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Fashion design processes integrated with upcycling

CASE: #DAMUR GmbH

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Abstract

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The thesis is made as a case study for #DAMUR GmbH. It answers the research question of how to intergrade traditional fashion design processes with the upcycled fashion design process. The research question is answered through conducting research regarding existing literature in the fashion design process and interviews conducted with current and former employees of the design team and with the founder and creative director of #DAMUR.

The study was conducted as a qualitative research approach, and the method used was the critical action research. The interviews were transcribed and analyzed through coding the manifest aspects. The three design process suggestions introduced in this thesis were based on the existing literature and the analyzed data from the interviews.

The suggestions give three different process charts: creative, commercial, and integrated design processes. Each process focuses on different ways of using design processes, but they all have sustainability in the form of upcycling embedded within them. The integrated design process integrates creative, commercial, and upcycling processes into one design process. It was created to make one clear base that could be used in all design challenges.

The suggestions are made as a base for the company to use to achieve more sustainable and efficient design processes. The design process suggestions can be combined with the current and existing design practices used at #DAMUR.

Keywords: sustainability, upcycling, remanufacturing, fashion design process, commercial design process, trend-based design process

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Opinnäytetyö on tehty tapaustutkimuksena #DAMUR GmbH:lle. Opinnäytetyön aiheena on selvittää, kuinka perinteiset suunnitteluprosessit voidaan yhdistää upcycling prosesseihin. Aihetta on lähestytty haastattelujen ja kirjallisuuskatsauksen kautta. Tutkimuksessa haastateltiin yrityksen entisiä ja nykyisiä työntekijöitä sekä yrityksen perustajaa ja luovaa johtajaa.

Tutkimusmetodeina käytettiin laadullista tutkimusta ja metodina kriittistä toimintatutkimusta. Haastattelut litteroitiin ja koodattiin temaattista analyysia käyttäen tutkimusta tukeviin ilmisältyihin, joiden perusteella haastatteluista luotiin analyysi. Analyysiin ja kirjallisuuskatsaukseen pohjautuen luotiin uudet suunnitteluprosessikuvaukset.

Suunnitteluprosessikuvaukset jaettiin kolmeen eri ryhmään: luova suunnittelu, kaupallinen suunnittelu sekä upcyclingiin pohjautuva suunnittelu. Ryhmät valikoituivat yrityksen tarpeiden perusteella. Vaikka ryhmät käyttävät toisistaan eroavia prosesseja, on jokaiseen sisällytetty upcyclingin suunnitteluprosessit. Yhdistelmäprosessikuvaus on tehty pohjautuen luovan, kaupallisen ja upcycling -suunnitteluprosessien yhdistämiseen. Sen tarkoituksena on luoda yksi selkeä pohja yrityksen kaikkiin suunnitteluhaasteisiin.

Suunnitteluprosessikuvaukset voidaan mieltää yrityksen omiksi standardisoituiksi suunnitteluprosesseiksi. Suunnitteluprosessikuvaukset ovat yhdistettävissä yrityksen jo olemassa oleviin prosesseihin, ja jokainen niistä pitää sisällään yrityksen kestävän kehityksen tavoitteet.

Avainsanat: kestäväkehitys, upcycling, remanufacturing, muotisuunnitteluprosessi, kaupallinen suunnitteluprosessi, trendipohjainen suunnitteluprosessi

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1 Introduction

This thesis will tackle the challenges of the modern world of design. How will we design in the future? As individuality and expressing oneself through clothing continues as a megatrend, how do we sustainably produce clothing that allows the expression of self without taking too much of a toll on our already dying planet?

This thesis will have a deeper look at how upcycling practices work with traditional design processes and how those can be integrated. The design processes and practices will be discussed through design process charts that show the design order through the phases taken in a design process. In this thesis, traditional design methods will refer to commercial and creative design practices.

The research method used is a qualitative research approach. The focus of the qualitative research is action research. The material is gathered by using my experience as a fashion design intern at #DAMUR, existing literature and studies, articles, and interviews with the design team members and the creative director and founder of the brand.

This thesis aims to create standardized design process suggestions for the company to use in all its collection designing processes. Standardization in this thesis means the company's standardization of the design process, not official standardization. The suggestions will differ based on the desired amount of upcycling used in the collection, the focus of the end product, and the order of design process phases. The suggested processes will primarily focus on the phases of the designing process, upcycling, commercialism, and efficiency.

1.1 #DAMUR GmbH

#DAMUR was established in 2015 in Berlin Kreuzberg and offers high-end streetwear. The design inspiration of #DAMUR is driven by its birthplace, Berlin, and the East-Asian heritage of the founder and creative director Damur (Shih-Shun) Huang.

As described on #DAMUR, the brand's design aesthetics breathe the freedom-seeking Berliner attitude with avant-garde details mixed seamlessly into functional streetwear. No design or collection is the same, and no collection is boring. #DAMUR takes a philosophical and political stance through its fashion collections and seeks to break through stereotypes and attitudes of today's society. The strong silhouettes, playful colors, and details make the signature design of #DAMUR. Sustainability is one of the core values of the brand. (#DAMUR, n.d.). The usage of new materials is minimized, and the collections focus on using the materials already acquired for previous collections as much as possible. When new material is acquired, it is done by buying deadstock from other brands, using recycled fabrics, or creating new fabrics from deadstock yarns.

“always use the best of everything surrounding you, no matter the energy, the time, the moment.” – Huang, (founder and creative director)

My internship before this thesis at #DAMUR GmbH gave me a deep insight into the brand and its operating models in the fashion design industry. I learned that upcycling is at the heart of #DAMUR. The upcycled fabrics and accessories are created in Berlin from deadstock materials, second-hand clothing, and cutting waste, creating unique pieces and fabrics to enhance and elevate the collections in a sustainable way. The collections appear twice a year, Spring/Summer and Autumn/Winter. The collections are presented at Berlin and Taipei fashion weeks. Best-sellers can be produced in small quantities all over the year.

Production companies are in Poland and Taiwan, and the designing happens in the Berlin office. Products using European fabrics are mainly produced in a factory in Poland, and products made from Taiwanese fabrics and yarns are primarily produced in a factory in Taiwan, thus eliminating unnecessary shipping and packaging.

The brand's primary target group is artists, celebrities, and stylists, as the collections are designed to make a statement (Huang, 2022). The brand also has merchandise and commercial products targeted more at the public and ready-to-wear streetwear customers.



Pic. 1. 010 #Kiosk 2.0 Animal Fever, runway collections upcycled pieces. (#DAMUR, 2022)



Pic. 2. #Black hashtag T-shirt, commercial merchandise. (#DAMUR, 2022)

2 Fashion design processes in the fashion industry

This chapter dives into the fashion industry, especially fashion design and the fashion design process. It talks about the creative and commercial side of designing, what upcycled designing is, and how the standard existing design processes are used in the different ways of designing. The chapter talks about design in a broader sense, including Bryan Lawson (Emeritus Professor, Diploma in Architecture dist. Oxford, MSc dist., Ph.D. Aston, RIBA, Registered Architect) and Nigel Cross (Emeritus Professor of Design Studies), as literature on the fashion design process was harder to find, and because the design processes from architecture and industrial design are directly applicable to the fashion design process and widely used as process references in the fashion industry's professional literature. For example, when discussing the industrial

design process, the sources are from industrial design literature. Still, the processes can be used seamlessly as parts of fashion design processes. This chapter also covers the standard terminology of the fashion industry and the terminology used in this thesis. Some of the terminologies can be applied to many different industries, or the terminology can be hard to understand without professional expertise in the fashion field. Some of the terminologies were chosen as a part of this thesis based on the varying use of terms within the company. Clarification of the terminology could potentially help the communication between team members and prevent misunderstandings.

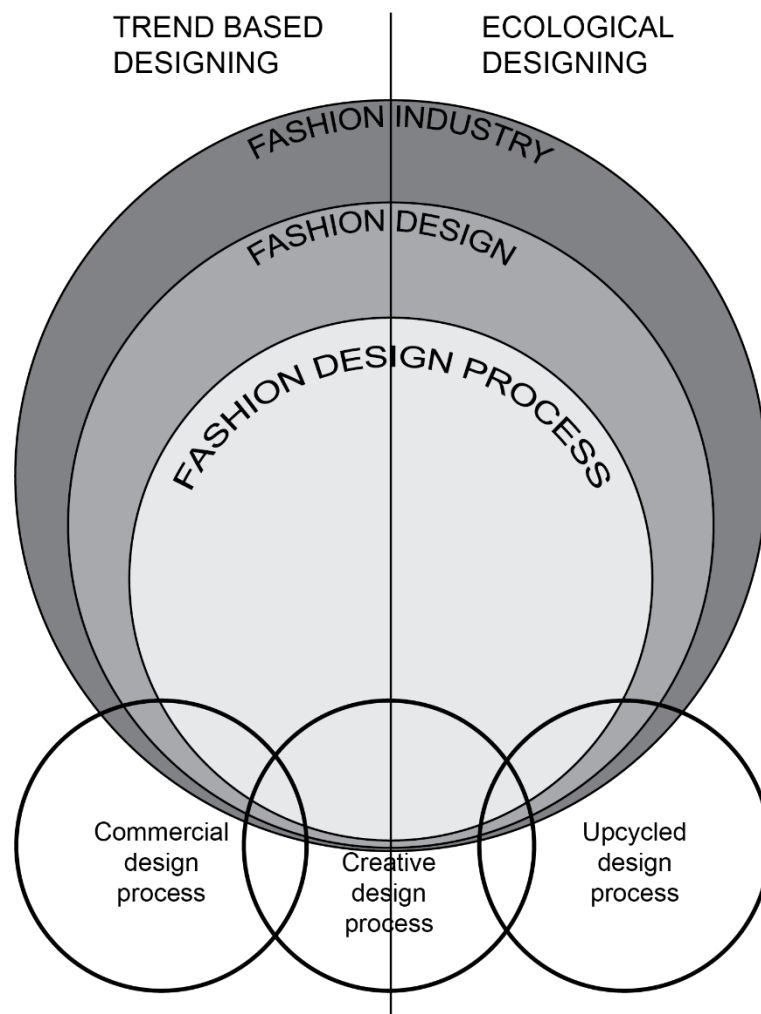


Fig. 1. Literature review.

2.1 Fashion design

According to Nuutinen (2004: 60), fashion alone, as a definition, is inexact as it can be used to describe more than just the fashion and clothing industry. It can be used for music, cars, scientific theories, and leisure activities. She explains that since fashion is continuously changing, so is the definition of the terms. Fashion can be called a belief or an ideology that is portrayed through clothing. (Nuutinen, 2004: 95.) In this thesis, fashion will refer to the fashion industry and its result in the shape of a garment. It also refers to fashion as the current ruling and accepted trend by the industry and the consumer. As Nuutinen (2004: 60) describes, the simplest explanation for fashion is the current ruling trend; a broader definition of fashion is a group of consumers who accept a particular style as their own, deemed socially acceptable by society. According to her, an exception to this rule is the fashion of underground cultures. Nuutinen (2004: 77–79) highlights, that the style is broadly accepted in their subculture, and it has more often the purpose of making a statement and differentiating the users from the society.

Kawamura (2004) defines fashion as an institutionally produced and accepted style that is marketed and is characteristic of a particular group in a specific era. Clothing is about creating materials; fashion is about creating symbols. For example, it is easy for a manufacturer to produce white shirts; however, those shirts are not considered fashionable until they are given the status of fashion. Clothing serves a practical purpose, while fashion's job is to provide clothing status. The system of fashion transforms clothing into fashion, and fashion is then expressed through clothing. (in Nuutinen, 2004: 61.) According to Solomon (1986), fashion status is only achieved when society accepts the style as fashion, making fashion a collective and social product. It can be said that designer creates styles whereas consumer decides which of those styles comes into fashion. (in Nuutinen, 2004: 61.) While the fashion industry encourages us

to experiment with our style and create new looks, the fashion industry's ideals restrict the boundaries of looks (Nuutinen, 2004: 62). As crucial as it is for a designer to find their design style and language, it is equally essential for the designer to understand the consumer market and the brand's target customer.

According to Raami, to design is to solve problems and find solutions. It is more than just the labor of the mind. It is practical. It is prototyping, material testing, and the development of ideas—designing constructs of the design challenge and the solution to the presented challenge. (Raami, 2004: 10.) Designers could be called futurologists since they try to predict future customers' needs and upcoming trends (Raami, 2004: 15). Fashion can also be described as the line between future and past, where both future and past form the current. Fashion reflects the immediate close time, as Anspach (1967, in Nuutinen: 67) describes. According to Nuutinen (2004), fashion is moving current of time; it is uneasy, continuously interested in experimenting with new and seeks to be ahead of its time. Even though every fashion and trend is created as if it would live forever, there is always a notion that it will die out with time. (Nuutinen, 2004: 60.) We could say that fashion trends are created to die. According to Kaiser, Nagasawa, and Hutton (1995), fashion is a dynamic phenomenon that intertwines everyday social life, esthetics, economics, and culture, and it is characteristic of fashion to change (in Nuutinen, 2004: 71-73). According to Greenwood and Murphy (1978), fashion is the current ruling style: it reflects its own time, it is approval, and it is the change (in Nuutinen, 2004: 60).

2.1.1 Terminology

A fad is defined as a fashion craze that is often even shorter than the season. It is a current fashion exaggeration that is short-lived and is adapted by a smaller group of people. Usually, a fad dies out as soon as it is born. Sometimes the definition between fad and fashion is hard to make as they both follow the same season (Nuutinen, 2004: 64), and it is up to the designer to estimate whether to jump into the fad or just ignore it as something short-lived. Suppose the fad is in

line with the design language and target customer and can be easily implemented in the collection process. In that case, it might be worth the time to jump in as it could grow the brand's visibility if marketed correctly. Sometimes the fad can turn into a fashion classic, break society's current boundaries, and play around with taboos and what is perceived as good taste (Nuutinen, 2004: 64).

Ford means the classics of fashion. Fashion classics are more straightforward, widely accepted, and can come around repeatedly. Fashion classics can be perceived as clothing like jeans, t-shirts, and trench coats. (Nuutinen, 2004: 65-66). Classics can be easily modified to fit the trends and remind people of familiar clothing pieces, making them good core items for collections.

When discussing **mass fashion** in this thesis, we are talking about the widely accepted and worn fashion by the masses. In mass fashion, the details and craftsmanship have been limited to produce the clothing at a lower price. (Nuutinen, 2004: 64). We could also call it fast fashion as the principle of design detail, craftsmanship, and production is the same.

Haute couture is a high-end and innovative fashion that the fashion designer creates at a high price point. The difference between mass fashion and haute couture is the construction. (Nuutinen, 2004: 65). Mass fashion can try to copy haute couture, but the production of the same complexity and quality is impossible (Nuutinen, 2004: 65), because of the price point and consumer base.

Zeitgeist can be defined as the lifestyle, fashion, and spirit of the current time. Zeitgeist is the cultural climate of the time we're living; it is continuously changing ideology and can modify our ideals and emotions. Zeitgeist also modifies the consumption behavior of consumers. (Nuutinen, 2004: 66).

Deadstock fabric means the leftover fabrics from previous seasons. Deadstock can be caused by too high of a minimum quantity on fabric order, mistakes on the fabric, cancellation of the fabric, or failed sales predictions.

2.1.2 Traditional design methods

When discussing traditional design methods in the fashion industry, creative and commercial design were highlighted as the most common terms and practices used in this research and at #DAMUR. Both rely on commercialism but a distinction between the practices can be seen from the view of the design process. Especially in #DAMUR, there has been an ongoing conversation about the differences between creative and commercial designs and how to contain the creative design to serve the commercial design. To create and be creative while keeping the profit targets and the target consumer in mind.

Creative design: According to Raami (2004), to create is to find new solutions and develop new ideas. The creative designer must combine fearlessly and with originality and understand the best ideas for further development. Even though creativity has been tried to explain in many ways, there has never been a way to explain where creativity comes from completely. Creativity can either be creativity in a specific professional field or universal creativity. What counts as creativity depends entirely on the field and measurements of creativity. We can say it is the creation of new ideas based on past experiences and new ways of combining old. It is the insight of learning. Many times, creativity and professional knowledge combine into one synergy. (Raami, 2004: 16.)

According to Lawson (1980/1991), the most important qualities of a designer are thinking and imagination, and in a designer, these qualities form a seamless symbiosis. The first is to acquire the skills in concept designing, logical thinking, and problem-solving. The second acquires imagination in unprecedented ways of combining and the skills to draw from your own experiences. (in Raami, 2004: 15.) Knowing your field and the culture related to it, is necessary to understand

the process completely and to create something with substance (Raami, 2004: 21).

Commercial design: As Nuutinen (2004) describes, the production requirements dictate the design solutions in their way. The production requirements also dictate the viability of the design and if it is capable of producing design solutions or if it will lead to unnecessary waste and loss of profit. (Nuutinen, 2004: 52.) A designer's creative process transforms into a commercial process by the guidance of timeliness, standards, and efficiency requirements set by the production requirements. Standards help to manage the cyclical and decentralized production chains of different companies producing different parts of the collections (Nuutinen, 2004: 223). According to Nuutinen (2004), commercial design takes much commitment from the team as it is rarely made alone as a creative process. The creative ideas are transformed into commercial by the notion of an idea to opportunity, meaning that the design needs to consider the production possibilities. The commercial design needs to take an analytical point of view as it needs to be based on the best-sellers of previous collections and customer feedback. The new ideas of commercial design are based on trend reports and future knowledge, the zeitgeist, as well as the history and evolution of the brand. Commercial design can be viewed as problem-solving, and it is symbiotic with marketing, sales, and production companies. Marketing and sales have the knowledge of the best-sellers, and factories have the knowledge of the upcoming materials and material innovations. When designing commercial products, designers need to be able to partly let go of creativity and understand the concept of selling and production possibilities (Nuutinen, 2004: 223–225.)

According to Nuutinen (2004), the designs might need to be modified to be more commercially attractive and sellable and to fit the possibilities of the production factories better. Varying old models and using the same materials is not possible endlessly, so new models and materials need to be introduced and experimented with, even though there is no complete certainty if they will work

out. Risk is always part of designing. (Nuutinen, 2004: 223–225.) The risk can be reduced by using basics and classics in the collections as those help to keep the collection intact and soften the blow of new designs.

2.1.3 Upcycling

“Textile pollution is a global multifaceted problem that continues to threaten the integrity of our planet’s wellbeing. The textile industry constitutes immense environmental, social and political concerns. Whereas the concerns exist at every stage of the life cycle including cultivation of raw materials, design, production, distribution, use and end of life [...] A notable approach is in the schemes that focus on circular solutions centered upon collection, sorting, reuse, and recycling of textiles. [...] Currently, less than 15% of wearable textiles are turned back into new textiles due to technical and economic limitations of current recycling methods.” – Aziza Cyamani (2021: 75)

Upcycling can be called an umbrella concept that holds underneath it advanced or creative ways of reusing, repairing, upgrading, remanufacturing, repurposing, refurbishing, recycling, and more. Upcycling can be defined as adding value, but it can also be described as much more; it can be described as a new design process fit to the planetary boundaries of our future. Upcycling is the opposite of downcycling, where post-consumer waste is repurposed as something with lesser value, often by removing function through destructive and reductive processes. Fashion brands are struggling with overproduction and the unsold stock of materials and pieces, which is often the result of product obsolescence caused by fast-moving trends. (Khamisani, 2021: 87).

According to the thesis about upcycling at #DAMUR made by Timmers (2021), upcycling can prolong a product's lifecycle by turning the discarded materials into something with higher value, transforming the linear producer-consumer-waste ecosystem model into a more circular model. For the upcycled pieces to sell, they still need to attract customers. To attract customers, the craftsmanship of the clothing must be high enough for the clothing still to look high quality. Also, the price point must be accessible to the desired customer. The price

point can be determined in the design process. For more affordable and commercial pieces, there is less upcycling and more deadstock material used. For the runway and showstopper pieces, more upcycling can be used as their purpose is to attract customers and grab people's attention. (Timmerers, 2021: v.) Upcycling should not be used as a new shopping method for more consumption but as a cultural commentary, a sense of connection, and art pieces (Hudson-Miles, 2021: 55). It can be thought of as a core philosophy of producing customized pieces from the various available resources (Jagdeep and Arora, 2021: 42).

“Upcycling offers a means to increase resource productivity and accelerate progress towards a circular economy. Moreover, because materials embody carbon, upcycling mitigate climate change by reducing the need for new material in goods. [...] All countries, particularly the most industrialized, need to extract more value from material resources in the context of the demands of a circular economy. This is particularly true for industry sectors such as [...] textiles, in which companies are having to accept responsibility for the waste generated by their discarded products.” – Tim Cooper, Professor of Sustainable Design and Consumption, Nottingham Trent University (2021: vii)

According to World Economic Forum (2020), most of the consumers, over 65%, are worried about climate change but are still unclear as to how to take action against climate change (Satheesan, 2021: 17). Upcycling does offer not only economic value, when made from used, old things, but also ethical value through resisting mass consumerism and taking more of an ecological stand. Although, upcycling can be used to mobilize social and cultural differences for profit (Archer and Björkvall, 2021: 29). Acceptance of upcycling as a process has been low amongst designers and manufacturers as its incorporation into the existing supply chain is often difficult due to its hands-on techniques that turn products into one-of-a-kind pieces (Sharma, 2021: 71). Especially commercializing the upcycled process has proven to be difficult due to the variation between products.

2.2 Fashion design process

According to Nuutinen (2004), the design process is about finding the golden line between rational thinking and imagination. Even though imagination sometimes runs wild, a welcomed effect of creativity, the designer must keep the end goal in mind when designing. The definition of creative problem solving is when the designer needs to take into consideration how to produce the collection as economically as possible and how to make the best usage of details in a way that the design remains versatile as well as industrially producible and commercially sellable. (Nuutinen, 2004: 102.) Design is often viewed as a process that works in cycles rather than in a linear way (Raami 2004: 11-15). It can move between different phases multiple times (Raami 2004: 26), and many times it can be viewed as a never-ending process and only cut by an outside deadline.

According to Seitamaa-Hakkarainen (2000), the difference between novice and professional designers is that instead of making an abundance of new ideas and designs that might or might not be producible, the professionals focus on a couple of ideas that can be produced. Professionals think more long-term and practically from the start of the process and will take more time to familiarize themselves with the problem and think about it in depth. Never underestimating the problem or the time it takes to solve it and understanding that to succeed, you many times must scrap the first idea. (in Raami, 2004: 12.) According to Nuutinen (2004), for a designer to be an expert in their field, they need to have the know-how. Know-how can be divided into different sections, technical dimension, cognitive dimension, and personal knowledge. Technical know-how means skills and knowledge that are hard to define and informal. For example, a master in the arts can gain knowledge just by the feel of touch on their fingertips. Cognitive know-how includes beliefs, schemas, and obvious observations. It is based on the designer's view of the current and future, what is and what should be. Personal know-how is an informal gathering of pieces and metaknowledge. (Nuutinen, 2004: 130.)

According to Lawson (1980/1991), the different phases of the design process can be put into four categories: (1) Assimilation: gathering and organizing general information related to the design problem at hand. (2) General studies: investigating the nature of the problem, as well as investigating solution options and means. (3) Development: development and refinement of one or more experimental solutions based on the limitations of the 2nd phase. (4) Communication - presenting one or more solutions to people in and outside the design team. (In Raami, 2004: 11).

2.2.1 Trend-based design process

The trend-based design process could also be defined as a commercial design process, as trends can cater to the designer and the consumer. According to Nuutinen (2004: 56), since the development of technology, the garment industry can now manufacture individual designs in mass production. The development of technology has also made gathering information more accessible, and that information can be utilized in product development and following trends in real time. It has also affected the design field and the design process by making it easier for the consumers to acquire real-time trend information and impact the trends themselves. (Nuutinen, 2004: 56.) Due to this development, brands have started to involve the consumer more in the design process, primarily through social media. Design and trends do not only belong to the designers anymore but also to the consumers. Consumer inclusion and trends are starting to take more room in the design process.

According to Nuutinen (2004), the **traditional design process** is when the design process aspires to answer the demands of the designer, the consumer, the subcontractor, and the retailers. The process is mainly focused from the middle to the end of the process, and a lot of the process is based on information from trend forecasts and marketing analysis. When talking about smaller-scale businesses, money is also a deciding factor in the design process. (Nuutinen, 2004: 145–146.) **The commercial design process** can be

described as a design process with emphasis at the end of the process, where the process is ruled by consumer data and suppliers' color and color and material forecasts (Nuutinen, 2004: 146–147). The potential customer of the commercial design is the combination of the ideals of the brand (Nuutinen, 2004: 53). According to Nuutinen (2004), when designing any product, the main goal is to reduce uncertainty. In the commercial design process, the designer strives to find a logical, systematic decision that helps with problem-solving. (Nuutinen, 2004: 242.) Nuutinen (2004), describes that the product design's original objective is to create a collection that uses as small of an amount of materials as possible, produces as much profit as possible, moves to the consumer at the correct time, and production happens as efficiently as possible. A successful product results from a well-developed idea, theme, or concept. (Nuutinen, 2004: 92–126.)

The fashion design process is an iterative process, meaning it holds a lot of internal and parallel systems (Nuutinen, 2004: 211). According to Nuutinen (2004), the starting point of a trend-based commercial design process is to use trend boards, stories, and concepts. Based on this creation of silhouettes, materials and accessories start to form. Selecting the season's silhouette is one of the most crucial points of the process; after the 2D silhouette, the 3D volume is chosen. Harmonic collection only has a couple of elements that the designer varies within the collection. An ideal product has been defined as having a good color and silhouette combination, and it only has one idea. When creating collections with many different elements, the colors are the main effect to tie the collection together. Even a boring clothing piece becomes exciting with the correct color and material selection. Unfortunate color and material selection can be tried to be saved by focusing on details. When adding details, the designer needs to consider that every detail raises the production price, thus also upping the consumer price. The design ideas are then turned into a fashion picture showcasing the product's mood, silhouette, and volume. The images are not yet technical drawings, as fashion pictures focus more on bringing the idea and story of the collection alive. (Nuutinen, 2004: 179-180.) Nuutinen (2004)

describes, that the technical drawings and technical packs made from the fashion pictures are the final steps before production and are the bridge between designer and factory. Technical drawings are drawn flat, showing all the details, materials and accessories, and measurements of the garment. Technical drawings and packs can utilize the previous collection's details and bases. This saves the designers and factories time when everything doesn't need to be drawn and patterned again. It also makes the prototyping faster as a specific model of details has already been perfected. When drawing technical drawings and making technical packs designer needs to already think about the production possibilities. (Nuutinen, 2004: 182–183.)

According to Nuutinen (2004), the market dictates the number of collections and for which markets the collections are designed. There must be cultural coordination when designing for European and Asian markets, meaning that European designs can differ from Asian designs and sell differently on different continents. But even with the market variation, the collection must look cohesive. (Nuutinen, 2004: 194.) Based on market information, the best-sellers or media favorites of previous collections are chosen and implemented in the design process of new collections. Best-sellers can be silhouettes, prints, or details (Nuutinen 2004: 149–157). Nuutinen (2004) describes, that variation as designers' modification of previous collections which means taking previous models and modifying the details, materials, or silhouette. Designers make a production decision when they decide how much they want to modify the previous season's garment: the fewer modifications, the quicker, easier, and cheaper the production. (Nuutinen, 2004: 206–208.) According to Nuutinen (2004), the brand's target group is an essential part of the design process and of the market. The target group must be relevant in design, marketing, business, and media design. (Nuutinen, 2004: 172.) Trend reports are also created as part of the market and highly affect the commercial design process, as trends aren't anymore something that designers decide from above, but rather are heavily influenced by the consumer and the consumer market. Trend reports give the designer information about the next season's materials, colors,

and styles. Trend reports combine the designer's intuition, competitor analysis, and sales reports (Nuutinen, 2004: 149–157).

According to Nuutinen (2004), when designing a collection, the key is to optimize the resources, which means optimal usage of materials and the capacity and machinery of the factories. The design process starts with the definition of the main attributes of designing. For the buyer and the designer, the attributes can be different, and many times the designer needs to compromise to please the buyer. Standards work as an aid for the designer and the design process. Standards are in their place to help the designer create more industrial designs, choose the best possible materials, and use the machinery and factories as efficiently as possible. The goal of standards is to help the designer create as versatile a collection as possible with as few resources wasted as possible, stay on schedule, and deliver it to consumers as efficiently as possible. (Nuutinen, 2004: 52–57.)

Standards also mean balancing the collections (Nuutinen, 2004: 52–57). According to Nuutinen (2004), for example, 60-70% of sales are based on the so-called core garments of the brand, meaning the basic models that repeat themselves from season to season. 20-30% can be fancy products designed based on the trends of the season, and 5-10% are fantasy products that are like the prophetic collections we can find in haute-couture collections. The prophetic part of collections is more handcrafted and reminds prototyping and product development, where the designers try to find the most producible version of their idea. (Nuutinen, 2004: 241.) In the collection design process, it's essential to differentiate between commercial and creative pieces as they have different values and purposes. Commercial and merchandise are meant to be sold in large quantities with an appropriate price point, whereas creative pieces aim to catch attention on runways and attract attention (Timmers, 2021: 30).

According to Han, Tyler and Apeageyi (2015), designers working with standard high street fashion design processes have limits set on their work. Their work

specification was restricted to the research, design, and sample production. The standard fashion design process can be divided into four steps. (1) Brief, including the design problem or task, (2) Research, from the points of creativity and market, (3) Sample products, made based on marketing and promotion and then distributed to the retailers, (4) Ready for the consumers. (Han, Tyler, Apeageyi P, 2015: 3).

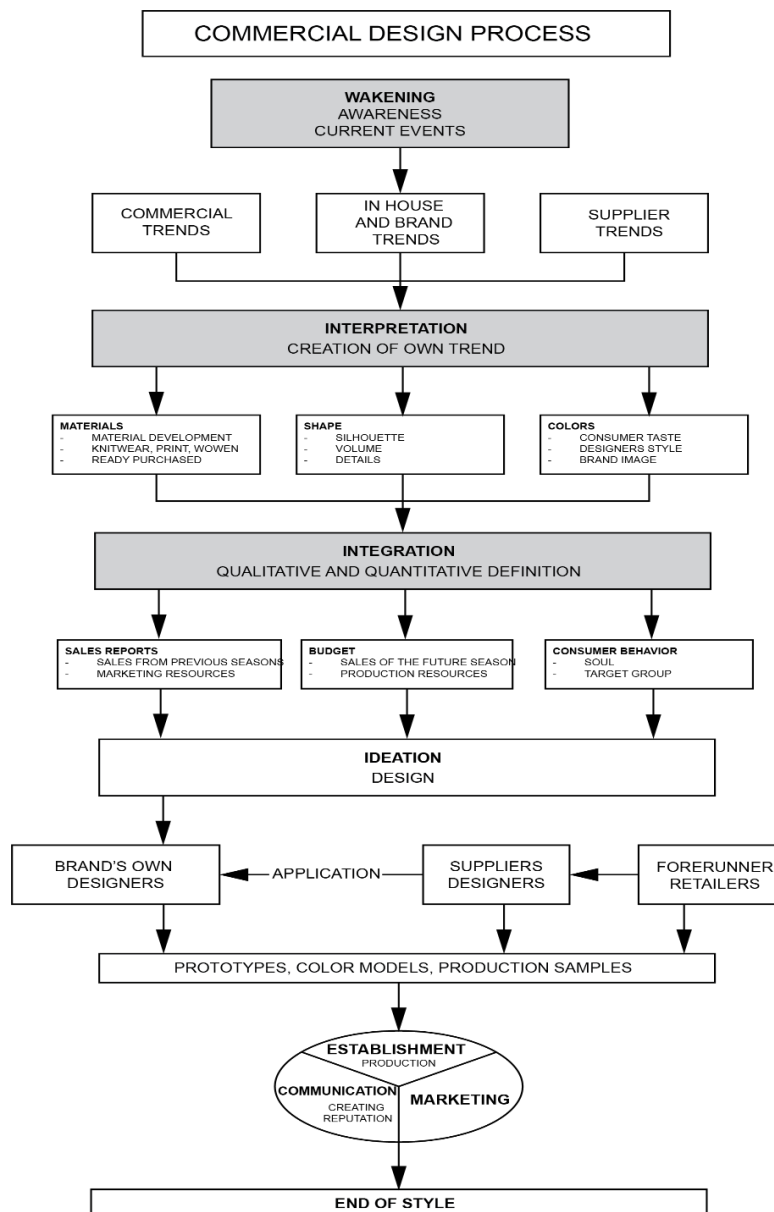


Fig. 2. Commercial design process. Translated from Nuutinen (2004: 210). The original graphic in Finnish.

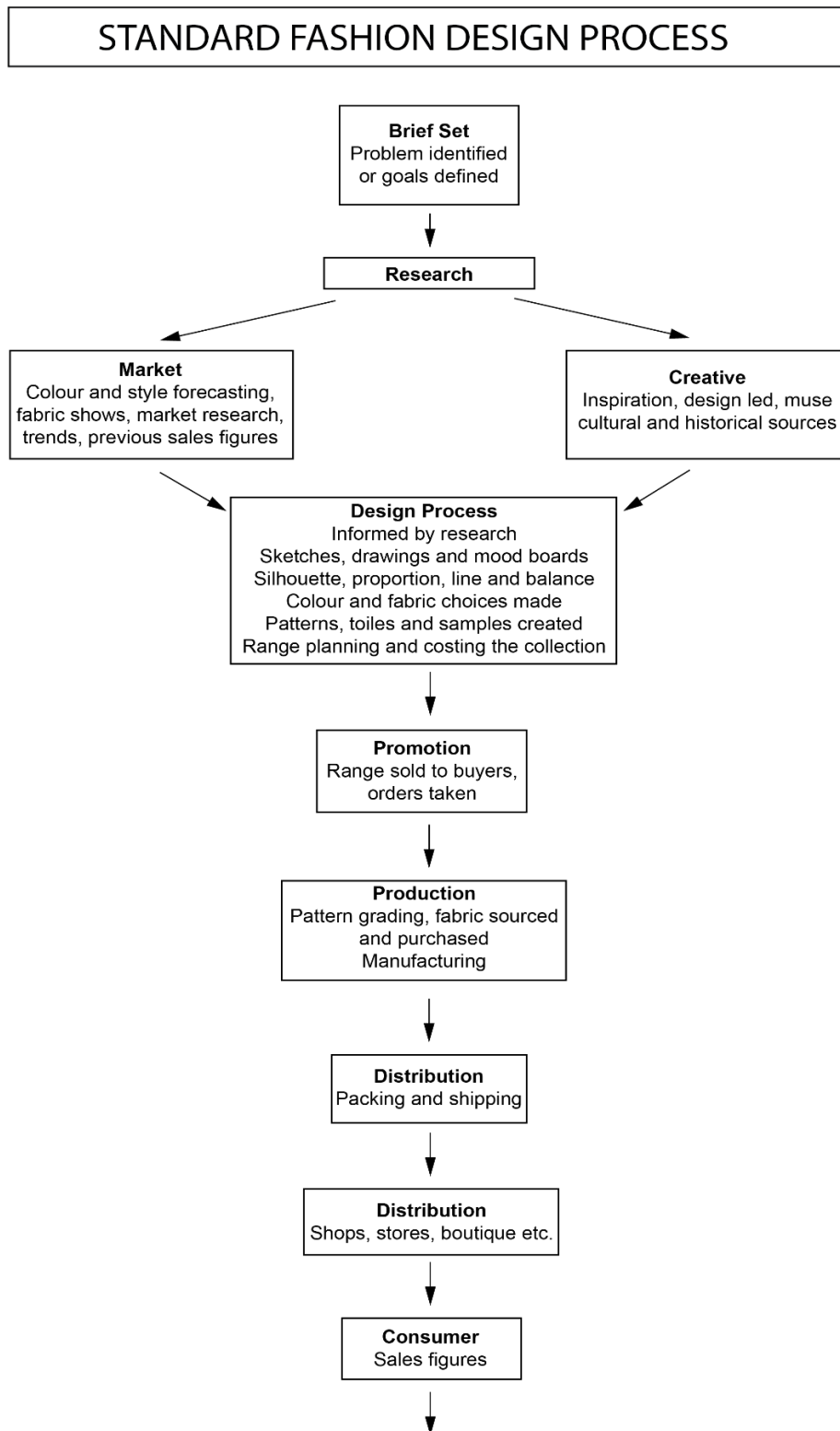


Fig. 3. Summarized Standard Fashion Design Process Model. (Han, Tyler, Apeageyi, 2015: 7).

2.2.2 Sustainable design process

When talking about sustainable processes, the upcycled process is used as the primary sustainable strategy at #DAMUR for its easy implementation in fashion design, fashion items, and fashion design processes. Remanufacturing is talked about as a more industrial way of doing fashion upcycling. Remanufacturing means reproducible upcycled fashion from the view of production.

Upcycling design process

According to the fashion industry's critics, the fashion industry can be blamed for the wasteful product that is a result of industrial production and the wasteful industry itself. According to Mausch (2016: 6), it can be argued that waste can essentially be seen as a design flaw. According to Escobar (2017), we can call the contemporary world a massive design failure from which we now have the possibility to design ourselves out from (in Khamisani 2021: 87–88).

In the fashion design process, the collection's material quantities can define a lot of the collection. If some material needs to be ordered a lot, it either needs to be used in many pieces or through multiple collections to justify the ordering of it. Making designs and starting the design process out of already cut shapes and sewn pieces requires different skills and mindsets (Khamisani, 2021: 87) than traditional designing. Deconstructing garments and making new items out of the process can be called the skillset of the future fashion designers (Khamisani, 2021: 87–88). According to Sharma (2021), even though the awareness around sustainability is increasing, the upcycled design process has remained relatively niche and has not yet been able to reach the mass-consuming population. The most common challenges with scaling up upcycling are its scalability in production, consistent supply of raw materials, cost, and the capability to design creatively around the waste. Also, the uniformity of the end products, cost-effectiveness, and time constraints have made the process quite challenging. If, however, the upcycling process is adapted as a part of the

design process, it can present itself as an alternative to the default downcycling process that the fashion industry is now holding and prolonging the life of the product. (Sharma, 2021: 71–72.) According to Bocken et al. (2016), the four strategies for prolonging products' life are: (1) designing products to be easily maintained and repaired, (2) designing for adaptability and with upgrading possibilities, (3) designing with combability and standardization as part of the process, (4) designing with the possibility of disassembly and reassembly (in Kim, Christiaans, Kim, 2021: 33).

According to Galdon et al. (2021), the process stages in the upcycled design process are (1) research, (2) concept and ideas development intertwined with materials, colors, and finishings, (3) production and presentation. In this approach, the design process works through active engagement with the world, such as real-world problem-solving or experiments. The design process starts by mapping what materials to use and implementing those materials straight from the start into the designs. The process deconstructs and then reconstructs again. In this process, research and the properties of materials play the most crucial role, as the design is built around them. (Galdon et al. 2021: 9). According to Kim, Christiaans and Kim (2021), when talking about user characteristics, two significantly influence everyday design, technical skill, and creativity. The higher the technical skill, the more likely is appropriation and processing of that information. The higher the creativity, the lower the likeliness of appropriation and processing. (Kim, Christiaans, Kim, 2021: 35.) According to Timmers (2021), when designing commercially, the creativity must not be at a level where consumer struggles to understand it. Technical aspects are more accessible for the consumer to understand, and the consumer can quickly process the added value of technical skills. Controlling the amount of upcycled material affects the cost sufficiency of the garment since upcycled garments and fabrics cost more to produce because of the production time. (Timmers, 2021: v.)

According to Cassidy and Han (2013), the denim upcycling process that produces one-off pieces consists of six key stages. The key stages are a collection of denim, sorting, unpicking, sorting the deconstructed pieces, designing, and selling. While the described process focuses only on one-off denim pieces, alternative key stages of the design process can be found, designing on the form and by paper patterns. Challenges with upcycling for mass markets are the inconsistency of fabric, labor-intensive work, and cost implications. (In Sinha and Dissanayake, 2015: 5–6).

Sourcing upcycled material can be challenging, especially when quality and fabric properties must match to make a high-quality and durable product. One way to find materials for upcycling is the local systems, which the global economies are currently ignoring. An untapped approach for material collection is Facebook groups, Instagram, TikTok, and face-to-face swapping, allowing inspiration and material flow. The material collection methods can be used in self-organized fashion online communities. The same communities can be used for the distribution. Studies conducted about textile upcycling show how it can uncover social perspectives and attitudes since new models of circularity may rise to the regime level from originally niche clusters. (Maione, 2021: 66).

After sourcing the materials, they need to be divided based on their fibers because different fibers react differently to aftercare (Timmers, 2021: 29) and construction. According to Timmers (2021), even though second-hand clothing has already gone through the basic consumer washing and aftercare, there might still be some changes in shape and size depending on the base materials and finishings of the fabric; for example, wool will always have some shrinkage and, therefore, needs its own aftercare. In comparison, for instance, sports fabrics rarely change with aftercare. A combination of previously mentioned materials would require strategic placings in the design and production phase. Also, color bleeds are possible when combining different materials and colors. All these factors must be considered in the production process, making the production time longer and upping the price point. (Timmers, 2021: 14–29).

Timmers (2021), in his thesis made for #DAMUR about upcycling, concluded that it is more cost-efficient to use only 50% upcycled and 50% of deadstock fabrics since upcycled fabric and garments take much more time to produce. Also, not making the whole garment out of upcycled clothing makes it more accessible for the customer. If the garment is desired to be made from completely upcycled fabric, it is recommendable to use familiar garment structures for the customer, such as blazer or jeans structures. When combining deadstock and upcycled fabric, it's essential to take into consideration the composition of the upcycled fabric and deadstock fabric. The best result in the view of aftercare is to have a similar composition of materials as this adds value to the garment from the perspective of accessibility to the customer. (Timmers, 2021: 20–27.) If the price point of the upcycled garment is not carefully thought-out already in the design process, the upcycled or partly upcycled garment might become too expensive for the customer to purchase, leaving the garment unused and maybe a subject of yet another upcycling process (Timmers, 2021: 29-30). That could make the upcycling process goals obsolete and cause more harm to the environment if the process needs to be repeated.

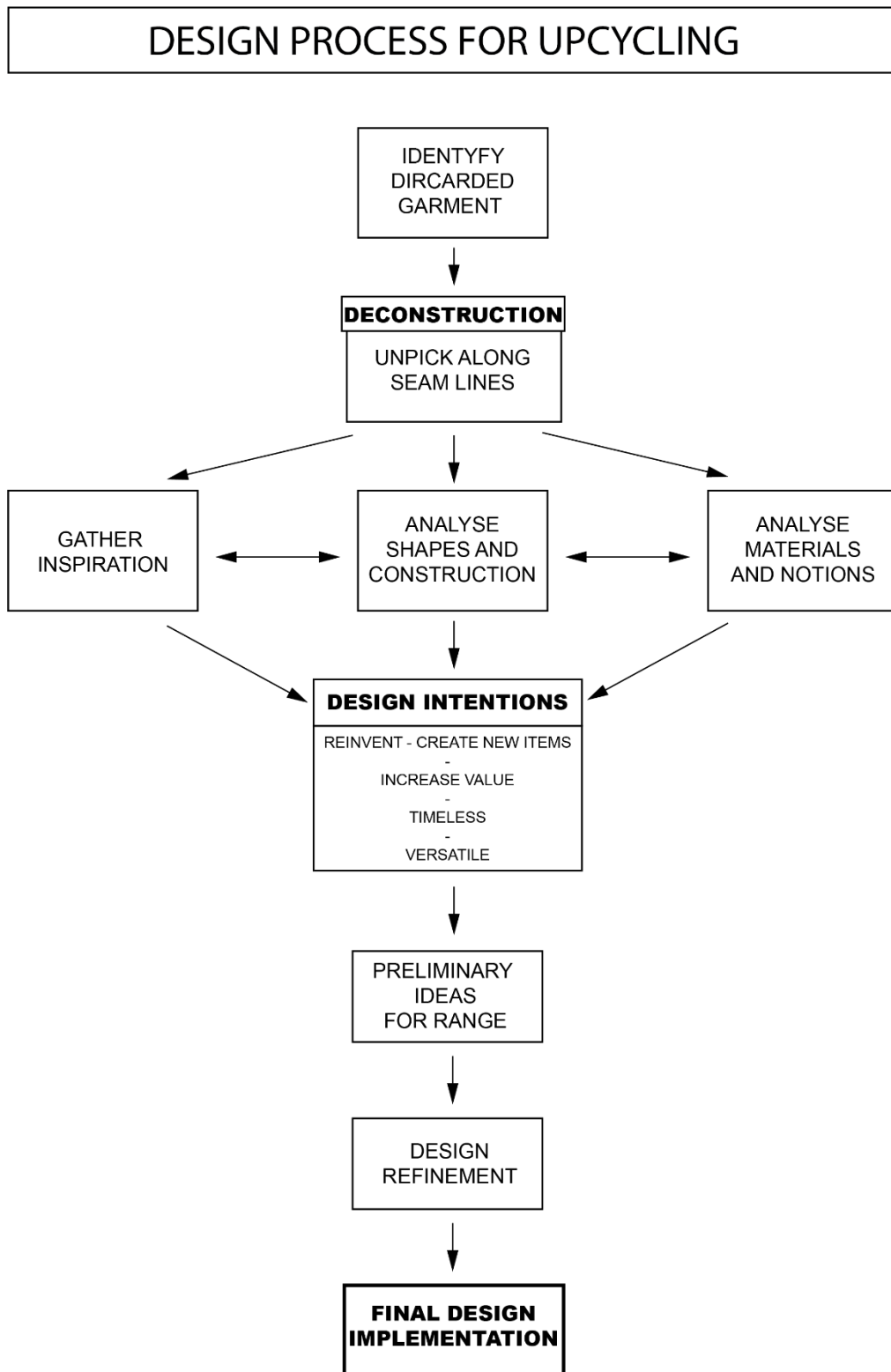


Fig. 4. Design process for upcycling. (Khamisani, 2021: 87).

Remanufacturing process

The remanufacturing process was chosen to bring more commercial views of upcycling. Even though upcycling and remanufacturing as terms and methods have their differences, which are addressed in this chapter, both of them in this thesis are considered upcycling practices for the similarities that can be found in them.

The upcycling process aims to produce an individual, primarily handcrafted end product, whereas remanufacturing as a process is more industrial and aims to create an end product that is reproducible in a factory environment. In upcycling, the end use of the product can be completely different from the original, whereas in remanufacturing, the function of the remanufactured piece stays the same as the original. When upcycling, the materials can either be worn or not, whereas in remanufacturing, the materials have been used and might have signs of wear and tear in them, or the materials would have been destroyed if not remanufactured. When talking about quality indicators in upcycling and remanufacturing, the main difference between the methods is that where upcycling does not require it due to its focus on creativity and design, remanufacturing requires a quality indicator that communicates that the remanufactured product is as good as the new or even better. (Sinha and Dissanayake, 2015: 4).

According to Sinha and Dissanayake (2015), to remanufacture, a reversed supply chain needs to be implemented into the process. Reversed supply chain means that the secondhand garments and materials are taken back from the consumer. It is the backward movement of the traditional supply chain. (Sinha and Dissanayake, 2015: 6). Study conducted by Sinha and Dissanayake (2015), shows that the remanufacturing process starts from the collection of materials from various sources, including customer donations, wholesaler excess, fabric merchants' excess, and secondhand shops. When the material is acquired, the sorting process can start. Sorting textiles can take a long time,

depending on the amount that needs to be sorted. To cut down the unproductive time, the collection process can be started simultaneously. After sorting, the materials that need washing are washed. (Sinha, Dissanayake, 2015: 9–11.) Washing the materials after sorting also helps with the combination of materials, as shrinkage may occur during the washing process depending on the material. As a final step of sorting the materials are divided and stored based on the category, for example, the color, material, and product categories (Sinha, Dissanayake, 2015: 11).

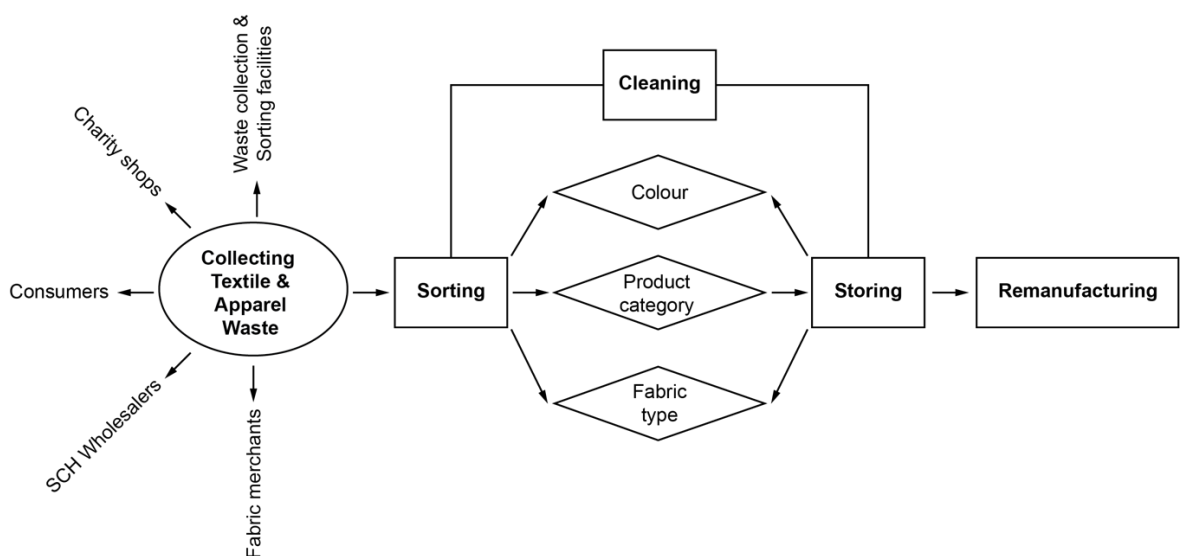


Fig. 5. A simplistic representation of the reverse logistics system for fashion remanufacturing. SCH in this diagram refers to Second-Hand Clothes. (Sinha and Dissanayake, 2015: 11).

According to Sinha and Dissanayake (2015), five key steps can be found when taking a closer look at the design processes of companies. The steps of traditional and remanufacturing methods have significant differences between them. When talking about the traditional method, its beginning lies in the trend reports, whereas in remanufacturing, it can only be used as a guiding proposal as the main target is to create a trans-seasonal, sustainable fashion collection. As a result of the material sourcing limits for the designs, it is essential to analyze the gathered fabric's consistency and colors. (Sinha and Dissanayake, 2015: 12).

While in the traditional design process, the ideas are brought to life through sketches, in remanufacturing design process, the ideas come to life through material experimentations with the different ways of molding the textiles as well as playing around with the different consistencies of materials. For this, the materials need to be disassembled. As the materials restrict the design ideas, a high level of creativity and design thinking is required from the designer. The final designs are formed by selecting materials and techniques and by the possibility of mass production. The most common design solutions are modular pieces that can be transformed and worn in different ways. (Sinha and Dissanayake, 2015: 13–14).

As part of the traditional method, samples and prototypes are created from appropriate fabrics and working patterns. Catwalk collections can be made entirely of the samples and shown in fashion weeks. Working patterns are later in the process used to develop production patterns. The cutting process in remanufacturing is not as straightforward as it is in the traditional method. In remanufacturing, the cutting must be done individually by hand due to the restrictions of the size of the material pieces and the consistency of the materials. The last part of the process is manufacturing. Manufacturing of remanufactured garments can either be produced as one-off pieces or then in smaller quantities. One way to produce remanufactured clothing is to repeat the same model in similar fabrics but with variations in colors and prints, as an identical result is impossible. (Sinha and Dissanayake, 2015: 14–15).

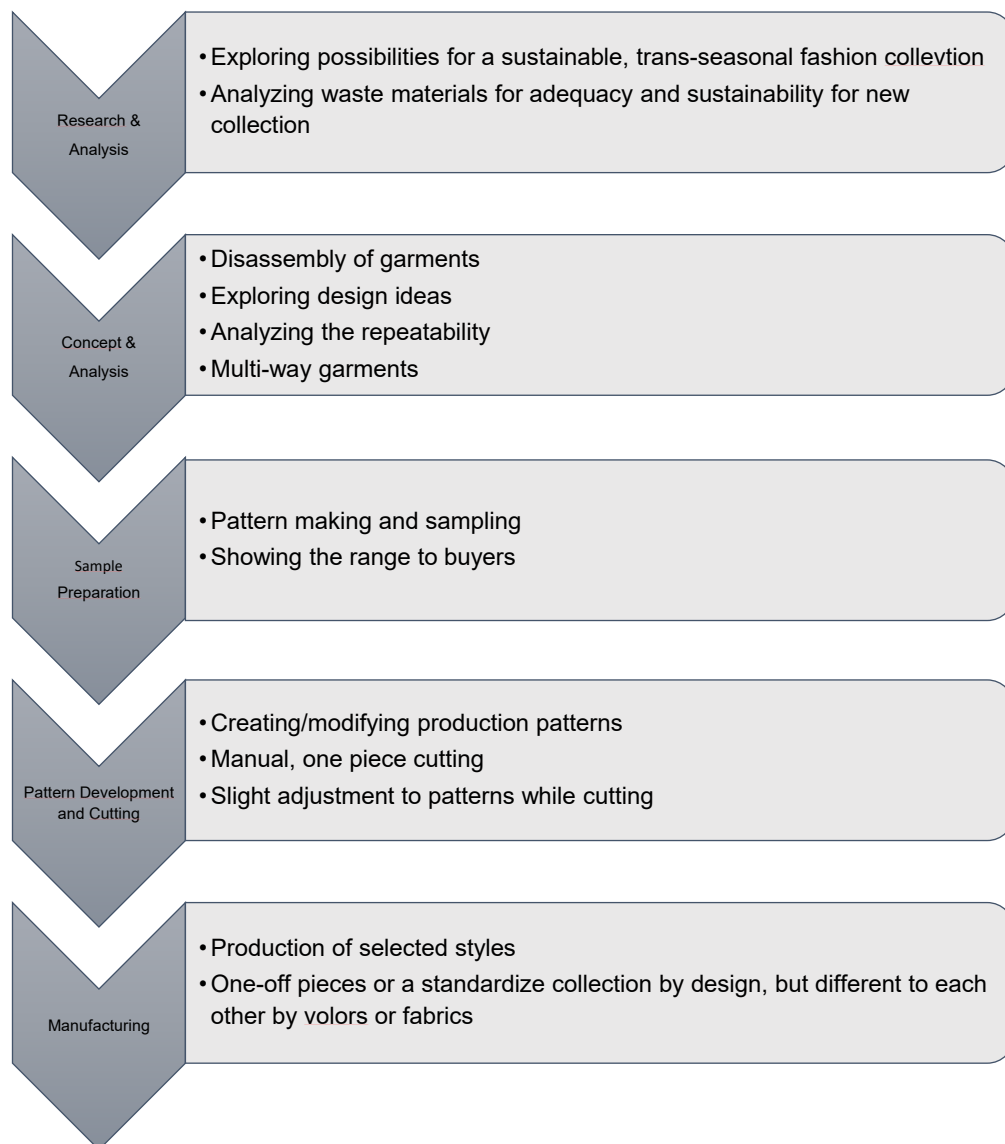


Fig. 6. Generic product development process for fashion remanufacturing. (Sinha and Dissanayake, 2015: 16).

Remanufacturing for the mass market

“Remanufacturing in the fashion industry remains largely within a niche market at the moment, however, the global shortage of raw materials would presumably bring remanufactured fashion into the mainstream.” – Sinha and Dissanayake, (2015: 17)

The main problems with mass-market production lie in the uncertainty of the quality and quantity of the materials and in the unpredictable processing times.

Also, the disassembly of the received garments is time-consuming and costly. It needs to be hand work as every garment is different, and the level of required disassembling depends on the design. When producing for the mass market, the quality of the remanufactured garment must be equal to the other mass-produced garments in the market. Remanufacturing can not be lower in quality than other ready-made garments. (Sinha and Dissanayake, 2015: 17–20).

The remanufactured collections can make use of the previous season's fabrics. Highly commercial brands produce large quantities of basic garments from season to season, with slight detail and cut modifications. The usage of deadstock fabrics with modifications to details and cuts would not differ much from the current mass production from the view of producibility. Using previous seasons' materials also keeps the costs of remanufacturing at a lower level, making the end price of the product more affordable for the customer. For the mass market, the designs should stay simple and play on the materials and the sustainability factor. Collaborations between fashion retailers, sustainable designers, and commercial waste collectors could lead to future fashion innovations. (Sinha and Dissanayake, 2015: 20–21).

3 Methods

The study is executed as a case study. The study is focused on the integration of design processes and upcycling processes from the view of the design order. The design order is shown through design process charts created for the company. This thesis focuses on a real-life problem found at #DAMUR GmbH regarding the design process. The case study method analyses a real problem using real information as a methodological tool and various sources (Herrera and Cisternas, 2016). The research approach used was qualitative. It is constructed from critical action research, research of existing materials, and interviews in person and email form. Critical action research was chosen on the basis that I had personally worked as a part of #DAMUR's design team and

seen the insides of the current design process. It was also chosen as a tool to differentiate the marketing information from the actual practice. The literature selected for this thesis takes an in-depth look at design practices in traditional and sustainable design. This thesis covers the fashion design industry's creative, commercial, and upcycling practices. It takes a deeper dive into what is creative, commercial, and upcycled design and how the current processes of these different design points of view work. An open-ended semi-structured interview was chosen as a research method for the experience-based views. People selected to participate in this study had experience working at #DAMUR GmbH in the design team and had studied in the field of fashion design.

To gain a broader sense of different approaches to the fashion design process, interviews were conducted with people whose fashion design studies differed. Even though all of them did study in the field of fashion design, some studied fashion design focusing on a technical and production point of view; some studied from the side of creativity and art, and some studied textile design. All are vital in the fashion industry and all capable of fashion designing but from different approaches and points of view. Interviewees were given the option to stay anonymous, thus making the participation more accessible and more truthful. One of the interviews was conducted with the creative director and founder of #DAMUR GmbH, Damur (Shih-Shun) Huang.

3.1 Action research

Action research is a qualitative research method that strength lies in its capability to study what goes on in organizations. Action research works synergistically between research and practice, practice informs the research, and research informs the practice. It also combines practice with theory and works to solve a problem detected in the organization. The problem-solving happens through reflective research and learning. In action research, the researcher can intervene, implicate their theories, and reflect on the results. (Avison et al., 1999). Critical action research takes a problem found in the

organization and tries to implement an improvement (Dudovskiy, 2022). Critical action research was chosen as the action research method used in this thesis.

As the thesis is completed in a short time frame, there is no possibility for the total reflection and surveillance of the implemented fashion design process suggestions or modifications based on the findings. The action research is based on problems found while working in the design team of #DAMUR GmbH and on the problems found in the interview materials. This thesis aims to solve those problems and make suggestions that the design team can use while designing the following collections.

3.2 Interviews

Interviews were open-ended semi-structured interviews that were conducted in person and transcribed. Also, email interviews were conducted with former interns of the design team. The choice of participants is well thought out in qualitative research and does not include random selection (Galletta, 2013: 33). Interviews were used to gain qualitative information about the fashion design process at #DAMUR GmbH. According to Galletta (2013), the semi-structured interview method is flexible as it leaves room for the interviewees to offer new points of view on the subject studied while still holding the focus firmly on the subject. The questions used in the semi-structured interview are informed by theory (Galletta, 2013: 1–2). It also allows the researcher to discuss more with the interviewee to clarify, make meaning, or critically reflect on the answers (Galletta, 2013: 24). According to Saaranen-Kauppinen and Puusniekka (2006), questions asked in a semi-structured interview are the same or close to the same for all participants and asked in the same order. However, some definitions allow the mixing of the question orders (Saaranen-Kauppinen and Puusniekka, 2006.) In this thesis, there are slight variations in the question forms based on the participant. In some in-person interviews, the order of questions varied because sometimes the participant started to answer another question while answering another.

The in-person open-ended semi-structured interviews were carefully transcribed, and the transcribed material was coded using thematic analysis. The same analysis and coding method was used with the open-ended email questionnaire. The interviews focused on the interviewee's views on the design process at #DAMUR as well as their own personal design process and the differences that could be found between them. The interviews also focused on the differences between practices when comparing traditional and sustainable design processes, focusing on upcycling. It also tried to find places for improvement in the design process and the tools used to map out the process and the process schedule. To gather more information on different design processes, the team members chosen represented various fields of study in fashion design. Coding the material into manifest aspects (Elomaa-Krapu, 2022), gave an in-depth view of the interview material. As the questions were already broken down and very specific, the latent aspects were not searched as they would have been similar to manifest aspects. Coding highlighted similar points and views found in the interview materials, which are discussed in this thesis.

Six former and current employees from #DAMUR GmbH were interviewed for this research. There were three in-person interviews, two from colleagues in the same design team, Employee 1 (creative fashion design) and Employee 2 (textile and fashion), who were employed by #DAMUR GmbH at the time the interviews were conducted, and one from the creative director and founder himself, Damur (Shih-Shun) Huang (creative fashion design, fashion, and textile technology). Three email interviews were conducted with previous members of the #DAMUR GmbH design team. Participants of the email interviews wanted to stay anonymous and are referenced as Employee 3 (fashion production), Employee 4 (creative fashion design), and Employee 5 (creative fashion design).

4 Fashion design process suggestions and interviews

In this chapter, the results of the interviews are summarized, and the main points found in the analysis of the interviews are discussed and broken down into main and subtopics. The three different fashion design process suggestions were created based on the interviews' findings and the existing materials' research. The suggestions are focused on commercial and creative processes, upcycled processes, and how to integrate those processes.

4.1 Interview

Based on the coding and analysis of the interview material, the main topics of the design process started to arise. The focus on the interviews could be categorized into five main topics: Concept and Ideas, Materials, Structure, Production, and Conclusions. All the main topics have subtopics that are also discussed when discussing the main topics. The subtopics are always connected and a part of the main topic. The main topics can be viewed as umbrella topics.

4.1.1 Concept and Ideas

The beginning of design process for four of the interviewees started with the creation of concepts and ideas. The interviewees had in common that three of them (Employee 1, Employee 4, and Employee 5) come from fashion design universities with a strong emphasis on a creative way of designing. One interviewee (Employee 3) came from a technological fashion university focusing on production. Two of the interviewees (Employee 2 and Huang) did not view the concept as the place to start the fashion design process but agreed on the importance of the concept and idea phase. Both Employee 2 and Huang come from a background that, on top of fashion design, strongly focuses on textile design.

The interviewees highlighted the concept as an essential part of the fashion design process as it can be viewed as the step that defines the collection. The concept includes the search for the idea, research of the topics, trend research, mood boards, and the testing of the ideas. If the concept is lacking, the ideas are lacking, which can cause the collection to not live out to its full potential. While the concept can be viewed as the source of creativity and the redline of the season, it should not only focus on creativity. The concept should be a combination of creativity and commercial possibilities.

“Imagining something and making mental notes. Making a first sketch. Looking for references. Reworking of the sketch. Making a first prototype. Making changes if necessary. Redoing prototype if necessary. Choosing the right fabric and accessories. Making a final prototype. Finishing the final prototype.” – Employee 3 (fashion production)

“The most important phase in the design process is the research, making a perfectly outlined concept, keeping it cohesive with everything and displaying the collection to the public without making it look too abstract or hard to understand.” – Employee 4 (creative fashion design)

“The process is not linear, the stages are intertwined or go back and forth but to put it simple: it usually starts with research about topics/issues, material, techniques, then moves on to sketching, designing and tryouts and ends with production. At each stage there can be „fallbacks“ on the previous stages though -> trial and error” – Employee 5 (creative fashion design)

Ideas are created based on the trends and concepts and on the history and past best-sellers of #DAMUR. As the idea phase has the potential to be highly creative, the process can be balanced by introducing some basics or for products from the previous collections to the mix. Mixing the creative trend pieces with basics and best-sellers from previous collections lowers the risk taken with the new elements in the collection and makes it more sellable and customer friendly. When the collection has previous seasons' pieces, it makes it easier for the customer to identify with the products and brand.

“you will have some data in order to show what is popular, what is working, what is not working [...] I’ve learned from the industry is that as a crazy design you can always have your personal style, your personal story, but when things come to business you need to measure the success. And at that point, it’s really not depending on how great your design looks or drawing looks great, the concept looks great, but who can produce that? Can you deliver that? Do people actually like it or not? [...] now I can be very calm when we talk about all kinds of concepts. Is not about I don’t follow the design, or I don’t respect the design, it’s just I realize that we can talk a day or a week about the creative concept but when things come to a business it’s about whether the customer wanna buy or not. So, we can have a debate, we can write essays of concept but in the end the customer wants a top they can wear very quickly, doesn’t have to do dry cleaning, they want something they can afford. [...] So, that actually will be a very important impact for me always think about the collection and of course as a small company we always have to think about what are the current resources that we can use in a smarter way.” – Huang (creative director and founder)

“I think the big difference between designer and artist is that the designer needs to understand everything has limitations and you have to work in that limitation [...] I think the design process is really important for the fashion business, and I think this will always stay in a company because we are not only creative artist, but we are also trying to provide a solution to how can the creative thing go into mass production, also to have commercial success as well.” – Huang (creative director and founder)

4.1.2 Materials

For two interviewees, Employee 2 (textile and fashion) and Huang (creative director and founder), the design process started with the materials and colours that inspired the concept, ideas, and designs. Since both interviewees have a strong background in textiles, the importance of textiles in the design process is emphasized. The other four interviewees (Employee 1, Employee 3, Employee 4, and Employee 5) placed materials after the concept, idea, and sketches. The material was viewed more as a construction block to make the designs happen.

“Initially, I started by doing swatches and by doing some mood board [...] narrowed it down to what would be the quickest, what would be the most recognizable, and what could be easily replicated. I think you can design a lot freer when you’re not working with a material that has different ways of behaving and different colors, and you have to really think about it and

grain stuff and stuff like that, where the seams are gonna be [...] more confined to what you can create [...] I think being a bit restricted I think is good in a way. [...] I was so much more creative because I had to utilize what I had.” – Employee 2 (textile and fashion)

From the view of sustainability and upcycling, materials as the first step help to get rid of the deadstock materials at #DAMUR and help reuse some of the textile waste the fashion industry creates. When the design process starts with materials, the upcycled design process integrates easier with the commercial and creative design process. The textile design process can be compared with the industrial design process. Materials are also the defining factor in whether the designed silhouette of clothing is possible to produce as materials create the fabric's volume and drape. When designing sketches first, sometimes the designs might need to be altered due to the lack of desired fabric. Lack of desired material can be caused by the budget, minimum order quantity is too high, the fabric delivery will take too long, or the fabric is unavailable.

“but I think often we can go much deeper than just about the creativity. [...] we always have fabric we have to use, and then, of course, we have some discussion for creativity, but I guess this is closer to reality because, in the real world, you cannot just always get what you want; there’s always minimum quantity, there’s always budget, there’s always a delivery time, there’s always something. [...] now, if I study my working process from the new collection, I was always evaluating what is available resource or article or fabric or potentially the base I can quickly actually upcycle or recycle with much business impact or efficiency for new collection [...] whether today you wanna talk about what is sustainable, ecological, I think design process also comes to a very big part. If you really focus on sustainability and ecology, then traditional fashion design is just not the most sustainable or ecological way because everything has to be new. Everything has to be remade again, and you don’t take from the old or the previous ones. [...] And of course, upcycled is also really about how to transfer the value from something you cannot use anymore. Deadstock, deadstock yarn, or secondhand clothes [...] to turn into something on point. [...] But in a traditional commercial design, you just design whatever is the latest one” – Huang (creative director and founder)

“some people will be very linear, but I don’t think I would be as linear as other people. They would start, they would do like ten swatches, then they would put it on like doing drawings and just like pick their design and

work like that. Whereas me I start with swatches, do some drawings, and go back and forth between the two until I find something that I like and sometimes it involves on me going back to research more things and more ideas” – Employee 2 (textile and fashion)

”for upcycled design, I first check what is available and then do the design. For commercial fashion, the design is first, then I do the sourcing.” – Employee 3 (fashion production)

When the used material is deadstock, either #DAMUR’s own or from other companies, and used as it is, the design process is more straightforward as it only needs to focus on the fabric's colors, weight, and characteristics. It can be used like new materials would be used. When the material needs to be upcycled from, for example, second-hand clothing, processing the material will take more time and creativity. When using second-hand clothing as material, sorting and taking apart the clothing will take considerably more time than just using deadstock from the roll. After sorting and taking apart, designers need to make swatches and plan how to use second-hand clothing. The most used method at #DAMUR is to make second-hand clothing into a patchworked fabric, creating a material that can be worked later in the process in the same steps as new fabric.

4.1.3 Structure

The structures described by the interviewees have many similarities to those found in prior research. The interviewees that had a strong creative background used a more creative method of designing, having the focus of the creation on the concept, ideas, and sketches. Then comes the materials to complete the existing designs and to create the desired volume. Prototyping aims to create existing ideas and test those ideas and sketches. The ready ideas are then transformed into technical drawings and technical packs. Then comes the time of the production.

”(1) Choosing a Topic, (2) Extensive research on the topic, (3) Creating the first, (4) Theme/ Research Board, (5) Creating the Mood Board, (6)

Making and outlining the Concept briefly, (7) Textile/ Print Development, (8) Draping and 1st Prototypes, (9) Pattern Construction, (10) Silhouette Development/ Illustrations, (11) 2nd Prototypes and 1st Fitting, (12) Technical Drawings and Tech Packs, (13) Collection Production, (14) 2nd Fitting and Styling, (15) Photoshoot (The end of the process in my case as a freelancer working for different brands)” – Employee 4 (creative fashion design)

Interviewees with strong backgrounds also in textiles had similarities to the design processes of upcycling. The beginning of process began with materials. Materials can be just something found lying around without use or deadstock—the motivation for using deadstock or discarded materials varied from cost-effectiveness to creativity through limitations and experimenting. Cost-effectiveness was chosen from the business view, minimizing the material cost, and creativity was selected as an experimental approach. Depending on the method, the design process either continued with the concept, ideas, and sketches or with material testings and experimentations. When using only deadstock fabric rest of the design process continues with the same structure as the trend-based process. When using discarded materials, fabric manipulation, or upcycling, an extra step needs to be taken before the concept, idea, and sketches phase. The materials heavily influence the concept, ideas, and sketches. The next stages will continue like in a trend-based design process, moving to technical drawings and packs and then to production.

“every season, we always have a certain structure with a timer and schedule, [...] I think as a good design practice you always need to have structure, no matter how you wanna switch the order, but there are always certain components you always have to discuss at a certain stage. The fitting, the colorway, reducing deadstock, talk about new fabric, the concept, the marketing ability, and business. [...] at a certain point, you just have to come to the point whether you can realize in a sustainable way into the production process as well. Because if you always have a new freedom, every team you have, they create completely new designs and then it’s also very difficult to track, to know how is this brand’s certain consistent style or color or textile. So, I also find this can be a very interesting way to maintain a very sustainable but also very consistent way to deliver the design language as well. [...] My process will be first to analyze what is the situation regarding the sourcing, what should we actually keep, and what we should take down

according to business. So always analyze the previous season. And then talk with the team, okay this is what we learn, and in the new season, we have some idea we think has a high potential, how can we combine these two things together. [...] how can you find a very good process [...] which can be a referenced quickly in order to help the team or the talent very quickly to work independently but still you allow to have creativity under the structure as well.” – Huang (creative director and founder)

“we always take whatever the best actually from the previous season and then we create twenty or thirty completely new. [...] maybe some season we reduce [the amount of new designs], some other season if we have a bigger budget we can have a little more [of new design] [...] we say how many looks do we want to have and what is this including or something, want to show in the fashion show, what is necessary so you already have some limitations, so it’s not like in the beginning you do completely free [...] So, let’s check how many [...] fabrics we still have, and can we actually finish as much as we can? That will be the first thing we have, and then the second is we may actually want to get some new fabric, but how many percent actually we can have, and how do the things actually look like it? And then, we will also get what’s the best seller or what’s the most iconic item from previous seasons and how can we have consistency and still connect with previous seasons. So, they actually have to work on this process in order to analyze the brand, to learn the brand, to the point where they can say, “okay this is the point we don’t like it, this is the point we don’t like it this is a point where the things are not relevant anymore, so we need to cross out”, so I think designer in today’s company is really like a consultant as well. To understand the company’s pinpoint and then to provide a better solution for the business, I think this has nothing to do with creativity [...] I personally think this is much more effective [...] sometimes you try to solve a problem, but if you only focus on creativity, you’re always creating a problem, but you’re not solving” – Huang (creative director and founder)

The structure of the fashion design process is not linear. The bases of the structure exist, and certain phases often come in specific points, but the fashion design process is a process that has parallel cyclic processes inside of it. For example, materials, concepts, ideas, and testing, all affect each other, and the cyclic process between the stages can happen multiple times. When we talk about a design process that is heavily focused on production, production can add another cyclic process. Production and the factory's production possibilities affect the design process, and production can modify the idea and design phase. In an exemplary design process, the production possibilities, as well as

the capability of factories, are already taken into consideration at the very beginning of the design process. No matter if it's textile or creativity based.

Schedules and deadlines often section the structure of the design process. Schedules and deadlines are critical from the point of production as factories and production require their own time.

“after it's really like footsteps, like okay, so we have this deadline, this is the time we have to send all the tech packs to the factory, so that means this step has to take this long, and this step has to take this long [...] I think we can always change everything again and again, and it will never stop. So, I think we just have to think, okay now it's done, maybe we can do better the next collection, it's fine, but now it's done.” – Huang (creative director and founder)

4.1.4 Production

The production was viewed by many of the interviewees as the hands-on approach of self-prototyping and sewing. This is true for the process of upcycled accessories and fabrics and some rare individual pieces at #DAMUR, but most of the samples and patterns are outsourced to a factory abroad. The rare clothing pieces patterned and prototyped at #DAMUR are the ones that are high in creativity and only serve as runway pieces.

“to transform the creativity into the practical design is something that always takes a longer time” – Huang (creative director and founder)

Before the pieces enter the physical production phase, the products' technical drawings and packs must be created. The technical drawings and packages inform the factories in detail how to produce the garments and what materials, finishing, and accessories to use. The knowledge of technical drawings and packages was heightened with the team members with a background in production-oriented fashion studies. The technical drawings and packages define the product's outcome and quality. In the technical packs, the details and structures of the designs are refined, and the designs are transformed from

creative sketches into producible flat drawings. Production possibilities affect the design process from the beginning because when designing, you need to take into consideration the factory's possibilities to produce a garment. For example, the machinery of the factories might present some limitations when it comes to design.

"You can design the most beautiful piece on paper, you can have the best finishing, but if the supplies that are used are of bad quality or do not look good, the final product will not look good." – Employee 3 (fashion production)

Production can also affect the design processes' material selection. Sometimes factories have ready deadstock fabrics or yarns themselves. Using those as the materials is not only easy and fast but also cost-efficient. It can also be more sustainable than producing completely new fabrics or yarns. Upcycled material can also cause problems when sent to production, so it is crucial to design upcycled fabric and designs in a way that can be produced in factories.

"we incorporate with a textile company in a very long-term run, they know what we like, they also know how to use us as advertisement as well. So, I didn't even have to ask them what we wanted to do for next season; they just said, hey we have this reflection yarn. Are you interested? I said yes, if you give me a black or white one, that will be very cool. And this is something I'm starting to get more idea in #DAMUR [...] you always working on the limit with resources, and I personally think for me it easier to be a good designer is to work on the inside the frame. [...] you are able to control much better results because you know the material, you know the sample, you know the design. So, in the beginning, we always create similar pants but in a different design, [...] we can always take from the previous season's pattern work [...] now I know if you wanna save in budget, take from the previous pattern, change modify there. [...] we want to have more effective as well because every time you wanna create a new sample is more costly, you create more shipping, everything" – Huang (creative director and founder)

"It depends on the situation. But my design process is most likely to change while creating upcycled fashion because upcycled textile manipulations can cause complications during the production process of the garment with sewing, execution, and finishings." – Employee 4 (creative fashion design)

4.1.5 Suggestions

The last questions asked from the interviewees consisted whether there were anything they would like to change in the design process at #DAMUR and do they have anything else to add about the fashion design process. Answers to the questions varied a lot but not in a surprising way. Interviewees with creative backgrounds would focus more on the concept, creativity, and conceptualism. Where interviewees with a background in textiles would emphasize the materials more. The repeating theme the interviewees brought up was the importance of guidance in the brand's design process and design language. Further familiarization with the brand and its design processes, as well as with the brand's market, would prevent any confusion at the beginning of the design process and make the collections more commercial and easier to sell while keeping the brand image intact.

“We also need to start selling more as well; I would love to have more business aspects in it as well. [...] our design team always knows about creativity but then how can we transform it into a sellable product?” – Huang (creative director and founder)

In order to adapt the business side to the design process, the process needs to merge with the marketing and sales. The research and interviews discuss the importance of background research into the brand and its market. It is a vital part of the commercial design process and needs to be implemented at the very beginning of the process. Ways to add a strong commercial side to the process is to use the data collected from marketing and sales as its own concept. That concept can then be merged with the creative and upcycling concept.

At the end of the fashion design process, gathering information is crucial. The data collected at the end of the process is then transformed into analytics that informs the new season, making the design process a never-ending cycle that informs and modifies itself after every season and collection.

4.2 Fashion design process suggestions

The focus when creating the suggestions was based on the interviews since the interview material was gathered from the design team members and the creative director at #DAMUR. Existing research material was used to support the claims made in the interviews and to complete the missing steps. Three suggestions were created to give deeper insights into different focuses while still fitting into the brand's design practices. The creative design process takes a deeper look into the design process of the creative and runway pieces. The commercial design process focuses on collaborations and commercial pieces. The third suggestion is the integration of these processes into one. All the suggestions take into consideration sustainability in the fashion industry as it is a crucial part of modern and future fashion design.

4.2.1 Creative design process

The creative design process focuses on the runway pieces and the pieces with higher creativity and works as the brand's identity. Runway pieces are an essential part of a fashion brand as they express the values and ideas of a brand. They have more freedom to take a stand and promote the brand's aesthetics. While runway pieces can also be ready-to-wear, they are more creative and experimental than the core pieces of the brand. The creative design process is integrated with the upcycled design process, as sustainability is one of the core values of #DAMUR. Upcycling in the creative process covers larger amounts of experimental upcycled fabrics used as the creative process gives more freedom to the design. Other materials used are deadstock fabrics and materials.

The creative design process starts with the **brief**, which includes a designer's personal views and interests, and it can entail political views or taking a social stand. The briefing in a creative design process is more personal and not

focused on pleasing the consumer or the masses. It can be a widely discussed issue or a personal grievance that the designer wants to address.

Trend research deepens the idea further while considering the zeitgeist and brand history. The idea research opens the statement further and explores the idea's roots and inspirations. Brand history is researched to keep the image of the brand intact. When working for a brand, the brand's identity must be shown in the collections. That is the way for a brand to create a recognizable look. Zeitgeist keeps the collection current and reflects on the society and the market. Even though the creative design process is not strongly driven by the consumer market, it cannot escape from it. Consumer trends affect the zeitgeist and the trends that creative designers use.

The design stage takes the ideas, views, and research and turns them into a ready concept and sketches. The concept is created through creative mood boards. The mood boards visually show the ideas and research behind the concept. There can be multiple mood boards for different purposes. Trend boards are used to portray the chosen trends of the season. Storyboards show the story behind the concept. Design and the detail boards show interesting design elements and details that fit the concept and could be added to the sketches later. The sketches are fashion pictures showing the pieces' volumes, key details, and silhouettes. Sketches don't need to portray every detail or how the piece is made; their primary purpose is to show the feel and ideas of the collection.

Materials in the creative design process are chosen after the designs. The materials can be more experimental than in the commercial design process. Upcycling can be explored with handcrafted techniques and delicate structures. Upcycling and upcycled fabrics can cover the whole piece in creative design since their purpose is to draw attention and break the norms. Brand materials are the deadstock materials used in previous seasons. New deadstock materials can be acquired from other brands or the factory's deadstock. Prints

create many of the season's trends, so new prints are a crucial part of the collections for a brand like #DAMUR that uses many prints in its designs. Older prints can be used as part of upcycling. Printing with more ecological colors and recycled fabrics makes printing more sustainable. Suppliers' materials cover the material innovations that are created in factories. Sometimes factories offer new materials for designers to use to see the reactions to the innovation.

Production in the creative design process can be a mix of factory-produced pieces and handcrafted atelier pieces. All pieces that go into production need to have technical packs. The technical packs are the information that factories and manufacturers need to create the pieces as close to the original design as possible. Technical packs include the flat drawings of the designs. The flats are a 2D picture showing all the pieces' details and seams. Technical packs also give information on materials and accessories used and the crucial measuring points. To cut down on waste, pattern making and prototyping can be made in 3D programs, thus eliminating the need for manufactured prototypes. In that case, the sample is the ready made product. Handcrafting happens mainly in the atelier setting, where the piece is created by hand by either the designer or in close contact with the pattern maker. Handcrafting can mean clothing pieces, accessories, or fabrics. Handcrafted fabrics can be sent to factories to be made into the finished garment, thus cutting the production time. Production possibilities are defined by the manufacturers. When thinking about the production possibilities, designers need to consider the factories' machinery and production time. Sometimes new factories may need to be searched if the current manufacturers can't deliver the desired product. Finding new reliable manufacturers and building that relationship takes time, so new manufacturers should not be sought out for just one fad or one season. After production, when the pieces arrive, they are measured and comments made to the factory.

The design process ends with showing the pieces on runways, fashion shoots, and showrooms. The rest of the process is handed out to marketing and sales teams, who oversee communicating the collection to the world. The

creative boards also help the marketing and sales to understand the soul of the collection. Marketing and sales data from the season is collected and then used to evaluate the success of the season to help improve the next one.

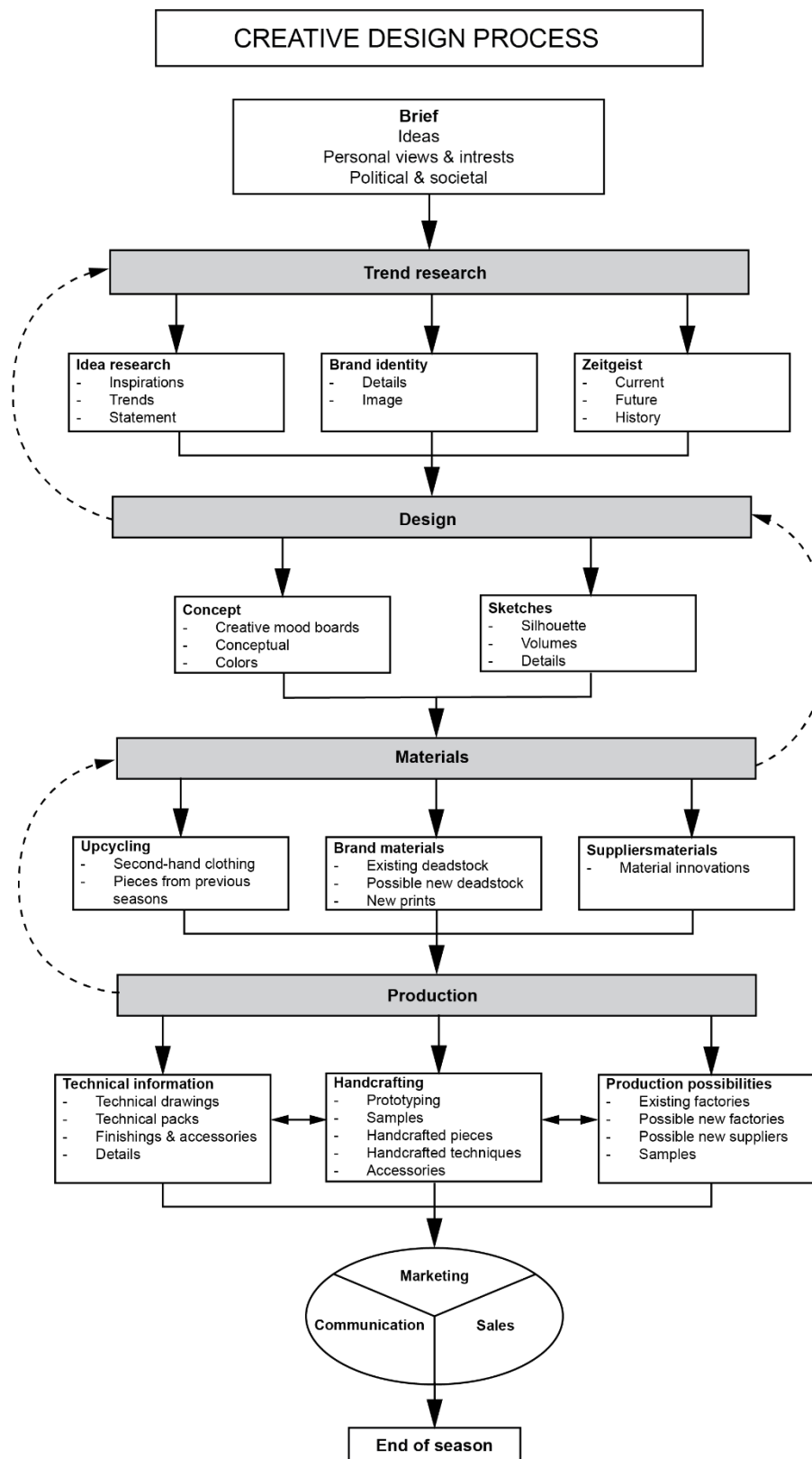


Fig. 7. Creative design process.

The graphic shows the linear order of the design process from up to down. The dotted line arrows mark the circularity inside the process and how every step affects another step and can sometimes cause the need to go backward or modify the previous steps. The grey boxes represent the interim phases where the design team gathers all the process information so far and evaluates it.

4.2.2 Commercial process

The commercial design process focuses on the collaborations and commercial pieces used as the core of the brand. Commercial pieces are the ready-to-wear pieces that make up the basics of the brand that are easy to sell and market to the customers. Commercial pieces are not without creativity and brand identity, but the messaging is more subtle in commercial pieces. It also covers the commercial collaborations #DAMUR has with various brands as well as the merchandise. The commercial design process is integrated with the upcycled design process, as sustainability is one of the core values of #DAMUR. Upcycling in the commercial process has a smaller amount of experimental upcycled fabrics and uses higher amounts of deadstock fabrics as part of a sustainability strategy. Deadstock fabrics are still sustainable but more accessible for the consumer to adapt. Upcycling is more used as details to elevate the designs.

The brief in the commercial design process identifies the goal of the design. The goal can be boosting the sales, gaining more brand recognition, or making the process more cost-efficient. To make the collection interesting to the consumer, it needs to be aware of the current events. Consumers, especially for brands like #DAMUR, want to feel like they are current and keeping up with the times.

In the commercial design process, **brand research** is vital. Brand research talks about the market, brand identity, and production. The market includes the brand's target group, best-sellers, and the sales of previous seasons. By

analyzing the market data, the new collection's structure can be formed. Brand identity helps to identify the details, basics, and image of the brand. To create a strong commercial brand image, details and basics from the previous season can be used to tie the collections together and make a unified brand identity. The production gives an insight into the production possibilities, costs, and timelines. The price point must be correct to make a commercially successful brand; too high of a production cost could up the end price rising too high.

Material research in the commercial design process focuses on cost efficiency and utilizing the existing materials. Material research consists of materials, techniques, and suppliers. When discussing materials in the commercial design process, the existing deadstock and second-hand clothing play a big part. Using as much as possible of already existing deadstock and second-hand clothing will cut costs and is a more sustainable way of choosing materials. To be more sustainable and cost-efficient, the materials are sourced from manufacturers or other brands' deadstock when acquiring new materials. The colors are strongly affected by what is already existing. When choosing material colors, the minimum quantity needs to be considered. When it comes to fad colors, the quantity of the material should be smaller than with basic colors because the fads usually last for a season or two and then die out. Sometimes fad can turn into a classic, but until the signals for that are strong, small quantities are preferred. When printing new prints, ecological colors and recycled fabric as base material makes the printing process more sustainable.

Techniques include the ideas on how to combine the deadstock and remanufacturing and in what ratio. The more there is remanufactured material, the more the piece costs, and the piece may become too exotic for the basic customer. In commercial designing, the remanufacturing should be kept in a maximum of 50% remanufactured fabric and 50% of deadstock fabric. Smaller amounts of remanufactured material can be used for details, and the rest of the garment deadstock fabric. This elevates the design and increases value while keeping the product accessible to the consumer. When making commercial

pieces out of second-hand clothing, remanufacturing is a more commercial way of using them. Remanufacturing uses more straightforward techniques than upcycling and is made with mass-production and time efficiency in mind. Remanufactured fabrics can be used in the factory production. Suppliers' materials can be a collaborator who has set material requirements for the collaboration or a cooperative factory that brings out new materials on material innovations it wants to try out in the market.

Trend research talks about commercial trends, brand trends, and supplier trends. Commercial trends include trend reports from trend agencies, their predictions on the market, and most selling trends and pieces. They also tell the silhouettes of the coming season. As part of commercial trends, competitor analyses can be conducted. Brand trends come from previously made brand research combined with commercial trends. When collaborating with another brand, supplier trends need to be taken into consideration. It is essential to make sure that the brand identity of the collaborating brand is still visible but does not overpower your own brand identity. It is crucial to find a well-balanced symbiosis between the different brand identities.

The design phase consists of three intertwined phases, concept, sketches, and materials. When designing commercially, the concept needs to be clear and not too abstract. Concepts can be created visually through board working. Market and sales boards give an idea of what sold the last time, what are the best sellers, and what basics should be included in the collection. Basics can be modified to fit the new season better but every modification and added detail adds to the cost. Trend mood board talks about the up-and-coming trends and silhouettes of the season. The materials board shows the materials that need to be included in the collection and what techniques are used in those materials. Sketches are then created within these limitations while staying true to the brand identity.

Production is the conversation between the technical information provided by the designer and the production possibilities of the manufacturer. The designer provides the technical information through technical packs, including the flat drawings of the pieces with the details and right seams, material information, finishings and accessories, and key measuring points. Production possibilities vary with factories; sometimes, something might not be able to be produced, causing the need to change the design or look for a new factory. Since searching for a new factory can be time-consuming and costly, it is preferred to modify the design. Production samples are created as the pieces to present the new collection. Based on the collection's reception, mass production pieces can be chosen.

The end of season evaluates the season through sales and marketing reports, cost efficiency of the collection, and the brand recognition gained. The information gathered from the current collection will be utilized in the following collection.

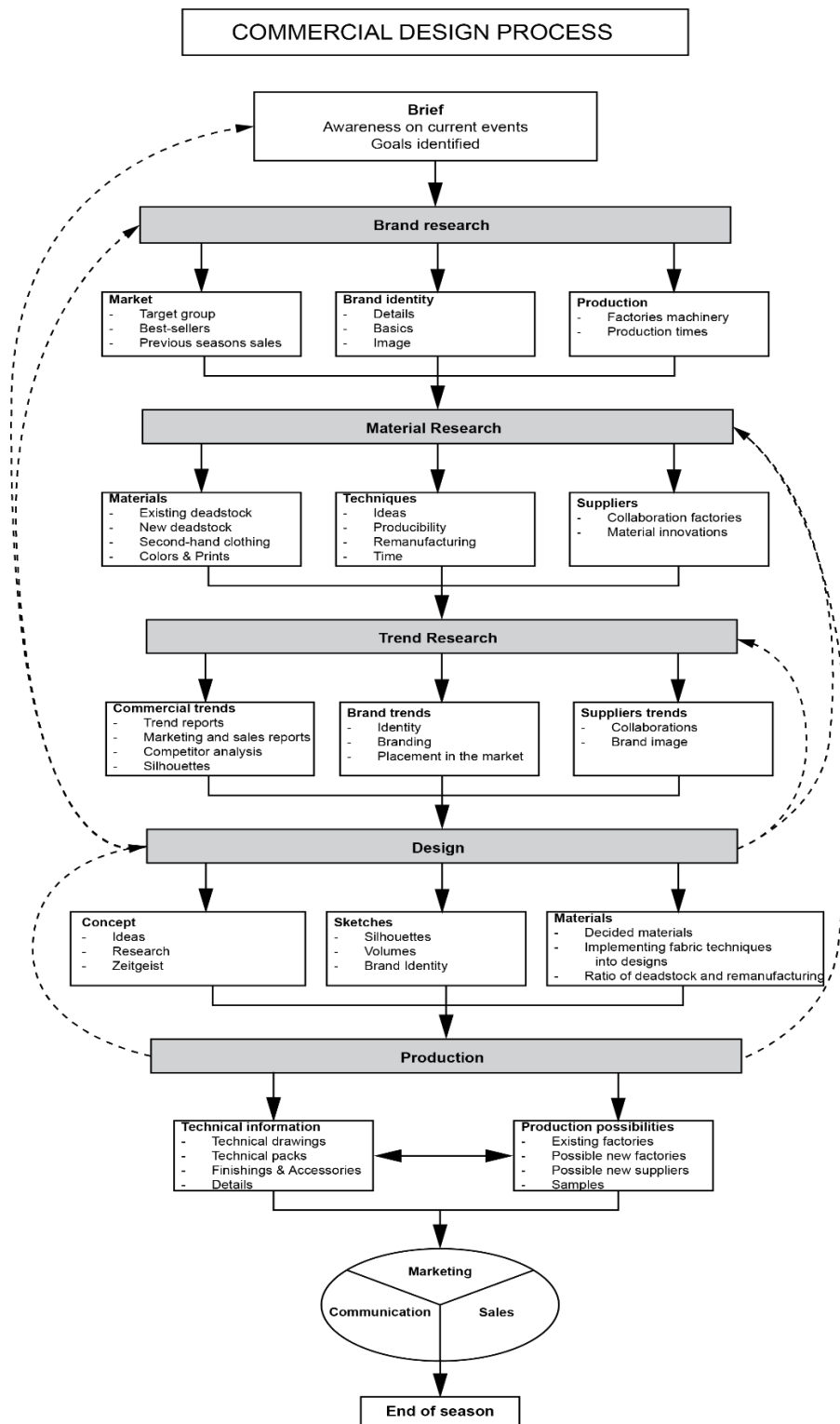


Fig. 8. Commercial design process.

The graphic shows the linear order of the design process from up to down. The dotted line arrows mark the circularity inside the process and how every step affects another step and can sometimes cause the need to go backward or modify the previous steps. The grey boxes represent the interim phases where the design team gathers all the process information so far and evaluates it.

4.2.3 Integrated design process

The integrated process is the integration of the creative design process, commercial design process, and upcycling design process. The process integrates all of the processes into one cohesive process. The focus of this process is especially on how to create a ready-to-wear collection that has creativity, commercialism, and upcycling and is producible as mass production. At #DAMUR the runway pieces make up most of the collections, and commercialism is added by a couple of core pieces that are mass-produced and by merchandise that is often made in collaboration with other brands. In an integrated process upcycling is handled through remanufacturing. Remanufacturing has a higher production potential than creative upcycling.

The integrated process starts with the **brief**. Goals are identified to make the process efficient. Awareness of the current events ensures that the collection keeps up with the times and seems current to the consumer. Ideas are introduced at an early stage to give the creative process enough time and to link the ideas to the goals.

The research stage of the integrated design process consists of two intertwining parts, **commercial research** and **creative research**. In the commercial research, the research focuses on the market and production. The market research gives information on the best sellers, target group, previous seasons' sales, and brand image. Best-sellers and prior seasons' sales provide an idea of what is selling and what kind of style should be produced more. The brand image talks about how the brand wants to be seen and what the key elements

are in building that brand image. The brand image also talks about the design language and key design elements. The key elements can be details, cuts that continue from season to season, or a recognizable way of branding. The target group ensures that the design language is targeted for the right kind of group of customers.

Production is a part of commercial research and consists of factory machinery, production times, and producibility. Factory machinery sets limitations to what kind of materials or structures can be produced. New factories are possible for the brand if they want to add a new selection of clothing; for example, leather and knitwear acquire their own machinery. However, new factories should not be searched for just one season; it needs to be a brand decision. Factory machinery also intertwines with producibility. Producibility covers the machinery, time, and budget. The production time is crucial for small brands as factories work with many brands simultaneously, and the bigger customers are a priority for the factories. This means that the production times of pieces can be longer for smaller brands and should be taken into consideration when doing production research.

The idea research is part of the creative research, consisting of inspirations, trends, and statements. The idea research further researches what inspires the designer and what they want to say with the new collection, how the designer wants to make a statement and what it is a statement on. Trends are included in the idea research. Trend research consists of the zeitgeist, future, and silhouettes. Zeitgeist ensures that the collection is current, not only in trends wise but also socially. The future talks about the almost futurologist stand designers have. As the collections take a longer time to produce, designers must be able to predict the trends that will stick and become successful. The silhouettes also talk about the current times and zeitgeist; they show what kind of cuts and volumes are in trend now or in what direction those are moving.

The next stage talks about the **materials** and **ideas** that live in synergy in the integrated design process and constantly affect one another. The materials consist of remanufacturing and brand materials. Remanufacturing is chosen as a more commercial way of upcycling. The techniques are faster and less complicated to produce. Remanufacturing is also designed with the possibility of mass production. Remanufacturing is made with the best-selling previous upcycling pieces in mind, giving an idea of what the brand's customers view as upcycling. Brand materials include existing deadstock, new deadstock, and supplier material innovations. The existing deadstock of the brand consists of previous seasons' leftover materials. To make the collections more commercial and cost-efficient, existing deadstock should be used as much as possible. New materials can be acquired sustainably and cost-effectively from other brands' deadstock that they are selling. However, new materials, even when deadstock, should be kept to a minimum when there is still existing deadstock and second-hand clothing for remanufacturing. New prints of the season should be made with ecological colorings and on sustainable material. If the print runs a risk of not keeping current from season to season, only small quantities should be ordered. Suppliers' material innovations can be added to the materials if they fit the collection and brand values.

The design consists of a concept, sketches, and materials. The concept is created through creative boards, such as storyboards, mood boards, market and sales boards, and trend boards. The boards can be combined with each other. The concept is the summary of ideas and creative and commercial research made in the earlier stages of the process. It is also the part where that summary can still be modified. Sketches of the design stage are the final fashion pictures. They tell the feel of the collection through silhouettes and volumes. Best-sellers and modified versions of the previous season's models bring brand identity to the new collection. The modifications can be in details, materials, or colors. When designing details for the collection, using previous structures saves time and money as the patterns and techniques already exist.

Materials and the material techniques used in the designs are decided on in the previous stages to make the collection more cost-efficient and sustainable. It is up to the designer to make the chosen materials and material techniques work in the designs. Some new deadstock can be implemented into the designs to give the collection a fresh look. The ratio of existing deadstock, new deadstock, and remanufacturing is finalized in the design stage. When designing in an integrated process, the pieces can have different ratios of deadstock and remanufactured materials. The most commercial pieces can be made entirely of deadstock, and the most creative pieces entirely out of remanufactured materials. The rest of the pieces can have variations in the ratios. The less remanufacturing, the easier the model is to mass produce.

The production phase consists of technical information, handcrafting, and production possibilities. Technical information and technical packs are made for every product, even if the products are handcrafted and not sent to the factories, because the technical packs are not only information for the factories but also information for the design team. Technical packs include information on how the pieces are produced. Production information is given through flat drawings showing all the details, seams, and material cards.

Handcrafting in smaller companies is many times made by the designer. Handcrafting is the patterning and prototyping of the more creative pieces or handcrafting the materials. Handcrafting can be made as a mixture between designer and factory. The designer can send the patterns to the factory where the cutting and sewing of the pieces happen or send the handcrafted fabric to the factory where they produce the pieces based on technical packs using the handcrafted material. Accessories, if only for a runway show, can be produced in an atelier setting by the designer or design team. Many times, accessories in runway shows can be exaggerated and then made into a simplified version for production.

Production possibilities include the choice of a factory where to produce which piece. The decision is made based on the machinery of the factory and on the production times. The prototyping can happen virtually to save time and the environment by using 3D pattern-making programs. This way, the first sample can also be the runway piece.

The end of season evaluates the success of the collection and the season through data collected from the fashion shows, marketing campaigns, and sales. The sales include the sales of the collaboration pieces, as well as the brand's own pieces, but it is important for the data to look at them separately. The data collected from the season is used to improve the next season and evaluate what did not work in the current season.

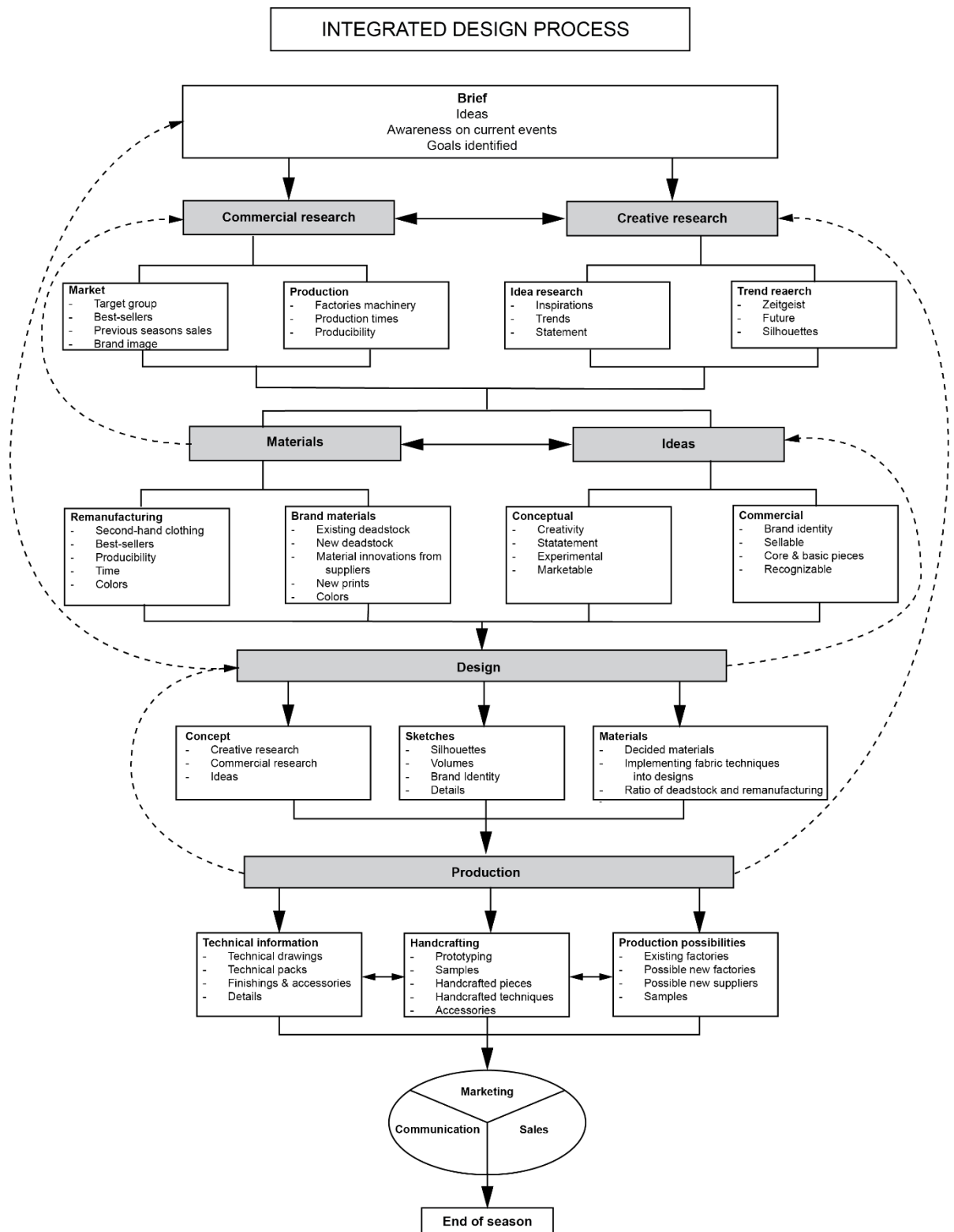


Fig. 9. Integrated design process.

The graphic shows the linear and parallel order of the design process from up to down. The dotted line arrows mark the circularity inside the process and how every step affects another step and can sometimes cause the need to go backward or modify the previous steps. The grey boxes represent the interim phases where the design team gathers all the process information so far and evaluates it.

5 Conclusion

This thesis aimed to start the conversation about integrating trend-based and sustainable design processes. The thesis answered the research question of how to integrate design processes with upcycling from the view of design order in the process. The suggestions were thoroughly researched from existing industry material and first-hand knowledge concerning #DAMUR and the company's design practices. The findings made in this case study are based on existing literature on design and upcycling processes. New results are based on the interviews of current and former design team members, the founder and creative director interview, and my own experiences as a member of #DAMUR's design team. An open-ended semi-structured interview was initially chosen for its capability to produce new ideas and content that might not have come up with a structured interview. The design process can be viewed as an abstract subject that is considered from the personal interpretation and is thought-provoking for designers, partly structured and partly semi-structured open-ended interviews could have given more specific answers while still leaving room for the unique insights of the interviewees. As the personal design process of every designer is very subjective, the interview findings are most likely colored by the personal beliefs and views of the interviewed designer. Research on existing and taught processes was conducted to gain more objective views on the design process.

The suggested design processes were made to solve different design challenges within the company, and all the design processes are made to fit #DAMUR's existing design practices and production methods. A correct design process can be chosen from the desired design effect. The suggested design processes offer clear bases with explanations of the process and the steps within the process. The goal of the design processes was to create bases that the company could use in their communication with the design team, make the design process more efficient, and integrate upcycling as part of the design process instead of being a separate process. Due to the subjective nature of the design process between individual designers, more guidance at the beginning of the company's design process could clarify the team's communication and make the design process more efficient.

The creative design process suggestion is used to create attention-grabbing runway pieces, which can also be used in artistic collaborations. The process aims to strengthen the brand identity and grab media attention. It can be used in a small number of designs that are only created as one-of-pieces for the purpose of promotion. The commercial design process is used to make remanufactured clothing and most of the runway pieces into the brand's merchandise. As individuality is the megatrend of our time, commercial pieces do not necessarily need to be the brand's basics—mass-producible ready-to-wear pieces from the runway with slight variations in each piece due to remanufacturing caters well to the zeitgeist. The integrated design process makes one clear base that could be used in all the design challenges. As the name states, it has integrated the creative, commercial, and remanufactured processes into one. The integrated process is the most straightforward and most efficient design process as it does not need other processes to complete it. The integrated process creates pieces and collections that can be viewed as creative and commercial, with a sustainability aspect. It allows creativity and attention-grabbing pieces but is still focused on making every piece possible to mass-produce and cost-efficient by using remanufacturing, previous seasons' pieces, and structures that can be made in a factory setting. As the brand's

objective is not to be haute couture and upping the sales was one of the improvements mentioned in the interviews, the integrated design process is the optimal process for #DAMUR. The integrated design process does not sacrifice too much of the creativity that makes the brand identity but still makes the brand more commercially accessible and cost-efficient to produce.

Before this thesis, working as a fashion design intern at #DAMUR, I came across the struggle between creativity and commercialism, how to integrate them seamlessly, and how to add upcycling to the mix. They felt like separate processes combined at the very end to make one collection. Instead of having creative, commercial, and upcycled pieces as separate subcollections in one main collection, the integrated design process would have made the process easier to comprehend, and the design more efficient as everything can be designed in one process with clear goals, ideas, and limitations.

I found the subject interesting from the start as I have found the current fashion systems unsustainable and the sustainability aspects often just glued on to please the current customer. I was intrigued by the possibility of a design process that has the sustainability aspect built into it. How to make the process still commercial and mass-producible, to utilize the processes in **the** already existing business models. The more I researched the subject, the more and more intrigued I became, and I learned a lot about how to improve my own design process. In the end, I find that the processes created for this thesis accomplished what I set out to do and gave a well-reasoned answer to the research question. Further research could be conducted by testing the different design processes introduced in this thesis with three different collections and comparing the findings to the processes.

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Appendices

In-person interview base form for employees

What is the university where you studied Fashion Design?

What is the focus of your fashion studies?

Can you describe your design process and the phases it has?

- How do you start your design process?
- What are the next steps?
- What is the end of your process?

Do you plan your process beforehand? If yes, what kind of tools do you use?

How do you define a successful design process?

What do you view as the most important phase in the design process?

What do you view as the most time-consuming phase in the design process?

How would you change the internal design process at #DAMUR?

Did you get any guidelines for your design process before starting to design at #DAMUR?

- If not, would you have wished to have some guidance?

- If yes, what kind?

Does your personal design process differ from the #DAMUR design process? If yes, how?

Can you describe the upcycled design process you were in charge of at #DAMUR? (Only for Employee 2 since she was currently in charge of the upcycling process and the development of the design.)

Does your design process change if you design upcycled fashion vs. commercial fashion? If yes, how?

Any other comments relating to the design process?

Email interview base for former employees

Do you wish to appear by your name or anonymously when the information is processed and possibly used in the thesis?

What is the university where you studied Fashion Design?

What is the focus of your fashion studies?

How long did you work for #DAMUR GmbH, and what was your role?

Do you have any other work experience in the field of Fashion?

Can you describe your design process and the phases it has?

- How do you start your design process?
- What are the next steps?
- What is the end of your process?

Do you plan your process beforehand? If yes, what kind of tools do you use?

How do you define a successful design process?

What do you view as the most important phase in the design process?

What do you view as the most time-consuming phase in the design process?

How would you change the internal design process at #DAMUR?

Did you get any guidelines for your design process before starting to design at #DAMUR?

- If not, would you have wished to have some guidance?
- If yes, what kind?

Does your personal design process differ from the #DAMUR design process? If yes, how?

Does your design process change if you design upcycled fashion vs. commercial fashion? If yes, how?

Any other comments relating to the design process?

In-person interview base, Damur (Shih-Shun) Huang, the founder and creative director of #DAMUR GmbH.

When did you found #DAMUR?

Did you have other working experience before you started your brand?

- If yes, where, what was your job description, and how long did you work there?

What were your fashion studies focused on?

How would you describe your own design process, and does it differ from the one used at #DAMUR?

- Can you describe the phases and the order of them?

What do you view as the most crucial phase in the fashion design process?

What do you view as the most time-consuming part of the design process?

When it comes to the design team and the design process, is there an already existing design process they use?

Are there any tools used to plan and map out the design process?

- If yes, what kind and at what point of the process are they introduced?

What differences would you say there are between the upcycling design process and the traditional and commercial design processes?

What core values of #DAMUR would you like to implement in the design process?

How would you define a successful design process?

What would you change in the current design process at #DAMUR?

Any other comments related to the design process?

Interviewees and interview times

Interviewee	Background	Interview time	Interview type
Huang, Damur (Shih-Shun)	Creative fashion design, Fashion, and Textile Technology	03.08.2022	In-person interview
Employee 1	Creative Fashion Design	14.07.2022	In-person interview
Employee 2	Textile and Fashion	19.07.2022	In-person interview
Employee 3	Fashion Production	27.07.2022	Email interview
Employee 4	Creative Fashion Design	05.08.2022	Email interview
Employee 5	Creative Fashion Design	09.08.2022	Email interview