the survey had a broad geographical reach, the current sample size may limit the degree of representation of the population. Therefore, future studies could consider more detailed surveys, expanding both online and offline channels, and increasing the sample size to reduce the margin of error in such research.

A noteworthy 78% of respondents in the survey, including designers, merchandisers, and product developers, expressed their agreement and strong desire for increased responsibilities at the design stage. However, examining the extent of responsibility and influence of fashion designers during the design stages, conducting a more in-depth investigation into designers' specific responsibilities and identifying the key barriers to achieving circularity would be valuable. This investigation could encompass factors such as consumer demand, corporate culture, policy, and risk management. By conducting this deeper analysis in the future, the team can ameliorate the preliminary recommendations from this report to address the challenge of circularity more holistically and formulate targeted recommendations to address these challenges effectively.

To what extent do you agree with the following statement?
I want more responsibility for decision making across the design stages.



Some reasons given from global survey

"To work for a commercial brand, profit and sales always come in first priority when decision making, especially retail in China, where there is relatively lower priority on environment."

"Too much decision making by non-design management."

"Because it feels like the responsibility of the designer to ensure the product caters to the brand's, society's, and user's requirements across all life stages."

"Several higher roles have influenced the design path, which derails the whole supply chain. Giving back responsibility and accountability to the designers would reinforce sustainability. At present, sustainability is a sales tool and cannot be sustained for much longer."

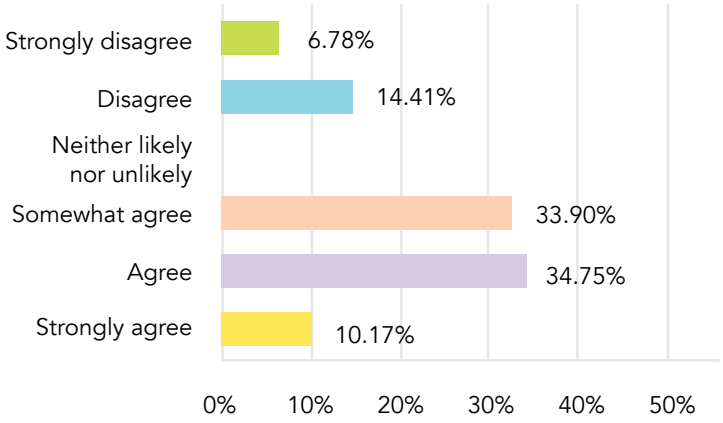
"As an assistant/trainee, my opinions are usually ignored. Managers/ heads of departments usually get final say, and their decisions are usually financially better, but not always better in quality or sustainability."

"For now, price is ALWAYS the winning factor in decision making. The buyers are not up to date with the latest knowledge on circular garment making. The management have not yet understood the importance of investing in producing circular garments. We need legislation change from the EU, etc."

Results:
Barriers
for Circular Design

While circular design seems to have gained traction among designers in recent years, its implementation is not as straightforward as it may appear. Achieving circular fashion design requires collective effort, not only from colleagues working within the design stage or their company, but as a radical transformation within fashion companies and systems. Our survey reveals that 79% of fashion professionals agree, either somewhat or strongly, that implementing circular design poses challenges. Within the complex organisational structure of the fashion industry, fashion designers face additional hurdles in embracing circularity, as their decision-making is often hindered by different external and internal barriers.

To what extent do you agree, or disagree with the following statement?
I find implementing circular design challenging.



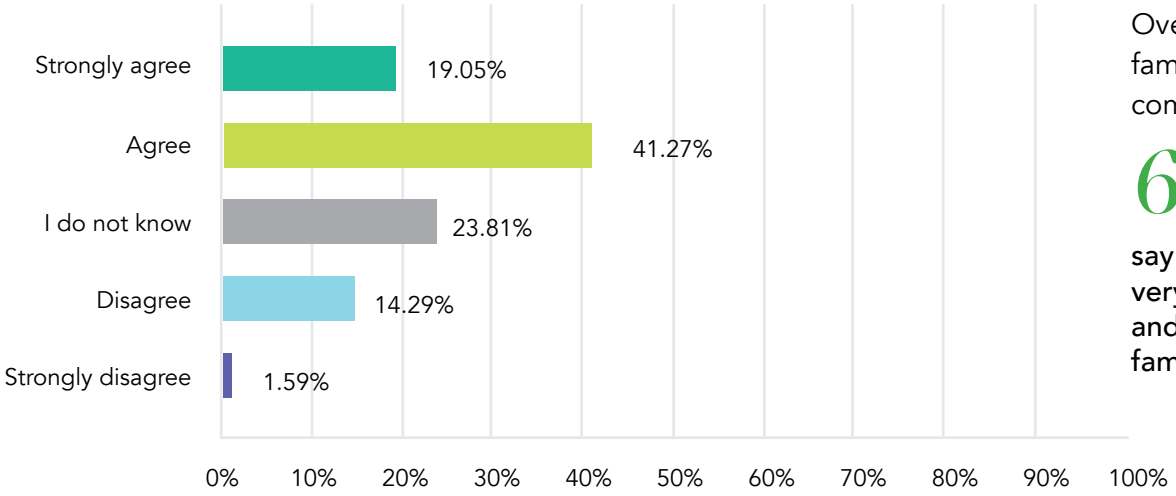
These figures are for respondents from the global survey

I. Circular Design Knowledge Gap

In the fast-changing fashion industry, where new trends and technologies emerge constantly, it is vital for fashion designers to stay abreast of the market. However, the traditional academic curriculum for fashion design primarily focuses on "catwalk designer" creativity and concepts, often neglecting essential business, commercial, technical, and sustainability knowledge. This knowledge gap poses a significant challenge for the industry, and particularly for designers themselves, in promoting circularity in fashion products.

Of those quantitative survey respondents, 60% agree and strongly agree that they consider themselves circular designers, and 63% are very or extremely familiar with the sustainable or circular targets and policies in their respective workplaces. However, when qualitative interviewees were asked the same question, it is notable that there is a lack of understanding of what a circular model entails. Many are focused on wanting to 'reduce waste' and 'reduce pollution' with a heavy focus on 'more sustainable raw materials' as a solution, rather than speaking to a more holistic circular systems approach. Challenges mentioned are having no infrastructure, no expectation, no incentive, and no investment. These findings align with the observation of an educator who noted, "Designers seem to not know much about what 'circularity' is."

To what extent do you agree, or disagree with the following statement?
I consider myself a circular designer.

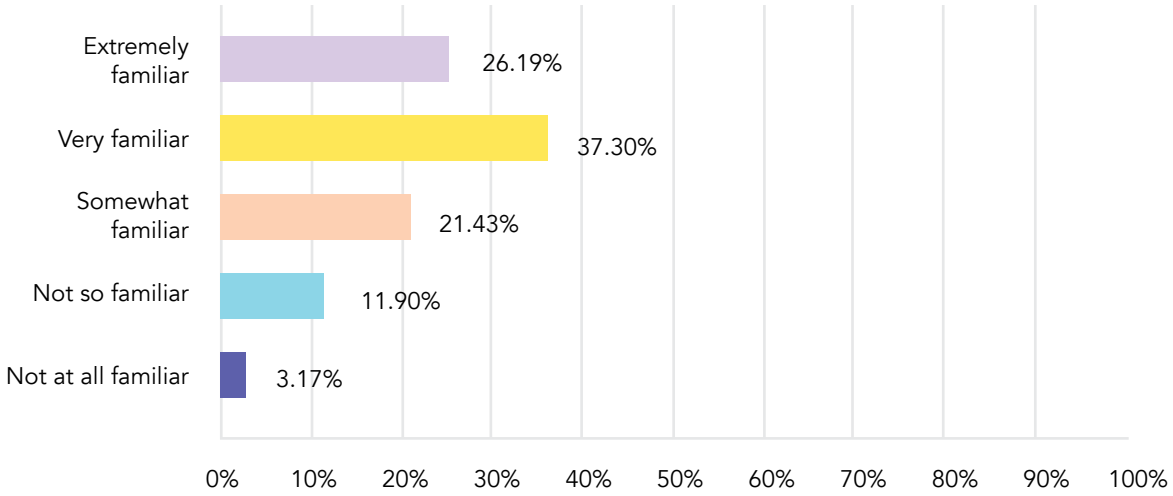


Overall, they are familiar with their company targets.

63%

say they are very familiar and extremely familiar.

Are you familiar with the sustainable/circular targets or policies at the company where you work as a designer?



This phenomenon can be attributed to the limited coverage of circularity, and even sustainability, in current fashion design training programmes in universities and workplaces. A design manager acknowledged this issue, stating, "Maybe I don't fully understand what [circularity] is? ...It was never in my training." While the prevailing fashion design educational offerings in the business and academic world emphasise creativity and innovation, topics of sustainability and circularity are far less represented.

II. Financial barrier

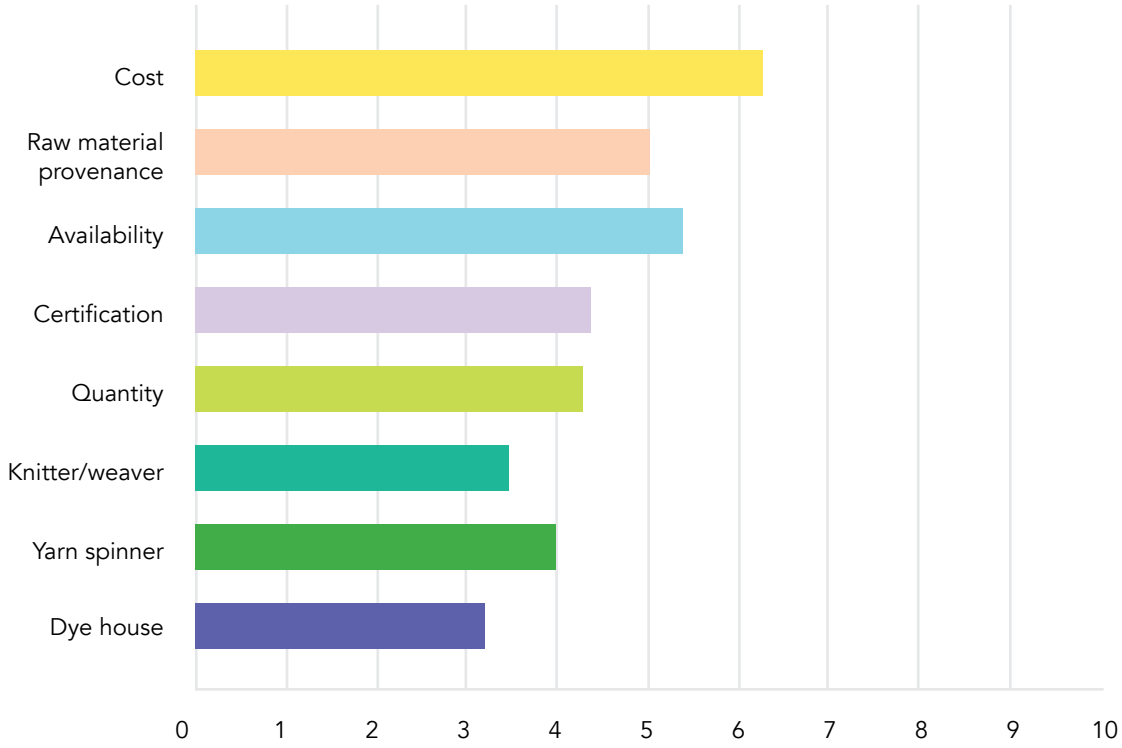
"The ability of designers to influence final decisions ultimately depends on the company's financial calculations and rules. Designers can try to discuss sustainable options with buyers, but the price point is usually the most important factor."

"To work for a commercial brand, profit and sales always come in first priority when decision making, especially with retail in China, where there is a relatively lower priority on environment."

- Educator

As the bottom line of business, driving profitability by increasing income and cutting costs is undoubtedly a top goal of fashion companies. While the top line is always influenced by external factors such as customer demand and market reaction, companies have greater control over cost management. Echoing that, an interviewed product merchandiser mentioned, "There are three most important factors for sourcing materials: speed, cost, and quality." Another interviewee emphasised, "If sustainable products cannot increase profits, then this chain will not continue to run." Consequently, fashion designers face immense pressure to minimise material costs when creating new fashion pieces.

When sourcing materials, which affects your decision making in the order of ranking?

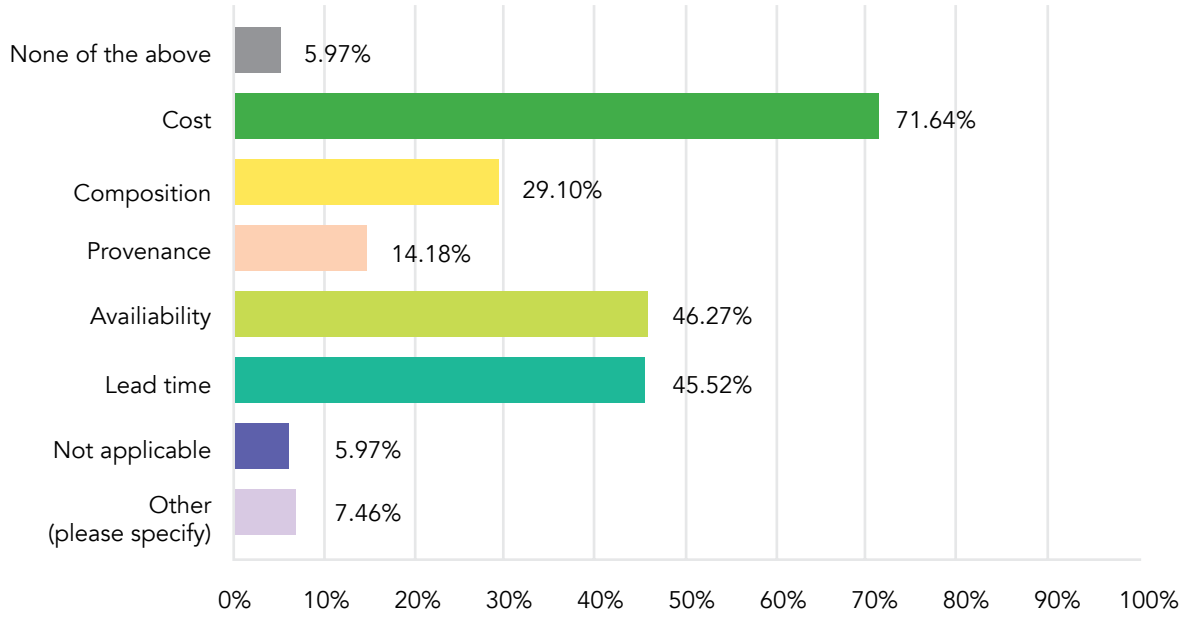


In a circular design model, material sourcing is one of the key stages where circular practices can be applied. While sustainable material sourcing has gained prominence on fashion businesses' agendas[24], challenges such as increased costs of sustainable raw materials and investment expenses hinder the effective development of sustainable sourcing and the adoption of circular practices.[25] Consistent with this fact, 71% of our surveyed fashion professionals believed that cost is a resistance factor for designers when choosing materials to reduce environmental impacts.

[24] Berg, A., Magnus, K.H. and Hedrich, S. (2019) Fashion's new must-have: Sustainable sourcing At Scale. Retrieved from: www.mckinsey.com/industries/retail/our-insights/fashions-new-must-have-sustainable-sourcing-at-scale

[25] Bhandari, N., Garza-Reyes, J. A., Rocha-Lona, L., Kumar, A., Naz, F., & Joshi, R. (2022). Barriers to sustainable sourcing in the apparel and fashion luxury industry. Sustainable Production and Consumption, 31, 220–235. doi.org/10.1016/j.spc.2022.02.007

For materials that are specifically chosen to reduce your environmental impact, do you receive resistance in any of the following:



"It is easier for designers to source unsustainable products from the local market. Additionally, suppliers may find it easier to provide non-recycled or non-organic materials."

- Supplier

Currently, the cost of sustainable fabrics is typically higher than that of conventional materials, particularly when certification and third-party monitoring expenses are factored in.[26,27] As an interviewed sustainability manager mentioned, "It is difficult to produce some high quality sustainable materials", as sustainable options can be expensive. For instance, natural fibres like silk are more costly compared to readily available, complex non-renewable garments comprising diverse polymers. Additionally, circular products often go beyond fabric choice and also consider ethical sourcing alternatives, which can lead to additional monitoring costs by third parties throughout the supply chain, further affecting the pricing of raw materials.

Furthermore, several circular practices involve reprocessing used fabric into raw materials. However, due to limited offerings of sustainable raw materials and recycling services in the market, the continuous implementation of circular design often necessitates brands' capital investment in research and development for new technologies, equipment, and certification.[24]

This increase in investment costs poses a hurdle for companies and designers when it comes to embedding circularity in their products.

[26] Guo, S., Choi, T.-M., & Shen, B. (2020). Green product development under competition: A study of the fashion apparel industry. European Journal of Operational Research, 280(2), 523–538. doi.org/10.1016/j.ejor.2019.07.050

[27] H. Wang, H. Liu, S.J. Kim, K.H. Kim. (2019). Sustainable fashion index model and its implication. J. Bus. Res., 99, pp. 430-437

III. Lack of collaboration and commitment from top management

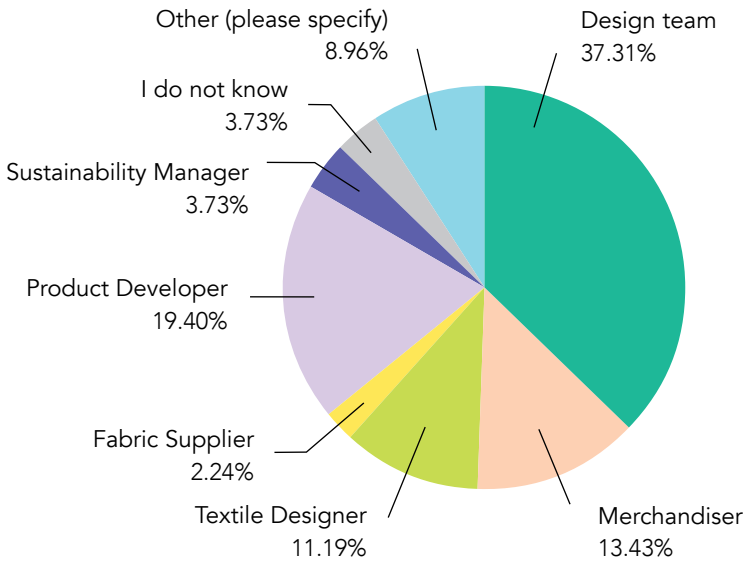
Company management plays a critical role in leading the way towards a more circular business model.[28] A fashion team project manager noted in her interview that "when it comes to implementing sustainable and circular practices, it is crucial for the top management to drive the initiative." She further added, "The industry as a whole, including middle management and operations, acknowledges the challenges of transitioning towards circularity and sustainability. The progress towards sustainability is ongoing and requires a top-down approach, where senior management sets policies and goals, followed by cascading objectives at lower levels." Engaging all stakeholders at the design stage is crucial to steering this change effectively.

Conversely, an organisation with a siloed structure, poor communication, and limited collaboration is destined to fail in driving circular practices. One particular example is that respondents felt that material sourcing could serve as a significant step towards circularity without necessarily realising that there are numerous stakeholders involved in that decision alone. However, interviewees highlighted that the lead time of communication can be a barrier that hinder the opportunities here, such as in sourcing suitable materials.

"I need to wait for the teammates to communicate with suppliers and also need to wait for factories to produce the fabric."

- Designer

Who has the final decision and/or most power, in material sourcing?



[28] De Smet, A., Gao, W., Henderson, K., & Hundertmark, T. (2021). Organizing for sustainability success: Where, and how, leaders can start. Retrieved from https://www.mckinsey.com/capabilities/sustainability/our-insights/organizing-for-sustainability-success-where-and-how-leaders-can-start

Case Study: The R Collective x TAL

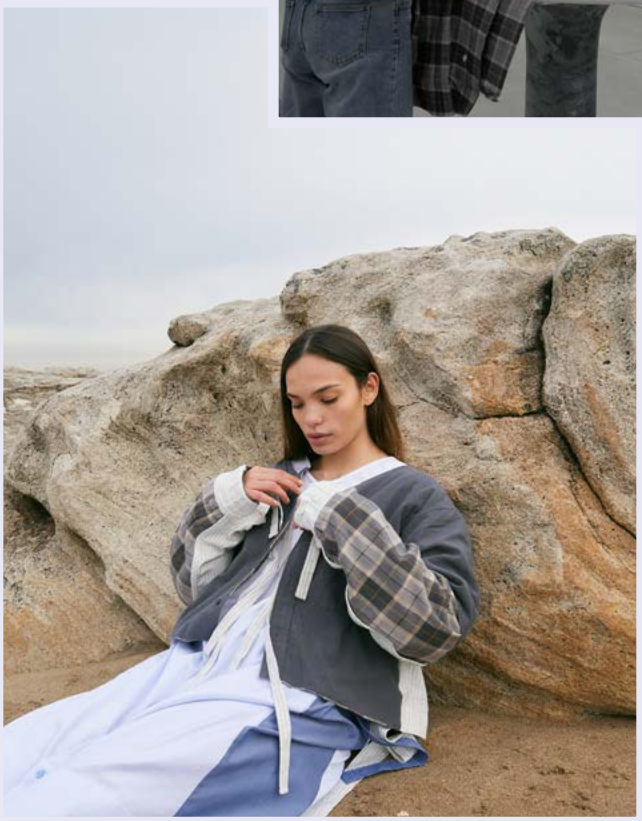
Defective garments pose a significant challenge in the fashion industry, persisting despite rigorous quality-control measures along the supply chain. Issues such as shading problems and sewing defects often result in material waste. World-leading global manufacturer TAL Apparel, with its stringent quality control, shares its 0.01% defect rate, which while commendable still amounts to 50,000 defect garments annually just in their facilities.

Seeking to further reduce this waste, Hong Kong-based sustainable fashion brand The R Collective joined forces with TAL Apparel to tackle TAL's defective shirts and develop a replicable and commercially viable approach.

Guided by a set of circular values centred around material, design, manufacturing, and customer, The R Collective and TAL Apparel created a 3-piece capsule collection that effectively utilises four defective shirts and minimises waste generation. All pieces are made using 100% cotton defect shirts and deadstock fabric to keep the majority of the materials the same fibre type, thereby increasing its recyclability. The team deliberately incorporated cutting waste, resulting in distinctive features not commonly achieved in conventional designs. Off-cuts from the collection were also optimised for labelling purposes and the story of the garment was printed on the label using low-impact methods, while the hangtag offers a QR code for customers to discover more. The team also ensured the construction was durable to allow for longevity, further supporting the customer's role in extending the life of the garment.

The success of the collection can be attributed to the profound technical expertise, creativity, and collaborative approach demonstrated by those involved. Circular fashion designer Juliana Garcia Bello's knowledge of pattern cutting, construction, and zero-waste principles, honed through her experimental work with designing and making upcycled garments, played a vital role. Likewise, the TAL production team's expertise in tech pack development, grading, and sewing construction ensured the creation of durable outfits without compromising on the design and scalability. For example, making the garment in different sizes was a challenge as they had limited options with defective shirts. How can the garments be made smaller without compromising the fit, the ethos of zero-waste design, and a realistic production time frame? Together, they worked out a simple but replicable solution by cutting a seam along the sides.

Working with defective garments demanded a meticulous sequence of operations and a highly detailed tech pack to determine precise cutting and joining points. The openness to learn, innovate, and collaborate was key to overcoming the unique challenges inherent in designing into defective garments. It is essential to recognise that there is no one-size-fits-all solution to sustainability in the fashion industry. Instead, successful initiatives arise from leveraging the strengths of each party involved and exploring diverse approaches tailored to specific product categories. A shared responsibility unites us all in our commitment to making the fashion industry more sustainable. TAL's achievement stands as a testament to the potential of collective efforts in creating a sustainable future for the industry.



Recommendations:

Opportunities

for Circular Design

Even though designers face barriers in driving circularity, there is a significant opportunity to move the fashion industry towards a more sustainable and regenerative model by addressing these challenges.

I. Close the Knowledge Gap: Education & Capacity Building

As designers are creative-focused, there is a pressing need to empower them to make informed choices to carry out their responsibility in driving the shift towards sustainability and circularity.

A foundation of sustainability literacy within university curricula

Functioning as a key breeding ground to nurture the skills and interests of future professionals, universities have a responsibility to the next generation of fashion designers in enhancing their sustainability literacy – meaning the knowledge, skills, and mindsets that allow individuals to become deeply committed to building a sustainable future.[29] Based on our interviews with educators, it is evident that students are interested in sustainable fashion and many lecturers are tapping into this opportunity. As the demand grows for knowledge about circularity and sustainability in the fashion and textile industries, integrating sustainability-related topics into education curricula can help close the knowledge gap and equip future designers with a solid understanding of circular design principles. Academia should review and enhance existing curricula with this mindset, and explore ways to translate theoretical education into tangible actions that can have a real impact on the fashion industry.

Business and technical knowledge enhancement for designers

For circular designers to walk the talk and drive change successfully, they need to possess knowledge beyond pure design skills. This includes understanding aspects of production such as pricing, materials, and technical considerations. Training programmes and cross-divisional sharing sessions can support designers in upskilling and reskilling to acquire this additional knowledge whilst breaking down divisional silos. By enhancing their understanding of the business and technical aspects of design, designers can more confidently and effectively contribute to circularity in the industry.

Support from suppliers to facilitate circular practices

Besides brands, suppliers should also shoulder the responsibility of driving circularity by facilitating sustainable material sourcing. Investing in specific material sourcing, from recycling to new materials, would maintain competitiveness beyond costs. Under the margin pressure, designers often need to plan material use thoroughly. Thus being knowledgeable about materials can help designers make better choices. At the material sourcing stage, suppliers can play a vital role in facilitating the process by providing, suggesting, and educating on sustainable material alternatives for designers, thus reducing the time and effort required for designers to gather such information for decision-making.

[29] United Nations. (2022). Raising awareness and assessing sustainability literacy on SDG 7.

Case Study: Knitup

Knitup is an innovative full-service knitwear design and manufacturing platform for creators and brands. Powered by Cobalt Fashion, a Fung Group company, they transform traditional knitwear manufacturing processes by enabling creators without technical expertise to create implementable knitwear designs.

Knitup offers a user-friendly interface with highly realistic free virtual sampling capabilities. This feature allows creators to visualise their selected design instantly, incorporating various elements such as the silhouette, materials, textures, and the creator's own graphics. Creators can make modifications until they achieve their desired vision. Knitup encourages responsible production practices by adopting a no-MOQ policy, allowing creators to order even a single piece, thereby reducing excess production, surplus stock, and the associated environmental impacts.

The platform enables knitting data from the designs to be shared with any factory worldwide, setting the foundation for near-shore, onshore, or even local manufacturing in future. Knitup aims to minimise carbon emissions by reducing the need for long-distance transportation, both for samples and final deliveries. Knitup's design and manufacturing platform represents a sustainable solution for the knitwear industry by democratising the design process.

II. Readdress Financial Barriers

Rather than focusing solely on short-term profit maximisation through the use of cheaper non-renewable materials, it is imperative for senior management to review the long-term corporate strategy and prioritise the incorporation of sustainable materials in their products, especially in light of managing business, financial, and reputational risks around future proposed regulations and changing consumer sentiment.

Long-term investment in sustainable raw materials

There is an urgent need for longer-term investment in fashion circularity and the circular economy overall. The supply of sustainable materials often requires substantial upfront investment, which may be unaffordable for smaller suppliers. The EU continues to tighten regulations targeting fashion's environmental and social impact. This will have implications throughout the supply chain and especially in Asia, where 70% of textiles destined for the EU are produced.[17]

In the face of growing regulatory risks, there is an opportunity for large brands and suppliers to take a lead in the scaling-up of sustainable material supply. Their long-term investment in sustainable raw material production, driven by economies of scale, can help ensure a stable supply of these sustainable alternatives and thereby reduce costs. The encouraging news is that today's consumers are increasingly willing to pay a premium for sustainable products.[30] This shift in consumer behaviour opens up the possibility of recalibrating profit margins in the future, without placing the entire burden of using sustainable raw materials solely on the companies.

Corporate repositioning of profit margins

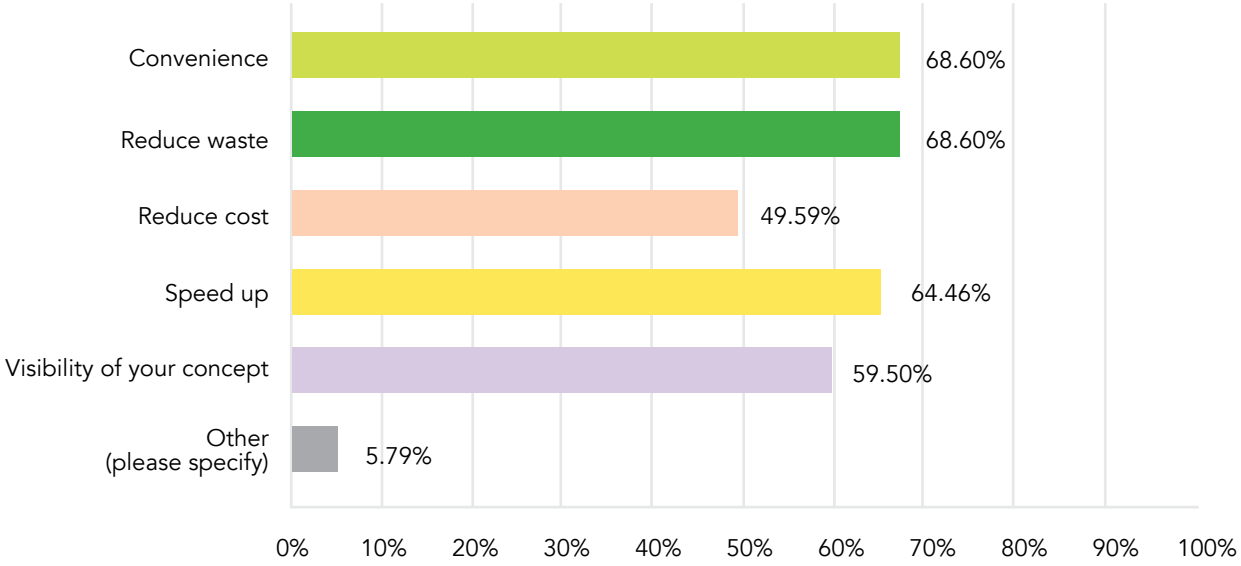
Brands have the opportunity to thrive by strategically integrating sustainability and circularity into their product design. Company owners, investors, shareholders, and senior executives should be engaged and encouraged to acknowledge the beauty and long-term sustainability of a circular model, to consider the triple bottom line, and start re-aligning profit margins for greater flexibility in pursuing circular practices. By accepting thinner margins, brands can provide designers with more creative freedom and enable the implementation of circular design principles.

Investment in digital tools to facilitate the design processes

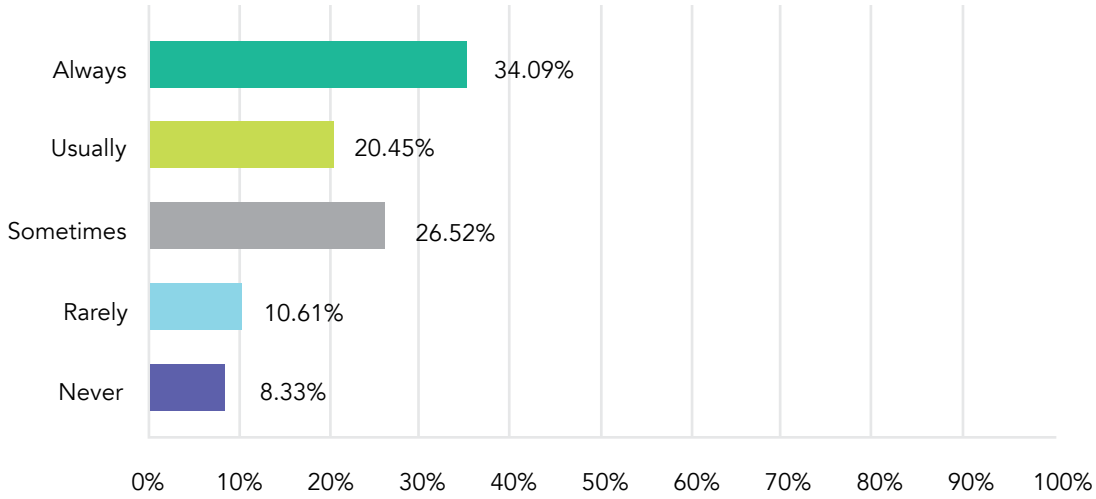
Emerging technologies have reshaped the fashion industry and, by streamlining and simplifying previously highly technical processes, vastly reduced the need for people to acquire highly technical knowledge and skills to participate in the various stages of fashion design. As part of this rapidly changing landscape, digital tools that can be employed during the design stage include canvases, ideation prompts, and impact evaluation indicators, which facilitate effective communication and ideation even for individuals without extensive experience or technical expertise. Implementing such digital tools can help speed up the learning curve of fashion practitioners and provide them with additional capacity to creatively explore and implement circular practices. Still, companies should be cautious in introducing these tools and ensure that suitable training is provided to avoid potential loss of valuable technical skills among key participants, especially designers.

[30] Research Insights (2020). Meet the 2020 consumers driving change. Retrieved from www.ibm.com/downloads/cas/EXK4XKX8

What are the benefits of using your digital design tool?



How often does your company use digitalised tech packs?




Nils Hauser
TAL Group
XANH CÙNG
GREEN WITH
TAL Apparel
LET'S

III. Create a more Collaborative and Supportive Working Structure

In the fast-moving conventional fashion world, the responsibility for driving sustainability is often delegated to sustainability teams and select individuals. To effectively unite an organisation towards a common sustainability goal and stay ahead in the industry, organisation-wide recognition and support of long-termism — the view that positively influencing the long-term future is a key moral priority of our time — is essential. Given the regulatory shifts and industry mandates for consistent standards, some brands have accelerated their circular transformation. To keep up with this circular wave, management must embrace long-term system thinking and foster a shift in the overall organisational culture, relieving the burden from designers and providing them with greater freedom to create circular designs.

BOTTOM-UP: Empowering sustainability leads to influence decision-makers

In-house sustainability teams or sustainability advocates, as subject matter experts, play a critical role in driving mindset change and raising awareness among key decision-makers. The senior leadership of a company possesses the power to align values, goals, and decisions. Therefore, securing their endorsement of the sustainability agenda is pivotal in planning for a sustainable future over the long term. Besides formal executive training programmes, in-house sustainability teams or advocates can begin by benchmarking with industry players and building strong business cases to effectively engage senior management.

TOP-DOWN: Facilitating cross-divisional decision-making

At the intricate design stage where multiple stakeholders influence decisions, a supportive system can assist designers in implementing circular design. Typically, circular designers collaborate with merchandisers, material developers, creative directors, and other stakeholders to bring sustainable products to life. Designers make trade-offs in certain areas to allocate resources towards sustainable materials, while the procurement or fabric sourcing team identifies the best options. To establish a supportive system that facilitates collaboration, management can provide designers with tools such as an inventory of sustainable materials, clear goals, and circular guidelines. Some companies have adopted digital tools to enhance visibility across different teams, facilitating collaborative decision-making. With these measures in place, designers can focus on their expertise without bearing the sole responsibility for driving circularity.

Conclusion

The unprecedented drive for sustainability is influencing every part of the fashion industry. Alongside aesthetics, function, and price, consumers now also care about the environmental and social impacts of their fashion purchases, and regulatory bodies are beginning to level the playing field such that companies cannot ignore the implications of resisting change.

With their recognised pivotal role in the fashion system, designers have great potential to influence decision-making and contribute to the transition to a circular economy. However, without adequate support and the removal of barriers, designers may struggle to exercise their influence, even with the right knowledge. Likewise, organisations need designers who understand the challenges and opportunities of circularity.

The successful implementation of circular practices at the design stage therefore requires companies to take action. In pursuing circularity, stakeholders can capitalise on three key areas of opportunity: providing education, tools and support for design teams and their colleagues to better understand and implement circular design choices; addressing cost barriers and adopting a long term financial view; and removing silos and barriers within organisations and supply chains, enabling better collaboration toward a common sustainability goal.

"To excel in this field, it is essential to go beyond the design aspect and embrace the broader scope of responsibilities and possibilities available within the company."

- Creative director

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We would also like to extend our gratitude to the dedicated Redress research team whose hard work and commitment have been instrumental in conducting the research and producing this report.

Furthermore, we would like to acknowledge and thank all the participants, particularly the designers and fashion professionals, whose insights and contributions through surveys and interviews have been essential in shaping the findings and recommendations of this research.

The collaborative efforts of the VF Foundation, the Redress research team, and the participants have been crucial in advancing our understanding of the role of fashion design teams in creating circular fashion products, allowing us to provide recommendations to foster sustainability and circularity within the fashion industry.

About Redress

Redress is a Hong Kong-headquartered, Asia-focused environmental charity with a mission to accelerate the change to a circular fashion industry by educating and empowering designers and consumers so as to reduce clothing's negative environmental impacts. Its dynamic programmes work to minimise the negative impacts of fashion, whilst promoting innovative new models and driving growth towards a more sustainable industry via the circular economy. Working directly with a wide range of stakeholders, including designers, manufacturers, brands, educational bodies, government and consumers, Redress aims to create lasting environmental change in fashion.

Through our work with designers, industry and consumers, Redress actively supports and promotes the UN's Sustainable Development
Goal 12 - Sustainable Consumption and Production

www.redress.com.hk
www.redressdesignaward.com/home

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