Taking K-fashion Worldwide: The Evolving Structure of the Korean Fashion Industry and Implications for Policy

Park Hoon

1. Introduction

The Korean apparel industry is a high value-added industry that creates value by fusing fashion design, highly-sensitive and functional materials and brand value.

In addition, the apparel industry, which consists of planning and design — patterns, samples, sewing and marketing — is a job-creating industry. The apparel industry contributes to job creation in front and rear related industries, including the fashion materials industry, the logistics and distribution industry and the knowledge-service industry which includes merchandisers.

However, the Korean apparel industry faces many difficulties. The level of growth and profitability is low and the production base has weakened due to the miniaturization of companies, an aging workforce, a deteriorating working environment and the relocation of production factories overseas.

The Korean apparel industry has fallen into a positioning trap, stuck between the checks of advanced countries such as Italy, Japan and Germany but with weaker price competitiveness compared to developing countries such as China, Vietnam and India. In particular, it is struggling to pioneer a global market due to weak price competitiveness with developing countries and inferior brand image and design compared to advanced countries.

In this regard, this study will identify policy tasks that will enable the Korean apparel industry to escape the positioning trap between advanced and developing countries and develop into a growing industry by pioneering global markets. In particular, it will also suggest ways to create a next-generation growth engine to strengthen global competitiveness and improve profitability and growth.

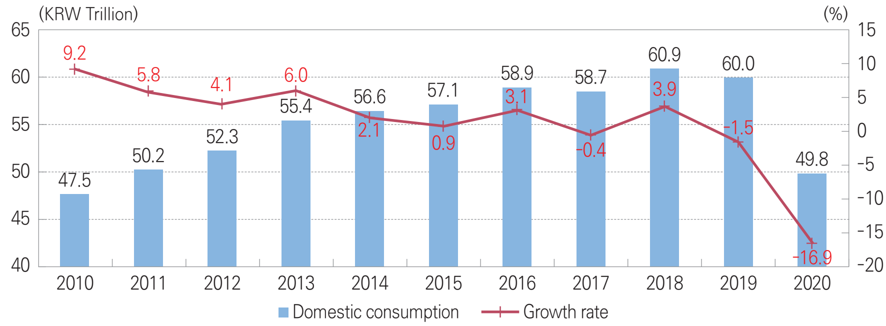
2. The State of the Korean Apparel Industry

(1) The Domestic Apparel Market

☐ Retail Sales by Sector

Growth in the Korean apparel market has

Figure 1. Korean Apparel Retail Sales



Source: Korea National Statistical Office, service industry trend survey (Retail sales statistics).

slowed significantly since 2013 due to waning consumer sentiment caused by the economic downturn, and sales plunged in 2020 due to the impact of the COVID-19 pandemic. Annual apparel retail sales rose by only 1.3 percent over the period from 2013 to 2019, and in 2020 crashed by 16.9 percent compared to the previous year. Apparel retail sales revenues were 60 trillion KRW in 2019 but just 50 trillion KRW in 2020, the latter figure accounting for 10.5 percent of total retail sales in Korea.

In examining apparel retail sales by sector from 2011 to 2020, casual apparel led growth in the market amid demand saturation in sports apparel. Casual apparel sales continued to increase owing to its diversified uses, not only as daily wear but also as leisure wear, being worn for activities as well as for convenience and functionality. Accordingly, the share of casual apparel sales, which accounts for overall apparel demand, rose from 37.2 percent in 2010 to 40.8 percent by 2015 and up to 51.3 percent in 2020. On the other hand, sports apparel, which led apparel demand up to 2015, began declining in 2015 as functional casual apparel came to dominate the market. The share of sports apparel of overall apparel demand rose significantly from 13.6 percent in 2010 to 24.8 percent in 2015, but a decline trend emerged as the share fell to 19.8 percent in 2020. The demand for suits declined among both younger and older consumer demographics that are preferring more casual officewear. This reflects a gradual liberalization of corporate culture in Korea, where an increasing number of companies are emphasizing the autonomy and individuality of office workers.

□ Online Apparel Market

The online apparel market accessible through mobile devices and other platforms continues to grow rapidly despite a decline in domestic consumption and leads the expansion of the apparel market. The size of the domestic online apparel market grew from 9,209 billion KRW in 2014 to 15,015 billion KRW in 2020, recording high annual growth averaging an 8.5 percent rate.

In examining online sales by shopping group, mobile shopping has increased significantly. Mobile shopping averaged of 25.7 percent growth per annum over the period from 2014 to 2019, followed by an increase of 6.8 percent year-on-year in 2020 despite the COVID-19 pandemic. On the other hand, internet shopping decreased by an average of 4.2 percent per annum over the period from 2014 to 2019, followed by a decrease of 6.5 percent over the previous year in 2020.

(2) Apparel Production and Employment

☐ Apparel Production

Korean apparel production declined due to shrinking domestic demand and sluggish exports owing to the overall downturn in the global economy. Production declined by an average of 2.3 percent per annum from 18 trillion KRW in 2011 to 15 trillion KRW in 2019. Production by volume also shrunk by an average of 3.8 percent per annum during the same period. In particular, production plummeted by 20 percent in 2020 compared to the previous year due to a sharp decline in domestic and international demand amid the coronavirus pandemic.

In spite of the overall decline in apparel production, production of infant and children's apparel, uniforms and hygienic apparel increased significantly. Infant and children's apparel recorded strong average annual growth of 9.7 percent over the period from 2011 to 2019 due to the strong domestic demand driven by the luxury segment and diversification of consumption for one child. The production of uniforms and hygienic apparel also recorded a high growth rate of eight percent per annum during the same period. On the other hand, the

Table 1. Korean Apparel Production

Unit: 1 billion KRW, %

	Production				Annual average growth rate (2011 to 19)
	2011	2014	2017	2019	
Outerwear	8,720	7,697	8,332	7,263	-2.3
Underwear and pajamas	688	677	477	422	-5.9
Shirts and sports apparel	4,607	4,653	3,672	4,080	-1.5
Uniforms and hygienic apparel	439	517	587	813	8.0
Infant and children's apparel	353	501	721	742	9.7
Knitted apparel	1,605	1,753	828	670	-10.3
Leather and fur apparel	378	311	326	289	-3.3
Accessories	1,177	1,051	996	869	-3.7
Other apparel	476	538	425	180	-11.4
Total	18,444	17,698	16,365	15,328	-2.3

Source: Korea National Statistical Office, Mining and Industry Survey Report.
Note: Based on businesses with 10 or more employees.

production of shirts and sports apparel, which had grown on the back of strong demand driven by the expansion of leisure time up to the mid-2000s, began to decline in the mid-2010s due to oversupply and market saturation. The production of knitted apparel and underwear declined significantly from the mid-2010s due to the overall decline in consumer sentiment.

☐ Number of Enterprises and Employees

The number of enterprises in the apparel industry, which had increased beginning 2010, began shrinking again in 2015 due to the economic downturn. The number of small enterprises with fewer than 10 employees increased, while the number of those of larger scale decreased significantly. Accordingly, the share of small enterprises with fewer than 10 employees in the overall apparel industry increased from 87.5 percent in 2010 to 89.3 percent in 2014, and then rose further to 91.4 percent in 2019, accounting for the overwhelming proportion of enterprises in the industry.

The number of employees in the apparel industry, which had exhibited an increasing trend since 2010, began to fall in 2014 due to sluggish production given weak domestic and international demand. Accordingly, the share of the number of employees in small enterprises with fewer than 10 employees increased from 43.5 percent in 2010 to 50.2 percent in 2014, and then to 56.8 percent in 2019.

(3) Apparel Trade

☐ Exports

Korean apparel exports began increasing in 2009 before slipping into a downward trend in 2014 due to the slowdown of the global economy and the accelerated catch-up of ASEAN competitor countries including Vietnam and Myanmar. Export growth decreased by an aver-

Table 2. Changes in Corporate Structure by Number of Employees in the Korean Apparel Industry

Unit: %

	Number of enterprises			Number of employees			Annual average growth rate (2010 to 19)	
	2010	2014	2019	2010	2014	2019	# of firms	# of employees
1-9	87.7	89.3	91.4	43.5	50.2	56.8	0.9	2.1
10-49	11.1	9.8	7.9	32.2	30.2	25.1	-3.2	-3.6
50-299	1.1	0.9	0.7	17.4	14.9	13.3	-4.3	-3.8
300 or more	0.1	0.1	0.0	6.9	3.1	4.8	-9.0	-4.7
Total	100.0 (22,065)	100.0 (24,793)	100.0 (23,030)	100.0 (134,916)	98.4 (138,574)	100.0 (124,504)	0.5	-0.9

Source: Korea National Statistical Office, National Business Survey Report.
Note: 1) Based on enterprises with 1 or more employees.
2) Figures in ( ) are numbers of enterprises and employees.

age of 2.7 percent per annum, from 2.23 billion USD in 2014 to 1.89 billion USD in 2020.

In examining exports by sector over the period from 2014 to 2019, exports of leather and fur apparel increased by an average of 5.8 percent per annum, while apparel accessories, woven and knitted apparel decreased by an average of 8.7 percent, 1.3 percent and 0.9 percent per annum, respectively.

In examining exports by destination, the largest apparel export market for Korean goods in 2020 was China. Exports to China dipped just slightly, averaging a 0.1 percent slide per annum from 2014 to 2019. As a result, China's share of Korean apparel exports rose by 2.8 percentage points, from 17.2 percent in 2014 to 20 percent in 2020. Vietnam is the second largest export market after China. The share of exports to Vietnam rose from 5.9 percent in 2009 to 17.5 percent in 2014, and further yet to 18.9 percent in 2020.

Table 3. Exports and Imports of the Korean Apparel Industry

Unit: million USD, %

	Export			Import			Annual average growth rate (2014 to 20)	
	2009	2014	2020	2009	2014	2020	Exports	Imports
Knitted apparel	410	620	587	1,010	2,417	3,578	-0.9	6.8
Woven apparel	512	1,004	930	2,005	5,320	5,726	-1.3	1.2
Leather and fur apparel	24	35	46	112	220	270	4.8	3.4
Accessories	435	569	330	196	424	525	-8.7	3.6
Total	1,381	2,228	1,893	3,323	8,381	9,600	-2.7	2.3

Source: Korea International Trade Association, Korea Trade Statistics.

Table 4. Share of Korean Apparel Exports and Imports by Major Country

Unit: %

Export				Import				Annual average growth rate (2014 to 20)	
	2009	2014	2020		2009	2014	2020	Export	Import
China	18.9	17.2	20.0	Vietnam	6.6	26.0	32.8	-0.1	6.3
Vietnam	5.9	17.5	18.9	China	68.6	43.2	31.5	-1.5	-2.9
Japan	23.1	19.8	18.4	Italy	6.6	4.8	6.4	-3.9	7.5
USA	23.5	13.8	11.9	Indonesia	1.7	5.8	5.5	-5.0	1.3
Hong Kong	2.2	2.6	4.6	Bangladesh	0.6	2.1	3.4	7.3	11.1
ASEAN	11.1	28.2	26.4	ASEAN	12.6	41.0	46.6	-3.7	4.5
EU	9.8	7.9	7.8	EU	9.6	7.8	10.8	-2.9	8.0
Total	100.0 (1,381)	100.0 (2,228)	100.0 (1,893)	Total	100.0 (3,323)	100.0 (8,381)	100.0 (9,599)	-2.7	2.3

Source: Korea International Trade Association, Korea Trade Statistics.
Note: Figures in ( ) are export and import values (billion USD).

☐ Imports

Korean apparel imports, which had jumped owing to the increase in the re-importation of products produced by Korean manufacturers that had relocated production factories to developing countries in Asia (including China and Vietnam), have grown slowly since 2014 due to weakening consumer sentiment following a slowdown in the domestic economy.

Imports increased by an average of 2.3 percent per annum from 2014 to 2020, reaching 9.60 billion USD in 2020.

In examining imports by sector over from 2014 to 2019, knitted apparel recorded a high growth rate of an average of 6.8 percent per annum, while woven apparel posted a slight increase of 1.2 percent per annum on average. Imports of leather and fur apparel and apparel accessories increased by an average of 3.4 percent and 3.6 percent per annum, respectively.

In examining imports by leading suppliers, the largest source of apparel imports in 2020 was Vietnam, which leapt an average of 6.3 percent per annum from 2014 to 2019. As a result, Vietnam's share of Korean apparel imports rose by 6.8 percentage points, from 26 percent in 2014 to 32.8 percent in 2020. Imports from the EU also grew thanks to the 2011 Korea-EU FTA. Imports from the EU recorded surged by eight percent annually on average, mainly in high-end products. As a result, the EU's share of imports climbed from 7.8 percent in 2014 to 10.8 percent in 2020. On the other hand, imports from China have slowed significantly since 2007, due to weakening price competitiveness versus Asian rivals brought on by rapid wage increases. As a result, China's share of imports fell from 78.2 percent in 2007 to 43.2 percent in 2014 and then to 31.5 percent in 2020. Nevertheless, China's share of imports is second only to Vietnam.

(4) Business Management Analysis

The Korean apparel industry exhibits low growth, profitability and stability. Shrinking de-

Table 5. Business Management Indicators of the Korean Apparel Industry

Unit: %

		Apparel				Manufacturing			
		2015	2017	2019	5-year average	2015	2017	2019	5-year average
Growth	Sales growth rate	7.5	5.4	2.6	5.4	5.9	8.9	3.1	6.6
	Equity capital growth rate	4.1	1.7	-1.1	1.3	-2.8	9.0	-1.7	1.6
Profitability	Ratio of operating profit to sales	2.0	2.0	2.7	2.0	3.9	6.3	3.2	4.7
	Ratio of net profit to sales	4.5	3.7	4.1	4.0	5.2	7.6	4.4	6.1
Stability	Equity capital ratio	46.7	48.9	51.6	49.2	54.0	56.5	57.6	56.2
	Debt ratio	114.1	104.7	93.8	103.7	85.3	77.0	73.5	77.9

Source: Bank of Korea, Business management analysis.

mand owing to the domestic and international economic slump has capped growth.

In examining the business management indicators for the last 5 years (2015 to 2019), the sales growth averaged 5.4 percent per annum, 1.2 percentage points lower than the average of 6.6 percent growth for manufacturing as a whole. The ratio of operating profit to sales was two percent, 2.7 percentage points lower than the average 4.7 percent profit ratio for manufacturing as a whole. The apparel industry's equity capital ratio sat at 49.2 percent, seven percentage points lower than the average of 56.2 percent for manufacturing as a whole.

(5) Creation of Added Value and Employment

☐ Creation of Added Value

The Korean apparel industry is a high value-added industry that creates value based on fashion design, sensitive and functional material and brand value.

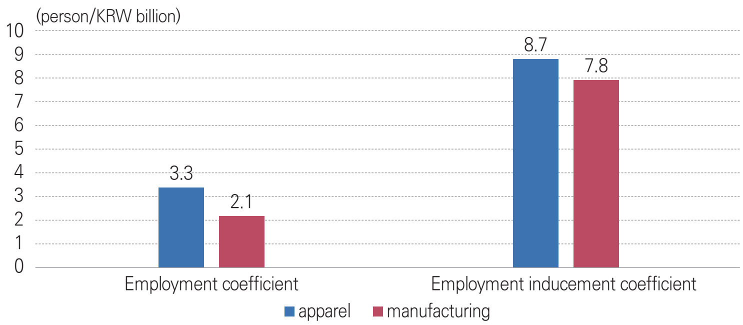
The value-added rate in the Korean apparel industry rose by 2.8 percentage points, from 44.8 percent in 2014 to 47.5 percent in 2019. The latter figure was 11.6 percentage points higher than 35.9 percent figure for manufacturing as a whole.

In examining the value-added rate by sector in 2019, women's outerwear, which includes suits, coats and jackets and infants and children's apparel recorded high levels of 55.9 and 55 percent, respectively. On the other hand, knitted apparel and leather and fur apparel recorded low levels of 32.3 and 35.1 percent, respectively. Underwear, shirts and blouses and uniforms and hygienic apparel showed levels of 51.3, 43.6, and 40.6 percent, respectively.

☐ Job Creation

The apparel industry, which consists of planning and design — patterns, samples, sewing and marketing — is a job-creating industry. The Korean apparel industry requires 3.3 workers to create one billion KRW of product, which is

Figure 2. Job Creation in the Korean Apparel Industry



Source: Bank of Korea, Industry association table.

1.6 times more than the average of 2.1 workers in the manufacturing sector in 2018. This figure is significantly higher than in the primary metals (0.9 workers), electronics (1.2 workers), automobiles (2.0 workers) and machinery (2.8 workers) sectors.

When including job creation in rearward industries, the apparel industry requires 8.7 workers to create one billion KRW of product, which is 0.9 more workers than the average of 7.8 workers in the manufacturing sector in 2018. This figure was significantly higher than that in the electronics (3.5 workers), primary metals (4.4 workers), machinery (7.7 workers), and automotive (8.2 workers) sectors.

3. SWOT Analysis of the Korean Apparel Industry

(1) Strengths

Korea has a deep labor pool of design talent, with about 5,200 new graduates of design schools every year. In particular, new designers are strengthening their efforts to expand their experience on the international stage and enhance their international sense by participating in overseas fashion weeks and showrooms in Paris, New York, Shanghai, and Hong Kong.

Korea has a number of high-end fashion manufacturing technicians, such as sewing technicians, pattern technicians and sample technicians, with over 20 years of deep experience and also possess the world's best quality control capabilities and manufacturing technology based on the long experience of technicians, making it possible to produce high-end fashion apparel.

With the balanced development of all textile apparel streams leading upstream (chemical fibers, spun yarns), midstream (fabrics, dyeing and finishing) and downstream (apparel, apparel accessories), apparel companies can reliably procure yarns, fabrics, and apparel accessories necessary for apparel production in Korea. Thanks to this, apparel companies and wholesale and retail vendors can not only lower the cost of procuring textile materials such as yarns, fabrics and apparel accessories, but also shorten delivery times by shortening the procurement time.

In the Dongdaemun fashion market, fast fashion is possible. This is because it is possible to minimize the time and cost of logistics and distribution by establishing all fashion-related integrated clusters connected to textile materials — planning and design, patterns and sampling, cutting and sewing — to wholesale and retail distribution. In particular, as all fashion-related production processes and logistics and distribution are carried out within a radius of five kilometers, product prices can be kept low by reducing costs incurred in the production, logistics and distribution stages. The Dongdaemun fashion market is capable of quick and flexible responses to spot-orders (orders that are unexpectedly planned and executed without notice) due to the complete industrial integration in the market and the close cooperation and trusting relationship between manufacturers and wholesalers.

(2) Weakness

Korean apparel companies have difficulties pioneering high value-added markets due to inferiority in creative design development, an absence of global brands and weakening brand power. In particular, they have failed to grow world-class global brands by settling for the domestic market and neglecting to enter the global market. The domestic design level remains at the level of imitation and improvement based on fashion information obtained through overseas collection visits and fashion magazines. As a result, Korean fashion design and quality levels are 48 and 22 percent lower, respectively, than that of Italy and the brand image also remains at the level of 66.2 percent of that of Italy.

Korea's ability to develop general-purpose and simple functional fashion materials is excellent, but its ability to develop differentiated fashion materials with high sensitivity and functionality remains at an insufficient level. Accordingly, highly-sensitive and highly-functional fashion materials used in high-end premium fashion apparel are mostly imported from advanced countries such as Italy, Germany, and Japan. Korean sewing companies have a weak manufacturing base due to the inflow of new technicians slowing to trickle even as current technicians age out of the work force and a miniaturization of the corporate structure. In particular, sewing technicians in their 50s or older accounted for the majority (82.2 percent) of all technicians and the share of small enterprises with fewer than 10 employees in all enterprises rose from 87.7 percent in 2010 to 91.4 percent in 2019, accounting for an overwhelming.

Small and medium-sized apparel brand companies are weak in marketing capabilities that meet global market demands due to lack of planning and funding, lack of experience in entering the global market, and inferiority in global market research and analysis capabilities.

(3) Opportunity Factors

With the influence of the Korean Wave through television dramas and K-pop, an expected enhancement of Korea's brand image and growing preference for made-in-Korea products will contribute to entering the global market.

It is expected that Korea can quickly develop smart apparel based on world-class ICT technology, and enable innovations in logistics and distribution through the use of Fourth Industrial Revolution (4IR) technologies such as artificial intelligence (AI), virtual reality (VR) and augmented reality (AR).

The expansion of the domestic market and weakening price competitiveness in China could be an opportunity for the Korean apparel industry. China's domestic market is expanding rapidly thanks to improved income levels and the government's policy to expand the domestic market. China's price competitiveness is greatly weakening due to rising wages and difficulties in procuring production manpower.

(4) Risk Factors

In the Korean apparel industry, which is highly dependent on workers, price competitiveness is deteriorating due to the rise in company's labor costs owing to dramatic increases in the minimum wage. And in the future, workers may not be able to work enough hours as the government seeks to cap the maximum workweek. This has raised concerns that going forward, buyers may not receive deliveries on time.

China's apparel industry is expected to rapidly catch up to Korea's apparel industry, with the government's policies to improve product quality and brand value and enhance the sector's industrial structure. China's brand value and quality levels are increasing by fostering its own brands and acquiring advanced technology and design through acquisition of Italian luxury brands, as specified in the 13th Five-Year Plan, which covers the period from 2016 to 2020.

4. Strategies for Upgrading the Structure of the Korean Apparel Industry

(1) Basic Directions

The Korean apparel industry needs to transform its industrial structure to one centered on high-end and differentiated fashion products to overcome the pursuit of fast followers such as China and to penetrate the high value-added product market currently occupied by advanced countries.

First of all, it is necessary to strengthen industrial competitiveness by vitalizing startups of creative young designers and supporting commercialization and globalization of promising designer brands.

Second, it is necessary to reinforce the production capability of high value-added fashion products by strengthening the fashion manufacturing base, which includes sewing factories.

Third, it is necessary to support apparel companies in marketing, logistics and distribution innovation using AI, VR, AR and big data.

Finally, it is critical to establish a sustainable fashion ecosystem that can develop and produce eco-friendly and recycled textile materials.

(2) Detailed Strategies

☐ Creative Young Designer Startups and Globalization of Designer Brands

In order to foster designer brands that will lead the Korean apparel industry, it is necessary to provide customized support in each stage of growth of the brands of promising young designers. We need to find creative designers provide them with the kind support necessary to start a business. In particular, consulting should be provided, from the start-up phase to the creation of marketing and financial plans. It is additionally necessary to promote the commercialization of promising new brands and companies through customized consulting support for each brand, support for prototype production and support for participating in exhibitions. It is necessary to promote the globalization of mid-sized brands and companies through support for participation in overseas collections and fashion shows, customized consulting support for entering the global market, and customized fashion material development consulting for each brand.

☐ Reinforcing the Fashion Industry's Manufacturing Base

It is necessary to provide differentiated customized technical education such as special sewing technology education and advanced automation equipment utilization technology education for technicians in production plants. In particular, special sewing skills training suitable for new apparel such as athleisure apparel and smart apparel should be provided.

It is necessary to support startups by cultivating three-dimensional patterns and sample companies for young workers. In particular, basic equipment and consulting support are also needed to promote their startups.

It is necessary to support Korea Certification (KC) for apparel produced by small and medium-sized companies. In the future, according to the Electrical Appliances and Household Goods Safety Management Act, apparel that has not obtained KC will be prohibited from being sold. Therefore, KC is required for apparel to be sold in Korea, so KC support is needed for small and medium-sized companies.

☐ Creation of Next-generation Growth Engines Using ICT and 4IR Technologies

Apparel companies should use AI, VR, AR and big data to innovate in marketing, logistics and distribution.

Apparel companies need to establish demand forecasting systems using IoT, big data, and AI so that they can improve their productivity and profitability by reducing inventory, shortening delivery times, and cutting transaction costs. In particular, it is necessary to establish a big data-based demand prediction system based on retail sales data analysis, consumer trends, and product trends proposed by the industry.

There is a need to develop smart apparel for a hyper-connected society. Smart apparel can monitor individuals' physical data and can emit heat and light and produce color. There is a need to develop smart apparel made of smart fabrics equipped with fibrous sensors necessary to monitor the physiological actions of the human body such as body temperature, respiratory rate, and heart rate. In particular, there is a need to develop elastic and washable smart apparel, and for this, it is necessary to develop a washable sensors and actuators.

☐ Establishing a Sustainable Fashion Ecosystem

We need to support companies that develop and produce eco-friendly, biodegradable and recycled materials that do not harm the environment, and promote sustainable fashion through the development of fashion products using these eco-friendly and recycled materials.

It is necessary to establish a public institution-priority purchasing system so that the defense, police, and public institutions can purchase eco-friendly and recycled fashion products first.

In order to create a green brand for fashion products using eco-friendly and recycled materials, design development, customized consulting, and collaboration projects between fashion streams should be promoted.

It is necessary to provide information on sustainable fashion, develop designs that reflect consumer needs, and promote global branding.

Park Hoon | Research Fellow | Materials Industry Division | hoon@kiet.re.kr