FUTURE SKILLS FORESIGHT 2030 REPORT

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FASHION SOCIETAL,
ECONOMIC & ENVIRONMENTAL
DESIGN-LED SUSTAINABILITY

INTRO

The **Future Skills Foresight 2030 Report** will inform the Fashion SEEDS platform by providing insights into the type of **sustainability skills future graduates will require in order to meet the changing needs of the fashion and textile industry.** Following an analysed dialogue between academia, industry, design professionals and relevant policymakers, this report seeks to offer tutors evidence-based knowledge upon which to develop teaching and learning for a new generation of design graduates—to equip them with the skills and competencies they need to contribute to the future sustainability of the fashion and textile industry.

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FASHION SOCIETAL, ECONOMIC & ENVIRONMENTAL DESIGN-LED SUSTAINABILITY

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Fashion SEEDS

Fashion Societal, Economic & Environmental Design-led Sustainability

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CHAPTER 1.

Context Of The Study: Fashion Skills

The notion of fashion is shifting. Over the past decade, a variety of initiatives have emerged to support the change we are adamant to achieve. Although the awareness of fashion´s implications on climate change and social responsibility receives gradual recognition, a more systemic cross-spectrum approach for affecting the big picture and promoting a radical transformation is needed. The Future Foresight 2030 Report provides an analysis of primary research, based on interviews and a focus group, in order to propose insights into the future roles of fashion and textile designers.

Although the awareness of fashion´s implications on climate change and social responsibility receives gradual recognition, a more systemic cross-spectrum approach for affecting the big picture and promoting a radical transformation is needed.

The report will reflect on existing challenges and envision the future needs of the industry, in relation to fashion design sustainability skills, knowledge, and competencies. Based on FashionSEEDS researchers' direct experience in the field, it is clear that the environmental sustainability issues and related challenges of the sector are widely known. While the fashion and textile industry has experienced rapid growth worldwide, and some companies have taken the opportunity to invest in more environmentally and socially responsible practices, these individual steps are minor; and, even under the most optimistic assumptions, the industry's current business practices and solutions will not deliver the impact needed for extensive sustainable transformations (Maldini at al., 2019). Moreover, innovation seldom takes place inside an established business framework, and students rarely gain direct insights into real-world problems faced by the industry. This study seeks to contribute to higher education institutions (HEIs) and industry, offering insights into the relevant skills and competencies that are needed for elevated progress, and identifying additional opportunities for collaboration. Fashion and textiles tutors, who can enable bridging and mutual learning opportunities beyond educational institutions' usual realm, are among the key target group we hope to reach through this report. By this, we seek to equip the future generation of fashion graduates with the necessary competencies and abilities to support the evolution of sustainable fashion and become valuable assets as employees or creative entrepreneurs. More widely, the FashionSEEDS Future Skills Foresight 2030 Report provides valuable information for decision-makers in the industry and academia, as well as policymakers, to encourage innovative design-led sustainable practices, education, and new innovation programmes in the EU countries and possibly beyond.

CHAPTER 2.

The State Of Fashion Skill Sets In Higher Education

The previous studies in the FashionSEEDS projects (Benchmarking Report and Framework Document for Design-Led Sustainability Education) have shown that, today, the state of fashion education demands a revision to fully encompass sustainability in most curriculums. The Benchmarking Report (Williams et al., 2019) mapped European higher education institutions (HEIs) and companies, exposing the current efforts and challenges. It pointed to interdisciplinarity, collaboration and expansion of focus regarding the sustainability pillars as some of the needs for both HEIs and companies to advance in fashion for sustainability.

The state of fashion education demands a revision to fully encompass sustainability in most curriculums.

The points below summarise the findings of the Benchmarking Report, as found in IO2:

1. expand collaborations across academic institutions, regardless of disciplinary boundaries;

2. deepen our knowledge of fashion design for sustainability by fostering critical perspectives to fashion in relation to the various ecologies fashion processes relate to;

3. facilitate encounters between industry and academic institutions to bridge thinking and doing;

4. create a shared understanding of what it means to practise fashion design for sustainability with open ears to a plurality of perspectives;

5. reframe the understanding of learning spaces and stimulate life-long learning;

6. encourage actionable ways of transforming the current state of the fashion system towards sustainability.

This analysis starts by considering current trends in the field of fashion and textile industry, and revealing how the European Union, the geographic context of the project, is addressing challenges, especially in the form of policies. This information is used as a background to structure questions and topics for interviews and focus groups. The methodology used in these two samples is outlined, followed by research findings. The analysis concludes with thematic observations and research limitations.

CHAPTER 3.

Drivers, Challenges And Possible Development Trends Of The Fashion Industry

Challenges for Economic Sustainability
Drivers for Social and Cultural Accountability
Drivers for Environmental Sustainability

In the past two decades, the European fashion and textile industry has been subject to radical transformations. At this point, more than 60% of clothing in the EU is produced elsewhere (European Commission, 2019a), often based on exploitative social practices and not counting the impact in environmental and cultural terms. The symptom of this lies in seeking profit-based on artificially repressed costs, overstimulating the market and designing built-in obsolescence as the dominant business model. European enterprises have improved their competitiveness by concentrating on high value-added goods, instead of mass production of simple products. However, fashion and textile industry enterprises still face several challenges that hinder their economic sustainability. In order to compete with a growing external market, trade liberalisation, developments in consumer practices, technology, production reshoring, amongst other factors, these enterprises must continuously reinvent their business models and update staff skills and competencies.

Ensuring the long-term economic sustainability and competitiveness of the fashion and textile industry is part of the broader European renewed industrial policy.

Ensuring the long-term economic sustainability and competitiveness of the fashion and textile industry is part of the broader European renewed industrial policy (European Commission, 2017); the EU aims to empower citizens, invigorate regions, and come up with new technologies through an innovative strategic approach to industrial competitiveness—a systemic programme towards reducing waste to avoid pollution, use less energy and back a workforce with suitable skills.

The fashion and textile industry constitutes complex and interlinked systems, ranging from the design and production of fashion goods to their distribution and retail. Textiles and clothing are a fundamental part of everyday life, and the industry plays a significant role in the economy and society across Europe. There are around 171,000 companies in the textile and clothing industry in the European Union, providing employment for 1.7 million people (EEA, 2019). This industry is also relevant in European cultural context by representing the cultural design identity. At the same time, the environmental sustainability issues and related challenges of the fashion industry are widely known. Therefore, it is important to take into account the four foundations that constitute a fourfold 'bottom line' for sustainable industry, as presented in the FashionSEEDS Benchmarking Report (Williams et al., 2019) and extended in Annex A:

- Economic sustainability
- Environmental sustainability
- Social sustainability
- Cultural sustainability.

Significant changes have occurred in the environment in which fashion companies operate today. Due to pressures for change arising from increasing competition and alterations in production costs, trade liberalisation, technological developments, transformation in the lifestyles and preferences of final consumers and especially environmental issues, these industries must continuously diversify both business strategies and marketing approaches as well as redefine the business models and update staff skills and competencies. The most important challenges affecting the fashion and textile sector are summarised in the following paragraphs.

Drivers and Challenges for Economic Sustainability

The European fashion and textile industry operates in an increasingly volatile and competitive environment. Due to the increase in economic, environmental, social and cultural challenges and tensions, as well as the associated climate-related disasters, health crises and societal polarisation, the average spending on fashion goods, which has been in decline for over a decade, has plummeted, exacerbated by the COVID-19 pandemic. High exposure to epidemic interruption through compromised supply chains became extremely evident once the year 2020 started. For example, as China implemented lockdowns, a consequent ripple effect followed in production processes across the globe (McMaster et al., 2020). A study in Denmark (Andersen et al., 2020) reported that consumer spending saw an aggregate decrease of 27% in the seven weeks following lockdowns, whereas in the first two weeks of March 2020, Zara's parent company Inditex revealed a 24.1% drop in sales (Inditex 2020). Additionally, tax reductions and other government-led deregulations to fuel the declining economy, add disruption to the structure of the fashion industry, challenging its commitment to environmental matters. At the same time, the demand for customised and personalised fashion, at lower prices, is expected to increase over the coming years (Gazzola at al., 2020). Alongside the inherently competitive climate of the industry in which fashion and textile enterprises exist, consumer behaviour and preferences are not static, but in constant transformation, especially under more extreme circumstances such as a crisis of any sort. Here, the environmental sustainability

preferences of consumers play a growing role. Customers expect more transparency across the entire fashion industry value chain by requesting additional information about the goods and the quality of materials used (Gazzola at al., 2020). As the market changes very rapidly and consumers' behaviours become more sophisticated every year, fashion and textile enterprises have to be dynamic and agile to survive the competition. This calls on companies to adapt promptly to emerging trends by concentrating on product innovation and targeted design developments for creating new fashion approaches and tendencies (Rath and Bay, 2015). This means that enterprises should have relevant skills to interpret new developments and capacity to find ways to transform these challenges into new business opportunities. Renewed EU industrial policies are in support of such actions (European Commission, 2017), as highlighted above.

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Drivers and Challenges for Social and Cultural Accountability

Growing concerns with the social impact of the clothing and textile industries in the EU have motivated changes. Such changes called for companies to address social areas like human rights, poor and unregulated working conditions, gender equality, supply chain transparency, and the inclusion and welfare of the community. Local, national, and international compliance standards provide a basis for social responsibility and due diligence issues in the fashion industry. Internationally, the general standard for social issues includes the UN Declaration of Human Rights (UN 1948) and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work (ILO 1998), whereas the OECD Guidelines for Multinational Enterprises (OECD 2018) offers principles and standards for responsible business conduct. All of the aforementioned standards provide a baseline and serve companies by helping them define targets for social accountability and work on their internal corporate social responsibility (CSR) policies. A series of initiatives have appeared in an attempt to address the situation.

Some key topics, such as women's roles in the economy, quality of job conditions and wages, added to transparency and traceability in the value chain, are addressed in the Commission Staff Working Document Sustainable garment value chains through EU development action (European Commission, 2017).

The fashion industry represents European cultural heritage and expertise, and supports creating and enhancing Europe's social capital. As one of the most lively and creative sectors in Europe, the fashion industry is integral to the lives of millions and can be seen as a direct reflection of European values and culture, including craft and innovation. Many of the efforts made so far regarding cultural sustainability, however, incline towards museum practices or have emerged from individual nations or heritage stakeholders, rather than from an EU perspective. For example, the École de l'Amour project launched in 2018 by Gucci (GUCCI 2020) wants to ensure the development and preservation of artisanal skills, whereas Sweden's tax reduction on repairs has empowered mending skills (Orange, 2017). This is a clear result of the difficulties in developing regulations and protective measures that would equally benefit different cultures, their craftsmanship and inherent skills, though the fine crafts workforce in France alone accounts for 60,000 jobs (Crafting Europe Manifesto, 2019). Nevertheless, cultural viewpoints support the sector in facing the challenges of globalisation and depersonalisation of production by enabling the rediscovery of distinctive craft practices and local knowledge that contributes to market demands, driven by informed consumers who concentrate on ethical awareness, transparency, and the search for authenticity.

Nevertheless, cultural viewpoints support the sector in facing the challenges of globalisation and depersonalisation of production by enabling the rediscovery of distinctive craft practices.

Drivers and Challenges for Environmental Sustainability

Environmental issues are today leading the global change and are always more or less interlinked with other areas of sustainability. The fashion and textile industry is one of the world's most polluting industries, mainly because its volume of production dwarfs most other industries. Therefore, issues such as the climate crisis, resources, land, and water scarcity have intensified in recent years and sustainability pressures related both to fashion design and

production processes have become increasingly relevant in this industry sector (Gazzola at al., 2020). The environment has become a factor in consumers' decision-making process, pressuring both the product and the production to become more environmentally sustainable. Numerous fashion brands and enterprises are focusing on sustainability throughout their products' whole life cycle, setting sustainability goals, implementing innovative approaches and designs, as well as systematically managing their supply chain by establishing sustainability standards and specific performance requirements. However, today's conventional fashion and garment industry is still largely linear by nature (Ellen MacArthur, 2017). The linear production system in fashion and textiles impacts the environment from the production of fibres to its final post-consumer stages, passing through production, distribution, laundering, and waste management, to name a few. All of these stages require more sustainable practices, in order to reduce the use of resources and negative impacts on the Earth (e.g. greenhouse emissions and use of land, polluting chemicals and general resources).

One of the significant drivers for profound and systemic change in the fashion and textile industry is the political framework, especially in the context of the European Union, which tends towards encouraging environmental sustainability initiatives. As stated in the COP 2015 Paris Agreement, the urgency of tackling climate change from major industrial activities is globally highlighted. In 2015, greenhouse gas (GHG) emissions from textiles production totalled 1.2 billion tons of CO2 equivalent, more than those from all international flights and maritime shipping combined. (Ellen MacArthur et al., 2017; International Energy Agency, 2016). Hence, the fashion industry has a significant role to play in reaching the Paris Agreements of climate neutrality by 2050 (European Commission, 2019c). The fashion Industry Charter for Climate Action was created under the auspices of UN Climate Change, after 2018, when fashion stakeholders worked together to develop ways in which the broader textile, clothing and fashion industry can commit to climate action. They plan to achieve net zero emissions by 2050. The Charter was launched at COP24 in Katowice, Poland, in December 2018 (UN Climate Change, 2018).

In recent years, the circular economy has been one of the most important environmental policy areas also affecting the fashion and textile industry.

In recent years, the circular economy has been one of the most important environmental policy areas also affecting the fashion and textile industry. The fashion industry is still far away from being a circular system, where materials are

designed and recycled to lead to additional value instead of additional waste (Gazzola et al., 2020; Ellen MacArthur, 2017). Today there are no adequate systems to recycle textile waste in place in the EU. Thinking from an economic and environmental perspective, there is limited knowledge of how to efficiently recycle multiple fibres in mixtures. Materials often get downcycled, producing a lower quality and functionality product than the original. Therefore, there is a strong push to reform this sector as part of the recently adopted European Green Deal (European Commission 2019)—the most significant document enabling the necessary changes to be made through political regulation. Namely, as one of the deal's main pursuits, the European Commission proposes a new Circular Economy Action Plan (European Commission 2020), which introduces legislative and non-legislative measures targeting areas that contribute to further development of the circular textile system. Reinforced by other global initiatives proactively advocating for policy engagement like UNFCCC, the Paris Agreement (UN 2015), the Global Fashion Agenda, or the Sustainable Development Goals (SDGs) (UN 2020) in alignment with the net-zero emissions policies, bans for incineration or regulations against modern-day slavery (Figure 1, Annex F), it represents a remarkable power. According to this Action Plan, a Strategy for Textiles in the EU is under development, based on input from industry and other stakeholders. The strategy seeks to boost the use of sustainable textiles in the EU market by approaching fast fashion to adopt new business models and move towards a holistic and sustainable growth paradigm. In addition, by 2025, all EU Member States shall ensure that, according to the law, all end-of-life textiles from consumers must be separately collected (Directive (EU) 2018/851 amending Directive 2008/98/EC on Waste). This requirement will radically influence the current practices of production, use and disposal of textiles in the EU and directly impact on the education of future fashion design graduates. The deficiency of the regulation might be seen in the Green Deal looking at the system as single company based, rather than as an entity or an ecosystem supporting the symbiosis within the industry. Nevertheless, these legal aspects are more about politics than design and therefore presented accordingly in the current report. Understanding these conditions may lead to a better alignment with scenarios to come and actions needed.

There is a strong push to reform this sector as part of the recently adopted European Green Deal.

Figure 1.
Visual of leading political documents and initiatives in favour of sustainable change in fashion.
Font size reflects the importance of the corresponding initiative.

CHAPTER 4.

Analysis Methodology

Interview Methodology
Focus Group Methodology

The main input for Future Skills Foresight 2030 Report derives information from semi-structured interviews with fashion company representatives active in the field of sustainability, as well as a focus group with a diverse group of policymakers and industry professionals, such as designers and business leaders. The analysis findings and proposed guidelines in Chapter 5 are based on the crossing of results from the qualitative analysis of interviews and focus group.

The following sections briefly introduce the methodology and rationale behind the development of the interviews and focus group activities. A detailed account of the methodology in both interviews and focus groups can be found in Annex B — Study Methodology.

Interview Methodology

The interviews followed a semi-structured method (Flick, 2013) and covered a total of 16 industry experts and designers acting in companies based in the EU, and were carried out by UAL, DSKD and POLIMI. The countries represented consisted of the UK, Italy, Portugal, France, and Denmark. Prior to the interview, all interviewees received a brief (Annex E) informing them about the FashionSEEDS project, the four pillars of sustainability, and current EU policies regarding clothing and textile industries. A detailed account of the methodology can be found in Annex B. All the interviews followed a certain set of guidelines (Annex C) and were organised in three parts:

1. Interviewee profile: including core business, location, size, founding year and goals

2. Introductory questions: to map the overall relation to sustainability

3. Core questions: more closely related to the aims of this study.

The retrieved data has been mapped and compared from a qualitative analysis perspective. All interviews underwent a process of open coding, followed by a thematic coding, and finalised with the formation of themes. This choice of methods provides tools to conclude and identify meaningful insights in respective practices to create an implementable framework of recommendations.

Focus Group Methodology

The focus group (Creswell 2007, 133) was conducted by EKA, and aimed to take advantage of physically hosting designers, industry experts and policymakers in the same space. It corresponds to similar guidelines set for the interviews, with the added involvement of policymakers, as to align, validate and polish the findings from the interviews. During the activity, participants were first presented with a brief introduction about the FashionSEEDS project and the scope of the study.

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The focus group took place within the environment of the Estonian Academy of Arts in August 2020 and hosted eight participants on-site and one participant via Zoom, out of which three were facilitators from the FashionSEEDS project. The structure resembled the interviews in terms of content and progression of topics, but here in a more dynamic dialogical form, and made use of a semi-structured script of questions (summarised version in Annex D). The total duration was around two hours. Following this introduction, questions were posed, with facilitators bouncing the questions back to different participants. Data was collected via audio recording, which was later transcribed, and note-taking. A qualitative data analysis was employed, similar to the interviews, following open and thematic coding.

CHAPTER 5.

Interviews

Company Profiles
Narrative of Interview Findings
Thematic Review of Interview Findings
    Holistic Perspectives
    New Production Flows
    Resource Responsibility
    Beyond Fashion—expanding the role of the designer
    Upcoming Making Perspectives
Overall Analysis of Interview Findings

This chapter presents a study and summary of the interviews, informing, to a large extent, the final output of the Future Skills Foresight 2030 Report. In total, 16 semi-structured interviews were conducted. The results are organised in three sections and refer back to the stages of the questionnaire presented in Chapter 4, where the first and second stage support contextualisation, and the third seeks to raise data to inform the study, and therefore, tutors:

1. conclusions based on company identities;

2. conclusions based on interviewee backgrounds, the active sustainability initiatives, and current challenges of the respective companies;

3. conclusions based on the future challenges of the companies and the skill sets required to meet those needs at present and in the near future.

In the view of objectivity, the interviews were analysed and coded for keywords by two independent readers, then discussed and merged into a cohesive pool of data. The number of institutions highlighting a specific topic will be presented in brackets after the keywords.

Company Profiles

As a result of the interviews, the selection of companies in terms of size covers: two micro, six small, three medium and five big enterprises, with employees ranging from two up to 4,000. Only two of the companies were established before the 1950s, three were established in the 1990s, and five organisations emerged from the 2010s. The largest organisations encompass womenswear, menswear, kidswear and accessories both in the luxury and fast fashion segments, whilst smaller enterprises are more detail-focused representing premium level shoes or accessories, womenswear, menswear, or a-gender apparel. However, in support of a more future-forward view, a consultancy, a trade association for fashion and textiles, a plug-in circular retail platform, a manufacturer and a major e-tailer were included. Two companies out of the final sample had been interviewed before (C9, C12) in connection with the FashionSEEDS previous intellectual outputs. The interviewed companies' representative roles varied, spanning from sustainability management, sustainability consultancy, communication/marketing, business management and sourcing/supply chain management to design professionals and co-founders both on the financial and creative side, providing the study with a broad spectrum of professional input. Additional past

experiences like sustainable engineering, environmental science, social enterprise management, culture studies, and design technology only complement the competency spectrum already highlighted. More detailed descriptions can be found in the interviewees' demographics in Table 1, Annex B.

Narrative of Interview Findings

The interviews confirmed that the majority of the companies are in support of the holistic take on sustainability, where different elements of the paradigm should be perceived and taken forward as a whole—particularly in a healthy business, as it is difficult to isolate one from the other (C3). However, it is apparent that the climate agenda, before COVID-19, had huge momentum, resulting in better alignment with environmental topics. Environmental data is easier to measure than social and cultural data and therefore more popular to implement, facilitating the lead of the respective segment (C3) while the economic agenda is often hard to separate from entrepreneurship, one of the many practices and models that compose the economic agenda. The current crisis has placed social problems beyond working conditions in the limlight—with payments down and production at a standstill, previously existing inequalities have been amplified. It has become evident how many people in the industry globally, who have been living close to the poverty line, are in such situations instantly thrown into misery (C1). Taking responsibility and addressing the colonialist structures big producers have contributed to is a must, and two of the respondents have suggested that the 'social pillar' of sustainability is one of their top priorities. Though the majority hopes to embrace all four pillars, there are respondents who remain skeptical towards the holistic integration of them all, saying the reality is and will be focused on environmental and economic aspects. Nevertheless, a few enterprises in the sample have a noticeably clear division of responsibility between their departments, with the environmental pillar being the consideration of the design team; cultural aspects monitored by a cultural responsibility department; the social sector covered by another team

The majority of the companies are in support of the holistic take on sustainability, where different elements of the paradigm should be perceived and taken forward as a whole—particularly in a healthy business, as it is difficult to isolate one from the other.

working on transparency and relationships with suppliers; and the economic sustainability a consideration for the buying and merchandising team (C15). The cultural agenda is seen as the most challenging, as exemplified in the quotations below:

> *The cultural [pillar] is difficult—it is a kind of communication that has to be between us and the consumer, which can be difficult to get hold of. It can be difficult for us to educate. (C4)*

The complexity of isolating pillars, though, was a concern of several interviewees. For many of them, the issues around sustainability are interconnected and thus difficult to address as a single standing entity, which adds intricacy to how problems are approached and addressed.

> *A designer's role is to innovate around a problem. That's what designers do. We're there to solve social, environmental, and educational problems. (C14)*

Though companies were selected following the existence of current sustainable practices, the majority of the establishments highlight sustainability also as part of their core values, and several younger companies include sustainability as part of the initial business strategy. When asked about current drivers of sustainability initiatives in the enterprises, two areas stand out the most: customer expectations (6), and supply chain management and/or other production issues (6), underlining the importance and necessity of such skills in an effective, sustainable business. Nevertheless, several companies also refer to 'other' (8) as an important input for sustainable actions. Due to time constraints, four companies did not answer the corresponding question.

The majority believe that the role of policy is fundamental to building the framework and the infrastructure in order to support the industries to invest and work on sustainability.

The most surprising finding was based on the awareness of new EU legislations in favour of circular change (see Chapter 3/ page 25). Whilst all the Danish companies (5) confirmed their consciousness of the topic, none of the South-European companies' representatives (7) were aware of the new directive requiring all end-of-life textiles to be separately collected by 2025. While difficult to assess the reasons behind this find, differences regarding governmental approaches to

environmental agendas (historically emphasised in the Nordic countries), the fact that the companies focus on different segments, amongst other factors, can be taken into consideration. Yet, many of the uninformed have already set their individual goals to match the requirements and one of them highlighted the following:

> *We firmly believe that laws are necessary to make the conversion to renewable resources convenient for the economic system. From our side, we are supporting several campaigns to this end. (C8)*

The majority support the statement and believe that the role of policy is fundamental to building the framework and the infrastructure in order to support the industries to invest and work on sustainability. The latter contributes to the general vision of IO5 examining policy in correlation with skill sets.

Thematic Review of Interview Findings

The categories explored below emerged from the analysis of interviews. They combine initial coding into larger groups where the relationships between the topics are deeply rooted. The categories described are understood as tightly intertwined and devoid of hierarchical positionings, thus the order in which they are presented do not denote relevance. The numbers in brackets represent the number of interviewees that mentioned a certain concept, and not the overall number of mentions.

Holistic Perspectives

The fundamental need for a **holistic view** (12) was especially evident, as graduating designers seem to lack a vision of the bigger picture and therefore have a smaller possible impact on transformational change. The quote below exemplifies this view:

> *Designers are often not able to look at the whole product life cycle and the whole industry. They are often focused on that season only. (C16)*

The fundamental need for a holistic view was especially evident, as graduating designers seem to lack a vision of the bigger picture and therefore have a smaller possible impact on transformational change.

Seen as a responsibility of HEIs, cultivating **systemic thinking** (4), **general sustainability knowledge** (3) and shaping **sustainable mindsets** (2) takes students another step closer to employers´ expectations of a values-led approach. To address both basic knowledge and the wider context of the subject matter, educational institutions have a gap to fill. However, this gap varies. Variations in regional situations can be perceived in the quotes below.

> *I believe current courses do not address the fundamental topics about sustainability, from the scientific data related to the environmental crisis, to the loss of the local craft knowledge. We are looking for designers who have a systemic vision of the fashion sector and who can apply it to their work through both their design choices and the production processes. We need designers who do not design products but systems that will have a positive impact on the planet and people. (C10)*

> *I believe that [is] the important thing that they can do, and that we already see, because I believe a lot of design-educated people, at least in a Scandinavian context, have sustainability very deeply embedded in what they work with. So it is, at least for the younger designers, some thing they automatically know something about and want to do something with, when they come out [of education]. (C1)*

As the criteria for hiring new employees align increasingly with expectations of shared vision around core values of the brand and understanding of the overall impact of the opportunity, the profile of an employee is gradually shifting.

> *I know there is a part of all the interviews for designers and everyone in the company to understand their knowledge and trust around the different topics that are encompassed within sustainability, and also their match when it comes to their personal values and the values of the business. (C13)*

> *We are born as a social cooperative and with a sustainable vocation and we need our staff to own and support sustainability through their work. (C12)*

The interviews have suggested that a more holistic understanding of production processes and sustainability approaches are essential for more responsible futures in the clothing and textile industries.

New Production Flows

Novel ways of understanding and seeing production processes in the fashion industry were frequently mentioned as a much-needed skill for upcoming graduates in the field. The notion of 'holistic perspectives' is tightly connected to the notion of 'new production flows', though here highlighting the production and supply chain areas. **Supply chain** (12) insights are seen as key when constituting a holistic view of the industry and this resonates with the findings on holistic perspectives. Interest in supply chain monitoring is already contributing to the creation of novel positions encompassing resource efficiency, hence opening up a new potential field of work for design professionals in the coming years.

> *New professionals must have the ability to move and control sustainability along the entire supply and value chain. (C9)*

> *Then I also think it might be essential to know about the production of the things you make. (C1)*

> *Students should explore the supply chain mechanisms and ask more questions: What does it mean, sustainability? What is my supply chain impact? How can I reduce the footprint of my garment? (C7)*

Feedback like the above encourages future graduates to question not only the optimisation of the material consumption, but to look further into the means of packaging, fabrication and washing of textiles (especially denim), emission reduction, transportation, and alternative solutions for travel in general. Future

designers are perceived as **transparency & traceability** (7) advocates. More precisely, the companies would like to see their employees help raise awareness of this issue among their suppliers.

> *If I [were] a brand, and needed a fashion designer, then I would want one that can collaborate, that can challenge our suppliers—and not only on price but also on content. (C5)*

New business models (4) in themselves are seen as tools for a holistic approach to business, and an opportunity to go beyond the capitalist logic of profit and challenge the status quo.

> *It is necessary to provide students with specialist skills but to contextualise them in a broader framework that understands the complexity of the modern work environment in which the acquired skills will be applied. (C7)*

> *Having a holistic vision of sustainability that allows us to go beyond the profit-only model but to develop virtuous strategies that can impact all aspects of sustainability with positive environmental, economic, social, and cultural consequences. (C12)*

Several company profiles in the sample represented new types of innovative business models that help integrate circularity on a new unconventional level, like a plug-in circular retail platform promoting the return and resale of preloved items or a consultancy provider assisting companies to prepare for a more sustainable future, all further validating the quotes above.

Supply chain insights are seen as key when constituting a holistic view of the industry and this resonates with the findings on holistic perspectives.

It is important to understand how different circular business models can be catalysed, creating unconventional supply chains and financial formulas to support a more expensive buy, as prices of sustainable products do not currently meet the possibilities of the market, even if the customer wants to, particularly because the spending opportunities are not aligned with the costs of sustainable fashion products.

> *Price implications are around getting the balance right. Costs are evened out across the product range and it is the job of the buying and*

> *merchandising team to manage this. We are happy to produce small ranges that have a sustainability value or credential that cost more to produce and offset the cost elsewhere. That is how we converted to 100% organic cotton; these costs were not passed on to the customer. This is a privilege of big companies, whilst smaller [businesses] need to work with their full range and all elements of the cycle. (C15)*

> *Fashion businesses will need to have a systemic vision of the sector and be able to imagine different and new scenarios that can also involve other sectors towards a circular model to close the loop. (C10)*

By deconstructing several aspects of the industry, but especially business models, there is a sense of slowing down in expectations for success. The need for speed seems to start reversing as some of the interviewees bring up the acceptance of **degrowth** (3) or the slowness of building something up.

> *A lookout for students that have experimental minds, that can think outside the box and use creativity to think laterally, flexibly. [...] [The] eco model is not to do with greed and power, but with doing the right thing. [...] It's not about getting money and doing the same as everyone else, but using your brain. (C14)*

Aside from a more experimental approach to business, new designers ought to have basic language to enter a dialogue with sales departments, CEOs etc., as companies are business ventures and need profits to survive. In other words, they will need to understand and develop qualities able to create change within traditional corporations.

> *Maybe a little bit about developing that language, to incorporate how to talk business strategy and knowing a bit about business strategy or margins or collection building in terms of core business and price categories — that matrix making. (C2)*

Education on life cycle assessment (**LCA**) (5) was seen as a possible tool to address several of the shortcomings mentioned earlier, but also highlighted below, whilst new job profiles are already created based on the respective competence. Overview of production processes, the related environmental and social impact, as well as the proper disposal strategies, are seen as attractive assets. Doing end-of-life design projects together with companies (C16) was a suggestion offered to HEIs by one of the institutions in order to evoke practical implementations for measuring the environmental impact of a product during

its life cycle. In order to increase knowledge about the industry in general, the augmentation of **real-life experience** (6) was repeatedly suggested. The students must have practical examples or be able to apply the knowledge of theoretical apparatus along the way (C6). The topic of internships is well known to institutions, though it can be assumed based on the interviews that the experience should reflect a bigger engagement with the production and manufacturing process rather than sticking to the more common design studio-based realm—for example, going for a renewed research focus for designers, considering the impact of product design from a multi-stakeholder management perspective and value chain. Yet, a contradiction may arise here around whether companies would allow students into their factories due to industrial espionage concerns. Nevertheless, encouraging more hands-on visits and practical assignments on both sides can be something to highlight even more, in order to close the gap on multi-stakeholder and supply chain management.

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Resource Responsibility

Designing for **circularity** (10), whether embedded already in the company's DNA or something the institutions are hoping to implement more over time with the help of incoming staff, also corresponds to a complex overview of the industry's processes. Aiming for complete circular transformation in the future, many participant institutions are planning to modify their setup from linear to circular and move on to new business models (C7). At the same time, circularity is recognised as a big challenge, since the current infrastructure is not supporting the shift (C10).

Several of the issues mentioned above, but in particular production processes and waste reduction and recycling, concern the **knowledge about materials** (10)—a topic widely discussed in the previous intellectual outputs for Fashion-SEEDS (IO1, IO2). The importance of materials expertise reflects clearly in several companies' goals, which have set ambitious standards for the use of sustainable fibres, even aiming for a full switch as soon as 2024 (C2). Stated as paramount by

one of the interviewees, material knowledge is seen to span from mono materials (C4), upcycled and recycled materials (C9) to research and development in environmentally friendly fabric and dying technologies (C7).

> *We work with universities and set projects, often with sustainability content more often than not. We see a lot of recycling and repurposing in student work. Occasionally we see alternative materials such as mushroom leather. Fabric switching and circularity are the most important strands of work for us. (C15)*

In order to present diversity in opinions, the following comments can be underlined:

> *If you look at the fashion industry today, then it is very preoccupied with replacing some materials, but not preoccupied with addressing the structure they have for optimising additional sales. That is not coherent. (C5)*

> *The lack of clarity and perspective in the re-use strategy (at fibre level), [...] that makes it difficult. (C5)*

Aiming for complete circular transformation in the future, many participant institutions are planning to modify their setup from linear to circular and move on to new business models.

It is also acknowledged that if linear growth continues, the big fashion companies might not exist in the future, because switching in and out of materials is outsized by the model of increasing production volume (C5), whereas big opportunities lie in sustainable materials knowhow. Though knowledge about **certifications** (4) also had its fair share of references, it was made explicit by one of the respondents that there is no need to have deep preliminary knowledge, as the majority of the learning takes place on the spot, the information is prone to rapid change (C15), and knowledge of fibres, in general, is of greater value.

Opportunities lie in sustainable materials knowhow.

Beyond Fashion — expanding the role of the designer

A total of four interviewees mentioned competencies and knowledge expanding **beyond the currently recognised scope of fashion design** (4) skill sets as

we know them. These observations chime with FashionSEEDS researchers' aims to recognise an expanded role for fashion graduates and to develop resources for tutors that include teaching and learning a more expansive repertoire of soft and hard skills. There is a need for professionals with a more diverse background, lateral thinking, and **future vision**, (4) who have knowledge of the real problems and abilities to anticipate and respond creatively in ambiguous and complex conditions, defined by disruption between now and over the coming decades (C10).

> *I think what's missing is universities need to stop thinking students are going to come out as designers. What is relevant today is the botanists at Kew gardens have more influence and are more poignant through fashion. Universities need to understand not to produce another designer. What we need are thinkers and problem solvers regarding the current issues we face. (C14)*

The quote is a clear call to action to change the fashion curriculum, its identity, competences and perception of what fashion design encompasses. Aligned to this, the notion of collaboration and multi-disciplinarity emerged from the interviews as well in regard to skill sets, educating the public, relationships with HEIs and general communication skills.

Effective, clear, and trustworthy **communication skills** (6) might bring about a bigger change than expected, as people are oversaturated with information and find it hard to tell the reality and greenwashing apart. Several respondents even claimed the companies they represent were born with the aim of informing and raising awareness about the impact the fashion industry has on people and the planet, advising other enterprises on the knowledge of the full impact of the fabric and processing choices or taking on the promotion of sustainable initiatives and projects.

"Universities need to understand not to produce another designer. What we need are thinkers and problem solvers regarding the current issues we face."

> *Also, we are designing solutions for guiding our private labels, designers and buyers in choosing circular approaches and sustainable products. (C6)*

> *This is part of a journey to ensure that we teach people how to design and produce differently. (C16)*

Our main challenges, but I will say also opportunities, will be continuing with the blend of product and service while remaining capable of catalysing a positive change, and building an educational apparatus that brings awareness and provides the tools to start a sustainable revolution in the fashion system supply chains. (C10)

When asked about what skills, related to sustainability, they find essential for setting up a business in fashion, being good at communication emerged on several occasions (C5). From a customer's point of view and expectations, it is important to keep them informed and updated about the progress. So how can companies actually share whatever they are doing with consumers, to enable potential customers to assess the ongoing initiatives?

Communication skills might bring about a bigger change than expected.

What doesn't make it easier is that certifications alone, for example... well we can become GOTS or organic certified. But there are over 450 different certifications! And this is enormously confusing for the individual brand. Which one should we choose? And the consumer is also confused. Because the consumer also lacks information in order to make an informed choice. So, it is very hard to get the right knowledge and the right competencies for approaching this task in a manageable way. (C3)

Previously mentioned as a key qualification, **collaboration skills** (12), both external and internal, are of great importance according to the interviewees. For example, collaborating as a company with other big companies was regularly highlighted as a key activity to succeed in current conditions. In order to support meaningful outcomes, the ability to co-create comes down to the people and their ability to work in different teams, stay open to debate and discussion, and be flexible. The latter is especially valued among new members of the team.

I would say that they are missing the ability to adapt, be flexible and willing to start their working path from scratch. Especially at the beginning, it is important to do every kind of job, even boring at the beginning, in order to demonstrate your value and start growing. [...] I think that what students and new graduates are missing is the ability to do everything and adapt to different situations and requests. (C7)

They can easily work in different areas from product to communication. For us, having such multi-tasking figures is a precious resource. (C9)

Adaptability is all the more necessary as several respondents emphasised the **multidisciplinary nature** (6) of current teams and thus more diverse and dynamic work in the future. Additionally, developing good **HEI-company relationships** (6) is of significant importance. Universities are perceived as creating valuable opportunities for such synergies, by providing studies or tools for mapping the impact of companies (C12), whereas:

"Universities are the oxygen for any social and economic phenomenon, and they have a responsibility that I believe is not sufficiently recognised."

> *I believe relationships can improve. Too often HEIs' contributions are not seen as an actual asset/opportunity by the company but simply as an additional activity. For example, I believe that students' internship is an opportunity to have new collaborators who can add further value to my company. (C9)*

> *I believe that academic institutions are those that do research and provide companies with much more context, data, structures, and models than consulting firms. Universities are the oxygen for any social and economic phenomenon, and they have a responsibility that I believe is not sufficiently recognised. (C6)*

Still, there were also suggestions for HEIs to rethink their current ways of collaboration with fashion industries.

> *I firmly believe that local and craft activities, that often are not considered in favour of the big brands, can be an asset. This [is] because these realities, many of which are disappearing, often have sustainable practices intrinsic in their profession and can be bearers of fundamental knowledge for tomorrow's professionals. (C10)*

"I firmly believe that local and craft activities, that often are not considered in favour of the big brands, can be an asset. This [is] because these realities, many of which are disappearing, often have sustainable practices intrinsic in their profession and can be bearers of fundamental knowledge for tomorrow's professionals."

Nevertheless, such collaborations are not always about mutual cooperation between the companies and HEIs, but also about governmental support, such as those that would enable continued internship programmes (C5).

Upcoming Making Perspectives

On the more traditional skills of a designer, creative portfolios and good collection-building skills were rarely mentioned during the interviews. This may be due to these skills being long established and recognised, and therefore, taken as already well understood. There is however, some evidence to support the continued importance of key fashion design discipline-specific skills:

> *Some of what I think I look for—and also seems important when I talk to companies—is, on the one hand, to have a deep disciplinary subject knowledge/ability in your own field. That is really essential. [...] The competencies we will look for will definitely be those tools designers have, about problem-solving, but also to suggest solutions from it—so these fundamental things. (C1)*

It can be assumed the time constraints set on the interviews caused the conversations to concentrate more on the properties adjacent to classical training. Technical skills like constructing were referred to in connection with zero-waste pattern cutting or made-to-order, yet the focus inclined strongly towards two other disciplines. Firstly, the development of **digital competencies** (10), and secondly, associations with **craftsmanship** (5). Reinforced by the outbreak of COVID-19, the need for an advanced digital skill set is most definitely on the rise. The bigger the company, the more evident the benefit. Reduced sampling and shortened lead times enabled by 3D design and 3D fitting are seen as both financial and environmental success, but also a means to cover the weaknesses of the supply chain during times like these.

Reinforced by the outbreak of COVID-19, the need for an advanced digital skill set is most definitely on the rise.

> *The shops ask for faster delivery so that they can match exactly customers' needs—and have less risk. Achieve greater accuracy in what sells. (C4)*

This directs companies to a more precise judgement of how much the shops can sell and reduce overproduction. And not only production, but some of the

respondents explicitly highlighted running digitally conveyed showrooms and shows. The current challenge lies in translating the physical to something interactive, yet realistic looking.

> *We have not seen designers with these skills. It is difficult to teach designers to move from 2D to 3D design. It requires time and commitment—I would like to see students with these skills. If they don't have the core technical skills, we would like the designer to be adaptable to incorporate and adopt 3D techniques. I see new roles appearing—3D technicians and render artists enabling made-to-order products. (C15)*

Furthermore, we are witnessing a strong shift toward e-commerce. On the other hand, analysis of the interviews suggests that bonding with the artisanal world and perceptible human presence has also gained prominence.

> *The school, with the practical support of industries, should make young people understand that a highly qualified craftsman, trained also in the use of all the most innovative means of technology, is a precious resource for the fashion system. We absolutely need artisans with a high level of qualification. (C8)*

Despite the issue being more relevant in the southern part of the investigated region, where the specific workmanship still exists and might outlive the massive industrialisation when guided the right way, working with craft communities is of general interest. Though not exclusive to handcraft, the practice is often riddled with ethical concerns due to the nature of the labour and the way supply chains have been traditionally set up to be exploitative towards it (C13), it effectively draws attention to the socio-cultural aspects related to the industry. For example, for designers working closely with trained craftsmen, the knowledge on social issues, including human rights, has increased significantly over the years. An interviewee adds:

> *From a socio-cultural point of view, we are promoting collaborations with other brands, creating projects to support sustainable and ethical fashion design as well as the artisans' communities. (C8)*

The presence of such maker communities or skilled workforce is of increased importance as **nearshoring and local production** (4) have become current topics of discussion, especially in support of the **longevity** (2) of the goods and a clear shift from quantity to quality.

> *If you tried to make a garment into a new garment, let's say some kind of recycling, then at best it is 3000% less efficient than reusing the garment one time as it is. So, we think it is an instant impact to simply use the clothes or the products you have, better. (C5)*

Social responsibility (10) and a sense of **responsibility** (5) in general does not fall far from the formerly highlighted top competencies of the future designer. Witnessing companies setting themselves internal recruitment challenges about diversity and inclusion (C6) is a common way of approaching the matter among sustainable institutions, as educating and raising awareness for diversity allows them to imagine different and alternative models to the current ones (C12). Therefore, hiring staff with a wider knowledge of social inclusion and CSR to take better care of its employees, its partners and suppliers is in high regard.

> *I believe we will witness two opposing phenomena: on the one hand companies will have less money to invest and some will cut budgets in the CSR division; on the other hand, there will be an increasing number of consumers who will be interested in and drive market demands towards sustainability. (C9)*

Hence, the increase in consumer awareness will be an effective driver for positive business behaviours. The issue of responsibility, in general, diversifies itself with designer responsibility and the course of events post-sales, which in turn bridges the way to **informed design and consumption** (9). People desire to reduce the footprint of their environmental impact and decisions made in the design phase can have a big effect on the outcome. The new generation of consumers will drive the change as they are more conscious of their own impact and demand sustainability through their purchase choices. The possibility to rethink current consumer behaviour through educational activities is a direction worth exploring. This opportunity does not only concern the consumers but also the companies, who, whilst running a successful sustainable business, have lately turned partly to educating the consumer or consulting other enterprises in search of a positive change. In the light of several legal parameters taking action in the forthcoming years, turning communication and knowledge into merchandise in fashion is a promising field of work.

The issue of responsibility, in general, diversifies itself with designer responsibility and the course of events post-sales.

And there will be more companies that will be needing competencies, that understand the full life cycle of the garments, in order for the companies to see at which points they can risk being held accountable for something. (C1)

Overall Analysis of Interview Findings

When requesting future-forward graduate skill sets, the most frequently mentioned keywords were developing a values-led **holistic understanding** (12) of the system, opportunities in **waste reduction and recycling** (12), **supply chain** management (12) and the **ability to collaborate** (12) (Figure 2). All the topics mentioned spread evenly across different regions under inspection. Whilst the former are strongly intertwined, the latter can be seen as a more independent entity.

Other discussed needs revolved around topics such as a more holistic understanding of design and production processes, as well as of sustainability in a general sense. The idea of resource scarcity is clearly latent for the majority of interviewees and ways of approaching the issue, such as new materials and circularity, become essential fields of knowledge. Practices and specialisations that expand beyond the field of fashion bring opportunities for novel tracks in sustainability, including, for example, future studies, collaboration, and different forms of communicating across disciplines. Lastly, becoming intimate with new technologies and being able to rethink fashion from digital perspectives alongside traditional practices fulfils current industry needs, while informed decision-making skills may see the emergence of specialisations related to, for example, user experience studies. Though it was not put forward by the interviewees, the digital landscape of tomorrow is a much vaster and more complex topic than the given examples in the previous chapter. This can be reasoned with a more design-oriented and less production-oriented focus of the participants. Nevertheless, initiatives like Industry 4.0[1] and Blockchain[2] can be major game-changers for large-scale producers, who in return can largely affect the footprint of fashion.

An unprecedented combination of skills may give way to roles able to effectively realign the industry towards more responsible directions.

The analysis of the findings suggests a few directions for future implementations in content, structure and approaches for HEIs. As the demands shift from the previously consolidated image-making skills (McRobbie 1998) to more holistic skill sets, it is paramount that a change of perception on fashion, textiles and accessories designers' roles and skills takes place. In this way, an unprecedented combination of skills may give way to roles able to effectively realign the industry towards more responsible directions. In regard to collaborations, the limitations of HEIs and companies to fruitfully collaborate has emerged as a topic to be discussed. Here, actions initiated by governmental bodies, such as policies that support internships and extended learning, could be beneficial to the development of more consolidated exchanges and collaborations.

As we face challenges on the scale of climate collapse, much remains unknown to industries regarding what to expect of future professionals in the field. However, it is clear that changes are necessary to keep the industry alive—even if under extremely adverse conditions. The findings suggest that expanding beyond the previously established notions of fashion design, along with the incorporation of fields of knowledge that take life with Earth (in opposition to life on Earth) as central, may allow enlightening futures.

As we face challenges on the scale of climate collapse, much remains unknown to industries regarding what to expect of future professionals in the field. However, it is clear that changes are necessary to keep the industry alive—even if under extremely adverse conditions. The findings suggest that expanding beyond the previously established notions of fashion design, along with the incorporation of fields of knowledge that take life with Earth (in opposition to life on Earth) as central, may allow enlightening futures. Increase in production quality and decrease in production quantity, for example, is one of the key takeaways that require urgent attention from both HEIs and industry.

1. Industry 4.0 is the ongoing automation of traditional manufacturing and industrial practices, using modern smart technology. Schwab, Klaus (12 December 2015). "The Fourth Industrial Revolution". Retrieved 15 January 2019

2. Blockchain a is a decentralised transaction and data management technology system that provides security, data integrity and anonymity without the control of any third-party organisation. When applied in fashion, it can trace the complete history of a garment. Yli-Huumo, J., Ko, D., Choi, S., Park, S., & Smolander, K. (2016). Where Is Current Research on Blockchain Technology?—A Systematic Review. PLOS ONE, 11(10), e0163477. doi:10.1371/journal.pone.0163477

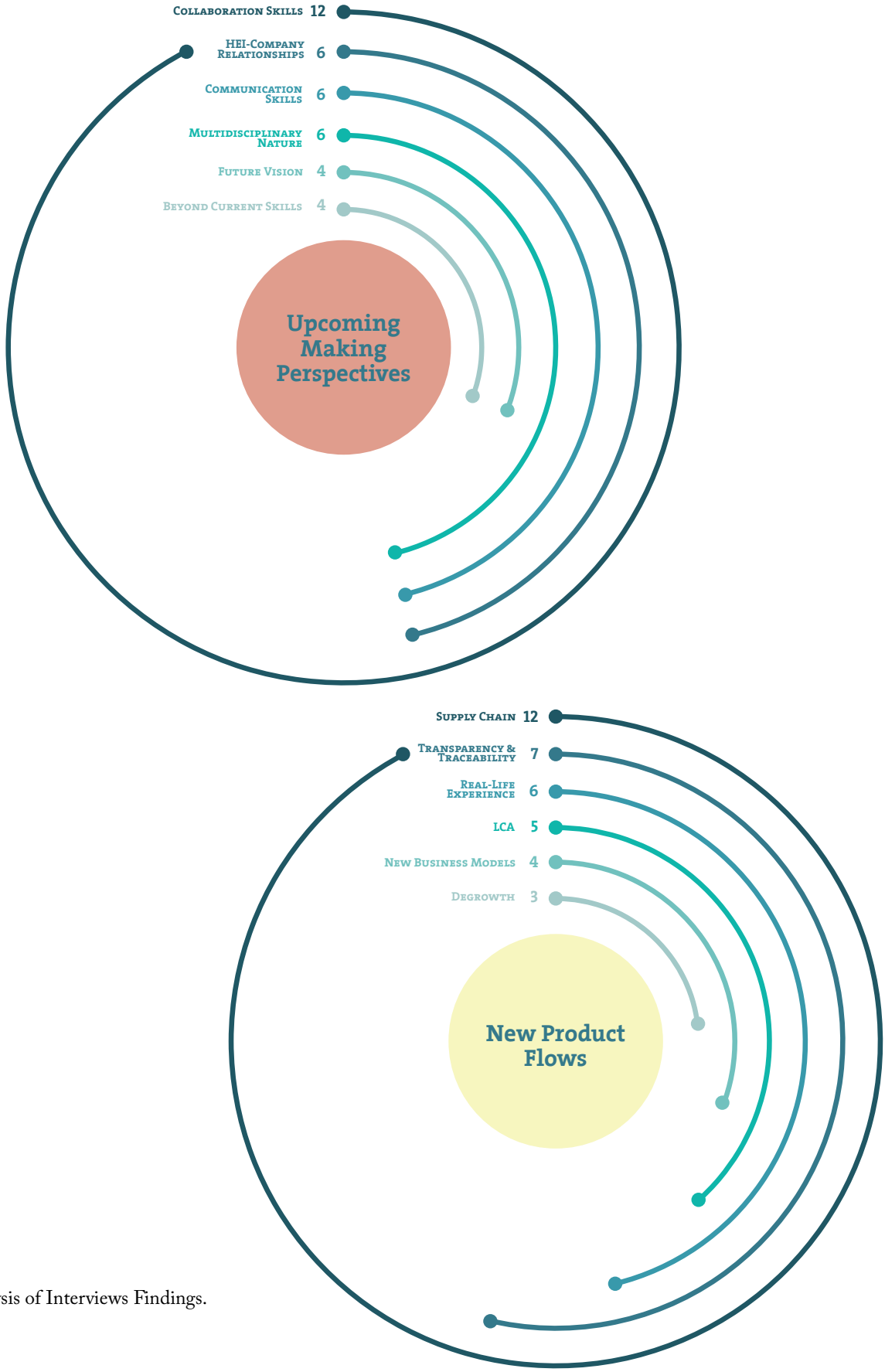
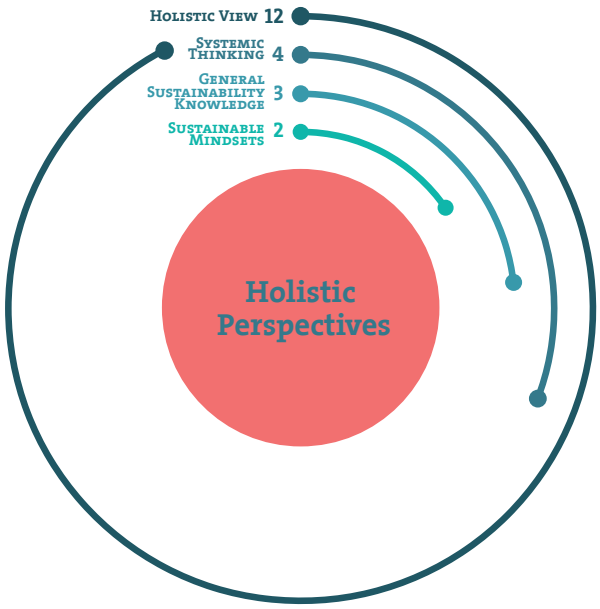
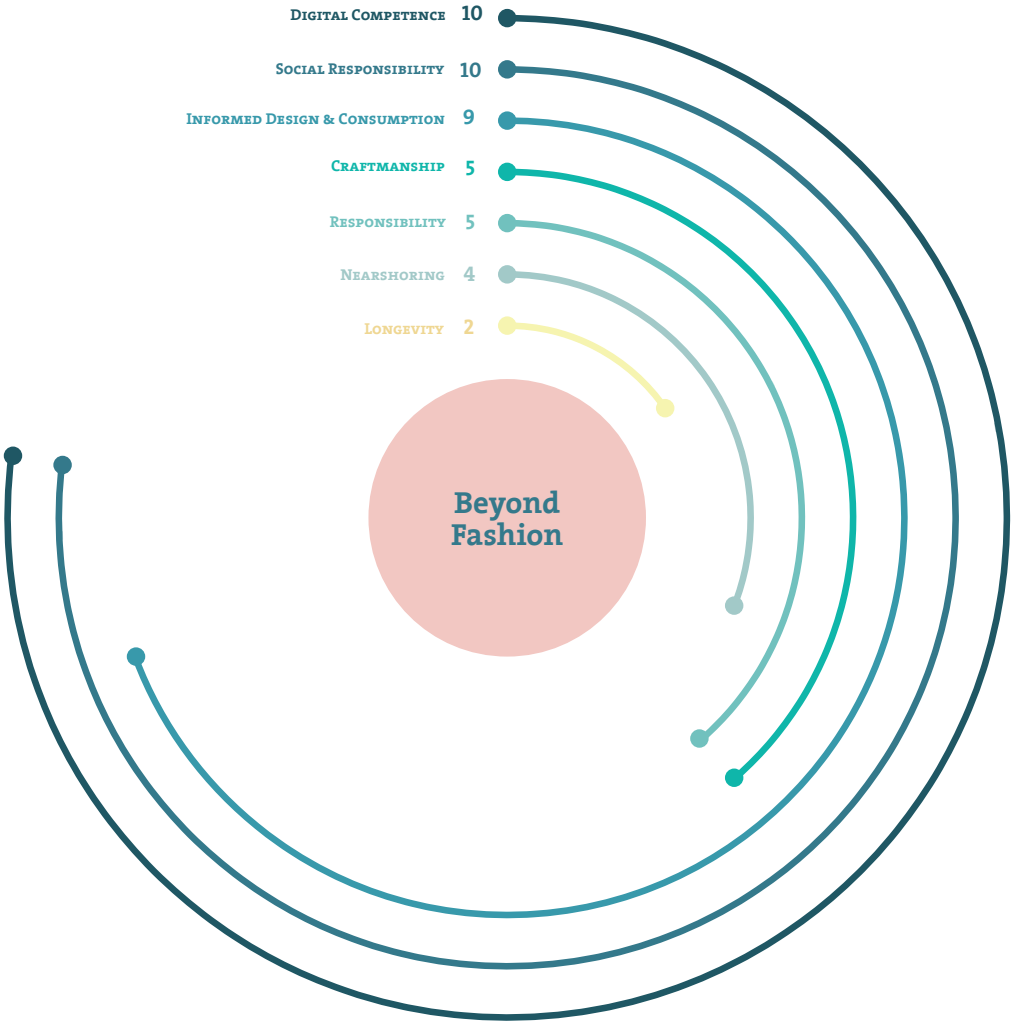


Figure 2.
Visual Analysis of Interviews Findings.


Knowledge about Materials 10
Circularity 10
Certifications 4
Resource Responsibility


Holistic View 12
Systemic Thinking 4
General Sustainability Knowledge 3
Sustainable Mindsets 2
Holistic Perspectives


Digital Competence 10
Social Responsibility 10
Informed Design & Consumption 9
Craftmanship 5
Responsibility 5
Nearshoring 4
Longevity 2
Beyond Fashion

CHAPTER 6.

Focus Group

Narrative of Focus Group Findings
Thematic Review of Focus Group Findings
- Policy Literacy
- Political Incentives
- Designers as Mediators
- Resource Responsibility
- Upcoming Making Perspectives
- Holistic Perspectives

Overall Analysis of Focus Group Findings

Narrative of Focus Group Findings

In order to further investigate the future graduates´ skill sets, a focus group was organised for professionals in relevant fields (see Chapter 4 or Annex B). The conversational nature of the event enabled participants to dig deeper into relevant areas of designers´ competencies and desired expertise. Due to its conversational style, the discussion developed in unexpected directions, with findings presented below. One of the most relevant emerging topics to note was that of communication skills, which did not emerge to such extent in the interviews. Another key difference to note was in the profile of interviewees, as here some participants were coming from outside the fields of fashion and textiles and represented politics. In the following pages, the findings from the focus group will be revealed and discussed.

Thematic Review of Focus Group Findings

Following a similar analysis method as the interviews, the categories explored below emerged from the analysis of the focus group transcripts, carried out via a combination of open and thematic coding. Similar topics and codes in these two data sets were grouped into categories that at times confirm the findings from the interviews, thus following the same naming, and at times offer alternative viewpoints. This strategy aims to provide a smoother readability across findings. It is again relevant to note that these categories should be read as devoid of hierarchical structure, but instead as a fluid whole.

Policy Literacy

To set the tone for the industry's legislative situation in the near future, the participants were introduced to policy-related questions first, followed by topics about design and entrepreneurship, and finished with an opportunity to discuss the possible course of HEI-company collaborations. The participants were briefed in advance about the project content and given an overview of the current existing EU policies (Annex E, Annex F) concerning the fashion and textiles industry for the next five years. Focusing on EU policies, instead of local ones, allowed the discussion findings to be intersected with those from the interviews. The latter proved particularly important, as two of the participants from the bigger enterprises were not aware of them beforehand. Also, based on the core of the brief, which addressed the four pillars of sustainability, the presence and intertwining of different directions was seen as more vital than ever.

> *There is no way to take one of the pillars out of the equation. We can't say that we need to focus on one thing or the other, it is about the balance. The ways we address policy, the Green Deal, is about all the pillars. There is a lot of focus put on social and cultural [pillars] as well, even though the environmental and economic [pillars] seem to be highlighted. (F5)*

The current state of regional policies regarding clothing and textile industry practices was discussed and questioned; it was suggested that they do not quite meet the environmental, economic, social, and cultural challenges of the future. In particular, a lot still needs to be done to guide both the industry and the consumers to progress, though on the EU level a set of rules are given. What remains a challenge is how to motivate people to do more sustainable waste management and who in the end should be responsible for the collection and recycling of surplus textiles.

> *Waste tends to fluctuate between very high and very low—e.g. single-use plastic is now perceived as waste. With textiles, people don't still see the issue. There is a huge problem and people may do a few things that will make them feel better, but they don't see the bigger picture. (F5)*

Efficient policy management that could support the shift is considered lacking, especially as the circular economy in general is perceived as a free market, but currently with very limited profit options. Sustainable thinking embedded in the population varies a lot—whilst Scandinavians demonstrate high public and corporate awareness and interest in the topic, political investment in sustainable initiatives and financial support would be of great need to even out and

accelerate the progress in other parts of Europe. Taxes and environmental fees imposed by the EU are definitely seen as game changers, yet regional difficulties remain. The latter is particularly acute in the EU countries with a lower average income, for example in Eastern Europe, who, based on the competition from the developing countries where the given standards do not apply, feel powerless to keep up.

Political Incentives

Since the 2025 separate collection of all end-of-life textiles is very urgent, the participants unanimously stated that additional **political incentives** from the governments are needed.

> *As a small company, I don't have the same problems as big companies have. I am almost there on recollecting products, etc., but the taxing problem has been felt for a long time. Different taxing options would help. (F1)*

For example, **tax reduction** on repairability, recycling, upcycling, and sustainability service ability could be something that the EU market requires (F6). Sweden was cited here as an example (Orange, 2017). Whilst the venture (giving tax breaks for repairs) reached a wide audience at first, the success level of the project still needs to be evaluated for wider implementation. Another issue underlined was being too small when trying to access information (F1) necessary for sustainable growth. The latter accentuates imposing **regulations on transparency** for suppliers. Smaller enterprises feel it is hard to collaborate with several of the producers and be sustainability-driven as their requests for a better supply chain and production condition insights are often discarded due to the size of their orders.

Since the 2025 separate collection of all end-of-life textiles is very urgent, additional political incentives from the governments are needed.

The matter of political intervention was also mentioned as essential for fresh graduates. It was suggested the unemployment office could partly fund salaries in order to professionally engage graduates that do not have sufficient production experience, yet provide a strong sustainability attitude (F1). Using the PoDoCo³ initiative in Finland as a case study, a matchmaking programme for increased competitiveness and long-term strategic growth of companies

aimed at the employment of degree holders in the private sector could be a solution. In addition, mixing up people with diverse backgrounds could drive more innovation (F5). Another set of proposals suggested an increase in **science funding** for fashion and textiles related education, concentrating on solutions that focus on what to do with the surplus textiles.

Designers as Mediators

A matter of common concern and the most highlighted topic among focus group participants was the current level of general communication regarding waste legislation in the fashion and textiles department. The representatives of the political agenda were especially vocal by stating that success in overcoming the future challenges lies in effective **communication skills**.

> *Communication is one of the crucial aspects for influencing consumption behaviour. [...] Whose work it should be? The education system? The public sector should collaborate, but also the industry itself. (F6)*

> *Consumer behaviour guides the industry. You can design policies, but you can't force the companies to produce non-stretch jeans that nobody will wear. Things can change, but we have to communicate better. This includes materials—the government can motivate us to use one material over another. (F6)*

Consequently, new positions for design professionals as possible **mediators** between different fields were proposed (e.g., see Fry 2009, Williams 2015). The specific term was mentioned on several occasions. The policymakers need to get a clearer overview of the industries' opportunities and production perspectives from experienced creatives in relation to the imposed measures, whereas, even more importantly, new sustainable design-centred laws call for a trustworthy and straightforward interpretation communicated to the public, preferably broken down into simple educational steps. Due to vast illiteracy on the topic, the necessity of a mediator who could establish a bridge between factories, policies, and HEIs, was seen as inevitable (F2).

> *Skills and challenges that are coming from policy, e.g., repairability and durability, need a lot of practical skills with materials. I would be happy if people coming out of university had a better understanding of the policy frameworks and the discussions behind it. The Green Deal is a vision document and easier to read, but others around legislation are*

difficult. [...] [We need to] find the communicators who are passionate about policy. (F5)

Our company realised how under-equipped they were and started hiring people that understand the areas and knowhow to read the legislation documents. Could the EU think of a summary at the same time as they do the documents? (F4)

Sex education, traffic education, smoking - we need to talk about clothing in the same way [...] as the oil business, [or] agriculture, but because of the scale things must be done on a governmental level. Just to leave it to the companies will create more mess. The mix of fibres makes it much more complicated to explain than, for example, single-use plastic. [...] If we are able to give the overall view via education, when they hire for marketing, they will get the accurate info. (F4)

Regarding consumer awareness and communication, information overload was considered a possible obstacle preventing customers from digging deeper. For example, people may reach the idea that leather equals bad. Yet, it would be much more important to inform about the difference between different leathers (F1), hence the suggested conversions in employee profiles. Although this type of **education** might be perceived as marketing at first, the boundary between the two will emerge quickly though systemic interventions on the HEI level.

Consequently, new positions for design professionals as possible mediators between different fields were proposed, for example, new sustainable design-centred laws call for a trustworthy and straightforward interpretation communicated to the public, preferably broken down into simple educational steps.

However, and similar to the findings from the interviews, all parties related to difficulties regarding cooperation between universities and businesses, both locally and internationally. The case was not always personal and did not always reflect the position in the institution of the representative, but rather confirmed the overall situation and forwarded the experiences shared with colleagues from other companies. Partially, this was about the question of shame on the enterprises' side, as demonstrated by the lack of sustainable action, but

also the limitations of the current business models that do not always see the benefit in including students.

> *We don't want to show our weaknesses and the things that we should have done, but have not. (F3)*

From the examples above, we see the need for diverse types of communication skills, such as those related to storytelling, policy literacy, collaboration, general writing skills, as well as copy editing. Such skills would not only allow fashion, clothing and textile industries and designers to establish stronger brand-consumer communication, but also allow collaboration and clearer communication beyond the fashion sphere, providing a true opportunity for interdisciplinarity. The discussion also pointed out the need for a simplification of policy documents (often written in language inaccessible to most designers), in the form of summaries or even comics, guaranteeing accessibility to a wider audience.

We see the need for diverse types of communication skills, such as those related to storytelling, policy literacy, collaboration.

Resource Responsibility

Communication referring to fibres brought about the **importance of materials** in higher education and the industry. In academia, over the years, the courses on materials have often been reduced in the general credit load. The knowledge of different materials' afterlife options has faded alongside this. Now, with re-shoring interests in the EU emerging, the gap is very visible.

> *Technical knowledge of the textile industry does not exist as it used to, we will need people from Asia for that. We have good ideas in theory but we don't have much of the practical knowledge and possibilities around the materiality of textiles and fibres. (F4)*

> *People that work with materials every day have a more balanced overview and understanding of what sustainability involves. We have a limited view, but everything happens together, so it would be good if people had a more general material understanding. (F4)*

> *Material knowledge—we need people that can make things from these materials, increase cooperation between departments and*

different areas (transdisciplinarity). First understand the big scale, but in the end, we need skills and expertise. (F3)

The participants shared that contemporary challenges, especially the effect of COVID-19, have allowed a moment of deeper reflection and confirmed the need to rethink their current business models. The changing conditions of nature and worsening climate crisis add even greater insecurity around future business planning. Investing in a new technical solution right now might not be viable in 10 years, as we might, for example, not have enough water to sustain that technology or process. Yet, **material technology** is one of the best opportunities to advance. Insights on material engineering or a better overview of **waste management** and **supply chain** mechanisms will become increasingly beneficial for upcoming professionals and obtaining expertise in the aforementioned fields is an emerging career opportunity. People working with factories have to understand what to look for in order to contribute to sustainable transitions. (F4)

"We don't have enough experts on life-cycle analysis, or people that are able to look at the whole chain and look at ways to reduce waste and go forward with environmental goals."

To fix the market for separate collection of textiles in five years is a very short time and I do not believe in it as a realistic scenario. Especially as a lot of the things discussed painfully show the fact that we don't have the required expertise anywhere. [...] We don't have enough experts on life-cycle analysis, or people that are able to look at the whole chain and look at ways to reduce waste and go forward with environmental goals. People should be able to know who to involve to figure these things out. We could finance the production of design, but if we don't have people prepared to carry the projects out, it's a bigger problem. FashionSEEDS is timely because we do need to change the education. We will have more environmental experts in 15 years, but how [can we] make it happen in a shorter term and in a way that tries to solve the most pressing questions that the industry currently has and that educates policymakers on what to do? (F5)

While industry professionals recognize the need to completely rethink industry processes and practices due to extreme conditions such as lack of water, emerging pandemics, etc., contemporary approaches from the industry still actively discuss efficiency, water/waste management, amongst other challenges. By doing so, they often fail to hold a more holistic perspective that looks at the

challenges at their sources. This comes as a clear challenge to both tutors and businesses, on how to rethink the industry while taking more extreme scenarios into consideration. One possibility is the use of futures thinking pedagogy (Williams, D. et al., 2019). In addition, the recognition of the lack of technical skills in European countries as one of the effects of offshoring production emerges as a concern.

The unprecedented changes that may take place due to climate change add complexity to this analysis. The current crisis caused by COVID-19 is a clear example, as it has required the entire industry to rethink its products, strategies, approaches and goals. Similarly, due to the extent of the impact from COVID-19, future events and crises are hard to predict and scale. However, the present situation allows imagining future scenarios where global connectedness and paradigms of practices are put to test.

Upcoming Making Perspectives

Similar to the interviews, little discussion circled around traditional fashion skills, though no assumptions can be made regarding the reasons behind such absence. Still, some general observations occurred referring mostly to attitude and open-mindedness, next to classical demands on creativity and material knowledge.

> *I look first at someone who actually wants to work and is willing to learn. The attitude. [Secondly] understanding the material, its functions and the construction is really important. And then, to be open to ask the naïve questions. (F4)*
>
> *Hard worker and the attitude. We need creativity a lot. (F3)*
>
> *Limitations can be overcome with hard work. Mastery of the material. (F2)*

Returning to the lack of resource experts from another angle has a lot to do with the technological advancement of education and developing the **digital knowhow** of the students. Digital tools help to increase the cost efficiency and profitability of the recycling of waste materials, or already reduce the waste beforehand when looking at sampling or being better aligned with customer demand and produce, according to the feedback based on digital samples. Also, the present increase in the online market has made the opportunity to compare the goods and have everything available online a common matter. The need to

connect across designers and technical fields was seen as a joint responsibility of the HEIs and government, with multiple opportunities expanding across fashion as usual.

The digital capabilities appeared insufficient once the topic of the physical production phase kicked in. The present production and payment struggles resulting from the COVID-19 crisis makes the need for business diplomacy more apparent, and pinpoints CSR as a growing requirement. In general, the pandemic has made it clear that processes cannot be planned as far ahead as before and the industry must face shorter lead times, with **nearshoring** proposed as a possible adjustment in the business model.

> *Is it actually possible to bring production back to Europe? COVID made us realise that we need to have the craftsmanship and the production close. (F6)*

As an alternative, a second or a third buy of the same garment was encouraged. Although garment resale has strong support in the community, especially among the younger generation, the situation challenges the current designers to advocate for a **quality first purchase** within the companies, through design choices, in order to prolong the lifespan of the product and keep it in circulation for as long as possible.

The situation challenges the current designers to advocate for a quality first purchase within the companies, through design choices, in order to prolong the lifespan of the product and keep it in circulation for as long as possible.

Holistic Perspectives

Similar to the viewpoints shared in the interviews, a more **integral vision** of the design and production processes is needed, along with a good general understanding of sustainability.

> *The overall understanding of what is sustainability is lacking, not only for students but also for tutors. It was advised the governments should put up a financed programme that connects industry and education, preparing respective people that would go to the companies and do a good job. (F1)*

> *Design thinking. Designers don't think beyond the selling point and what happens to the product after purchase and use. The difference is also between how to make it and how to market it. If we educate people on how to make things, we have to educate people on how to market and sell them responsibly. (F2)*

> *The big picture comes with experience. It is possible to make them understand the context so they are able to understand and analyse the production. (F1)*

In the quotes above, the focus group participants stressed the need for more systemic viewpoints and the ability to see the bigger picture in order to create new solutions. Though specific skills are highly valued, deep specialisation was seen as a small disadvantage, which could inhibit systemic thinking within larger processes (F4).

Overall Analysis of Focus Group Findings

The analysis of the findings of the focus group has pointed to a few central skills areas. These include: **literacy in policies** related to clothing and textile industries; flexibility in expanding skill sets **beyond the traditional fashion competencies**, with a clear focus on **communication-related skills**; an increase in **responsibility towards resources**; both a revival of, and innovation in, **making perspectives**; as well as a more **holistic vision** of design and production processes.

Overall, the findings from the focus group held a higher concentration of topics related to policymaking, due to the presence of participants beyond the field of fashion. While this may have created a certain disruption to how the discussion was carried out (e.g., due to the lack of common language, or knowledge limitations of participants), it made room for the emergence of topics absent in the interviews. The growing need for communication skills was explored broadly, taking into consideration how fashion professionals communicate with and could educate people in other fields, but also how other fields can enhance communication with fashion. Digital competencies stood out for both resource-efficiency and production opportunities, whereas material knowledge was seen to support an extended vision of the supply chain and surplus managment. A hybrid professional, who embodies knowledge of, for example, fashion design and governmental policies, surfaced as one of the possible new specialisations in the field.

Flexibility in expanding skill sets beyond the traditional fashion competencies, with a clear focus on communication-related skills.

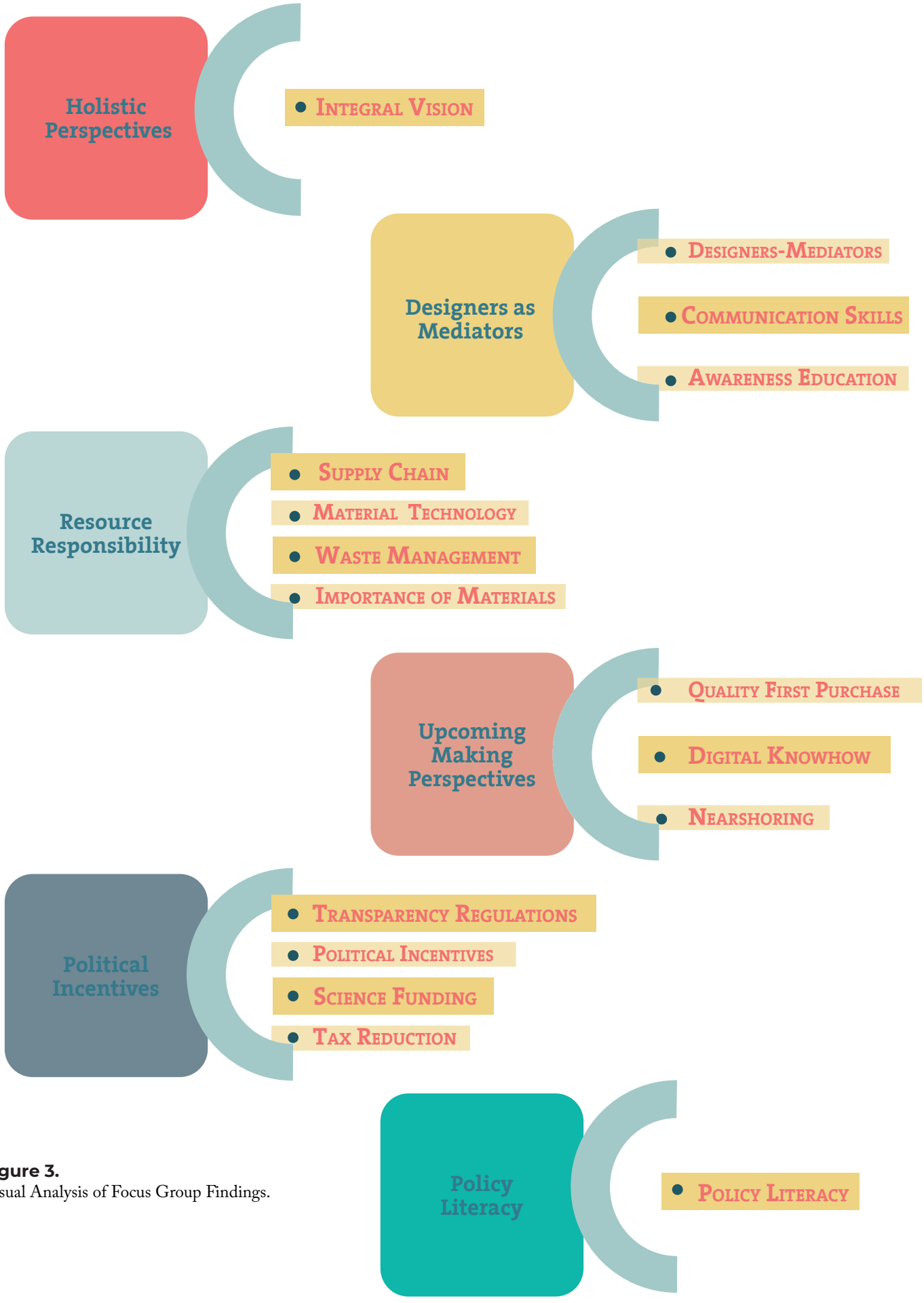


Figure 3.
Visual Analysis of Focus Group Findings.

CHAPTER 7.

Research Limitations

This report sought to propose insights for the advancement of fashion education for sustainability, bringing the next decade into perspective. Through a series of interviews and one focus group, carried out with European representatives from the fashion industry, fashion and textiles related associations and EU level policymakers, the work was able to map needs identified and anticipated by different stakeholders. However, a series of limitations described below must be accounted for:

(1)
The interviewees were geographically limited to the reach of the project partners, thus including only companies based in Denmark, England, Estonia, Italy, France, and Portugal. While examining the data raised a few differences that emerged regarding geographical areas, no conclusions can be made as the reach was rather finite.

(2)
The total number of 16 companies interviewed, added to one focus group, is clearly limiting considering the great diversity of enterprises that are currently active in Europe. A much wider sampling would be needed to better mirror the current and future needs of the industry in Europe regarding fashion education for sustainability.

(3)
An insight analysis holds its particular constraints as it relies on current and past trends in order to envision future scenarios. While these scenarios will hardly clearly account for the upcoming trends and events, they support reflection on ways that upcoming challenges can be approached.

(4)
Some changes were necessary to the initial plans due to the inability to interview participants in-person or in a group, due to the COVID-19 pandemic. As interviews were carried out via digital platforms or telephone, the limitations of such media must be accounted for.

(5)
This analysis could not identify regional particularities due to the fact that the companies' profiles were rather diverse, and the uneven number of companies interviewed per region. The limited number of interviews also prevents conclusions on such particularities.

CHAPTER 8.

Conclusions And Summary Of Findings

Fashion Design Graduate Skills, Knowledge and Competencies Foresight

An urgent call for graduates with a holistic understanding of the production processes in relation to sustainability has already been issued, and will be reinforced in the coming decade as we face further challenges related to climate change. This leads to ways in which the four pillars of sustainability can be addressed in a more systemic way, moving away from mainstream contemporary perspectives that put economic needs first.

An urgent call for graduates with a holistic understanding of the production processes in relation to sustainability has already been issued, and will be reinforced in the coming decade as we face further challenges related to climate change.

The expected, and constant, need for technical skills will start taking on new forms as it welcomes exchanges with traditional skill sets, as well as meeting sudden demands for digital solutions at times of travel restrictions caused by a crisis (such as the pandemic). To many it is expected that such events will become recurrent in the following decades, thus being able to adapt to movement restriction while creatively proposing solutions is of the utmost importance for the maintenance of some essential aspects of the industry. Additionally, the COVID-19 pandemic has driven the alteration of fashion processes from a holistic viewpoint, frequently insisting on a change in traditional business approaches and goals.

The expected, and constant, need for technical skills will start taking on new forms as it welcomes exchanges with traditional skill sets, as well as meeting sudden demands for digital solutions at times of travel restrictions caused by a crisis (such as the pandemic).

Broadly discussed in other fields of practice, the implementation of design processes informed by research is still novel in the fashion industry. Together with the nascent but crescent number of fashion practitioners holding doctorate degrees, the creation of user experience positions in companies is a possible trend, already established in other fields of design.

Lastly, and bringing together all the points above, intersections with other disciplines in the form of transdisciplinary professionals is a clear and emerging possibility, which may bring answers to many current challenges, such as those related

to materials and resource efficiency, supply chain management, transparency, and interpreting and creating policies, among others.

Figure 4.
A visual cross-analysis intersecting the main findings from the interviews and focus group. By synthesising the two sets of findings (interviews´ marked with circles and the focus group´s marked with squares), three main directions – Holistic Perspectives, Upcoming Making Perspectives and Resource Responsibility – emerge alongside other significant themes.

Fashion Design Graduate Skills, Knowledge and Competencies Foresight

The rich array of observations outlined in the interviews and focus group reflect back to the posed challenges and possible development trends highlighted in Chapter 3. The participants were adamant to address environmental sustainability issues through a more profound material study and waste management actions—both extremely important for the progress of the Green Deal. Furthermore, the findings express that social sensibility, nearshoring and crafting-related matters are vital for solving social and cultural challenges. Holistic visions and circular business conduct, on the other hand, enable us to go deeper into possibilities for economic sustainability, beyond material substitution and lower carbon emitting processes. Instead, more radical approaches to production can arise, especially in terms of scale, taking broader holistic perspectives into consideration, looking at the real cause of the many concerns in the fashion and textile industries. The examples could also be cross-referenced between the directions within sustainability as they form a strongly interlinked ecosystem.

Intersections with other disciplines in the form of transdisciplinary professionals is a clear and emerging possibility, which may bring answers to many current challenges.

Looking at the Benchmarking Report findings in relation to the outcome of the Future Skills Foresight 2030 Report, including the pillars of sustainability and pedagogical approaches based on the Centre for Sustainable Fashion framework (Williams 2019), we can see that certain overlaps occurred. **The facilitation of cross-academy and HEI-company collaborations** emerged alongside holistic visions that call for **critical thinking in fashion and the plurality of perspectives** in the fashion design profession. Although stimulating life-long learning, a salient outcome of the Benchmarking Report, was not addressed in this analysis, this does not diminish the importance of the previous finding. This current report concentrated on upcoming graduates and their future perspectives in general, and did not imply the number of times one ought to obtain education, but rather expressed the need for openness to evolve at large. Here, **the need for policies that support learning outside the limits of the traditional academic environment, especially within the industry,** emerged. Nevertheless, the principal aim to **encourage actionable ways of transforming the current state of the fashion system towards sustainability** was central to both the IO2 and IO5 studies. One of the tangible outcomes of the FashionSEEDS

project—a digital platform presenting resources for educators at *fashionseeds.org*, also combining practical elements from IO4—offers the opportunity to engage in various hands-on activities or find further leads for theoretical development, whether gradually or in-depth, for sustainability in fashion. By providing a resource repository of such kind, several of the findings are addressed with applicable solutions.

One of the tangible outcomes of the FashionSEEDS project—a digital platform presenting resources for educators at *fashionseeds.org*—offers the opportunity to engage in various hands-on activities or find further leads for theoretical development, whether gradually or in-depth, for sustainability in fashion.

This coherence and reliance on the different parts of the FashionSEEDS programme helps validate the content of the project. The tutors, while implementing Future Skills Foresight into fashion and textiles education, can carve out advantages for their students' futures by diversifying their skills, knowledge, and competencies and offering a broader vision of responsible fashion to come.

CHAPTER 9.

Bibliography

Annex A—Pillars of Sustainability
Annex B—Study Methodology
Annex C—Semi-Structured Interview Questions
Annex D—Focus Group Questions
Annex E—Brief
Annex F—List of Political Documents and Initiatives in Favour of Sustainable Change in Fashion

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Annex A—Pillars of Sustainability

The four pillars of sustainability as presented in the FashionSEEDS Benchmarking Report (Williams et al., 2019):

Economic sustainability refers to the ability of citizens to enjoy living conditions that are within agreed boundaries in terms of wage levels relative to costs of living and the gap between the lowest and highest wages. It refers to regional and inter-regional access to investment and to a healthy relationship between productivity, employment, and economic status.

Environmental sustainability refers to our ability to live within biosphere limits, recognising planetary boundaries (Rockström at al., 2009). It draws on ecological principles and various practices that recognise people as part of nature and looks for ways to preserve the quality of the natural world on a long-term basis.

Social sustainability refers to the ability of a community to interact and collaborate in ways that create and exemplify social cohesion. It considers places, communities, and organisations, formal and informal, and their resources, opportunities, and challenges. It involves the agency of diverse participants in voicing and acting with autonomy, and in harmony, with others.

Cultural sustainability refers to tolerant systems that recognise and cultivate diversity. This includes diversity in the fashion and sustainability discourse to reflect a range of communities, locations, and belief systems. It includes the use of various strategies to preserve First Nation cultural heritage, beliefs, practices, and histories. It seeks to safeguard the existence of these communities in ways that honour their integrity.

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Annex B—Study Methodology

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Interview Methodology

The interviews followed a semi-structured method and covered a total of 16 industry experts and designers acting in companies based in the EU (see demographics in Table 1). Prior to the interview, all interviewees received a brief (Annex E) that informed them about the FashionSEEDS project, the four pillars of sustainability and current EU policies regarding clothing and textile industries. All the interviews followed a certain set of guidelines (Annex C) and were organised in three parts:

1. Interviewee Profile: including core business, location, size, founding year and goals
2. Introductory Questions: to map the overall relation to sustainability
3. Core Questions: more closely related to the aims of this study.

Sampling

The aim of the semi-structured interviews is to identify current and potential employers in the fashion industry and engage them in a dialogue that would feed into the Future Skills Foresight 2030 Analysis. For a more diverse view, consultancies, trade organisations and future-thinking designers were targeted within the final sample about their visions for sustainable strategies. The diversity of participants and their correspondence to different parameters is important—in particular, their division of company representatives into business-development and design professionals. The general sampling is defined below:

—Industry experts: business representatives, managers, buyers, sustainability leads, etc.
—Designers: professionals, entrepreneurs (self-employed).

The selection also seeks to support the general four-pillar agenda of the FashionSEEDS project with economic, environmental, cultural, or societal sustainability kept in high regard. Aligning with one or several pillars, a variety in company size is seen as a significant component in the selection process with options of micro (<10 employees), small (< 50 employees), medium (< 250 employees) and big (> 250 employees) companies available during the first round of surveys in IO1. An additional option of 'self-employed' (freelance) was added to the list of options to cover for crafts and artistic practices that may reside out of mainstream fashion. Moreover, several graduates set up their own companies without employing others, possessing insights that serve as a vital input to academia as they contribute to the fashion industry in significant ways and count as a direct link to the educational experience in fashion. The year of establishment, on the other hand, helps to better understand the company's strategies, whereas other characteristics such as the internationalisation of the company or keeping a local focus help to assess the overall influence of the enterprise on a larger scale. In addition, as two companies were previously interviewed in IO1, it is important to note whether the company or design professional has been interviewed before in order to efficiently analyse the collated data afterwards, but also pick the right set of questions. The table below illustrates the anonymised participants in the interviews.

Code	Country	Interviewee's Role	Company segment	Pillar				Company Size	Established
				E	S	C	B		
C1	DK	Founders / CEO /Academic	consultancy	X	X	X	X	micro	2018
C2	DK	Senior Designer, womenswear	premium, womenswear		x		x	medium/small	1999
C3	DK	Director	trade association	x	x		x	small	1895
C4	DK	Design Manager	fast fashion, womenswear mainly	x			x	big	1994
C5	DK	CEO / Designer	plug-in circular retail platform	x			x	small	2017
C6	IT	Sustainability Program Manager	luxury, e-tailer, womenswear, menswear, accessories	x			x	big	2016
C7	IT	Marketing Manager	luxury, womenswear, menswear	x			x	big	1948
C8	IT	Communication Manager	premium, bags & accessories		x	x	x	small	2006
C9	IT	Founder	premium, womenswear	x	x		x	medium	2013
C10	IT	Co-Founder	premium, unisex apparel	x		x		small	2014
C11	FR	Sustainability Lead Sustainability Consultant * two representatives	mid-level, shoes		x		x	medium	2004
C12	IT	Communication Manager	mid-level, womenswear		x			small	2012
C13	UK	Sustainability & Innovation Director	luxury, womenswear, menswear, kidswear, accessories		x		x	big	2001
C14	UK	Founder	experimental apparel, consultancy	x			x	micro	2004
C15	UK	Head of Design, menswear	fast fashion, womenswear, menswear, accessories	x	x	x	x	big	2000
C16	PT	Founder	apparel production, technical wear	x				medium	1991

Table 1.
Descriptive list of the 16 participating interviewees. The pillars are coded as E= Environment, S=Social, C=Cultural and B=Economy. Fashion market levels categorisation according to Malem, 2009.

Semi-Structured Interview Guidelines

All data reviewed in this part of the study has been gathered among stakeholders located in Europe or led by counterparts originating from the area. Nevertheless, several companies operate worldwide and support highly valuable international expertise. Previously detected by desk research or well-established HEI-company connections, the semi-structured interviews were carried out through a questionnaire. Before the interview, a Brief (Annex E) was forwarded to the participants, including:

— Introduction to the FashionSEEDS project and the aims of the Future Foresight 2030 Analysis;
— The concept of the four Pillars;
— A brief summary of EU Commission policies in focus.

Due to the COVID-19 pandemic, previously planned live meetings with selected groups were put on hold and substituted with online, long-distance semi-structured interviews with industry and design representatives from UAL, Polimi and DSKD, with the exception of EKA who conducted an offline focus group meeting. The focus group brought together industry professionals and policymakers for a deeper insight into the legislative agencies affecting the course of business making in the future.

According to the interview methodology, the information is collected from a pool of respondents by asking multiple open-ended questions. The set of questions can vary according to the specific stakeholder being interviewed (Annex C). While allowing flexibility, it is essential to establish a collective understanding

of the construction, selection, and exchange of questions and answers. The latter, assuring the questions are presented in the clearest conceivable way while remaining faithful to the conceptual objective of the research (Pawson, 1989), becoming the most important aspect of the respective process.

The semi-structured interview is organised in three parts:

1. ID (institution identity), which refers to general data and aims at defining the core business, location, size, founding year and goals of the represented establishment;
2. Introductory Questions, which deepen the knowledge on the interviewee's background, their previous and current experience and competencies, the sustainability initiatives the respective companies are already performing, and current challenges in need of urgent response;
3. Core Questions, which touch upon the future challenges of the companies and the skill sets required to meet those needs currently and in the near future, and investigate the role of HEIs within implementing sustainability in the fashion sector. The challenges include the aftermath of the COVID-19 pandemic as well as the new EU directives affecting the industry.

The division of companies allocated to project partners for interviews follows the lead of the Benchmarking Report: UAL is responsible for the central Europe area; POLIMI takes the lead for the Mediterranean countries, and DSKD is responsible for Northern Europe. Based on time limitations for conducting the interviews, the collected sample number is smaller than those of the survey and mostly concentrated on the countries the institutions are located in. The list of countries represented consists of the UK, Italy, Portugal, France, and Denmark, thus Europe being the primary area of research and implementation.

Data Analysis

The retrieved data has been mapped and compared towards qualitative analysis. The insights gained from the interviews were carefully reported in reference to the context in which it was assembled, taking into account the context of each case and the different experiences of each participant. By using keywords and recurring themes, it was possible to quantify the opinions and attitudes of the participants shared during the interviews alongside measurable parameters regarding company and interviewee profiles under examination. For the purposes of analysing the data collected from open-ended questions in part two and three of the interviews, the following methods were applied:

— Open Coding: in the initial stage, the whole texts' sentences or ideas are segmented or translated into shorter units, such as keywords, concepts or short phrases (Flick, 2009). This method generally produces a large number of codes, which will later need to be reworked through processes of selective or thematic coding.
— Thematic Coding: at the second stage, the text is re-assessed regarding coding, and using concepts from theory or elements from the initial coding stage. Initial codes are thereafter grouped into categories as concepts. (Flick 2009)
— Themes Formation: in the third stage, concepts are grouped by connections that reflect the topic and aims of the work, and wider themes, which encompass a number of concepts, are created. These themes are worked as the findings of the research.

This choice of methods provides tools to draw conclusions as well as identifying meaningful insights in respective practices to create a robust framework of recommendations.

Focus Group Methodology

Whilst the majority of partners concentrated on interviews, EKA conducted a focus group to take advantage of the ability to physically involve participants in Estonian territory at the time and foster discussion on topics that may be difficult to cover via individual interviews (Creswell 2007, 133), such as the intersections between industry and policymaking. The final conclusions were summarised and validated jointly by the whole group. The focus group initiative corresponds to similar guidelines set for the interviews, with the addition of including a curated selection of policymakers. The latter aimed to align and validate the findings from the semi-structured interviews in accordance with the political framework and strategic goals set by the EU on textile and garment related industries. It also stands as a reference point for the project audiences (academia) who can use these insights to inform teaching and learning.

By inviting vocal professionals from both industry and policymaking spheres, it is expected that discussions will expand participants' views and invite different voices to move towards conclusions that can guide the description of the Foresight Analysis.

Sampling

The participant list aims to cover voices from industry representatives, designers, and Brussels-centered EU environmental ministries and commissions, as well as governments´ official representatives. The groups are defined below:

— industry experts: business representatives, managers, buyers, sustainability leads, etc.;
— designers: professionals, entrepreneurs (self-employed);
— political view: policy development, innovation, associations.

Different stakeholders for the focus group activity represented countries previously defined in the Benchmarking Report, assigning East-Europe to EKA. Yet, to explore graduate profiles with the parties concerned through live conversation, the list of attendees had to be reduced to Estonian-based participants due to travel restrictions still in force during summer 2020. Nevertheless, the majority of the selected members either work or have previously worked on a pan-European scale with excessive experience in the field. The list of countries reached through their business activities spanned from the Baltics to Finland, Germany, UK, Spain, Serbia, Ukraine, Belarus and Russia, offering insight into the complexity of the European context. A minimum of six participants was suggested, with an optimum number of nine (three from each of the three groups identified above). This is due to the conversational nature of the activity that was meant to be carried out during the focus group. Supporting interaction between the members of the group was seen as an opportunity to instigate debate and validate findings between different stakeholders to help address possible deficiencies whilst summarising the interviews.

The final sampling involved six participants representing Eastern Europe, with two people from each stakeholder group: two fashion and textile industry experts with backgrounds from business management and supply chain management; two designers, of which one was a representative of a big corporation whereas the other matched the profile of a designer-entrepreneur of a small company; and two political voices, one from local government and the other on the EU level.

All of the participants in the focus group were based in Estonia, even though their reach as companies or policymakers expanded beyond the national territory towards the European context as a whole. The profiles of the companies varied greatly and covered a range of profiles (see Table 2). The sampling for the focus group sought to cover the gap found in the interviews, which did not include Eastern Europe. In this way, the final findings for the report could include insights from the different EU regions.

The table below describes the participants in the focus group:

Code	Country	Interviewee's Role	Company segment	Pillar				Company Size	Established
				E	S	C	B		
F1	EST	Founder, Designer, Educator	premium, bags & accessories	x	x		x	small	2011
F2	EST	Designer	premium, menswear		x			big	1928
F3	EST	Brand Manager	womenswear	x				big	1928
F4	EST	Production Manager/ Founder/ Designer	athleisure, womenswear	x				micro	2017
F5	EST	Sustainability Advisor	policy	x			x	*EU level	-
F6	EST	Sustainability Advisor	policy	x	x	x	x	*Estonian government level	-

Table 2.
Descriptive list of the six participants in the focus group. The pillars are coded as E= Environment, S=Social, C=Cultural and B=Economy.

Focus Group Guidelines

The focus group took place within the environment of the Estonian Academy of Arts in August 2020 and hosted eight participants on-site and one participant via Zoom, out of which three were facilitators from the FashionSEEDS project. The structure resembled the interviews in terms of content and progression of topics, but here in a more dynamic dialogical form, and made use of a semi-structured script of questions (summarised version in Annex D). The total duration was around two hours.

During the focus group activity, participants were first presented with a brief introduction to the FashionSEEDS project and the scope of the Future Skills foresight analysis. Following this introduction, questions were posed, with facilitators bouncing the questions back to different participants so as to foster discussion and be able to receive input from different represented bodies. Data was collected via audio recording, which was later transcribed. Note taking was also used to ensure a more accurate reading of the transcripts.

Data Analysis

A qualitative research method was employed to understand opinions, attitudes and motivations relating to questions that cannot be quantified with numbers. Respective of the sub-methodologies employed for the semi-structured interviews above and in order to implement well-considered research providing accurate and actionable insights, the engagement with open and thematic coding (Flick, 2009) was of a supportive nature. This is to obtain a better chance of attaining the full story.

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Pawson (1989)

Annex C—Semi-Structured Interview Questions

*NOTE: In this document, the term FASHION covers all the disciplines of fashion (textile, accessories, shoes)

1. ID / Fashion and Textile Design-led Sustainability.

NAME:

COMPANY:

CORE BUSINESS:

LOCATION (City, Country):

ESTABLISHED IN THE YEAR:

POSITION:

WEBSITE:

NUMBER OF EMPLOYEES:

*Several elements of this sheet can be filled-in beforehand to minimise the time spent on collecting general data.

2. Interview / Fashion and Textile Design-led Sustainability.

Introductory Questions (10-20min).

	LEAD questions	**ADDITIONAL questions**
*1	What is your background?	How many years of experience in the fashion/textile sector do you have?
2	What does sustainability mean to you personally?	
3	What is driving sustainability initiatives in your company?	A. Customer expectations? B. Competition in the market? C. Media exposure? D. Supply chain management and/or other production issues? E. EU and international laws, rules and regulations? F. Other?
4	What has your company been doing in relation to sustainability issues?	A. What is going well? B. What is not going so well?
5	What current environmental challenges need to be considered urgently?	How is your company addressing this?

Core Questions (20-40min).

	LEAD questions	**ADDITIONAL questions**
6	What skills and competencies are you looking for when hiring designers?	A. Do fashion graduates match these requirements? B. What is missing? C. What do graduates offer your company?
7	In your region and globally, how do you think the current crisis will influence the future of the fashion industry?	A. Will production and business models change? B. Will CSR/sustainability be taken more into consideration?
8	Should industry embrace all four pillars of sustainability? Environmental, economic, social and cultural.	
*9	Are you aware of the new EU directive requiring all end-of-life textiles to be separately collected by 2025?	A. Is your company ready to meet this challenge? B. Do you see this could change the employability terms for designers in your company?
10	What do you believe are the future challenges that your company will face in the next 5-10 years?	And opportunities?
11	With these challenges/opportunities in mind, what skills and competencies will fashion/textile/ accessory designers need in the future to support business within your company?	A. When hiring designers will you look for special competencies concerning sustainability issues? B. Do you see a need for HEIs to develop new types of designer profiles with different skills?
*12	How do you see the role of HEIs in relation to implementing CSR/sustainability in the fashion sector?	What are the strategies and actions the industries can develop, together with universities, to train new professionals able to meet sustainable needs of the future fashion industry?
If micro business/ freelancer, replace question 6 with the following option:		
6	What skills related to sustainability do you think are essential for setting up a business in fashion?	A. Does the current education provide these skills? B. If not, what is lacking?

***Questions marked with an asterisk can be skipped due to time-scope restrictions.

****DSKD will edit questions for consultant services and business organisations accordingly.

PLEASE ADD ANY ADDITIONAL COMMENTS BELOW:

Annex D—Focus Group Questions

*NOTE: In this document, the term FASHION covers all the disciplines of fashion (textile, accessories, shoes)

1. ID / Fashion and Textile Design-led Sustainability.

NAME:

COMPANY/ INSTITUTION:

CORE BUSINESS:

LOCATION (City, Country):

ESTABLISHED IN THE YEAR:

POSITION:

WEBSITE:

NUMBER OF EMPLOYEES:

*Several elements of this sheet can be filled-in beforehand to minimise the time spent on collecting general data.

2. ROUND TABLE / Fashion and Textile Design-led Sustainability.

Introductory Questions / Policymaking (30-40min).

1. Does the current state of policies in your country / the EU in regard to clothing and textile industry practices meet the environmental, economic, social and cultural challenges of the future? Is there a balance? Are there any pillars that need particular attention?
2. What current challenges need to be taken into account more urgently?
3. What has your country been doing in relation to fashion and sustainability? What is going well? What do you still feel is lacking?
4. From your experience, what did you find difficult to achieve due to lack of expertise in local professionals?
5. In your region and globally, how do you think the current crisis will influence the future of textile and fashion related policies and production? Will production (location) and business models change? Will CSR / sustainability be taken more into consideration?
6. What do you believe are the future challenges that your country, more specifically, and the EU, more generally, will face in the next 5-10 years?
7. With the challenges in mind, what are the concrete skills and capabilities that fashion, textile and accessories design professionals and general experts need to tackle future challenges in an efficient way? Do you see new professions emerging? How could these skills / capabilities support overcoming future challenges in sustainability?

Core Questions / Design Practice & Entrepreneurship (50-60min).

1. What have you, as a designer, or your company/institution been doing in relation to fashion and sustainability? What is going well? What do you still feel is lacking?

** What current challenges need to be taken into account more urgently? How are you / is your company addressing this?*

** Does the current state of policies in your country / the EU in regard to clothing and textile industry practices meet the environmental, economic, social and cultural challenges of the future? Is there a balance? Are there any pillars that need particular attention?*

2. In your region and globally, how do you think the current crisis will influence the future of the fashion industry? Will production (location) and business models change? Will CSR / sustainability be taken more into consideration?

3. From your experience, what did you see lacking in your education in the field?

4. What do you believe are the future challenges that you, as a designer, or your company will face in the next 5-10 years? Do you see new professions emerging?

** With the challenges in mind, what are the concrete skills and capabilities that fashion, textile and accessories design professionals and general experts need to tackle future challenges in an efficient way?*

** How could these skills / capabilities support overcoming future challenges in sustainability and support business, for example, within your company?*

5. Are there any expectations on fashion, textiles and accessories curricula for the next 10 years?

*Questions marked with an asterisk and presented in italic can be skipped due to time-scope restrictions.

Additional Questions / Design Practice & Entrepreneurship (30min).

1. What skills and competencies are you looking for when hiring designers? Do fashion graduates match these requirements? What is missing? What present required skills could remain unchanged? What do graduates offer your company? When hiring designers will you look for special competencies concerning sustainability issues? Do you see a need for HEIs to develop new types of designer profiles with different skills?

2. How do you see the role of HEIs in relation to implementing CSR / sustainability in the fashion sector? What are the strategies and actions the industries can develop, together with universities, to train new professionals able to meet the sustainable needs of the future fashion industry?

3. What skills related to sustainability do you think are essential for setting up a business in fashion? Does the current education provide these skills? If not, what is lacking?

4. How can the EU better support the development of a fashion and textile industry that takes the planetary bounds into account?

PLEASE ADD ANY ADDITIONAL COMMENTS BELOW:

Annex E—Brief

THE FASHIONSEEDS PROJECT

The FashionSEEDS project aims to create a holistic framework for a design-led approach for fashion sustainability education, and a construct of related graduate skills and capabilities. The project develops the learning resource repository and sustainability teaching materials that enable educators to adapt and apply the framework to a range of Higher Education Institutions (HEI). The project is supported by the European Union through the Erasmus+ action KA203 — Strategic Partnerships for Higher Education, connecting four partner universities and interacting with a wide range of higher education institutions.

fashion SEEDS

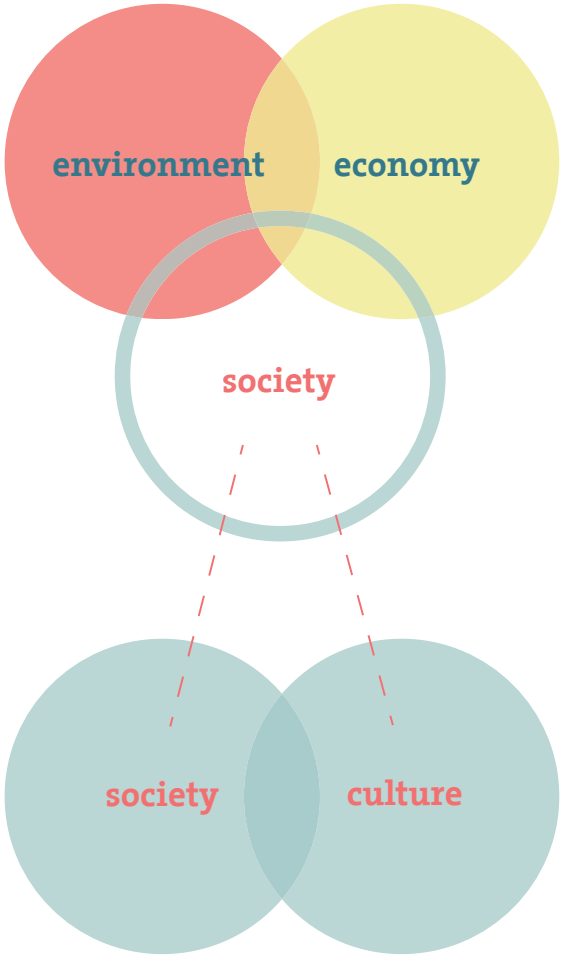
FASHION SOCIETAL, ECONOMIC & ENVIRONMENTAL DESIGN-LED SUSTAINABILITY

As part of FashionSEEDS, the partners will prepare a Future Skills Foresight 2030 Report reflecting on the existing and envisioned future needs of the industry relating to fashion and sustainability for professional education. Semi structured interviews and focus groups will be conducted to better understand challenges and developments in the textile and fashion sector and to redesign fashion education, in order to equip a new generation of graduates with competencies required to contribute to the future sustainability of the fashion industry.
In this document, you will find information on the current state of the fashion industry in Europe today, especially in terms of the directions the EU, via the European Commission, is steering our practices. In order to compile this short introduction, a series of documents were reviewed, which you will be able to find in the references at the end of the text.

Erasmus+ ual: university of the arts london POLITECNICO MILANO 1863 DIPARTIMENTO DI DESIGN EKA Estonian Academy of Arts design skolen kolding DK

The 4 Pillars of Sustainability

Within the FashionSEEDS project sustainability is described in the form of four pillars (Williams et al., 2019) presented here to provide a better understanding of the overall structure of the brief.
This project references culture as a fourth pillar for sustainanable actions, first introduced into policy documents in 2010 and progressively recognised as a key element of sustainability (UNESCO, 2010).



Economic sustainability refers to the ability of citizens to enjoy living conditions that are within agreed boundaries in terms of wage levels relative to costs of living and the gap between lowest and highest wages. It refers to regional and inter-regional access to investment and to a healthy relationship between productivity, employment and economic status.

Environmental sustainability refers to our ability to live within biosphere limits, recognising planetary boundaries. It draws on ecological principles and various practices that recognise people as part of nature and looks for ways to preserve the quality of the natural world on a long-term basis.

Social sustainability refers to the ability of a community to interact and collaborate in ways that create and exemplify social cohesion. It considers places, communities and organisations, formal and informal, and their resources, opportunities and challenges. It involves the agency of diverse participants in voicing and acting with autonomy, and in harmony, with others.

Cultural sustainability refers to tolerant systems that recognise and cultivate diversity. This includes diversity in the fashion and sustainability discourse to reflect a range of communities, locations, and belief systems. It includes the use of various strategies to preserve First Nation cultural heritage, beliefs, practices and histories. It seeks to safeguard the existence of these communities in ways that honour their integrity.

Challenges and Possible Development Trends of the Fashion Industry

The fashion industry constitutes complex and interlinked systems, ranging from the design and production of fashion goods to their distribution and retail. Textiles and clothing are a fundamental part of everyday life, and the industry plays an important role in economy and society across Europe. There are around 171 000 companies in the textile and clothing industry in the European Union, providing employment for 1.7 million people (EEA, 2019). This industry is also relevant in European cultural context by representing the cultural design identity. At the same time, the environmental sustainability issues and related challenges of the fashion industry are widely known.
The fashion and textile industry has experienced rapid growth worldwide, and some companies have taken the opportunity to invest in more environmentally and socially responsible practices. Nevertheless, these individual steps are minor and even under optimistic assumptions, the industry's current business practices and solutions will not deliver the impact needed for extensive sustainable transformations. One of the significant drivers for profound and systemic change is the political framework, especially in the context of the European Union, which tends towards encouraging sustainability initiatives.

Challenges for Economic Sustainability

In recent decades, the European Fashion and textile industry has been subject to radical transformations. Its recovery started after a long restructuring period, resulting from the sector's globalisation. At this point more than 60% of clothing in the EU is produced elsewhere (European Commission, 2019a). European enterprises have improved their competitiveness by concentrating on high value-added goods, instead of mass production of simple products. However, the fashion and textile industry enterprises still face several challenges that hinder their economic sustainability. In order to compete with a growing external market, trade liberalisation, developments in consumer practices, technology, production reshoring, amongst other factors, these enterprises must continuously reinvent their business models and update staff's skills and competences.

Ensuring the long-term economic sustainability and competitiveness of the fashion and textile industry is part of the broader European renewed industrial policy (European Commission, 2017). The European strategic approach to industrial competitiveness aims to empower citizens, revitalise regions and develop innovative technologies that use less energy, reduce waste and avoid pollution, and invest in a workforce with the right skills.

Drivers for Social and Cultural Accountability

Today, the textile and clothing industry stands as one of the most complex global value chains, with the majority of the internal EU-market goods being produced outside the region, with strict environmental regulations. This calls for companies to address social areas like human rights, poor and unregulated working conditions, gender equality, supply chain transparency, and the inclusion and welfare of the community. Local, national, and international compliance standards provide a basis for social responsibility and due diligence issues in the fashion industry. Internationally the general standard for social issues includes the UN Declaration of Human Rights (UN 1948) and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work (ILO 1998), whereas the OECD Guidelines for Multinational Enterprises (OECD 2018) offer principles and standards for responsible business conduct. All of the aforementioned standards provide a baseline and serve companies by helping them define targets for social accountability and work on their internal CSR policies. A series of initiatives have appeared in an attempt to address the situation. Some key topics such as women's roles in economy, quality of the job conditions and wages, added to transparency, and traceability in the value chain are addressed in the Commission Staff Working Document "Sustainable garment value chains through EU development action" (European Commission, 2017).

The fashion industries represent European cultural heritage and expertise, and support creating and enhancing Europe's social capital. As one of the most lively and creative sectors in Europe, the fashion industry is integral to the lives of millions and can be seen as a direct reflection of European values and culture, including craft and innovation. Much of the efforts taken so far regarding cultural sustainability, however, incline towards museum practices or have emerged from individual nations or heritage stakeholders rather than from an EU perspective. For example, École de l'Amour project launched in 2018 by Gucci (GUCCI 2020) wants to ensure the development and preservation of artisanal skills, whereas Sweden's tax reduction on repairs has empowered mending skills (Orange, 2017). This is a clear result of the difficulties in developing regulations and protective measures that would equally benefit different cultures, their craftsmanship and inherent skills, though the fine crafts workforce in France alone accounts for 60,000 jobs (Crafting Europe Manifesto, 2019). Nevertheless, cultural viewpoints support the sector in facing the challenges of globalization and depersonalization of production by enabling the

rediscovery and enhancement of distinctive craft practices and local knowledge that characterize market demands driven by informed consumers who concentrate on ethical awareness, transparency, and the search for authenticity.

EU Guidelines for Environmental Sustainability

Environmental issues are leading the change and are always more or less interlinked with other areas of sustainability. The linear production system in fashion and textiles impacts the environment from the production of fibers to its final post-consumer stages, passing through production, distribution, laundering, and waste management, to name a few. All of these stages require more sustainable practices, in order to reduce use of resources and negative impacts on the Earth (e.g. greenhouse emissions and use of land, polluting chemicals and general resources) and there is a strong push to reform these processes as part of the recently adopted European Green Deal (European Commission 2019). Namely, the European Commission proposes a new Circular Economy Action Plan (European Commission 2020), which introduces legislative and non-legislative measures targeting areas that contribute to further development of the circular textile system. Reinforced by other global initiatives proactively advocating for policy engagement like the Global Fashion Agenda or aligning with the SDGs (UN 2020), it represents a remarkable power. According to this Action Plan, a Strategy for Textiles in the EU is under development, based on input from industry and other stakeholders. The strategy seeks to boost the use of sustainable textiles in the EU market by approaching fast fashion to adopt new business models towards a holistic and sustainable growth paradigm. In addition by 2025 all EU Member States shall ensure that, according to the law, all end-of-life textiles from consumers must be separately collected (Directive (EU) 2018/851 amending Directive 2008/98/EC on Waste). This requirement will radically influence the current practices of production, use and disposal of textiles in the EU and directly reflect on the education of future fashion design graduates. Understanding these conditions may lead to a better alignment with scenarious to come and actions needed.

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Annex F—List of Political Documents and Initiatives in Favour of Sustainable Change in Fashion

European Commission (2019), *The Green Deal*: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

European Commission (2020), *Circular Economy Action Plan, For a cleaner and more competitive Europe*: https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

European Commission, *Textiles and Clothing in the EU*: https://ec.europa.eu/growth/sectors/fashion/textiles-clothing/eu_en

European Environmental Agency, *Textiles in Europe's circular economy*: https://www.eea.europa.eu/themes/waste/resource-efficiency/textiles-in-europe-s-circular-economy

Strategic objectives for preventing waste production (2020) Law project related to the fight against waste and for the circular economy. 2274. (FR) https://www.assemblee-nationale.fr/dyn/15/textes/l15b2274_projet-loi

Modern Day Slavery Act (2015) c. 30 Parliament of the United Kingdom (UK) https://www.legislation.gov.uk/ukpga/2015/30/contents/enacted/data.htm

The Paris Agreement (2015) United Nations https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

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