

Exploring Sustainable Values in Upcycled Korean Fashion Brands through Their Corporate Activities

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Abstract

Over the past few years, the fashion industry has faced numerous environmental issues and sustainability is being promoted as the key to success. This study conducted in-depth interviews with a range of stakeholders, such as designers and marketing professionals from upcycled Korean fashion brands, to examine how their sustainable values are reflected and developed through corporate activities related to planning, production, promotion, and distribution. The sustainable values inferred from the interviews were coded based on Schwartz's universal values with a view to addressing conflicts of values and promoting the sustainability of upcycled fashion brands in Korea. Through this process, the study derived universalistic, economic, and self-oriented sustainable values. The study also proposed a conceptual framework for upcycled fashion brands by discussing difficulties and limitations and offer proposals that could help the industry. The results indicate that a key driver for market success is promoting sustainable values in upcycled fashion. Finally, suggestions are offered for follow-up research that can further support sustainable practices in the fashion industry.

Key words: Upcycled fashion, Upcycling, Sustainability, Sustainable values, Corporate activities

I. Introduction

Recent issues in the fashion industry have centered on environmental problems and sustainability. The global textile and fashion sector, being the second-largest user of natural resources after the food industry (Paras et al., 2019), contributes to critical environmental problems through conventional production and consumption in the fast-fashion industry. The concept of a closed-loop value chain stands in contrast to an open-loop one, wherein production and consumption processes do not allow the recycling of natural resources. Upcycling and down-cycling are the two main drivers in a closed-loop value chain system.

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Upcycling fosters competition within the fashion market by re-valuing waste materials and creating new products, which is intriguing as it deviates from standard business paradigms that often devalue used materials (Paras et al., 2019).

Limited research has been conducted in this sector. Kwan (2012), Na and Kim (2014), and Odabasi (2020) explored case studies of upcycled fashion and discussed its characteristics, while Binotto and Payne (2016) and Cuc and Tripa (2018) provided practical strategies for developing upcycled fashion products. However, a limited number of studies (Han et al., 2017; Sung et al., 2020) have treated upcycling as an industry rather than as a personal DIY activity. To truly understand the corporate nature of upcycling, it is necessary to study brand cases, upcycled products and sustainable values

implied in corporate activities.

This analysis of the sustainable values of upcycled fashion brands focuses on the Korean upcycled fashion market. In 2017, South Korea's capital city opened the Seoul upcycling plaza, the biggest upcycling culture and complex sustainability initiatives in the world, as an official policy measure on the government's environmental agenda; it offers support programs for all participating brands. The Seoul upcycling plaza is the biggest facility in the world for an upcycling culture and complex sustainability initiatives. The plaza offers educational courses on upcycling, including DIY and the materials bank system that disposes of over 10 million pieces of upcycling materials (Seoul upcycling plaza, n.d.). The organization promotes a sustainable lifestyle by encouraging participation in upcycling activities. Brand activities of this type in South Korea emphasize the role of institutions in sustainable practices. Therefore, investigating case studies of the Korean market may contribute to the understanding of the characteristics of the sustainable fashion industry and how they differ from the standard market in a way that is not required in institutional roles.

This study utilized qualitative data acquired through in-depth interviews with nine stakeholders working in eight different upcycled fashion brands in South Korea. Upcycled fashion can be adopted strategically for a closed-loop value chain. Research on upcycling requires identifying sustainable values, which are combined with ambivalent factors to highlight upcycled fashion as a solution for the serious waste problems found in the fashion industry. Universal values drawn from Schwartz (1992, 1994) are frequently applied in sustainable research. This study adopted 57 values across four dimensions and identified the sustainable values of brands. Stakeholders' pursuit of values as ideas, concepts, and corporate policies was analyzed, and their actual behavior served as an indicator of how sustainable values were reflected in their corporate actions. Additionally, this study examined value conflicts and found that sustainable values were comprised of multiple factors. To help upcycled fashion

brands achieve market success, this study suggests three practices based on Korean cases.

This study can guide the direction of future research that will be able to inform dedicated industry practices; furthermore, it expands on the various sustainable values that explain corporate activities and market studies. The results and discussion of the study will contribute to recognizing sustainability as a key competitive variable in the industry.

II. Theoretical Background

1. Sustainability and upcycled fashion

The current fashion industry, which uses natural resources without limits, is not sustainable. With the worsening of environmental problems, the entire value chain has been heading toward systemic change. However, the extant open-loop value chain continues to dominate the fast-fashion sector. According to Dana Thomas, author of *Fashionopolis: The Price of Fast-Fashion & the Future of Clothes*, lower prices stimulate excessive consumption and contribute to our abnormal consumer habits (Givhan, 2019). Lower prices allowed consumers to buy 60% more clothing in 2014 than in 2000, despite clothes lasting just half as long (Kozłowski, 2019). According to the 2015 industry report "The Pulse of Fashion", the fashion industry emitted 1,715,000 tons of carbon, which is more than the aviation and shipping industries—a total that is expected to increase to 63% by 2030 (Tucker, 2019).

Upcycling, which was adopted originally by Reiner Pilz in 1994, is the key design strategy to recycle fashion products and achieve a closed-loop value chain with high value. The closed-loop value chain is based on continual reuse between product origination and obsolescence, thereby maximizing utility. In this chain, the key terms are "reuse," "repair," and "recycle," which are further subdivided into upcycling and down-cycling (Paras et al., 2019). It requires processes of sorting, deconstructing, and remaking, through which design lends new value to products that other-

wise show a decline in value (Yu & Chun, 2020). The original materials are reused while still in fashion and old or used materials are transformed into new products using upcycling techniques (Sustainable Jungle, n.d.). As a fashion design method, upcycling encompasses recycling second-hand textiles and creating useful and inspiring products that enhance the value of otherwise discarded waste materials (Koch, 2019). The term also describes acts aimed at making things appear new and attractive by making aesthetic changes (Janigo & Wu, 2015, as cited in Janigo et al., 2017).

The original materials are reused until their capacity for redesign is completely exhausted. For instance, I:CO lets their customers, fashion houses, or fashion retailers collect donated clothes and shoes from online or offline stores, and then helps organize distribution and transportation to fulfill the closed-loop value chain (I:CO, n.d.). However, dead stock is becoming problematic and many fashion brands still avoid upcycling their unsold products. The high-end British brand Burberry, for example, incinerated its unsold clothes, accessories, and perfumes worth £28.6 million to protect its brand image (BBC, 2018). Although Burberry insists that it has a systematic procedure to reduce stock products, recycling or reusing those products is not part of their strategy.

2. Upcycled fashion brands and their corporate activities

Reliable statistics on the global upcycling industry are scant. According to Korea Environment Institute (2014), the sector generates USD 150 million annually. Initially, Freitag, regarded as one of the most successful upcycled fashion brands, began with only 40 upcycled bags. Currently, the company has 150 employees and 470 stores. Freitag annually recycles substantial amounts of waste materials, such as 440 tons of truck tarpaulins, 35,000 bicycle tubes, and 288,000 truck seat belts (Shin et al., 2014).

A well-known high street brand, Urban Outfitters, repurposes material from unsold (dead) stock to create

new, limited edition product (Feitelberg, 2021). ASOS focuses on ethical clothing through its ASOS Reclaimed line (Asos, n.d.). The company's sourcing team travels worldwide to find vintage clothes to remake into contemporary upcycled fashion products. Recently, Lacoste launched an upcycled collection for its 2021 S/S collection. Louise Trotter, the creative director of Lacoste, used vintage Lacoste clothing (i.e., dead stock) and reclaimed fabric to develop the collection (Mercer, 2020). Using the principle of localism, Trotter collaborated with 20 upcycling designers who worked in a suburb of Paris. Trotter's ability to interpret Lacoste's heritage in terms of sustainability attracted public interest and the collection is now recognized as her most influential since she joined Lacoste (Mercer, 2020).

In South Korea, the upcycling brand "Touch 4 Good" used discarded banners and rubber tires to make fashion bags. Rencita upcycles clothing waste to then produce bags (Shin et al., 2014), while Re;code recycles dead stock. Re;code, a Korean upcycling brand, has engaged in notable projects in recent years. Re;code is managed by Kolon, whose portfolio includes various clothing lines and textile products. Re;code collects dead stock that has been warehoused for over three years, then reconstructs and redesigns the material into new products. Their recent collaboration with Nike resulted in producing over 30 items, including shirts, capes, and jump-dresses (Jo, 2020). Using unsold clothes from Nike and Re;code, their collaboration resulted in a successful upcycled collection that attracted customers to both their online and offline stores. Black Yak, a large sports fashion label in South Korea, collaborated on an upcycled fashion project using fabric scraps with the Mizuko design team (Park, 2018). This collection was an artistically experimental presentation with a unique volume that showed how sustainable sportswear can be avant-garde.

Patagonia is a successful sustainable company that prioritizes product quality as a key brand philosophy. The company's founder, Yvon Chouinard, applies in-

dustrial design methods to sustainable fashion products (Chouinard, 2006/2020), with designers focusing on standards of excellence. Patagonia's product planning revolves around principles such as functionality, multi-functionality, durability, ease of repair, suitability, simplicity, efficient production lines, innovation, localism, convenience, guaranteed quality, authenticity, aestheticism, anti-fashion, customer-friendly design, non-toxicity, environmental consciousness, ethics, and, above all, commitment to circularity fundamentals (Chouinard, 2006/2020).

The design process of upcycled fashion products begins with the selection of materials to then recycle (Han et al., 2017). For instance, Freitag teams hold design meetings after they choose materials for new products, and create specific products in collaboration with marketers and store displayers to make proto-samples (Menzi, 2012/2013). All teams in Freitag join in product planning meetings to provide feedback and make suggestions to designers. The company also follows a unique process whereby the designers cut tarpaulin panels to make bags, a procedure that is more typically done at the manufacturing rather than the planning stage.

Patagonia and Freitag show that the key to upcycled fashion planning is selecting materials to upcycle and calculating manufacturable volumes before production begins. Product planner should collect or buy materials first to design a collection, and sort fabrics that are worth to be upcycled. In contrast to normal fashion product planning, which designs first and decides on the quantities to manufacture later, upcycled fashion requires appropriate quantities of materials to avoid possible shortfalls during the production process because the materials are not easily reproducible (Han et al., 2017).

Prior studies show that producing upcycled fashion items cannot be accomplished through a standard production line. To upcycle denim clothes, producers first collect used denim clothing or denim waste and then sort and separate the cloth and textile pieces, after which they then engage in planning and designing (Cassidy & Han, 2013, as cited in Dissanayake & Sinha,

2015). This is a long process that is not viable for standard production (Sung et al., 2020). Textile waste chosen for upcycling is usually too uneven to be simply cut and sewn for production (Korea Environment Institute, 2014).

Freitag has a unique production system called "individualistic manufacturing" (Menzi, 2012/2013). Freitag washes truck tarpaulins with fat solvents and disinfectants them in rainwater harvested from rooftops. It takes about 45 minutes per truck tarp, which then has to be hung to dry naturally. When a tarp has dried, designers cut about 500 panels manually (B Media Company, 2011). This takes nearly six days. Reclaimed tarps are used to make cell phone cases and other small goods. The final scraps are then passed to recycling facilities in France and Germany. Cutting panels are outsourced to factories to be used in creating finished products (Menzi, 2012/2013).

3. Values and sustainability

1) *Schwartz's universal values*

Value encompasses beliefs and goals that drive actions (Suk & Lee, 2013). It includes the criteria that individuals use to justify or evaluate their behavior (Schwartz, 1994). Issues on sustainability values across the fashion field are changing radically (Jain, 2019). Schwartz (1992, 1994) and Schwartz and Boehnke (2004) developed value theory, which has been widely adopted in various research fields. It posits universal values that can be applied in various cultures and these are especially commonly adopted in studies of sustainability (Schwartz & Boehnke, 2004).

Values are categorized into four dimensions as shown in <Table 1>: first, self-transcendence, which includes universalism and benevolence; second, self-enhancement, which embraces power, achievement, and hedonism; third, openness to change, which includes self-direction and stimulation; fourth, conservation, which includes tradition, conformity, and security (Bardi & Schwartz, 2003; Su et al., 2019). Universalism refers to protection for welfare and nature. Benevolence is the drive to preserve people's

Table 1. Schwartz's value dimensions and types

Types		Definition	Values
Self-transcendence	Universalism	Understanding, appreciation, tolerance and protection of the welfare of all people and nature	Broadmindedness, wisdom, social justice, equality, a world at peace, a world of beauty, unity with nature, protecting the environment
	Benevolence	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact	Helpfulness, honesty, forgiveness, loyalty, responsibility
Self-enhancement	Power	Social status and prestige, control, or dominance over people and resources	Social power, authority, wealth
	Achievement	Personal success through demonstrating competence according to social standards	Success, capability, ambition, influence
Openness to change	Hedonism	Pleasure and sensuous gratification for oneself	Pleasure, enjoying life
	Stimulation	Excitement, novelty, and challenge in life	Daring, a varied life, an exciting life
	Self-direction	Independent thought and action-choosing, creating, exploring	Creativity, freedom, independence, curiosity, choosing one's own goals
Conservation	Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide the self with	Humility, accepting one's lot in life, devoutness, respect for tradition, moderation
	Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations of norms	Politeness, obedience, self-discipline, honoring parents, and elders
	Security	Safety, harmony, and stability of society, relationships, and self	Family security, national security, social order, clean reciprocation of favors

(Bardi & Schwartz, 2003; Su et al., 2019)

welfare. The value of power in the self-enhancement dimension is defined in terms of social prestige, enabling control over people and resources.

Power is part of the self-enhancement dimension that implies a social position and reputation of the type that can control people or resources. Achievement is the value of success in that an individual can demonstrate social abilities to the public. Hedonism, in the context of openness to change, refers to pleasure and sensual satisfaction for oneself. Stimulation refers to the value of excitement of new life, novelty, and adventure. Self-direction is the value of independent thought and action. In the conversation dimension, there are three values: tradition, conformity, and security. Tradition is the value of respect and a commitment to tradition passed down through culture and religion. Conformity prevents actions outside of social norms. Security refers to the safety and stability of society or oneself.

There are four types of value dimensions that have a structure which may share or conflict with other values. Hedonism shares with both self-enhancement and openness to change (Schwartz & Boehnke, 2004). Self-transcendence relating to ethical values includes values that motivate one to pursue environmental and social benevolence beyond selfish interests. It combines universalism and benevolence in the self-transcendence dimension (Schwartz, 1992).

Schwartz's universal value theory has been applied in studies on sustainable human behavior. Researchers such as Walker and Moscardo (2014) and Hedlund (2011) investigated the role of values in sustainable tourism studies. Values, beliefs, and behavior regarding sustainability are related aspects studied in environmental psychology (Collins et al., 2007). Ceglia et al. (2015) conducted a study based on the value-belief-norm (VBN) theory. Interpreting a fundamental form of VBN suggested a cross-cultural sustainable con-

sumption framework. Schwartz's values are used in quantitative research (Grunert et al., 2014; Piscicelli et al., 2018; Sener & Hezer, 2008; Su et al., 2019). Su et al. (2019) compared the US and Chinese markets and examined the sustainability of apparel among Millennial consumers. They identified 44 values, including ten types: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. Jain (2019) used the theory to suggest a conceptual framework for sustainable luxury purchase behavior by conducting a literature review which found power, achievement, security, tradition, and benevolence as social values.

2) *Value pursuit of fashion brands*

None of the previous value-related studies has addressed niche sustainable fields such as upcycled fashion. Considering the increasing significance of upcycling in South Korea and the support from national institutions, this study aims to explore the values pursued by upcycled Korean fashion brands through in-depth interviews. A value pursuit is defined as personal or corporate values embodied in a specific system and structure that includes strategies or purposeful motivation (Kim, 2015). Kwon (2011) described value pursuit in fashion brands as closely related to brand identity, featuring characteristics such as organizational solidarity, country of origin, user imagination, emotional, or self-expressing benefits, the brand-customer relationship, the brand personality, and product features. Kotler et al. (2010) explain 21st century market values in terms of the 3i model, where the three Is are brand integrity/identity/image and can stimulate the consumer's soul, intellect, and sensibility. These three criteria can determine brand positioning and create a fellowship persuading the customer to sometimes re-evaluate their brand loyalty (Kotler et al., 2010).

To explore their pursuit values and investigate their sustainability, the researcher referred to previous studies to set axes of coding. Environmental attitudes are a prerequisite of representative sustainable values. Psychological studies (Schultz et al., 2005; Stern & Dietz, 1994) have identified the types of values that inform

environmental attitudes, revealing the relationship between values and environmentally responsible behaviors. According to Schultz et al. (2005), environmental attitudes are related to values involving the self-transcendence and self-enhancement dimensions noted by Schwartz (1992, 1994) and Schwartz and Boehnke (2004). While self-transcendence is positively related to ecological rights and environmental concerns, self-enhancement is typically linked to values that are considered somewhat opposed to sustainability. However, subjects who have environmental concerns have deeper responses to nature and other people (Schultz et al., 2005).

Thus, the term "sustainable value" combines two conflicting concepts: sustainability and the market. Upcycled fashion brands grow to become corporations as they historically expanded beyond domestic hand-crafting activities, which then inevitably require appropriate environmental/social/ethical strategies in terms of marketing. The concept of sustainable value is realized when sustainability is successfully married to business strategy (Yang et al., 2017). Sustainable value is an all-encompassing term that, arguably, combines concepts such as environmental and ethical attitudes with the market. Market values are thereby expanded to incorporate ecological, practical, economic, psychological, and meta-knowledge fields (Ueda et al., 2009). However, sustainability is often rejected because it mandates consumers to curb their selfishness and forces them to act for other people's benefit, thus potentially subjecting them to a social dilemma (Lee et al., 2015).

Ambivalent factors of sustainability in the market discomfort stakeholders, so it is necessary to consider the ethical aspect and the social/economic/circular benefits of sustainable values. Therefore, the researcher decided to use all 57 of Schwartz's universal values to code participants' statements to review any conflicts of values in their activities.

III. Methodology

This study conducted in-depth interviews with nine

stakeholders working in eight different upcycled fashion brands. The listed brands and members include those from the Seoul Upcycling Plaza, Korea Upcycle Design Association, and Gyeonggi Upcycle Plaza. Additionally, the researcher used the Google search engine to recruit participants. The researcher contacted 29 brands at the initial stage, chosen by judgment sampling. Eight brands responded and then participated in this study. Unlike ordinary fashion brands, upcycled fashion is considered a niche market. Few stakeholders traditionally worked in this business in a private form of company. In this circumstance, for example, Han et al. (2017) interviewed only six participants. After interviewing all nine stakeholders, the researcher observed a reiteration of certain statements and consequently judged that the qualitative data were saturated sufficiently to conclude data collection.

The attributes of the research participants are listed in <Table 2>. Each stakeholder was involved in planning, designing, and promotional activities. They represent various kinds of firms, such as start-ups, social enterprises, and established corporations, hence allowing for diverse perspectives. Using the interview

format, the researcher discussed the kind of sustainable values the stakeholders pursued and enacted daily in their corporate activities.

Semi-structured questionnaires were used for the interviews. The researcher employed grounded theory, developed by Glaser and Strauss (1999), to analyze the transcripts. This method is used widely in social science research to structure collected qualitative data usefully (Kim & Lee, 2017).

All transcripts underwent two rounds of analysis. In the first stage, the researcher focused on corporate activities and used open coding to categorize product planning, production, distribution, and promotion processes. The production process was specified, and material collection, production details, labor conditions, and production transparency were categorized. The same approach was done for the production, distribution, and promotion processes, direct or indirect distribution lines, crowdfunding, promotion, consumers' perception of upcycled fashion products, and their opinions of government support programs.

In the second part of the analysis, axial coding was used to study the sustainable values of upcycled fash-

Table 2. Research participants

Participants	Company	Established year	Type of enterprise	Roles	Products and activities
A	1	2019	Startup	CEO	Upcycled fashion product planning and platform business
B	2	2018	Social Enterprise	CEO	B2B and B2C (Bags, fashion accessories, living products etc.)
C	3	2018	Startup	CEO, Designer	Tableware and fashion jewelry
D	4	2007	Social Enterprise	Manager	Bags and fashion accessories
E	4	2007	Social Enterprise	Product planner	Bags and fashion accessories
F	5	2018	Startup	CEO, Designer	Bags and fashion accessories
G	6	2012	Major Company	Associate, Marketing team	Clothes, bags, and fashion accessories
H	7	2017	Startup	Manager, Marketing team	Clothes, bags, and fashion accessories
I	8	2014	Startup	CEO, Designer	Clothes, bags, and fashion accessories

ion brands pursued. Drawing on Schwartz (1992, 1994) and Schwartz and Boehnke (2004), the 57 universal values were used as an analytical framework. The works of Schwartz (1992, 1994) and Schwartz and Boehnke (2004) are referred to widely in research on sustainability and were used in this study to analyze corporate activities. Transcripts were coded into 57 axes as per Schwartz's 57 values. Sentences were deconstructed by phrase and word-coded, with inter-comparisons based on the description drawn from Bardi and Schwartz (2003). Phrases and words that did not align with the axes were eliminated or relocated accordingly. Finally, an analysis was carried out to inform the discussion.

IV. Results and Discussion

1. Corporate activities of upcycled fashion brands

1) Planning process of upcycled fashion brands

The research participants' interviews revealed that the characteristics of materials are the main deciding factor in product planning. Participants reported that they started the planning process of the product during the stage of collecting materials which were then passed on to the designers.

"Our design starts from the donation center. If you go down to the basement and see what's in it, there's a donation center. All design starts from there, with what's in it." (D, Manager, Company 4).

The materials required for upcycled fashion products are not reproducible, so the total quantity for production is limited to how much waste is collected. Inevitably, product production schedules are finally determined by the availability of materials.

"Only when we know how much material is available can we proceed with the product design book and color book in planning and production. We re-

search the market to see the fashion trends and styles prevalent these days. We studied, but we can't schedule production as other brands do. So, we need to communicate with each other about how much material there is in our store and how much vitality this material is likely to have." (E, Product planner, Company 4).

Designers are flexible about altering product planning based on the characteristics of materials and select the most suitable products for designing based on this judgment.

"As you know, the product line is for leisure sports. I adopted a broad concept of 'leisure sports' in case the materials are not easy to find. It covers three lines. The first one is paragliding, the second is yacht sailing, and the third is glamping tents." (F, CEO, Designer, Company 5).

Such product planning processes differ markedly from standard fashion production. The planner focuses on embedding storytelling into design. Designers locate and select materials to upcycle and then select the best products to design. The brands researched mainly designed bags. The majority of upcycled fashion product ranges consisted of small items, including bags and accessories. Textile quality is limited to woven fabrics because knit fabrics are subject to shrinkage, making them very difficult to upcycle. This necessitates adopting a hybrid approach using various textiles, making manufacturing somewhat complicated. Consequently, size grading has also proven somewhat challenging for upcycling brands, as different sizes alter the structure of the fabric.

Product planning involves collaboration between teams. The planner, merchandiser, and designer discuss the kinds of washing and treatment required to convert materials into new products. The teams attempt to identify the most effective approaches to practically reusing waste materials.

"I think everyone should participate in the planning processes. As a person who runs our brand, it is

a huge disadvantage that the materials and technology keep changing. It's very difficult for us that the idea only comes from a few people, so it's very helpful to collaborate." (B, CEO, Company 2).

2) Production of upcycled fashion brands

<Table 3> shows the collection processes used by upcycled fashion brands. Most of the materials were self-sourced, but some were obtained through donations. There were different types of raw materials, such as discarded fibers, vinyl, and pieces of acrylic; however, apart from Company 1, all the companies sorted and cleaned the collected materials in-house. Companies 3 and 4, which were social enterprises, upcycled materials for various projects. They have a professional system for collecting and sorting raw materials. Waste materials are prepared for upcycling through a systematic "raw materialization" process.

"We call it raw materialization; any garbage comes in and then gets cleaned. We cut it to a certain size and

turn garbage into material that can be used in various ways.... We have a lot of experimental data, which is our strength in creating better products." (B, CEO, Company 2).

The Korean upcycled fashion brands participating in this study had a small internal production line or outsourced the work to small factories. Brands had no comparable companies against which to measure upcycling production lines, particularly because most of them are start-ups. Thus, they innovated or referred to global benchmarks to get into the industry.

"I have not even learned about producing products, and I was just going to do it right away. When I adopted hand-cut production, it was not affordable. It was hard to maintain accuracy and the result was poor. I have faced problems with product quality. The second path was to cut materials into bigger sizes. So, I tried it again, and there was another problem too." (F, CEO, Designer, Company 5).

Table 3. Production processes of participated upcycled fashion brands

company	raw materials	collecting materials	production	work ethics and production transparency
2	Acrylic	Self-resourcing	Hand-crafting by own laboratory	Trackable for their own laboratory
3	Fabric, tents, lipsticks, glasses, umbrellas, etc	Collect by personal or corporate donation	Most production is outsourced to factories but washing and treating raw materials are done in-house	Only local outsourcing is trackable
4	Clothing, leather, denim, tarpaulins, etc	Managed by material backs where collect and wash donations	Except for 2nd treatment, most of the production proceeds in their own laboratory	Offering working opportunities for minors in society
5	Lightweight nylon (parachutes, sails, tents)	Collect from the donation campaign	Domestic outsourcing	All domestic productions are trackable
6	Dead stock stored for three years from the mother company	Designers choose clothes to upcycle in the mother company's warehouse	Sophisticated elaboration by craftspeople working in their laboratory	Trackable and locally sourced, making workshops for minorities
7	Recycled fibers from Ethylene Terephthalate (PET) bottles	Sourcing from a company that made domestic PET waste into fibers	Domestic outsourcing	All are locally produced and aim to make for sustainable consumption
8	Unsold practice oil-painted canvas	Collected directly from the local art school	Domestic outsourcing	Make efforts to produce locally even if there are challenges of minimum wages

Many of the challenges in the sewing process centered on handling textile waste. To be upcycled, clothes must be deconstructed, and this is not a set process. Because everything is done manually, the process is extremely time-consuming. Most factory workers are familiar with a production process that starts with cut fabric, so brands need to adopt new production methods, which can typically increase labor costs.

Converting waste into material for production is a complex and time-consuming process. To meet these upcycling challenges, many research participants focused on actually developing new materials. For small companies, tracking workers' conditions and production transparency proved difficult. Moreover, brands based on the operations of social enterprises were supported by the government or institutions through other social contribution activities or B2B projects.

“When materials were limited to fabric, it was possible to pay more attention. Outsourced factories were limited, and it was easy to track working hours and environments. Honestly, there are so many cases that we cannot check everything because we have so many different third-party sources.” (B, CEO, Company 2).

3) Distribution and promotion of upcycled fashion brands

All upcycled fashion brands have online stores. Online stores are easier to maintain, less expensive, and somewhat more profitable than physical stores. Crowdfunding is used for product distribution, enabling the brands to meet production targets, secure sales, and provide promotional benefits to independent upcycling designers.

Direct communication via social networking sites (SNS), such as Instagram, or blogs creates a sense of solidarity between customers and brands. Feedback and opinions about products can also be received promptly. However, upcycled fashion brands must handle cautiously excessive promotion that stimulates consumption; upcycled fashion ultimately supports sustainability, so reducing consumption is crucial. The sustainable values of upcycled fashion, which are

shared and communicated with customers over the longer term, create consumer loyalty. Indeed, customers participate actively in product promotion by posting photos and reviews on SNS.

The majority of the brands participating in the study received government subsidies through startup support program. In the Seoul Upcycling Plaza, fashion companies often exchange information. They have group chats to share information and discuss ways to utilize more waste for upcycling. The brands collaborate flexibly and cooperate to minimize waste. Interestingly, it is argued that upcycling companies are somewhat too dependent on state-funded programs, and arguably, political interests related to sustainability may have actually fostered the industry. However, in this scenario, the companies are not selected by customers. This jeopardizes the economic sustainability of companies that are supposed to be competing in the open market to make a profit. Even products that are conceptually suited for government subsidies are not guaranteed to be considered aesthetically valuable or competitive in the upcycling market. Therefore, starting new upcycling brands solely to access funding programs may not align with actual market demands, according to the interviewees' concerns.

4) Practical implications

As a proposal, a few practical activities can be suggested: firstly, upcycling brands need alternative strategies for the merchandising cycle, and pre-ordering is a suitable approach for upcycled fashion. The current open-loop value chain is based on seasonal demand, which stimulates an excessive consumption culture that is at odds with sustainable values. According to Chittrakorn (2020), many fashion brands are beginning to select their own timelines to showcase new products by adopting a pre-ordering system to avoid a backlog in stock. COVID-19, in particular, necessitated the development of a new value chain because consumers tended to purchase less during the pandemic (Baum et al., 2020), and small upcycled fashion brands needed flexible strategies to survive.

Second, it is necessary to research and grade the re-

cycling stage by evaluating the possible environmental impact to create more value in upcycled fashion. In sustainable fashion, upcycling is unique in that it allows the creation of high value products (Han et al., 2017). Upcycling is a way of reducing total energy consumption by extending the life of clothes or textiles (Stanescu, 2021). Researchers like Yu and Chun (2020) divide recycling into its mechanical and chemical stages, and upcycling is based on mechanical recycling. However, both terms are used in the market, and each type of recycling has its distinct advantages. Mechanical recycling uses physical energy to treat materials and reduces secondary energy consumption or pollution (Yu & Chun, 2020). As noted by the stakeholders in this study, mechanical recycling involves deconstructing and sewing materials by hand, which raises labor costs. Chemical recycling, on the contrary, allows for the production of ordinary fashion products. However, in the case of products made from chemically recycled polyester PET bottles (Company 7), it is questionable whether the process adheres to the basic principles of upcycling, as there is no established system to measure and evaluate the environmental impact of different types of recycling. Also, certifying and guaranteeing this poses challenges. As a result, consumers receive unclear information regarding the extent to which upcycled fashion products contribute to environmental protection.

Third, upcycled fashion brands must create ethically appropriate and economically sustainable prod-

ucts with new visions and ideas that utilize innovative technologies and trends. In the second part of this study, I analyze value re-creating activities for sustainable and upcycled fashion. It is, therefore, crucial to examine what kinds of values are actually pursued in upcycled fashion brands to develop a future value chain.

2. Sustainable values in corporate activities

Using grounded theory, statements were coded and categorized into 57 values based on the works of Schwartz (1992, 1994) and Schwartz and Boehnke (2004). 24 values in three types, namely, universalistic values, economic values, and self-oriented values are derived as shown in <Table 4>.

1) Universalistic values

Universalistic values refer to those dedicated to welfare across societies (Jain, 2019). “Protecting the environment” was found to be a common value.

“If you place an order for yarn, you can only use material from a single brand, so you can't use the rest and have to discard it. Manufacturing clothes leads to lots of wastage. Numerous other factors in this industry cause environmental pollution in various processes.” (H, Manager, Marketing Team, Company 7).

Values such as “Unity with nature,” “Social jus-

Table 4. Sustainable values in the corporate activities of upcycled fashion brands

Types	Description	Resulting values	
Universalistic values	Pursuit of social and environmental values to be achieved by upcycled fashion brands	Universalism	Protecting the environment, unity with nature, social justice, a world at peace
		Benevolence	Helpfulness, honesty, responsibility
		Security	Cleanliness, health
Economic values	Pursuit of corporate values to maintain business in the current value system	Power	Social power, wealth, preserving public image, social recognition
		Achievement	Achievement, ambition, influence, intelligence, self-respect
Self-oriented values	Pursuit of personal values that creative individuals or companies want to appreciate	Stimulation	Daring, varied life, exciting life
		Self-direction	Creativity, curiosity, independence

tice,” and “A world at peace” were identified. Stakeholders were concerned to contribute to future sustainability and their own community.

“The problem of wastage is the worst area where people don't care at all. So, much can be changed if we can get people to be interested in this problem.” (B, CEO, Company 2).

Values of “Security” were derived in conservation, and “Cleanliness” and “Health” were included. They discussed that it is necessary to endure some minor discomfort for better environments.

“When we eat organic food, such as wholegrain rice, it is unpleasant, but we choose to do it to be healthy, right? I think it is the same in the case of fashion.” (D, Manager, Company 4).

According to participants' statements, the purpose of seeking values of “Security” and “Cleanliness” was to create an environmentally clean world. Therefore, in this study, those values are understood as universalistic values.

2) Economic values

Economic values that are categorized in the self-enhancement dimension resulted as well. However, those value types of power and achievement that negatively impacted environmental concerns as reported by Hedlund (2011) are derived. As a result of their corporate activities, upcycled fashion brands would like to achieve values of “Social power,” “Wealth,” “Preserving public image,” and “Social recognition.”

“In the end, sales and profits are important things. The company can't always sustain the brand without profit.” (A, CEO, Company 1).

Values of “Achievement,” “Ambition,” “Influence,” “Intelligence,” and “Self-respect” that are related to social reputation and success are derived.

“I think we're ta unique brand in Korea. There are

a lot of upcycling brands, but I don't think many of them play well.” (G, Associate, Marketing Team, Company 6).

While values under self-transcendence in previous studies have evolved in choosing to avoid excessive production and consumption, the values of “Power” and “Achievement,” related to the economic value of the fashion market, have evolved to maximize profits generated by conventional consumption and sales. Many of the participants argued that they are competing with regular brands.

“We have to compete with standard brands and not just with other sustainable brands.” (F, CEO, Designer, Company 5).

Under these circumstances, upcycled fashion brands had difficulties with their financial situation. However, companies tried to strike a balance and suggest alternative consumption.

“We don't want to be a brand that encourages consumers to consume; rather, our product is an alternative for daily use. It would be great.” (H, Manager, Marketing Team, Company 7).

3) Self-oriented values

As many of the participants are startup companies, self-oriented values are expressed in their corporate activities. “Stimulation” and “Self-direction” related to individuals' creativity and sense of adventure are coded in terms of self-oriented values. In “Stimulation,” values of “Daring,” “Varied life” and “An exciting life” are implied.

“I established my brand after I told my ex-boss. I became independent by reflecting on all the experiences in my schooling and career.” (I, CEO, Designer, Company 8).

“Creativity,” “Curiosity,” and “Independence” were values that triggered designers and owners to promote

upcycled fashion products in public.

“Eco-friendly topics can be boring for consumers. I want to make products that are fun” (F, CEO, Designer, Company 5).

Making creative sustainable products is a strong motivation to maintain corporate activities. Such opinions are observed mostly in cases where founders are designers.

“I’m making smart products with sustainable ideas. I want to make something sexy and cool” (I, CEO, Designer, Company 8).

Designers established the brands with sustainable and innovative ideas to captivate future consumers.

4) Discussion

Universalistic values, including universalism and benevolence, were frequently observed among the three types of values. As upcycled fashion brands are centered around sustainable values, environmental concerns were discussed most frequently, followed by economic and self-oriented values. Hence, sustainable values are constructed from social perspectives, and corporate and personal views follow. However, conflict of pursued values was observed in the results. For instance, the value types of universalizing benevolence resulted, as evidenced in previous studies (Sener & Hazer, 2008; Su et al., 2019). This study emphasizes that values such as power and achievement are still important for economic sustainability. This implies that Korean upcycled fashion brands are competing with ordinary fashion brands, not with each other. Because upcycled fashion is geared toward the sustainability market (Singh et al., 2019), running an upcycled fashion brand requires both ethical and economic rationales. Therefore, pricing challenges are inevitable (Sung et al., 2020). According to Argento (2018), customers consider upcycled fashion products to be in a higher price range. They are used to paying low prices for clothing, but the prices of upcycled

items are inevitably higher than standard fashion products because of the complicated process involved in treating waste, which carries significant embedded costs. The question is whether consumers can afford relatively high prices.

In summary, upcycled fashion products’ sustainable values are universalistic, corporative, and self-oriented values. Conflicting dimensions simultaneously expressed positive characteristics. For example, as discussed in a previous study by Su et al. (2019) conservation resulted in this study as well. Conflicts in resulting values in stimulation, self-direction, and conservation were evident. The participants interviewed aimed to bring adventure into their personal lives but otherwise strive to maintain a stable society.

The research suggests a conceptual framework for upcycled fashion brands, as seen in <Fig. 1>. The brands aim to develop their values in pursuit of universalism, benevolence, power, achievement, stimulation, self-direction, and security, highlighting the complex composition of sustainable values involving multiple stakeholders. Along with market growth, the technological development of materials, and global interest in sustainability, the upcycled fashion market offers many opportunities for brands. In contrast to standard recycling, upcycling raises the value of the used product or waste (Singh et al., 2019). Each brand develop products to reflect its sustainable value implied in its corporate activities through storytelling based on transparency. Therefore, transparent storytelling is a key driver for upcycled fashion brands.

V. Conclusion

This study examined the opportunities and difficulties experienced by active companies by interviewing multiple stakeholders in the industry. An analysis was conducted to explore how sustainable values manifest in corporate activities to impact conceptual frameworks. Product planning for all upcycled fashion items begins with considering the characteristics of materials, involving the participation of all stakeholders. In terms of production, upcycled fashion

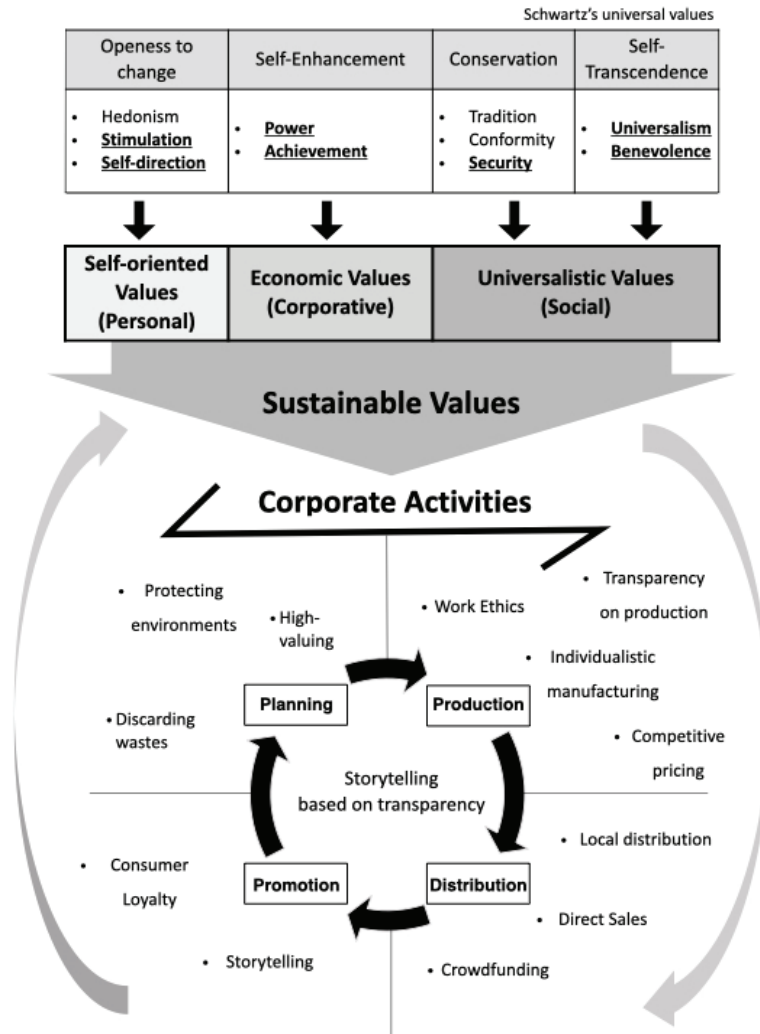


Fig. 1. A conceptual framework of sustainable corporate activities in upcycled fashion brands.

brands led the conversion of raw materials into reusable resources. They tended to focus on a single material to make a single product line achieve efficient production. The prices of upcycled fashion products have increased, resulting in direct product distribution. The promotion of upcycled fashion products was a critical factor. The key driver was the transparency of information rather than relying on heavy promotion. Direct communication with consumers who are oriented toward ethical consumption is considered effective. This creates an emotional connection with cus-

tomers and builds brand loyalty by emphasizing storytelling about the ecological importance of sustainable fashion products, or by interviewing and posting up-cycling activities through SNS and media.

The study focused on the sustainable values of up-cycled fashion brands and products that impact corporate activities. In terms of social perspectives, up-cycled Korean fashion brands have attempted to dispose of waste ethically while also finding economic opportunities in those materials. In terms of corporate perspectives, competitive advantage was based on

converting waste materials into products. In terms of personal perspectives, the brand owners and designers intended to introduce innovative and creative ideas in the sustainable fashion market. As a result of in-depth interviews with stakeholders, the study identified three types of values—universalistic, economic, and self-oriented—out of the 57 values listed by Schwartz (1992, 1994) and Schwartz and Boehnke (2004), encompassing a total of 24 values. Considering the specificity of the materials themselves, storytelling based on transparency is integral to Korean upcycling brands. This storytelling will enhance the sustainable values of upcycled fashion brands, persuading consumers to pay a higher price for goods.

This study documented industrial proposals from stakeholders and is academically valuable reference for future research on value creation in upcycled fashion products. Upcycled fashion has a huge opportunity thanks to market growth, technological advances in materials, and increasing international interest in sustainability. To become a successful upcycled fashion brand, it is necessary to have innovative ideas with an activist attitude toward environmental pollution and climate change. Brands should develop values to create a community that uses their products. For the development of the upcycled fashion industry, further research should be conducted on topics such as a sustainable merchandising cycle, the effect of the development of production technology on upcycled fashion products, and new materials and certification systems for upcycled fashion.

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2. Ethics and consent

This research was conducted under the approval and supervision of SNU Research Ethics Team (IRB No. 2011/002-009) regarding ethical issues including consent to participate.

3. Availability of data and materials

The data in this study can be provided upon reasonable request with approval from the National Research Foundation.

4. Conflicting interests

Not applicable

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6. Authors' contributions

HY was mainly responsible for data collection and analysis along with writing the manuscript, and JC reviewed the edition of manuscript. All of the authors read and approved the final manuscript.

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