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*Corresponding Author: intanfarahanies@uitm.edu.my

AN INVESTIGATION OF DESIGN FEATURES IN UPCYCLED FASHION

Muhamad Rozali Othman¹, *Dayang Intan Farahanies Almurid², Siti Humaini Said Ahmad @ Syed Ahmad³, Nor Idayu binti Ibrahim⁴, Shahrizad Fitri Mustapha⁵

^{1,2,4,5}Department of Fashion Design, College of Creative Arts, Universiti Teknologi MARA Perak Branch, Seri Iskandar Campus, Seri Iskandar, Perak, MALAYSIA

³Program of Fine Art, College of Creative Arts, Universiti Teknologi MARA Perak Branch, Seri Iskandar Campus, Seri Iskandar, Perak, MALAYSIA

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ABSTRACT

This study was conducted to identify the primary design features applied to upcycle fashion. To achieve the goals, a study was carried out on five well-known fashion designers in the upcycled fashion industry to identify what design features they used in their creations and what sustainability philosophy they implemented. This study applies secondary research methods under exploratory research as a method to collect the data needed to answer the objective of the study. The results of this study found that the design concept, material selection, technique/production process, and design philosophy/awareness of sustainability are the primary features in the upcycle designs created by the fashion designers who were analyzed. These characteristics should be incorporated into any upcycle fashion design as they define the notion of fashion sustainability. This study concludes that a fashion design that 'wears' upcycle design name must have at least four main characteristics which are a clear design identity, utilization of used or discarded materials ethically and responsibly, creatively in using and applying techniques that prioritize the environment, and adherence to the sustainability philosophy.

Keywords: Sustainable fashion, upcycle, exploratory research

INTRODUCTION

The issues of today's fashion industry are no longer limited to inventive and glamorous designs that respond to fashion lovers' desires but have evolved in a broader environment. Economic, educational, and environmental factors have become crucial in the fashion industry, as they contribute to the survival of the fashion business itself. Customers' preferences for more sustainable products are growing, and this, combined with environmental awareness efforts, is forcing industry players to be more creative in their business methods. Beginning with this, it contributes to recovering the reputation of the fashion, which is sometimes tainted with labels as a contributor to environmental degradation. Although it took some time, environmental consciousness is growing among fashion practitioners, and the phrase *sustainable fashion* is now commonly employed in the fashion vernacular.

According to Alves (2022), sustainable fashion is a concept that encompasses products, processes, activities, and actors (policymakers, brands, and consumers) intending to achieve a carbon-neutral fashion industry based on equity, social justice, animal welfare, and ecological integrity. This notion is comparable to Chan and Yap's (2021) definition of sustainable fashion, which is clothing that is created and worn

while protecting the environment and the people who produce it. Chan and Yap emphasize that the sustainability matrix must take steps such as reducing CO₂ emissions, resolving surplus production, reducing pollution and waste, encouraging biodiversity, and ensuring that garment workers are paid fairly and have safe working conditions. From the two perspectives discussed above, it can be inferred that sustainable fashion is the process of creating clothes that do not harm the environment, avoids utilizing materials that cause animal cruelty, and supports safe and fair working conditions. Sustainable fashion has grown in importance in the fashion business as more fashion practitioners become aware of the detrimental impact of unregulated practices. The manufacturing of fabrics and textiles, for instance, requires the use of hazardous chemicals to meet the needs of clothing manufacturers, whereas the desires of fashion enthusiasts for luxury clothing have unwittingly encouraged the illegal hunting of animals and sparked the "fashion sustainable movement."

Based on this, there has been a recent consensus among manufacturers, designers, and practitioners to employ more responsible and ethical methods in their respective practices. In textile manufacturing, for instance, textile manufacturers have invested in textile production process technology intending to minimize water consumption and production costs, as well as reduce the pollution levels in wastewater, which is difficult to achieve with conventional methods (Emreol Golügür, 2019). Finding a more ecologically friendly clothing design method is difficult for fashion designers who are directly involved in the production of clothing because the process of creating/designing something new and at the same time having to place boundaries might inhibit creativity. In the context of fashion design, each design step is typically followed by the pairing of suitable materials. Typically, materials such as textiles are already accessible on the market. Some fashion designers and apparel businesses employ the technique of ordering textiles specifically for their designs. This approach referred to regarded as "fast fashion" does not benefit sustainability, as more and more "manufactured fabrics" are produced to suit their demands.

As a result of this awareness, upcycling has arisen as a fashion design solution. Upcycling is the process of converting unused or worn-out materials into something with a better value than their original function (Sung et al., 2015). According to Kushwaha and Swami (2016), upcycling is the process of generating something new from old items, waste materials, and undesired products and resources that is of higher quality and has a positive impact on the environment. In other words, upcycling is an alternative to conventional design processes in which the original material's potential and capabilities are explored or converted into new purposes and forms (Ali et al., 2014). Upcycling has been accepted as a fashion design approach in the context of fashion. It swiftly evolved into the term "upcycled fashion," which became a new alternative in the context of fashion production methods and products. Upcycle fashion is a movement that promotes practitioners to be more responsible not only for the environment but also for society. The fashion business, like other industries, is vigorously driving towards green technologies and sustainability. Upcycle fashion was established as a platform for fashion designers and producers to express innovation and creative concepts without sacrificing the principle of sustainability.

Compared to conventional fashion design methods, Han et al. (2017) recommended that special consideration be given to the upcycled design process, in which the material or fabric source should be identified and obtained in advance, and pattern cutting technique should be considered, as fabric selection and source are always variable and inconsistent. In addition, upcycled fashion designers confront the challenge of creating a design that is attractive and valued while utilizing constrained materials. It is concluded that upcycled fashion allows fashion practitioners to continue producing fashion design ideas that are concerned with environmental issues, sustainability, and humanity. The upcycled concept is more than just a design process; it demands dedication, consistency, and discipline from all levels of the fashion industry. It may not be able to replace the current system, but it can be an option for customers and fashion fans if the design produced fits the relevant requirements. The following is the background of the research model that has been identified based on the discussion earlier.

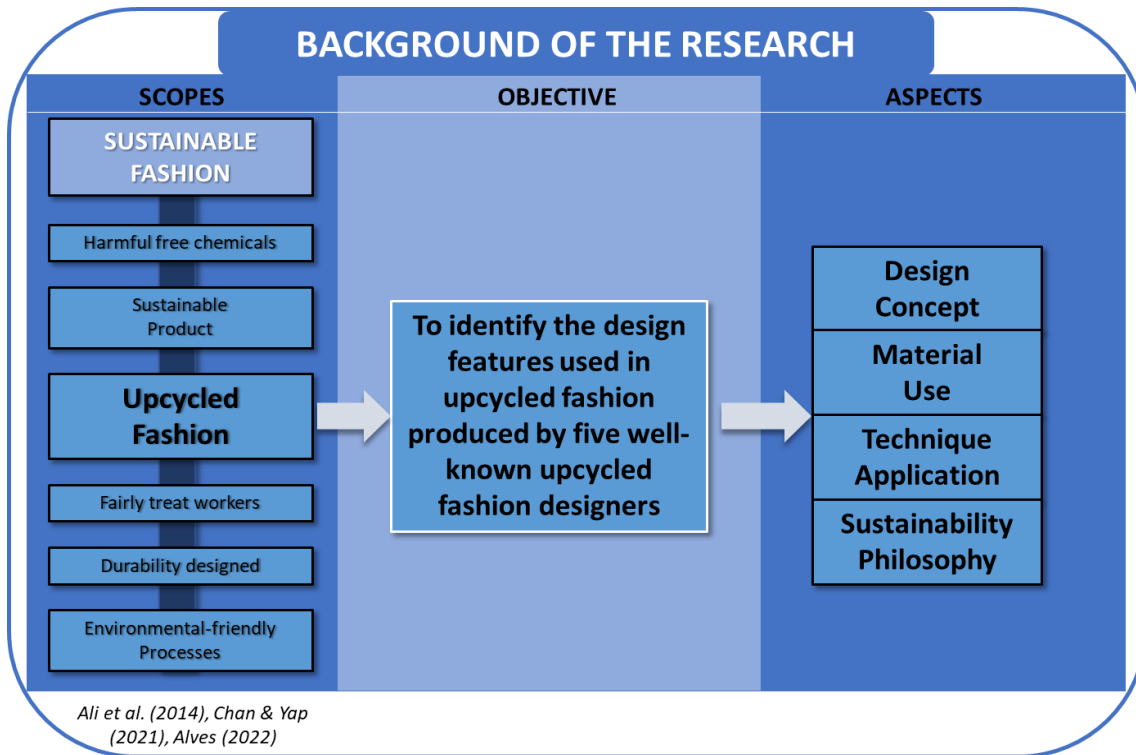


Figure 1. Background of the research model

METHODOLOGY

This study used exploratory research methodologies to collect data in response to the study's objective, which is to determine the main features of upcycling in fashion design produced by a selection of fashion designers. This study seeks to investigate the upcycle aspects present in fashion design but does not provide solutions to existing issues. The purpose of exploratory research is to determine the nature of a problem; it does not produce conclusive proof, but it does help the researcher grasp the nature of the problem (Given, 2012). In exploratory research, the researcher will start with general ideas and use the research to identify issues that will be the focus of further research (QuestionPro, 2022).

There are two types of exploratory research, namely primary research methods and secondary research methods. In primary research methods, information is gathered directly from the subject through methods such as surveys, interviews, focus groups, and observation; in secondary research methods, information is gathered through methods such as online research, research based on literature, and research conducted using case studies. Secondary research approaches are the most appropriate for this investigation. Information was gathered through online research (online articles) and literature research (books). A total of five fashion designers have been shortlisted based on their design distinctiveness and awareness of sustainability as a source of inspiration in their respective designs. The five upcycle fashion designers were identified based on the investigation in online and books. Below is a list of upcycled fashion designers and resources.

Table 1. List of Upcycle Fashion Designers and the Sources

No.	Name of Designers	Sources
1	Marine Serre	https://www.vogue.co.uk/article/suzy-menkes-paris-spring-summer-2019-jacquemus-marine-serre
2	Stella McCartney	https://www.standard.co.uk/fashion/stella-mccartney-designs-a-collection-for-change-at-paris-fashion-week-a4082151.html
3	Christopher Raeburn	https://fashionunited.uk/news/fashion/lfw-men-s-christopher-raeburn-marks-10-years
4	Daniel Silverstein	https://www.behindthescenesnyc.com/zero-waste-daniel-transforming-scrap-into-fashion/
5	Nicola Gomiero and Andrea Bonfini	https://metalmagazine.eu/en/post/interview/fade-out-label-deconstructed-denim

For this study, the information is acquired through a researcher’s observational approach to pictures, the writer's comments and reviews in articles on specific designs, and the designers' responses to their designs. The information investigated is confined to upcycle design features and fulfills the criteria in certain aspects. These features are then categorized into the following four primary aspects:

- i. Design concept
- ii. Material use
- iii. Technique application
- iv. Sustainability Philosophy

All the upcycle design features that have been identified are presented to see the comparison between the four aspects mentioned above. Below is the design research methodology framework that has been built.

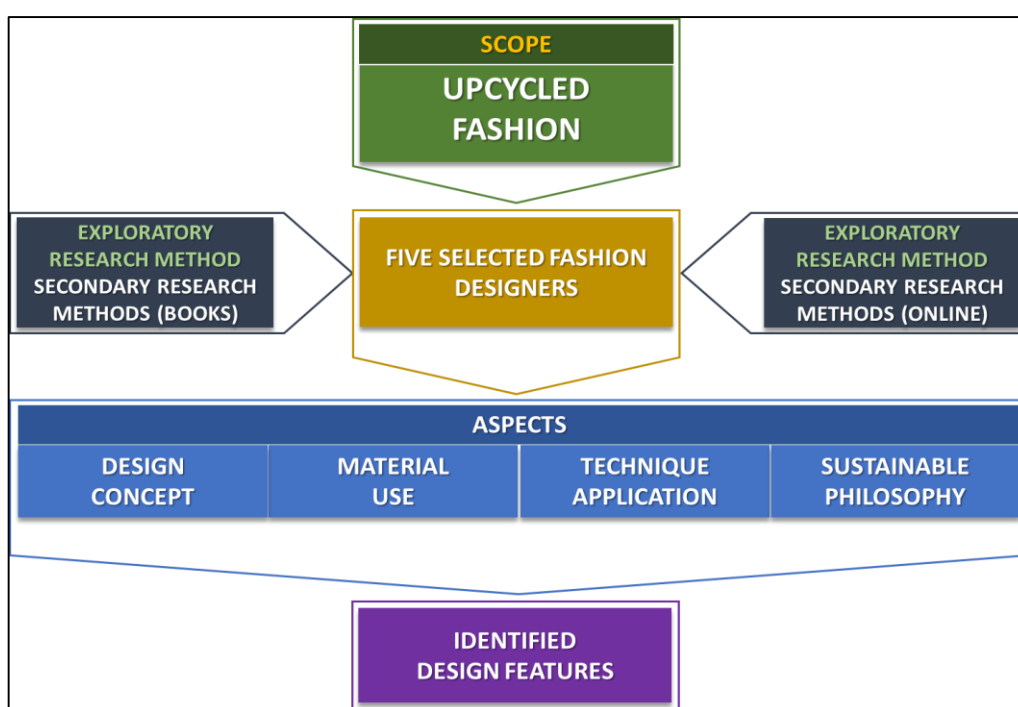


Figure 2. Design Research Methodology Framework

ANALYSIS AND RESULTS

The purpose of this study is to discover the upcycle fashion design features of the five selected fashion designers. To identify these features, the researcher has categorized them into four main aspects: design concept, material selection, technique application, and inspiration from sustainability. Each of these features is arranged according to the fashion designer analyzed. Below are the outcomes of the study.

Fashion Designer 1



Picture A



Picture B



Picture C

Figure 3. Spring/summer 2019 collection by fashion designer Marine Serre. Source: <https://www.vogue.co.uk/article/suzy-menkes-paris-spring-summer-2019-jacquemus-marine-serre>

Figure 3 shows a collection of upcycling fashion designs created by Marine Serre, a French fashion designer for the spring/summer 2019 collection. Based on the picture above, it is obvious that she chose to create casual streetwear with rugged, sporty, and active features. Following the name of her collection, *'hardcore couture'*, she has incorporated the concept of 'hardcore' with elements such as brave, tough, and passionate. For the spring/summer 2019 collection, she has chosen to stage the collection in an intriguing location, which is on the side of a narrow path next to the train station on the outskirts of Paris. This location chosen is to highlight the design concept she wishes to portray (Menkes, 2018).

in terms of material selection, Marine Serre used discarded t-shirts she obtained from a warehouse. She also acquired secondhand clothing and materials such as jeans, blankets, small fleeces, and rugs. These materials are then altered based on the design's suitability and needs; for example, jeans will be washed before being printed and cut (picture A). The significance of each of her designs for her is not the physical appearance of the garments, but rather the story behind each of her creations. As stated by Menkes, Marine Serre is an incredible fashion designer, since she quickly created her upcycling philosophy, in which she raises the ordinary to spectacular, has a cheerful sense of color, and originality of expression.

Fashion Designer 2



Picture A



Picture B



Picture C

Figure 4. Autumn/Winter 2019 collection by designer Stella McCartney. Source: <https://www.standard.co.uk/insider/fashion/stella-mccartney-designs-a-collection-for-change-at-paris-fashion-week-a4082151.html>

Figure 4 shows a collection of upcycled fashion designs created by Stella McCartney, a British fashion designer for the autumn/winter 2019 collection. Stella McCartney, whose name is synonymous with ethical fashion, incorporates upcycled designs with a more extensive deconstruction and rebuilding concept for her fall/winter 2019 collection. Stella McCartney's repurposed design aims to reduce waste while also encouraging people to appreciate trees. This is consistent with her campaign to protect the ecosystem of Sumatra. In collaboration with the artist Sheila Hicks and the Hunter brand, her design concepts are also integrated into accessories such as handbags, jewelry, and boots.

As far as materials are concerned, most of Stella McCartney's designs this time employ vintage-inspired fabrics from her archive. She uses discarded T-shirts to create dresses and repurposed wax panels to make coats. Stella McCartney's mastery of exploiting silhouette is well-known; she showcased utility shapes alongside billowing dresses (Dacre, 2019). In terms of technique application, secondhand T-shirts are ripped, then knotted, and knitted into a vintage-looking dress (pictures B and C) (Chernikoff, 2019). In addition to her work as a fashion designer, Stella McCartney is also well-known as an activist who frequently advocates for environmental and animal welfare. Her philosophy on sustainability is crystal obvious. The words 'act,' 'love,' and 'change' that is tattooed on the models suggest that she encouraged the public to respect and love trees for this fashion show.

Fashion Designer 3



Picture A



Picture B



Picture C

Figure 5. London Fashion Week Men's Autumn/Winter 2019 collection by Christopher Raeburn. Source: <https://fashionunited.uk/news/fashion/lfw-men-s-christopher-raeburn-marks-10-years/2019010840859>

Figure 5 shows a collection of upcycled fashion designs created by Christopher Raeburn, a British fashion designer for his autumn/winter 2019 design collection. Christopher Raeburn is an internationally recognized upcycled fashion designer renowned for his “*remade, reduced, recycled*” design philosophy, in which he uses materials from discarded military items and dead stocks and ingeniously transforms them into functional, wonderful, and appealing garments. It's widely known that Christopher Raeburn is most known for his activewear-inspired, rugged, and often military-inspired casual wear designs.

In terms of techniques and material used for the designs, Christopher Raeburn created a parka paired with trousers made from typhoon suits that were reassembled using the ‘Raeburn cut n’ shut patchwork technique’ for the autumn/winter 2019 collection (picture A). In addition, he created a modified parka from German safety jackets (image B) and a bomber jacket inspired by the iconic Raft Parka and Nomex Bomber (Wightman-Stone, 2019). Christopher Raeburn skillfully matches colors and tones throughout each design, yet some of his designs feature distinct differences between the top and bottom. “*Remade, reduced, recycled*” is Christopher Raeburn's design concept, which he employs to advocate for sustainable fashion. Since establishing *RÆBURN* in 2008, Christopher Raeburn's dedication to sustainability has never wavered. Since the introduction of his brand, he has only used recycled materials to create his creations (Fashion United, 2018). In addition to adhering to the principle of combating the rise of fast fashion, the *RÆBURN* brand tries to lessen its carbon impact by employing green technologies and small-batch production processes (Clarke, 2019).

Fashion Designer 4



Figure 6. Zero Wasted Daniel collection by Daniel Silverstein. Source: <https://www.behindthescenesnyc.com/zero-waste-daniel-transforming-scrap-into-fashion/>

Figure 6 shows a collection of upcycled fashion designs created by American fashion designer Daniel Silverstein. Daniel Silverstein is a designer who exclusively employs post-consumer and excess materials. As stated in the name of his brand, *Zero Wasted Daniel*, Daniel Silverstein's design concept is to develop garments that can be worn regardless of gender by using all leftover fabric. Each piece of *Zero Waste Daniel* clothing is created entirely from pre-consumer cutting room scraps, design room waste, and leftover materials that Silverstein and his crew have collected and sewn back together as patchwork (Yeh, 2020).

Zero Waste Daniel's collection makes extensive use of patchwork techniques, recutting leftover fabrics into the desired shape and reassembling them until they become garments (picture A and picture B). To ensure that the arrangement of fabric will always be varied, *Zero Waste Daniel* uses a closed loop production method and a process called ReRoll™ (Leung et al., 2021). Daniel Silverstein adheres to the philosophy that all textile waste can be repurposed for garments. As a motivation for himself and his team, he does not put any waste containers or baskets in his studio because he only produces clothes that are 100% waste-free. Apart from that, to obtain the materials needed to make their garments, *Zero Waste Daniel* also works with FABSCRAP, a non-profit organization that systematically manages the textile waste in the USA. (Huber, 2020).

Fashion Designer 5



Figure 7. Fade Out collection by Nicola Gomiero and Andrea Bonfini. Source: <https://metalmagazine.eu/en/post/interview/fade-out-label-deconstructed-denim>

Figure 7 shows a collection of upcycled fashion designs created by German fashion designers Nicola Gomiero and Andrea Bonfini under the Fade out Label. They developed the brand *Fade out Label* out of

concern for sustainability. *Fade out label* employs a handcrafted production method and incorporates the design concepts of urban wear with unisex, comfortable looks, one-of-a-kind, and oversize cut styles. Based on pictures A, B, and C above, the concept highlighted in the *fade-out label* is distinctive in terms of form and shape yet still retains practical aspects of the garments. Many of the *fade-out label* designs are constructed from vintage denim. When compared to other fabrics, vintage denim is far more prevalent in *fade-out label* designs. Vintage denim is already synonymous with *fade-out label*, claim Nicola Gomiero and Andrea Bonfini, because it is the most versatile and has been in high demand ever since it was invented (Albarin, 2017). In terms of techniques, Nicola Gomiero and Andrea Bonfini are not constrained by conventional methods. They mostly use the *deconstruct-and-reassemble* technique in almost all of their designs. They express their ideas in the most creative and 'out of the box' fashion designers' way of thinking. This can be seen in picture C where each faded-denim panel is connected and matched to reveal various textures and tones. In addition to that, the way the panels are attached shows the 'inside-out' amazing look. Unlike other fashion labels or brands, *fade-out label* are not dictated by seasons or gender. They simply adhere to their philosophy, which is to *design, recycle and create unrepeatable garments* (Albarin, 2017).

DISCUSSION AND IMPLICATIONS

Based on the analysis above, the design features identified in the upcycled designs are categorized as follows:

Design Concept

The five examined fashion designers incorporate casual wear as a category in their respective designs. For instance, the majority of Marine Serre and Christopher Raeburn's designs fit under the activewear category, whereas Daniel Silverstein's streetwear designs are simpler and Nicola Gomiero and Andrea Bonfini's urban wear designs are more imaginative. Almost all these designers have their distinct styles. For instance, Marine Serre's designs feature a rugged, sporty, and active style that is consistent with his 'hardcore' concept, Christopher Raeburn's military-inspired visual style is heavily influenced by his use of materials, and Nicola Gomiero and Andrea Bonfini's style is oversize-cut and comfort-look. This study also revealed that most of these fashion designers give their brands, collections, and design concepts appealing names and took inspiration from sustainability. Daniel Silverstein, for instance, calls his brand '*Zero Waste Daniel*', while Nicola Gomiero and Andrea Bonfini named their brand '*Fade out Label*'. In addition, Christopher Raeburn included the slogan '*Remade, reduced, recycled*' into his creations, and Marine Serre named his Spring/Summer 2019 collection '*hardcore couture*'. In addition, there are designers whose upcycled designs carry a message, such as Stella McCartney, who campaigns about environmental issues and animal welfare. She also collaborates with visual artists such as Sheila Hicks and boot manufacturer Hunter to promote and garner attention for her designs.

Material Use

In terms of material use, these designers employ a variety of materials sourced from their distinct sources. Marine Serre, for example, sources discarded t-shirts from warehouses for her designs. She also used secondhand apparel materials such as jeans, blankets, little fleeces, and rugs. Unlike Stella McCartney, she uses vintage-inspired textiles from her archive for the Autumn/Winter 2019 collection, in which she manipulates discarded t-shirts to create dresses. She also made good use of wax panels by repurposing them to construct coats. For Christopher Raeburn, creating his works requires specific material resources. Christopher Raeburn is known for his utilization of leftover military fabric-based and deadstock. He uses materials from used typhoon suits to make parka suits and materials from discarded Raft Parka and Nomex Bomber to create bomber jackets. In comparison to Nicola Gomiero and Andrea Bonfini, they favor vintage denim since it fits their design concept better. In contrast to Daniel Silverstein, his material types are diverse and derived from a wide range of sources, including pre-consumer cutting room scraps, design room waste, and leftover materials.

Technique Application

All these designers have special production techniques for their creations, and some have even achieved reputations due to these methods. Using Zero Waste Daniel as an example, they implement rigorous patchwork techniques, re-cutting materials into the desired shape and reassembling them to create new garments. In addition, Zero Waste Daniel is well known for his *ReRoll* process and closed-loop production system. Christopher Raeburn is renowned for his *'Raeburn cut and shut patchwork technique'*, while Nicola Gomiero and Andrea Bonfini call their method *'deconstruct-and-reassemble'*, in which each piece of vintage denim that will be used to create a new design is 'dissected' before being rejoined by the desired pattern and shape. Meanwhile, Stella McCartney applied the technique of *'ripped, knotted, and knitted'* secondhand T-shirts to create vintage-looking dresses for her Autumn/Winter 2019 collection.

Sustainability Philosophy

In terms of sustainability philosophy, while all these designers have different approaches and methods, they all share the same belief in sustainability, which is that every fashion designer may express innovation and creative notions without compromising the principle of sustainability. For example, Marine Serre elevated his creations from ordinary to spectacular, injected a bright sense of color, and created designs with strong originality even though the basic materials were rummaged from the warehouse. Being a fashion designer and well-known is an advantage for Stella McCartney since it can be leveraged to promote her views on environmental issues and animal welfare to the general public, particularly those directly working in the fashion industry. Christopher Raeburn's sustainability philosophy began with the introduction of the *RÆBURN* brand. In contrast to fast fashion ideas, the *RÆBURN* brand strives to reduce its carbon footprint by employing green technologies and small-batch production processes in line with the slogan, *remade, reduced, recycled*. *Zero Waste Daniel's* philosophy on sustainability is more direct, as they implement the initiative by not keeping any waste containers in his studio since they feel that all waste is useful. For Nicola Gomiero and Andrea Bonfini, sustainability is as simple as designing, recycling, and creating one-of-a-kind clothes, which also serves as a guideline for their upcycled designs.

CONCLUSION

The results of this study found that the design concept, material use, technique/production process, and design philosophy/awareness of sustainability are the primary features in the upcycle designs created by the fashion designers who were analyzed. These characteristics should be incorporated into any upcycle fashion design as they define the notion of fashion sustainability. This study concludes that a fashion design that 'wears' upcycle design name must have at least four main characteristics which are a clear design identity, utilization of used or discarded materials ethically and responsibly, creatively in using and applying techniques that prioritize the environment, and adherence to the sustainability philosophy.

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