

Recent Changes in Consumer Perception in Sneaker Resale Market

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Abstract The Sneaker resale market is becoming more popular beyond the enthusiasts, with economic resources such as stocks and investments available to consumers. As a result, its influence is also expanding. Thus, we compare the keywords “Sneaker resale” with a general keyword “Sneaker purchasing” to understand the overall perception of Sneaker resale. Data collection and analysis were based on the TF-IDF value by collecting and refining keywords for “Sneaker resale” and “General Sneaker purchase” through Textom 5 to derive the top 50 keywords. NodeXL 1.0.1 program was used to measure centrality and visualize them. As a result, economic concepts were derived from the Sneaker resale keywords through Shoes-Tech and Sneaker-Tech. In general, keywords related to the function and external elements of the product were used, rather than economic keywords, such as “pretty,” “height,” “soles,” and keywords, such as “investment,” “financial technology,” were derived from the keywords of “Sneaker resale.” This confirms that Sneaker resale is now recognized as a market with new economic benefits. This work analyzes the perception of Sneaker resale through text mining and social network analysis, providing a new strategy for the Sneaker resale platform and a foundation to help the development of the Sneaker resale market.

Keywords Resale, Sneaker, Sneaker resale, Shoes-tech, Social big data analysis

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Introduction

Recently, the fashion industry is stimulating consumer ownership by continuously releasing limited-edition Sneaker and products in collaboration with celebrities and designers who lead various influential brands or trends. Limited-edition products generally use limited quantities and limited-period sales, producing and selling products with a fixed quantity and a limited period (Seo, 2017).

The method of releasing and marketing limited edition products is leading to the resale of purchased products by inducing excessive competition by enthusiastic consumers and arousing a desire to own them. Resale refers to a method in which existing consumers purchase sneaker products at the

regular price and sell them much more than the original price (Slaton & Pookulangara, 2020). Furthermore, Sneaker reselling is related to consumers' perception of product scarcity (BoPing, 2021). Accordingly, it can be said that the phenomenon of reselling occurs due to consumers' desire to own products that do not exist in the world.

Sneakerheads is a group that mainly resales Sneaker and has superior knowledge regarding Sneaker compared to other consumers (Matthews et al., 2021). Additionally, it perceives Sneaker as a valuable property, not as a general fashion product, and mainly conducts Sneaker resale within the community (Powell, 2014). Therefore, it can be said that

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the Sneaker resale culture arises due to a desire to acquire new value and excessive competition (Leach, 2015). Currently, this phenomenon has expanded and has been popularized by the MZ generation (meaning Millennials and Generation Z, born between 1980 and 2000), who are sensitive to fashion and utilize fashion as a way to show off. In Korea, the Sneaker resale market is estimated to grow to 6 trillion KRW by 2025, tripling the market size of 2020 (Min, 2020).

Previous studies on Sneaker include research conducted by Choi and Kim (2019) and Matthews et al. (2021) on Sneakerheads, Sneaker enthusiasts, and research conducted by Raditya and Hanafiah (2021) on size and price predictions for Sneaker resale. In addition, BoPing (2021) investigated factors that made the recent flourishing in the global Sneaker resale market based on market economic data. This study focuses on the local market Sneaker market in Korea. It aims to grasp recent changes in consumers' perception of Sneaker resale through text mining and network analysis of related keywords. To this end, this study analyzes the unchanging attributes of Sneaker resale and consumers' perceptions and compares general Sneaker purchases to Sneaker resale purchases. In addition, reposts and news articles related to resale trading platforms were reviewed, and empirical confirmation through keywords-based text mining was conducted. Results of this study may help companies launch a new Sneaker resale platform and provide existing Sneaker-resale-trading platform companies with consumer data, a new strategic direction, and the development of a Sneaker resale culture.

Literature Reviews

Sneaker Resale

The basic concept of resale is to purchase products sold in the primary market at full price and resale them at a higher price than before through a website, platform, or face-to-face transaction in the secondary market. Currently, the market size is expanding due to the influx of new consumers (Kim & Kim, 2020). Sneaker resale mainly deals with limited-edition Sneaker. Since limited-edition Sneaker have a unique design

and story compared to existing products, some consumers prefer items from resale transactions, leading to excessive competition among consumers (Slaton & Pookulangara, 2020). Therefore, Sneaker resale involves purchasing limited-edition shoes at a regular price and selling them to other sellers at a high price. Due to these characteristics, Sneaker resales are currently considered an investment method, similar to the concept of stocks. In fact, G-Dragon and Nike's collaboration products launched in November 2020 have a list price of 210,000 KRW, but in the resale market, they have soared from 3 million to 5 million KRW (Lee & Park, 2020; Yoo, 2016). Furthermore, the existing popular Jordan series is sold at a more expensive cost than the original price (Lee & Park, 2020).

Five years ago, it was predicted that the size of the Sneaker resale market would grow to about 1 trillion KRW in foreign countries. Currently, the Sneaker resale market is expected to grow to about 2 trillion KRW in the US and 30 trillion KRW in the future (John et al., 2020; Riley, 2015). In Korea, the Sneaker resale market is steadily growing and is about 500 billion KRW worth (Min, 2020). Due to these prospects, domestic Sneaker are rapidly developing a platform for reselling Sneaker. The safe and efficient resale transactions have helped increase the number of Sneaker resale consumers (Denny, 2020).

Currently, Sneaker resale is called "Shoes-Tech" and "Sneaker-Tech." It is considered a kind of investment method to earn profit by selling at a price higher than the general price to consumers who want to purchase and own limited edition or collaboration shoes (Zhang, 2020). In conclusion, Sneaker resale is based on consumers' desire to possess a product, which companies can use for marketing to attract more new consumers. In addition, consumers use it as a concept of stock because it can be resold at different prices.

Limited Edition Sneaker

Limited edition products are characterized by high price, limited quantity, and adding novel designs and functions that are non-existent in existing products, (Shin et al., 2017). The scarcity of limited editions creates a psychological sense of urgency for consumers to purchase the product, increasing the purchase quantity and consumer satisfaction (Aggarwal et

al., 2011). In addition, because limited edition products are more difficult to purchase than general products, consumers value limited edition products highly and perceive them as rare or unique (Verhallen & Robben, 1994). The limited-edition strategy enhances price competitiveness through differentiated products from hardwood brands and has a positive effect on the overall profit of the company (Balachander & Stock, 2009). Consumers highly value limited edition products, because they are used to indicate consumers' high social status (Gierl & Huettl, 2010). Lascu & Zinkhan (1999) stated that in general, consumers strive to have a sense of belonging to a high social class by owning high-value products. In conclusion, the limited-edition strategy, which restricts sales volume and sales time, makes consumers feel that they own a famous product and enables them to pursue social fame, wealth and individuality through this (Jang et al., 2015).

Currently, the limited-edition strategy that emphasizes the scarcity of the product is frequently used by world-famous sneaker brands. Nike and Adidas, for instance, are pursuing a strategy through collaboration with famous designers, artists, and luxury brands with limited quantities. In the past, Nike released the Air Yeezy series through collaboration with American rapper Kanye West, who has a great influence in music and fashion, and recorded a sensational popularity and high sales rate (Burgess, 2020). This phenomenon occurred because consumers aspire to become like celebrities they support and through products that help them resemble celebrities, they achieve their ideal self-image (Choi & Rifon, 2012). Therefore, self-congruence with celebrities promoted through the limited-edition collaboration strategy developed by sneaker brands increases sales volume.

Changes in Consumption Patterns and Perceptions according to the Social Environment

Cultural and social environments greatly influence consumer consumption patterns and perceptions. Changes in the social environment greatly influence existing markets or are laying the groundwork for new markets. Coronavirus, which has recently changed the lifestyles and the economies of numerous nations worldwide, also changed various industries

and consumers' perceptions of the consumption environment. One of the revenge spending patterns formed by Corona Blue is "Flex consumption," currently occurring mainly in the younger generation (Ahn, 2020). Revenge spending refers to a form of consumption that releases the desire for consumption suppressed by external environmental factors (Yoon, 2020). Flex is slang, which can be a concept of flaunting, and therefore, flex consumption refers to people showing off by purchasing luxury goods.

Additionally, Flex consumption is considered a consumption method for personal satisfaction and taste (Park & Chun, 2021). Flex consumption was formed around the Millennials and Generation Z, born between the early 1980s and the early 2000s, who express themselves more strongly than the older generations (Jun, 2020). Flex consumption has become a trend because the Millennials and Generation Z, who value their brands, have found a means to overcome their anxious sentiments arising due to the economic difficulties through owning luxury goods (Park et al., 2020). Although the fashion industry has contracted due to Covid-19, sales of limited items increased because of a significant driver called FOMO (Min, 2020). FOMO (fear of missing out) refers to the anxiety that arises when someone cannot experience certain valuable experiences a particular group experience (Milyavskaya et al., 2018). Also, it can be said that Covid-19 created an economic fear among the younger generation. Therefore, the decreasing consumption level developed FOMO and increased Flex consumption in retaliation (Kang & Lee, 2020).

Due to the outbreak of Covid-19, "resale" is considered a new consumption trend that goes beyond the concept of second-hand transactions, as items are sold at a price higher than the original price (Kang & Lee, 2020). It is predicted that the Sneaker resale market, a resale market formed mainly online due to COVID-19, will grow rapidly to over 6 trillion KRW (Cha, 2020). In addition, the Millennials and Generation Z are paying attention to the resale of limited-edition Sneaker to engage in Flex consumption (Park et al., 2020). The Millennials and Generation Z prefer to resale Sneaker when introduced to Flex consumption because the product's price will rise despite Covid-19, and they desire to possess a limited-edition product (Min, 2020).

Methods

Research Questions

Therefore, this study investigates whether consumers' overall perception of Flex consumption and Sneaker resales has changed into a type of investment. Based on prior studies and theories, the following research questions were framed.

Research Questions 1: Investigate the structure and change of consumers' perception of Sneaker resale.

Research Questions 2: Compare consumers' perceptions of the Sneaker resale purchase situation and the general Sneaker purchase situation.

Data collection and Analysis

For the keyword collection of Sneaker resale, posts from blogs and internet cafes that include the keywords "Sneaker resale," "Sport shoes Resale," and "Shoe Resale" were collected from domestic portal sites Naver, Daum, and Google Korea. Additionally, all documents, including the keywords of "buy shoes" and "buy sports shoes," "buy sports shoes," "buy Sneaker," and "buy Sneaker in Korea," were collected and consolidated for general Sneaker purchases. The period of keyword collection is from January 1st, 2018, to December 31st, 2020. This was a period when products such as Adidas' Yeezy Boost and Balenciaga's Speed runner were traded in the resale market at high prices, and the first Sneaker resale transaction platform "Out of Stock" and "Frog" became known to the public (Jung, 2018).

Analysis method and procedure

This study utilized a text mining method that derives one piece of information through a refining process by collecting various and unstructured texts on topics of interest through big data (Meyer et al., 2008). Text mining has the advantage of automatically collecting an enormous amount of high-quality information and analyzing the textual data for research (Jusoh & Alfawareh, 2012). However, since text

mining inherently involves processing unstructured data, it is relatively more complicated than data mining. The limitation of text mining is that it cannot effectively analyze topics for which keyword detection is difficult (Bang et al., 2019; Tan, 1999). The Textom 5 program was used for data collection and refining, and the centrality was measured and visualized through the NodeXL 1.0.1 program. The data processing and analysis procedure was carried out in the following way. First, data from Naver, Daum, and Google's Blog, Cafe, and Web documents were collected through the Textom 5 program during the data collection stage. Second, the refining method was carried out through Textom's direct selection method, and the duplicate removal was implemented based on the URL. Third, morphological analysis was performed using the Espresso K analysis module, and text refinement was performed directly. Morphological analysis is conducted at the pre-processing stage and used to divide sentences and determine the base unit of the sentences (Jung & Lee, 2020).

Third, for keyword selection, the top 50 keywords based on TF-IDF (Term Frequency Inverse Document Frequency), an index representing the frequency in which a specific word appears in the document in the data, were selected and organized into a co-appearance matrix (Choi & Lee, 2020). Fourth, in the visualization stage, the connection center and mediation center were measured through the NodeXL 1.0.1 program, and the network was visualized. Finally, the size of the node was visualized based on the connection centrality, and the thickness of the edge was based on the edge weight.

Results

Overall Consumer Perception of Sneaker Resale

To ascertain the change in consumers' perception of Sneaker resale, the top 50 keywords (based on TF-IDF) in consumer big data from 2018 to 2020 (Table 1) were compared and analyzed. As a result, consumers' perception of Sneaker resale was confirmed through attributes that did not change over time and keywords appeared each year (Table 1).

Table 1. Top 50 concurrent sneaker resale keywords from 2018 to 2020

No.	2018				2019				2020			
	Keywords	TF-IDF	C _d	C _b	Keywords	TF-IDF	C _d	C _b	Keywords	TF-IDF	C _d	C _b
1	Limited edition*	419.17	0.78	74.25	Limited edition*	900.39	0.90	48.98	Limited edition*	1290.91	0.98	15.38
2	Price	250.10	0.90	139.97	Platform*	517.16	0.76	24.14	Platform*	1261.40	0.98	15.38
3	Brand*	248.33	0.63	37.63	Domestic*	439.67	0.84	37.03	Kream*	1217.04	0.94	11.14
4	Popular	218.49	0.80	94.72	Brand	465.83	0.90	75.27	Financial technology*	859.23	0.94	10.86
5	Trend	170.15	0.67	48.94	Trend	447.35	0.73	21.73	MZ generation*	859.73	0.94	11.76
6	Size	161.51	0.57	60.67	Global	438.07	0.78	29.56	Growth	774.59	0.98	15.38
7	Platform	149.32	0.49	12.78	Price	402.58	0.84	53.96	Price	690.12	0.96	12.57
8	Design*	151.72	0.49	16.70	Size	383.80	0.57	28.44	Draw	691.74	0.84	7.87
9	Collaboration*	142.52	0.47	8.64	Collaboration*	327.95	0.59	14.81	Musinsa*	682.26	0.86	9.05
10	New	140.36	0.45	10.11	Popular	283.59	0.80	33.23	Domestic*	583.89	0.92	9.04
11	Comfortable	127.30	0.57	32.86	Growth	270.08	0.61	15.32	Investment*	582.94	0.92	10.71
12	Expensive*	121.73	0.55	35.03	New products	260.43	0.53	9.67	Brand	564.71	0.96	11.70
13	Global*	114.22	0.57	29.46	Luxury	259.27	0.57	18.81	Benefit	546.78	0.92	9.86
14	Color	103.66	0.51	15.57	Color	245.99	0.61	40.03	Luxury	531.74	0.90	9.35
15	Luxury	98.25	0.43	7.66	Design	214.48	0.57	13.32	Size	542.36	0.63	2.50
16	Domestic	89.14	0.41	18.25	Financial technology*	220.27	0.57	11.19	Bunjang*	502.47	0.94	11.95
17	Financial technology*	83.02	0.22	2.52	Millennials*	231.00	0.53	6.51	Trend	497.03	0.88	9.02
18	Box	76.68	0.31	18.83	Value*	199.50	0.55	24.88	Sneaker-Tech*	482.96	0.80	4.58
19	Website	75.47	0.33	7.09	Comfortable	192.86	0.49	19.66	Shoes-Tech*	490.39	0.90	9.98
20	Sideline*	79.35	0.24	50.88	Sneaker-Tech*	189.64	0.51	6.23	Soldout*(platform name)	471.42	0.88	7.97
21	Retro*	71.70	0.45	8.48	New	173.05	0.59	13.96	Collaboration	436.05	0.84	6.43
22	Authentic	70.17	0.31	6.86	Creative economy*	181.47	0.29	1.68	Service	423.61	0.86	7.60
23	Kream	67.45	0.35	6.42	Secondhand	161.51	0.47	4.98	New product	419.05	0.61	1.38
24	Quantity	61.34	0.27	4.94	Investment*	165.34	0.57	10.86	Premium	385.73	0.69	5.09
25	Net price*	58.48	0.33	1.17	Website	163.73	0.43	8.47	Secondhand	388.60	0.92	10.98
26	Draw	61.83	0.27	8.89	Business	162.16	0.33	2.01	Major company	362.56	0.67	4.58
27	Cross border shopping*	55.55	0.29	5.48	Expansive	150.03	0.53	7.39	Stock*	350.19	0.73	3.28
28	Exchange	55.55	0.22	8.82	China	163.67	0.43	2.58	Expensive	301.09	0.78	4.25
29	Reseller*	55.55	0.24	1.90	New-tro*	158.01	0.27	0.22	Authentic	267.77	0.71	4.22
30	Value*	55.55	0.35	8.57	Recommendation	144.38	0.37	9.51	Value*	259.78	0.76	4.62
31	Light	49.46	0.33	10.75	Draw	142.98	0.22	0.69	Reseller	266.00	0.69	3.88
32	Musinsa	52.91	0.29	2.16	Exchange	127.90	0.18	0.89	Fee*	253.88	0.67	1.82
33	Premium	49.46	0.24	4.52	Information	126.81	0.43	5.34	Market price	220.28	0.84	7.34
34	Logo	46.30	0.35	7.83	Premium	120.43	0.49	8.40	Covid-19*	212.86	0.69	3.50
35	Sold out	48.50	0.14	1.34	Return	118.29	0.18	0.89	Brokerage*	211.84	0.69	4.10
36	Refund	46.30	0.22	7.71	Benefit	116.17	0.49	7.26	Global	203.34	0.76	4.53
37	Mood	48.50	0.29	0.86	Cross border shopping	109.52	0.33	3.38	APP*	212.0 ₉	0.53	1.81
38	Kids	49.97	0.16	0.26	Service	113.42	0.43	6.70	Safety	200.09	0.67	2.62
39	Time	44.09	0.27	7.73	Sold out	103.83	0.43	6.10	Economy	194.42	0.65	2.33
40	Replica*	49.97	0.12	0.33	Fit	103.83	0.37	3.13	Startups*	193.35	0.49	0.78
41	Second job*	45.27	0.02	0.00	Mobile	103.83	0.35	2.35	Pocket money*	180.15	0.45	0.20
42	Wearing	39.68	0.16	1.14	Stock*	102.76	0.37	2.09	Delivery	185.67	0.49	2.75
43	First cost	39.68	0.18	0.00	Difficult	99.32	0.24	0.68	Mobile	181.03	0.47	1.60
44	Difficult	39.68	0.24	13.11	Brokerage*	100.52	0.39	3.37	Real estate	171.91	0.57	0.76
45	For sale	36.22	0.18	1.64	Authentic	96.91	0.29	1.83	Inspection*	167.13	0.53	1.87
46	Relaunch	36.22	0.16	1.68	Reseller	94.80	0.29	1.42	Scarcity	161.38	0.61	1.08
47	Return	36.22	0.10	0.31	Musinsa	89.89	0.29	0.70	Mania	144.88	0.63	2.23
48	Purchasing agent	36.22	0.20	2.52	Unboxing	81.37	0.12	0.14	Auction	140.63	0.51	1.53
49	Market price	36.22	0.12	1.19	Refund	82.47	0.12	0.15	Experience	136.88	0.55	1.02
50	Discount	34.98	0.22	1.84	Replica	74.91	0.20	0.52	Sharing	135.78	0.37	0.79

C_d= Degree Centrality, C_b= Betweenness Centrality

an economic value in Sneaker resales. However, words such as Price (250.10), Size (161.51), Comfortable (127.30), Expensive (121.73), Color (103.66) along with words such as Light (49.46), Logo (46.30), Mood (48.50) also frequently appeared, implying that customers perceive product performance, design, and price as important features of Sneaker resales.

Before analyzing people's economic perceptions, it is crucial to define the word "Jae-tech." Jae-tech refers to financial technology that represents the financial actions of an individual or group to make a profit. The economic perception was strengthened by the emergence of new keywords, such as Jae-tech (220.27), Sneaker-Tech (189.64), Creative Economy (181.47), Investment (165.34), and Stocks (102.76) in 2019. Furthermore, in the 2020 data, about 16% of keywords related to the economy are appearing, indicating that the economic value of reselling Sneaker is increasing. Specifically, the number of the word Jae-tech (859.23) had increased. Furthermore, through words, such as Shoes-tech (490.39), Top Money (253.88), Economy (194.42), Startup (193.35), Pocket Money (180.15), Real Estate (171.91), and Auction (140.63), it can be interpreted that people increasingly focus on the economic aspect of shoe resales. In other words, consumers recognize shoe resales as a kind of investment idea, such as real estate or stocks, rather than a simple economic transaction.

In 2018, global (114.22) keywords more frequently appeared than domestic keywords (89.14), indicating that consumers mainly engage in global resale transactions. However, in 2019 and 2020, contrary to 2018, domestic keywords showed higher numbers, as domestic resale consumers have switched from overseas to domestic channels that recently increased in Korea.

In the 2020 data, the keyword "Covid-19" (212.86) appeared despite the current challenging fashion industry environment. This is believed to be due to the emergence of various Sneaker resale platforms, delivery services, real-time price information, and an image service that allows consumers to check product details, a service tailored to the increase in online shopping brought by Covid-19.

The keyword "Millennials" (231.00) appeared in 2019 and 2020, despite its non-appearance in 2018. The keyword

"MZ generation" (859.73) was at the top, signifying a volume of Sneaker resale among the Millennials and Generation Z. Besides, Sneaker resales attract more attention because it is more accessible to the current Millennials and Generation Z than stocks, and they are not priced too high.

Comparison of Consumer Perceptions of Reselling Sneaker and Purchasing Regular Sneaker

Standard keyword analysis was performed in Sneaker resale purchase and general Sneaker purchase (Table 2). The data is shown in Figure 2. Common keywords for Sneaker resale purchase and general Sneaker purchase were extracted. A total of 11 keywords, including genuine, brand, delivery, limited edition, luxury, new product, platform, premium, price, used, and size, were used extracted. These are factors considered by consumers who resale Sneaker and purchase regular Sneaker based on brand, price, new product, and users when purchasing. Through the keywords "Premium" and "Limited Edition," it was found that the attributes of limited-edition and premium products affect not only purchasing decision of Sneaker resellers but also the regular customers. The limited-edition and premium products are in low quantity and high in the competition. Therefore, if an ordinary purchase is successful, a consumer gains two benefits: the consumer purchased the product at a lower price compared to resales and can sell the product at a higher price through resales. Many Sneaker resale trading platforms and shopping platforms have recently appeared because consumers can easily and quickly make purchases.

The analysis on the difference between consumers' perceptions of Sneaker resale purchases and general Sneaker purchases was performed based on the TF-IDF value of consumers' perceptions of Sneaker reseller purchases and general Sneaker purchases (Table 2). Keywords that appear only in Sneaker resale purchases include Jae-Tech (859.23), Investment (582.94), Sneaker-Tech (482.96), Shoes-Tech (490.39), Economy (194.42), and Value (259.78). It was found that Sneaker transacted through resales were recognized as a kind of investment rather than simply a property.

Table 2. Top 50 keywords of General purchase and Resale purchase

No.	General Purchase				Resale Purchase			
	Keywords	TF-IDF	C _d	C _b	Keywords	TF-IDF	C _d	C _b
1	Review	8367.91	0.92	6.37	Limited edition*	1290.91	0.98	15.38
2	Size*	7371.37	0.94	13.98	Platform*	1261.40	0.98	15.38
3	Price*	5360.35	0.94	13.98	Kream*	1217.04	0.94	11.14
4	Comfortable*	4548.15	0.85	3.58	Financial technology*	859.23	0.94	10.86
5	Pretty*	4159.09	0.90	5.67	MZ generation	859.73	0.94	11.76
6	Recommendation	3936.29	0.90	5.52	Growth	774.59	0.98	15.38
7	Kids*	4202.56	0.90	12.22	Price	690.12	0.96	12.57
8	Brand	3412.98	0.92	6.37	Draw	691.74	0.84	7.87
9	White	3262.73	0.92	6.37	Musinsa*	682.26	0.86	9.05
10	Limited edition*	3550.76	0.71	2.02	Domestic	583.89	0.92	9.04
11	Material*	2851.21	0.92	6.37	Investment*	582.94	0.92	10.71
12	Design*	2640.82	0.94	13.98	Brand	564.71	0.96	11.70
13	Black	2413.32	0.92	13.01	Benefit	546.78	0.92	9.86
14	Discount*	2318.82	0.87	4.41	Luxury	531.74	0.90	9.35
15	Unboxing	2297.54	0.88	4.82	Size	542.36	0.63	2.50
16	Cross border shopping*	2049.62	0.83	3.28	Bunjang*	502.47	0.94	11.95
17	Delivery	1906.47	0.87	4.19	Trend	497.03	0.88	9.02
18	Authentic	1903.32	0.77	3.48	Sneaker-Tech*	482.96	0.80	4.58
19	Luxury	1827.46	0.87	5.20	Shoes-Tech*	490.39	0.90	9.98
20	Height elevating insole*	1786.22	0.75	2.60	Soldout* (platform name)	471.42	0.88	7.97
21	Gift	1673.80	0.87	4.14	Collaboration	436.05	0.84	6.43
22	Buy myself	1666.37	0.87	4.67	Service	423.61	0.86	7.60
23	Information	1638.98	0.87	4.41	New product	419.05	0.61	1.38
24	Unisex	1700.87	0.52	0.90	Premium	385.73	0.69	5.09
25	Light	1497.70	0.83	3.37	Secondhand	388.60	0.92	10.98
26	Box	1454.96	0.85	4.04	Major company	362.56	0.67	4.58
27	Couple*	1498.01	0.81	3.11	Stock*	350.19	0.73	3.28
28	Official store	1418.58	0.73	1.83	Expensive	301.09	0.78	4.25
29	Personal transaction	1379.77	0.54	1.61	Authentic	267.77	0.71	4.22
30	U.S.A	1407.60	0.69	1.99	Value*	259.78	0.76	4.62
31	Secondhand	1366.05	0.58	2.44	Reseller	266.00	0.69	3.88
32	Cost effectiveness*	1352.31	0.79	2.06	Fee*	253.88	0.67	1.82
33	Model name	1288.75	0.77	2.41	Market price	220.28	0.84	7.34
34	Husband*	1344.95	0.77	2.53	Covid-19*	212.86	0.69	3.50
35	Feet fit*	1317.85	0.73	1.02	Brokerage*	211.84	0.69	4.10
36	Age	1248.70	0.83	3.34	Global	203.34	0.76	4.53
37	Outlet	1231.98	0.79	2.37	APP	212.09	0.53	1.81
38	Shipping fee*	1159.00	0.63	1.47	Safety	200.09	0.67	2.62
39	Exercise	1173.38	0.75	1.89	Economy*	194.42	0.65	2.33
40	New product	1195.40	0.75	2.46	Startups*	193.35	0.49	0.78
41	Premium	1128.64	0.81	3.96	Pocket money*	180.15	0.45	0.20
42	Popular	1084.88	0.73	2.20	Delivery	185.67	0.49	2.75
43	Fit	1056.86	0.79	2.80	Mobile	181.03	0.47	1.60
44	Exchange	977.63	0.75	8.62	Real estate	171.91	0.57	0.76
45	Uncomfortable	937.58	0.69	1.36	Inspection*	167.13	0.53	1.87
46	Sole*	918.15	0.77	3.05	Scarcity	161.38	0.61	1.08
47	Washing*	798.86	0.56	1.14	Mania	144.88	0.63	2.23
48	Platform	736.33	0.48	0.72	Auction	140.63	0.51	1.53
49	Size tip	647.34	0.67	1.67	Experience	136.88	0.55	1.02
50	Laundry regulation	642.24	0.12	0.00	Sharing	135.78	0.37	0.79

C_d= Degree Centrality, C_b= Betweenness Centrality

Discussion and Implications

Recently, the Sneaker market has been leading the trend with unique values in the fashion industry. The reason for this is that, as each brand has its unique design and story, it has the same value as a luxury brand and is releasing limited-edition premium products in collaboration with brands, designers, or celebrities who lead fashion trends. As a result, the Sneaker resale market is expected to grow further in the future. Therefore, this study attempted to grasp the overall perception of Sneaker resales through text mining and network analysis, focusing on the keywords of Sneaker resale. The results of this study and practical and theoretical implications are as follows.

Consumer perception of Sneaker resales was analyzed, focusing on keywords that appeared commonly. According to the analysis, a reseller sells general products at high prices and looks for profits. The main channels (platform, global, domestic, and Musinsa) where resale transactions are conducted were Platform-oriented. This is because Sneaker reselling is carried out through various platforms. As platform keywords continue to appear at the top, it is possible to derive the main channel for resale transactions.

Based on the keyword's TF-IDF value from 2018 to 2020, consumers' perception of Sneaker resale was confirmed. The critical implication is that Sneaker resale is currently perceived as an economic activity. In 2018, a keyword with economic significance appeared, and in 2020, it was confirmed that the value of TF-IDF had increased significantly. Therefore, it can be seen that reselling behavior is considered a form of investment. In 2018, an economic keyword, "Jae-tech," appeared as a word related to Sneaker resales, and in 2020, the TF-IDF value increased greatly. With the emergence of other economic keywords such as "Sneaker-tech," "Shoes-tech," and "startup," it was again confirmed that Sneaker resales were a form of investment, and Sneaker were considered a form of property.

Comparing the Sneaker resale purchase and general Sneaker purchase keywords, the difference in perception is clarified. For example, Sneaker resale purchases were recognized as a financial investment like stocks. Therefore, "Sneaker-tech" and "shoes-tech" appeared as keywords of

Sneaker resale purchase. On the other hand, for general Sneaker purchases, keywords such as pretty, material, design, insole, light, football, and washing appeared. Therefore, customers place importance on external factors and functional aspects for ordinary Sneaker purchases. These are the factors generally considered when purchasing fashion products.

Therefore, through the results of this study, it can be seen that reselling Sneaker is not just a transaction method but is now an economic activity. It is confirmed that consumers are aware of this new investment method through "shoe-tech" and "Sneaker-tech" keywords, which are new words having connotations in financial technology. In addition, it is also worth noting that the Sneaker resale culture is now popularized to various consumers through the Millennials and Generation Z. It is also confirmed that the Sneaker resale culture market is gradually expanding. This phenomenon occurs because the current Sneaker brands continue to emphasize the scarcity of limited-edition Sneaker products by limiting the number of products and promoting collaboration strategies with celebrities and luxury brands. In addition, the economic value of limited-edition Sneaker is increasing due to the continuous increase in the value of limited-edition Sneaker, the increase in competition to own the product, and the rapid growth of the Sneaker resell market caused by the increase in reselling platforms (Lee, 2021). With the advent of new trading channels, consumers can safely conduct resale transactions. Furthermore, with transaction centers that simplify the purchase and selling process, the value of the resale culture of limited-edition Sneaker is gradually expanding (Shim & Lee, 2021).

Sneaker resale is a topic that is currently lacking discussion in the academic world. Therefore, this study identified consumer perception through the keywords of reselling Sneaker from 2018, when the Sneaker trading platform was launched in Korea, to 2020, when Covid-19 changed consumers' lifestyles. This study is considered meaningful in establishing the consumer perception of Sneaker resale. It shows that the concept of Sneaker resale solidifies into an economic concept as time passes. However, there is a limit to recognizing consumers' perceptions of Sneaker reselling only through keyword analysis. Sneaker

resales transactions can change consumers' psychological perceptions of the products depending on the nature of the product and consumers' overall interest in limited-edition Sneaker. Therefore, an empirical investigation on the consumers' perceptions of Sneaker resale culture based on consumer-centered methods, such as interviews or surveys, should be conducted in a follow-up study.

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