Satisfaction Through Clothing Utilization and Environmental Sustainability Based on Fashion AI Curation Service

Eunjung Shin[1], Sohyun Kim[2] and Ae-Ran Koh[1*]
[1]Department of Clothing & Textiles, Yonsei University
50 Yonsei-ro, Seodaemoon-gu, Seoul, South Korea
[e-mail: ej_shin@yonsei.ac.kr, arkoh@yonsei.ac.kr]
[2] CEO of Stlyebot
99 Sungsuil-ro Seongdong-gu, Seoul, South Korea
[e-mail: stylebot@naver.com]
*Corresponding author: Ae-Ran Koh

Abstract

This study investigates fashion Artificial Intelligence (AI) curation services to expand sustainable consumption. We analyzed the factors that affect the AI fashion curation service experience of women in their 20s and 30s using their clothes. An online survey was conducted from March 29, 2021, to June 4, 2021, for women of the previously mentioned age groups residing in the metropolitan area. Before answering the questionnaire, they installed the "Style Bot" application on their phone, took five or more photos of their clothes according to the manual provided by the application, stored them in a virtual wardrobe on the application, and then responded to the questionnaire using the AI recommended coordinating function. The effect of the properties of fashion AI curation service application on the use of clothes was investigated. Among the attributes of the fashion AI curation service application, convenience, speed, and usefulness were found to have a positive effect on the use of clothes, and promptness had no effect. Second, regarding the impact of clothing utilization on environmental sustainability, clothing utilization was found to have a positive effect on environmental sustainability. Third, environmental sustainability was found to have a positive effect on satisfaction. Fourth, clothing utilization had a positive effect on satisfaction. Thus, fashion AI curation service would help promote service development so that clothes could be used actively through an in-depth understanding of the properties of these services. Finally, the results of this study would contribute to promoting environmental sustainability.

Keywords: Artificial intelligence, clothing utilization, environmental sustainability, fashion curation service, satisfaction

1. Introduction

With production and consumption increasing at a faster rate than Earth's ability to recover from its biocapacity, discussions are underway on sustainable consumption and changes in production. Environmental pollution in the rapidly growing fashion industry has increased owing to the increase in waste. Thus, it has become part of the life cycle to protect the environment.

In the past, clothes were made and passed on because of their functional aspects. However, with the improvement in the standard of living, changes in consumption values, and rapid changes in fashion, the number of clothes purchased and the reason for purchasing them, period of use, and value of use have changed. Clothing has become a means of expressing individuality and a specific image in which people present themselves as purchasing clothes of a specific brand. In this situation, consumers leave their clothes in the closet or discard them because of changes in fashion or boredom, rather than the absence of durability or functionality. Compared to other household waste, the clothing utilization is relatively easy when living in an urbanized residential area. This is because there are no separate costs for the clothing utilization. Clothes are classified as used clothes according to the volume-based waste disposal system and are collected separately [1]. People own many clothes because of the development of textile science, which has led to a longer physical lifespan, rapid change in fashion cycles, improvement in living standards, and changes in consumption values [1]; [2]. Thus, consumers do not use their clothes properly and leave them in the closet for personal reasons, such as fashion and boredom, rather than the durability or functionality of clothes [1]. Therefore, studies have focused on environmental and social responsibility issues caused by the clothing utilization [1]; [2]; [3]; [4]; [5] as well as recycling of disposed clothes.

Disposal is the final stage of use, and the lifespan of different garments is related to the disposal of a garment by a customer. The life cycle of clothing is fundamentally determined by the user and not by the manufacturer [6]. As the lifetime of clothing is determined by the disposal decision, use and disposal are complementary. The life cycle of clothing is classified into three stages: product, use, and disposal. Energy and environmental issues in the use and disposal stages account for the largest proportion. Extending the useful life of clothing contributes to clothing sustainability. Additionally, if the average lifespan of clothing is increased by only nine months, water, carbon, and waste can be saved by 20-30% [7]. Therefore, practicing sustainability is an urgent issue, which can be facilitated by the consumer's responsible purchase to extend the lifespan of clothes in the process of wearing, washing, and disposing them.

Recently, considering the characteristics of the fashion industry in which consumer tastes are an important criterion for judging the success of the industry, artificial intelligence (AI) fashion curation services are attracting attention, in that they can help fashion brands analyze consumer tastes and provide "customized experiences" for them. Focusing on the social phenomenon in which many fashion products are not used more than a few times and are either worn off or thrown away [8], a virtual AI-powered wardrobe provides personalized curation using a customer's clothes and is set to become a new method of disposition.

Therefore, this study aims to investigate fashion AI curation services for the expansion of sustainable consumption. The sustainability of clothing is increased by identifying factors affecting the experience of fashion AI curation services using clothes for women in their 20s and 30s. The use of clothes through fashion AI curation is also activated.

2. Theoretical Background

2.1 Fashion AI Curation Services and Properties

Rosenbaum in [9] suggested that the meaning of curation has changed over time. Curation is acquiring a new value by selecting and reconstructing excessive information because of the intervention of human qualitative judgment and taste in the object to be collected or composed. In summary, it can be expressed as the process of identifying quality in an age of information overload. In other words, curation can be defined as the process of producing and exchanging information provided with a different value by composing information collected through various channels according to the intention of the individual. Users can expect effective information sharing and fatigue reduction owing to excessive information. The fashion curation service has a direct impact on the fashion industry in terms of clothing behavior observed during the consumption of fashion products [10]. Fashion curation affects the provision of product purchase motives or decision-making processes of potential consumers who encounter the product.

The first curation service launched in online shopping malls was MD recommendation. In this method, MD, a product planner, arbitrarily selects and recommends a product. [11] defined curation as a process of producing and exchanging information with a unique value by composing information as desired by an individual. However, MD recommendation is a non-automated, non-personalized curation service, and the boundary with an advertisement is ambiguous in the way that a person directly recommends [12]. A personalized discovery recommendation service has emerged as initial automation to address these limitations. This method recommends similar products and products purchased by customers with similar tendencies, based on the consumer's purchase and search history. [11] defined the curation service as a business model that prioritizes "information filtering" to satisfy consumers' desire to obtain accurate and timely information in a large data environment. seems to have a similar Unlike MD recommendation, this curation service excludes subjective opinions of people and recommends products using customer data.

To overcome the limitations of discovery recommendations and meet consumer needs, AI-based curation services have recently emerged. Fashion companies that were struggling with the personalization of services with an increasing online presence have become more active and have implemented face-to-face interactions with customers. Using AI, fashion companies not only analyze vast amounts of data but also remember consumer behaviors to recommend products that accurately reflect individual needs and tastes. We provide "personal services," The fashion industry is also in a situation where it must focus on improving consumer experience rather than relying solely on the brand's reputation and the competence of designers. Furthermore, as customer needs become increasingly microscopic (personalized), the fashion industry is starting to provide better customer experiences and customized solutions by collaborating with fashion and commerce companies considering the introduction of AI technology.

In this study, the speed, convenience, and usefulness of the fashion AI curation service and recommendation suitability, which are the most representative attributes of fashion curation services, were defined as attributes of fashion curation services based on previous research.

2.2 Clothing Utilization

In a study on user-centered welfare sustainability by [12], the categories in which consumers can practice sustainability were subdivided into pre-purchase consideration, selection, wearing, washing, drying, ironing, and storing. Pre-purchase consideration is the most fundamental

2870

Shin et al.: Satisfaction Through Clothing Utilization and Environmental
Sustainability Based on Fashion AI Curation Service

aspect of consumer decision-making, and wasteful and environmentally destructive consumption should be considered before making a purchase. In the selection stage, an important criterion for sustainability practice is an extension of environmental marks and service life. The choice of clothes designed to be less sensitive to trends and provide a long service life can reduce wastage and be used for multiple purposes. Such clothes are easy to repair and manage, which is important to minimize resource consumption and environmental risks [13].

In consumer-centered fashion product sustainability research by [14], consumer-centered sustainability is classified into wearing and maintaining fashion products, washing, recycling, and disposal. In terms of the ownership and wearing status of fashion products, owning fewer clothes and wearing fashion products frequently is a good way to use them sustainably. As a result of examining the frequency of wearing fashion products according to the reason for purchasing them, the respondents answered that they wear products that are easy to coordinate, functional and warm, and belong to brands and designs preferred by them. On the contrary, fashion products purchased owing to impulse purchases and events were not worn frequently. Approximately 42.1% of the respondents said that they rarely wore fashion products purchased through impulse purchases. Only 35.7% of fashion products purchased to attend special events such as weddings, graduation ceremonies, and interviews were frequently worn, and 50% of the respondents said that they did not wear them frequently. However, all fashion products have been worn previously even if they were purchased for a special purpose. Maintenance of fashion products that extends their life is the core of sustainable fashion practice. Therefore, determining the reasons that the study subjects wear and retain fashion products for a long time would help find ways to practice sustainable fashion.

Han [1] proposed on eco-friendly clothing purchase behavior, clothing utilization, and disposal behavior showed a relationship between socio-demographic factors, religion, environmental consciousness, recycling, and consumer disposition behavior. In the case of clothing utilization and disposal behavior, clothes that were not worn were most often stored in the closet, followed by those that were found to be placed in the recycling bin. However, the behavior of wearing clothes that are not worn in exchange for people around them or reselling them using vendors or Internet malls was the lowest. Furthermore, there were few actions to repair or recycle clothes that were not worn or donate them to religious organizations and welfare facilities. These results imply that most of the clothing purchased once is consumed by the person or discarded through a separate collection. In other words, the rate at which clothing is recycled is very low, which confirms that when clothing is used, it is accumulated or discarded in the closet. The results confirmed that clothing-related eco-friendly consciousness is an important factor influencing eco-friendly clothing purchase behavior as well as clothing utilization and disposal behavior. Furthermore, it is important to raise consumer awareness of eco-friendly clothing for rational and eco-friendly clothing consumption.

Harrell and Mcconocha [6] classified disposition behavior as altruistic or economic. It has been suggested that altruistic disposition behavior implies giving or donating to others, economic disposition behavior means to sell and exchange, and non-ethistic disposition behavior refers to storing or discarding. Also proposed altruistic disposition behavior, such as storage and disposal, is the least time-and effort-consuming method on an individual level, and is the main cause of increasing waste and environmental pollution. Several studies have researched consumer recycling to determine how consumer recycling behavior can be encouraged [15]. Specifically, for clothing, recycling behavior is positively related to fashion disposal methods [16].

Recently, various methods for using clothes have been developed as extensions of such clothes. Examples include extending their lifespan through the rental of clothes and by recommending various clothing coordination and usage methods.

2.3 Environmental Sustainability

Sustainability refers to the overall environment that an ecosystem can sustain in the future, and its importance is highlighted as environmental problems become more serious worldwide. Sustainability is a systematic concept related to the continuity of human economic, social, and environmental life, and is used as a comprehensive term that considers environmental and social characteristics. The concept of sustainability has been introduced and implemented with various measures, such as the recycling of resources and reduction of industrial waste. Along with the expansion of corporate ethical awareness, consumer awareness of sustainable fashion products is also changing. As corporate economic activities affect consumers' value-oriented lifestyles, interest in the ethics and sustainability of fashion brands is increasing.

To explain sustainability in fashion, it is necessary to consider the fashion industry and its three basic principles. Observing the three core elements of environmental, social, and economic sustainability in the fashion industry can be explained through an example in which a worker in a fashion company makes a profit by producing and selling organic cotton T-shirts in an ethical environment. Sustainable fashion aims to protect the sustainability of social, economic, and environmental aspects of fashion. Therefore, the practice of sustainable fashion is for producers to observe these three key points and for consumers to purchase and use sustainable fashion products.

2.4 Satisfaction

User satisfaction is a feeling that arises when the expected experience is compared with the present experience. It's Kim can be defined A key point of view in judging or measuring satisfaction is in anticipation is a concept for expectations are based on personal experience and the degree of expectation subaverage a significant impact on satisfaction. Therefore, the ability to understand and set user expectations is an important concept in delivering service satisfaction [17]. Consumer satisfaction is the emotional response that consumers feel when they obtain results that exceed their expectations for a purchased product or service [18], [19]. Fashion products are highly visible and trendy. As social and psychological functions influence consumer product or service satisfaction more than physical functions, consumer satisfaction is more affected by emotions and emotional states than by general products [19], [20].

One research has found that curation services select and manage a large amount of online content as materials related to a specific topic or theme. Allowing consumers to share the selected information by composing them with others satisfies consumers through diverse experiences. Furthermore, using the curation service increases consumer participation and satisfaction and helps share content information among consumers. Consumers use curation services to help build, explore, and discover shopping networks and to stimulate and develop their thoughts while viewing other consumers' thoughts. Pappas [21] suggested that consumers and business operators can engage in online conversations through curation services, increasing the intimacy and satisfaction between consumers and service providers. Consumers can collect and share the content they are interested in. Furthermore, the convenience and usefulness of the curation service relieves the inconvenience of shopping that consumers experience and increases consumer motivation, participation, and satisfaction by saving time and money. The quality of fashion curation service impacts satisfaction, trust, and intention to

continue using a study's result of examining the variables that affect user satisfaction with the curation service, the higher the values of sufficiency, responsiveness, personalization, design, ease of use, and safety, the higher the level of satisfaction. The level of satisfaction with the curation service increases when the user receives in-depth useful information by responding immediately to the needs of the customized product, and, in the end, the information acquired on everyone has a positive effect. can be interpreted as giving When consumers use the curation service, their expectations about the products are different from the information handled on the actual site. This is because the curation service evaluates whether the expectation and reality are aligned, supporting the result that service customer customization has a significant effect on satisfaction [22].

Additionally, systemic convenience and design elements can increase customer satisfaction. The effect of perceived value of fashion social curation commerce on satisfaction, search intention, and use intention and showed that among practical values of social curation commerce, "convenience" and "customization" had a positive effect on satisfaction and "selective" and "social" factors [23].

3. Research Method

3.1 Research Model and Hypothesis

This study reveals satisfaction through the clothing utilization and environmental sustainability according to the attributes of the fashion AI curation service following the establishment of the research model (**Fig. 1**).
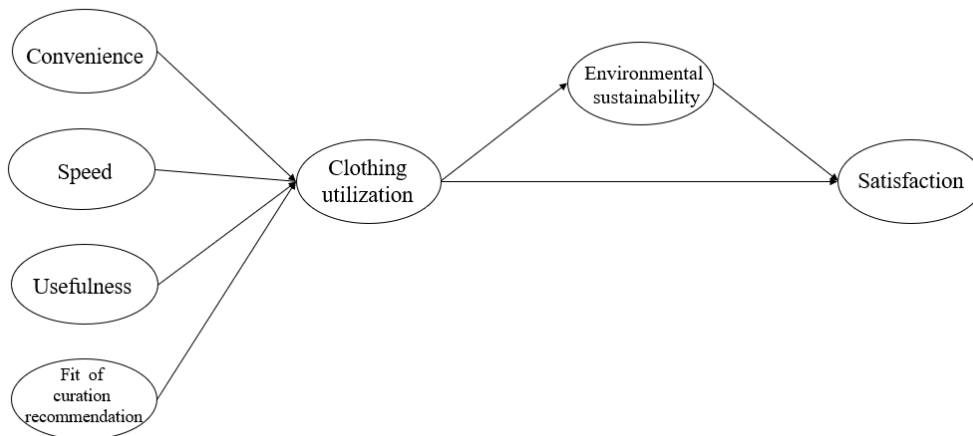
Fig. 1. Research Model

Hypothesis 1. The properties of have a positive (+) effect on the clothing utilization.
       Hypothesis 1-1. The convenience of has a positive (+) effect on clothing disposal.
       Hypothesis 1-2. The speed of has a positive (+) effect on clothing disposal.
       Hypothesis 1-3. The usefulness of has a positive (+) effect on the clothing utilization.
       Hypothesis 1-4. The curation recommendation of an application has a positive (+) effect on the clothing utilization.
Hypothesis 2. The clothing utilization has a positive (+) effect on environmental sustainability.
Hypothesis 3. Environmental sustainability had a positive (+) effect on satisfaction.
Hypothesis 4. The clothing utilization had a positive (+) effect on satisfaction.

3.2 Measuring Tool and Research Methods

In this study, a questionnaire was developed by modifying the measurement tools verified in several previous studies. The items used in the questionnaire are listed in **Table 1**. Before the measurement, a preliminary survey was conducted, and corrections and supplements were made based on the results. All items were rated on a 5-point Likert scale ranging from "strongly disagree (1 point)" to "strongly agree (5 points)."

The properties of the application were measured by selecting the convenience, speed, usefulness, and suitability of the curation recommendations from previous studies on the benefits of mobile apps. Convenience was measured with five questions and three questions based on a previous study [10], for convenience, the degree of effort put into using mobile apps, and speed of response of mobile apps to information input by users. Usefulness is recognized as high because it is superior to existing application technologies. Thus, three items were measured based on previous studies [19]; [24]. Curation recommendation suitability was measured with five items based on previous research [25] as the accuracy of curation recommended in the application. Clothing disposal was measured using three items based on previous studies on sustainability and fashion disposal behavior [1]; [26]; [27]. Environmental sustainability was measured using three questions based on previous studies on user-centered clothing sustainability [12]; [14]. Satisfaction was measured using three items based on previous studies on satisfaction with services provided by applications [18]; [25]. For the quantitative data collected through the questionnaire, confirmatory factor and structural equation analyses were performed using AMOS 24.0. The criteria for evaluating model suitability using a structural equation model (GFI) are Chi squared Statistics, Goodness-of-fit Index (GFI).90), Tucker-Lewis Index (TLI>.90), Comparative Fit Index (CFI>.90), and Root Mean Square Error of Approximation (RMSEA<.08) (Hong, 2000).

Table 1. Questionnaire constitution

Variable	Number of items	Measurement	References
Convenience	5	5 point Likert-type	[10]
Speed	3	5 point Likert-type	[10]
Usefulness	3	5 point Likert-type	[10] [24]
Fit of curation recommendation	5	5 point Likert-type	[25]
Clothing utilization	3	5 point Likert-type	[26] [27]
Environmental sustainability	3	5 point Likert-type	[12] [14]
Satisfaction	3	5 point Likert-type	[18] [25]

3.3 Data Collection and Sample Characteristics

This study conducted an online survey in the metropolitan area from March 29, 2021, to June 4, 2021, targeting women in their 20s and 30s. Before answering the survey, respondents were asked to install the "Style Bot" application on their mobile phones and follow the manual provided by the application. They could also take pictures of clothes on the application after saving them in a virtual closet AI that considers their tastes, after using the recommended

2874

Shin et al.: Satisfaction Through Clothing Utilization and Environmental
Sustainability Based on Fashion AI Curation Service

coordination function. They were then asked to respond to the questionnaire, "Embrain survey," a professional survey company, was used. The questionnaire was distributed to 200 people, and the responses of 185 people, excluding insincere answers, were used for the final analysis of the study. The results of the analysis of the demographic characteristics of the survey participants are shown in **Table 2**.

Table 2. Characteristics of the survey participants (N=185)

Category		Frequency (%)
Age	20-24	26 (14.1%)
	25-29	55 (29.7%)
	30-34	65 (35.1%)
	35-39	39 (21.1%)
Marital status	Single	146 (78.9%)
	Married	39 (21.1%)
Education	High school graduate	4 (2.2%)
	College enrollment	31 (16.8%)
	College graduate	121 (65.4%)
	Grad. School enrollment	9 (4.9%)
	Grad. School graduate	20 (10.8%)
Job	Specialist	18 (9.7%)
	Self-employed	5 (2.7%)
	Company employee	93 (50.3%)
	Student	47 (25.4%)
	Housewife	14 (7.6%)
	Government employee	2 (1.1%)
	Etc.	6 (3.2%)
Income	Less than ₩ 500,000	20 (10.8%)
	₩ 500,000 - ₩ 1,000,000	22 (11.9%)
	₩ 1,000,000 - ₩ 3,000,000	50 (27.0%)
	₩ 3,000,000 - ₩ 5,000,000	60 (32.4%)
	More than ₩ 5,000,000	33 (17.8%)

This study analyzed the responses of 185 finalists. The collected data underwent confirmatory factor and structural equation analyses using AMOS 24.0. The demographic characteristics of the samples used in the analysis are as follows: Individuals belonging to the age group 20 to 25 years old comprised 26 (14.1%), 25 to 30 years, 55 people (29.7%), 30 to 35 years, 65 people (35.1%), 35 to 40 years. Less than 39 people (21.1%) were unmarried, and 146 (78.9%) and 39 (21.1%) people were married. Educational background included 4 high school graduates (2.2%), 31 university students (16.8%), 121 university graduates (65.4%), 9 graduate students (4.9%), and 20 school graduates (10.8%). The distribution of occupations was as follows: 18 professionals (9.7%), 5 self-employed people (2.7%), 93 office workers (50.3%), 47 students (25.4%), 14 housewives (7.6%), 2 public servants (1.1 %), and 6 belonged to other professions (3.2%). Furthermore, the average monthly income for 20 people (10.8%) was less than 500,000 won, 22 people from 500,000 won to less than 1 million won (11.9%), 50 people from 1 million won to less than 3 million won (27.0%), 3 million won to less than 5 million won, 60 people (32.4%), and 33 people (17.8%) with more than 5 million won.

4. Results

4.1 Reliability and Validity Analysis

Confirmatory factor analysis was conducted using AMOS 24.0 to verify the reliability and validity of the measurement variables used in this study (**Table 3**). Consequently, the fitness index of the measurement model is χ^2=387.589 (df=188, p=).000), χ^2/df =2.062, GFI=.849, CFI=.943, RMSEA=. 076 (**Fig. 2**).

Table 3. Results of Confirmatory factor analysis

Variable	Items	Factor loading	Cronbach's α	CR
Convenience	This application is generally easy to use.	.831		
	It is easy to learn how to use this application.	.694	.829	.831
	It is easy to upload my code to the feed of this application.	.826		
Speed	The speed of accessing this application is fast.	.783		
	The speed of movement between menus of this application is fast.	.867	.872	.874
	This application has a fast response rate to input or click when used.	.856		
Usefulness	It is efficient to use this application while purchasing necessary fashion products.	.844	.850	.852
	Shopping for fashion products with this application can save time.	.879		
Fit of curation recommendation 적합성	The curation provided by this application suits my taste.	.843		
	I like the curation using my clothes provided by this application.	.820		
	I like the curation using the new products provided by this application.	.789	.935	.936
	The curation provided by this application goes well with my style.	.928		
	The coordination recommendation of this application fits my needs well.	.933		
Clothing utilization	Through this application, I was able to use clothes more effectively by recommending fashion products that match my clothes.	.884		
	I was able to use clothes that I did not wear more effectively through the recommended coordination provided by this application.	.876	.918	.918
	I was able to use the clothes in the closet more effectively through the curation service provided by this application.	.903		
Environmental sustainability	It seems possible to recycle my fashion products through this application.	.837		
	The use of this application allows good use of my fashion products.	.863	.872	.871
	Through various recommended styles provided by this application, fashion products that have been underutilized can be used in various ways without discarding them.	.797		
Satisfaction	I am satisfied with the service provided by this application.	.900		
	It is a wise choice for me to use this application.	.915	.937	.938
	I am generally satisfied with this application.	.924		

Questions that were not mutually exclusive were removed, and among the convenience questions, "It is easy to register my clothes in this application," "It is easy to dress my avatar in this application," and "You can effectively find fashion products in this application," The factor load of the measurement variable was significant at .694–933, the Cronbach's value of each variable was .829–937, and the AVE value. Convergence validity and internal consistency were confirmed as 623–834, and the CR values were .831–938. After checking the discriminant validity, the AVE value of each variable was found to be higher than the square value of the correlation between the two variables, and the discriminant validity was satisfied (**Table 4**).

Table 4. AVE and squared correlation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Convenience (1)	.623ᵃ						
Speed (2)	.239ᵇ***	.699					
Usefulness (3)	.413***	.139***	.742				
Fit of curation recommendation (4)	.250***	.173***	.417***	.747			
Clothing utilization (5)	.270***	.102***	.466***	.573***	.788		
Sustainability (6)	.333***	.146***	.442***	.460***	.740***	.693	
Satisfaction (7)	.523***	.216***	.615***	.461***	.578***	.640***	.834

a: Average variance extracted (AVE) for constructs is displayed diagonally.
b: Numbers below diagonal are squared correlation estimates of two variables.
***$p < .001$

4.2 Structural Model Verification

Structural equation model analysis was performed to verify the hypotheses presented in this study. Based on the model analysis results, the overall model is relatively suitable (χ^2=415.474, df=195, p=.000, χ^2/df=2.131, GFI=.836, CFI=.937, RMSEA=.078). Analysis (Drawing 2, See **Table 5**), convenience (β=.212, p<.01), usefulness (β=.346, p<.001), and suitability for curation recommendations (β=.367, p<.001) was found to have a significant positive effect on. On the contrary, research hypothesis 1-2 was rejected as promptness did not have a significant effect on the clothing utilization. Utilization of clothes (β=.873, p<.001) was found to have a significant positive effect on environmental sustainability; therefore, Hypothesis 2 was adopted. Environmental sustainability (β=.407, p<.001) was found to have a significant positive effect on satisfaction; therefore, hypothesis 3 was adopted. The use of clothes (β=.698, p<.001) was found to have a significant positive effect on satisfaction; therefore, hypothesis 4 was adopted.

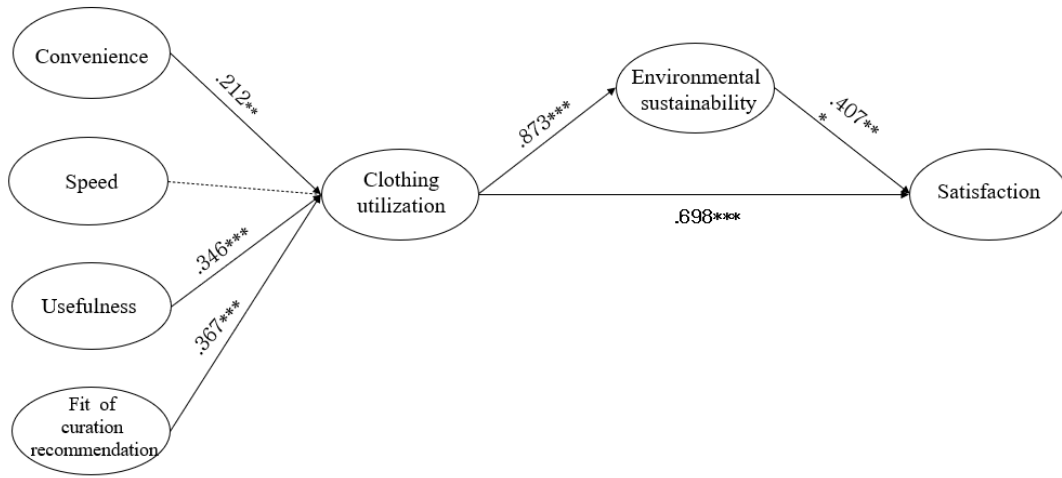**Fig. 2.** SEM results of the research model

Table 5. Result of structural equation modeling

	Hypothesis	Standardized Coefficient	S.E.	*t*-value	Results
H 1-1	convenience → clothing utilization	.212**	.063	3.169	Accepted
H 1-2	speed → clothing utilization	.008	.054	.157	Rejected
H 1-3	usefulness → clothing utilization	.346***	.073	4.616	Accepted
H 1-4	Fit of curation recommendation→ clothing utilization	.367***	.059	5.856	Accepted
H 2	clothing utilization → environmental sustainability	.873***	.065	12.318	Accepted
H 3	environmental sustainability→ satisfaction	.407***	.129	3.291	Accepted
H 4	clothing utilization → satisfaction	.698***	.126	5.285	Accepted

**p<.01, ***p<.001
$\chi2$=415.474 (df=195, p=.000), $\chi2$/df=2.131, GFI=.836, CFI=.937, RMSEA=.078

5. Conclusion and Suggestions

In recent fashion applications and sites, we have gone beyond the traditional fashion curation services and demonstrated that product recommendations based on taste, as well as services with various attributes, can be provided. Therefore, the importance of fashion curation is increasing as a new marketing strategy for companies and a service that targets consumer tastes. Furthermore, the scope of sustainable consumption has expanded, with a range of applications

2878

Shin et al.: Satisfaction Through Clothing Utilization and Environmental
Sustainability Based on Fashion AI Curation Service

being designed to extend the lifespan of clothes.

This study aims to investigate the AI fashion curation service for the expansion of sustainable consumption. Therefore, for women in their 20s and 30s, factors affecting the experience of using AI fashion curation services to coordinate clothes were analyzed. An online survey was conducted from March 29, 2021, to June 4, 2021, targeting women in their 20s and 30s living in the metropolitan area. Before answering the survey, install the "Style Bot" application on your mobile phone and follow the manual provided by the application. take pictures of clothes the application saves to virtual closet AI that considers your taste provided by the application after using the recommended coordination function and are asked to respond to the questionnaire.

The results of this study are summarized as follows. First, the effect of the attributes of AI fashion curation service applications on clothing use was investigated. Among the attributes of AI fashion curation service applications, (excluding speed) convenience, speed, usefulness, and recommendation suitability was found to have a positive effect on the use of clothing. Kim [12] study shows that clothing utilization evaluation items analyze the importance and variability, resource conservation, and recycling of seafood. Additionally, the importance of evaluation items in minimizing emissions was highlighted. Go, experts evaluated redesign recycling, which is an evaluation item of the disposal category, as the most important evaluation item and an evaluation item with a high probability of change among other items in the use and disposal stage, with consumers exerting great influence; however, most of the participants used second-hand stores. So that I would have something to wear again someday, and the lengthy process could be avoided. To strengthen the practice, we proposed education for revitalizing owned clothing, clothing rentals, and storage services to save resources, expand the supply of environmentally friendly clothing, and develop an application and label to practice clothing sustainability. In this study, it was confirmed that the user was the result of the same context that affected the use of clothes. Lovelock and Gummesson [28] study show that "above all, the crucial difference between curated retailing and common online retailing lies in the provision of customized solutions,"

Christopher [29] To the best of our knowledge, this reason has not yet been the focus of motivational studies in retailing. In particular, this shift toward offering solutions in retailing reflects the shift toward delegating consumer's activities to the retailer and accessing its knowledge. In other words, the suitability and usefulness of recommendations are important, which can also be found in this study.

Second, the effect of clothing use on environmental sustainability is investigated. The results showed that clothing use affected environmental sustainability, revealing that the active use of clothing through AI fashion curation can help reduce the amount of discarded or neglected clothing. Jeong [14] stated that the use of fashion products should be increased, unnecessary purchases reduced in the wearing stage, and sustainability considered in the recycling and disposal stages.

Third, the effect of environmental sustainability on satisfaction is investigated. The results indicated that environmental sustainability had a positive effect on satisfaction. Sustainability has recently become a hot topic in many fields. This study focused on environmental sustainability. Additionally, the high occurrence of environmental pollution in the manufacturing and disposal processes of clothing has been recognized by many consumers. Therefore, by receiving recommendations for various curation methods of clothes, they were able to improve environmental sustainability practices and satisfy consumers.

Fourth, we found that clothing use had a positive effect on satisfaction. The use of clothing extends its lifespan in various ways without its discarding or disposing. In this study, by

receiving a style that suits one's taste through AI, the customer felt satisfied because the life of his small clothes that were no longer in use was extended and the usage methods were combined in unique ways.

The academic implications of the results of this study are as follows. Thus far, most studies have focused on products recommended by humans. However, because this study analyzes the attributes of fashion curation services using AI and consumer satisfaction, it can be the basis for curation research, especially using AI, to develop the rapidly growing curation market. Furthermore, it can contribute to the development of AI fashion curation service research in the future by identifying the service attributes that affect the use of clothing and increase environmental sustainability.

The practical implications of this study are as follows. First, fashion AI curation service users think that the higher the convenience, speed, and usefulness of the service, the better the clothing to be used; therefore, when planning the AI fashion curation service, it is necessary to fully consider these factors and develop the service accordingly. Second, when the fashion AI curation service enables users to conveniently use clothing, their perception of environmental sustainability develops, thereby increasing consumer satisfaction. Therefore, while developing fashion AI curation services and considering ways to increase consumer environmental sustainability and clothing utilization, it is crucial to develop services that can further increase consumer satisfaction.

This study has the following limitations: The analysis was conducted by focusing only on women in their 20s and 30s, who are considered to be the most frequent users of AI fashion curation services. Therefore, it is necessary to analyze various age groups. Additionally, the research was limited to the use of one application to investigate the response to its actual use. With the development of innovative applications that provide fashion AI curation services, research on applications and sites has become necessary.

References

[1] S. Han, "A Study on the Purchasing Behavior and Usage of Environmentally Friendly Clothing and the Clothing utilization," *Journal of the Korean Society for Home Management*, vol. 27, no. 3, pp. 61-78, 2009.

[2] G. Chang, J. Park, "Transactions: The Effects of the Socially Responsible Clothing Consumption Attitude on the Clothing Risposition Behavior (Part 1)," *Journal of the Korean Society of Clothing and Textiles,* vol. 21, no. 4, pp. 795-805, 1997.

[3] H. Park, S. Oh, "The influence of materialism and environment consciousness on recycling attitude and behavior of clothing," *Journal of the Korean Home Economics Association*, vol. 43, no. 10, pp.167-177, 2005.

[4] K. Yoo, "Study on Customized Service and Customer Buying Behavior," M.S. thesis, Dept. of Consumer Economics, Sookmyung Women's Univ., Seoul, South Korea, 2009.

[5] A. Gwilt, "What prevents people repairing clothes?: An investigation into community-based approaches to sustainable product service systems for clothing repair," *Making Futures Journal*, vol. 3. 2014.

[6] G.D. Harrell, D.M. Mcconocha, "Personal factors related to consumer product disposal tendencies," *The Journal of Consumer Afairs*, pp. 397-417, 1992. Article (CrossRef Link).

[7] B. Rachel, "The Environmental Crisis Caused by Textile Waste," *RoadRunner Recycling*, 2021. Article (CrossRef Link).

[8] G. Birtwistle, C.M. Moore, "Fashion clothing – where does it all end up?," *International Journal of Retail & Distribution Management*, vol. 35, no. 3, pp. 210-216, 2007. Article (CrossRef Link)

[9] S. Rosenbaum, *Curation Nation*, New York: McGraw-Hill, 2011.

[10] B. Lee, "Influences of perceived mobile apps benefits and apparel shopping orientation on switching behavior to and satisfaction with TV home shopping mobile apps," M.S. thesis, Dept. of Clothing and Textile, Seoul National Univ., Seoul, South Korea, 2016.

[11] H. Kim, "A study on curation service utilization method for brand relationship formation," *Communication Design Studies*, vol. 48, pp. 112-124, 2014.

[12] B. Park, S. Choi, "User Evaluation, Usage Intention and Purchase Intention According to Recommendation Services in Online Fashion Shopping Mall," *Journal of Korea Design Forum*, vol. 23, no. 4, pp. 139–149, 2018. Article (CrossRef Link).

[13] A. Gwilt, "What prevents people repairing clothes?: An investigation into community-based approaches to sustainable product service systems for clothing repair," *Making Futures Journal*, vol. 3. 2014.

[14] S. Jeong, "The Sustainability of Consumer-oriented Fashion Products." Ph.D. dissertation, Dept. of Clothing& Textiles, Seoul National Univ., Seoul, South Korea, 2013.

[15] A. Biswas, J. W., Licata, D. McKee, C. Pullig, C. Daughtridge, "The recycling cycle: An empirical examination of consumer waste recycling and recycling shopping behaviors," *Journal of Public Policy & Marketing*, vol. 19, no. 1, pp. 93-105, 2000. Article (CrossRef Link)

[16] B. Constanza, B. Grete, "Sell, give away, or donate an exploratory study of fashion clothing disposal behavior in two countries," *The International Review of Retail, Distribution and Consumer Research*, vol. 20, no. 3, pp. 353-368, 2010. Article (CrossRef Link).

[17] P. Hernon, R. Whitman, *Delivering satisfaction and service quality: A customer-based approach for libraries*, Chicago, IL, USA: American Library Association, 2001. Article (CrossRef Link).

[18] R. E. Anderson, S. S. Srinivasan, "E-satisfaction and e-loyalty: A contingency framework," *Psychology & Marketing*, vol. 20, no. 2, pp. 123-138, 2003. Article (CrossRef Link).

[19] S. Park, E. Park, "Effects of consumer innovativeness, shopping mall attributes, and satisfaction on E-loyalty for fashion products," *Journal of the Korean Society of Clothing and Textiles*, vol. 34, no. 5, pp. 765-774, 2010. Article (CrossRef Link).

[20] E. J., Park, E. M. Kang, J. Y. Choi, "Effects of Service Quality Perception on Consumer Satisfaction and Loyalty according to Clothing Involvement at Internet Shopping Mall," *Fashion & Textile Research Journal*, vol. 11, no. 4, pp. 549-555, 2009.

[21] N. Pappas, "Marketing strategies, perceived risks, and consumer trust in online buying behaviour," *Journal of Retailing and Consumer Services*, vol. 29, pp. 92-103, 2016. Article (CrossRef Link)

[22] N. Jang, "Consumer Lifestyle and Attitude toward Environment-Friendly Fashion: An Exploratory Study," *Journal of The Korean Society of Fashion Design*, vol. 8, no. 1, pp.31-47, 2008.

[23] H. Lee, M. Park, "The Effect of Perceived Values of Fashion Social Curation Commerce on Satisfaction, Search Intention and Use Intention," *The e-Business Studies,* vol. 19, no. 5, pp.151-168. 2018.

[24] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS quarterly*, vol. 13, no. 3, pp. 319-340, 1989. Article (CrossRef Link).

[25] Y. Jeong, O. Park, "A Study on University Student`s Clothing Disposition Behavior Depending on their Personality and Environmental Consciousness," *Korean Journal of Human Ecology*, vol. 15, no.1, pp. 149-156, 2006.

[26] C. Bianchi, G. Birtwistle, "Sell, give away, or donate: An exploratory study of fashion clothing disposal behaviour in two countries," *The International Review of Retail, Distribution and Consumer Research*, vol. 20, no. 3, pp. 353-368, 2010. Article (CrossRef Link).

[27] Y. Park, C. Kim, "A Study on the Influence of Fashion Interest and Personal Taste on their Attitude of Fashion Curation Service (FCS) and Purchase Intention of Fashion Products -Focused on People aged 20s to 30s who experienced FCS," *Journal of Basic Design & Art*, vol.18, no.1, pp. 173-188, 2017.

[28] C. Lovelock, E. Gummesson, "Whither services marketing? In search of a new paradigm and fresh perspectives," *Journal of Service Research*, vol. 7, no. 1, pp. 20-41, 2004. Article (CrossRef Link)

[29] L. Christopher, E. Gummesson, "Whither Services Marketing? : In Search of a New Paradigm and Fresh Perspectives," *Journal of Service Research*, vol. 7, no. 1, pp. 20–41, 2004. Article (CrossRef Link).

Eunjung Shin is a lecturer at Yonsei University in Seoul, South Korea. She received B.S. degree in Computer Engineering from EWHA Womans University, and M.S degree and Ph.D. degree in Clothing & Textiles from Yonsei University. Her research interests involve Big Data Analysis, Artificial Intelligence and Consumer Behavior.

So-hyun Kim is a representative at STYLEBOT provides a virtual fitting service for recommended outfits that fit user's taste. She received B.S. degree in Clothing and Textiles from Chung-Ang University, and M.S degree in Design Management from Yonsei University.

Ae-Ran Koh is a Professor in the Dept. of Clothing and Textiles at Yonsei University, Korea. She received her B.S, M.S, and Ph.D. degrees from Yonsei University in 1981, 1983, and 1990, respectively. Her research interests include consumer culture and sustainable, ethical fashion consumption.