

## Changes in Specialty Coffee Consumption Post-pandemic

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### **Abstract**

*The coffee industry continues to grow steadily due to the spread of coffee and changes in consumer awareness. Once upon a time, instant coffee was common, People today have distinct personal preferences As consumption needs for favorite foods are segmented, ways to enjoy coffee are diversifying. This study was conducted through analysis of consumption changes for specialty coffee as a changed issue of COVID-19 The goal is to present a vision for the future of the specialty coffee industry. As a research method, text mining through big data analysis was conducted to extract and analyze factors affecting the change in specialty coffee consumption. As a result of the study, we judged that specialty coffee is consumed by using a drip tool that allows you to easily enjoy coffee at home after Corona 19. Therefore, hand drips used in home cafes were found to play a central role in the change in specialty coffee consumption.*

**Keywords:** Specialty Coffee, Big data, Text mining, Coffee Consumption

### **1. Introduction**

The World Health Organization (WHO) has declared a pandemic due to the global spread of COVID-19[1]. after, Paralyzing all economic systems and the government's response to COVID-19, living in a state of tension like the wartime situation, has greatly changed the overall daily life of individuals[2]. Corona 19 has caused serious damage in many ways, resulting in 70-80% of restaurant businesses closing or closing due to decreased sales[3]. In the restaurant industry, non-face-to-face consumption such as delivery services, kiosks, and drive-throughs using apps that can reduce contact due to social distancing has increased[4]. The reason why the coffee industry has grown faster than the restaurant industry is because of the great value of providing a cultural space along with the popularization of coffee[5]. In the coffee industry, the era of smartphones has opened, and various services using smartphones have been introduced Coffee shops, which focused on communicating the value and story of coffee together with customers and baristas, had to provide face-to-face services, so the outbreak of Corona 19 is taking a more serious hit[6]. As such, social distancing due to COVID-19 prefers high-end restaurants and luxury hotel food and beverage establishments with private spaces to avoid contact with others, As people think about health, interest in health-related foods and high-quality ingredients is increasing. In this way, the reason for high-priced consumption such as fine dining can be explained by the conspicuous consumption tendency to express one's values through consumption. Therefore, many experts say

that consumers' consumption patterns are changing due to COVID-19, These changes are reflected in the coffee industry as well, leading to the consumption culture of specialty coffee, which is high-quality coffee. In this study, we are going to analyze and logically examine changes in specialty coffee consumption in the context of COVID-19. Through this study, it has academic significance in terms of identifying factors that influence the selection of specialty coffee by understanding changes in specialty coffee consumption, It is judged to provide practical implications in that it suggests a plan for the development direction of specialty coffee.

## 2. Theoretical background

### 1) Specialty Coffee

The term specialty coffee was first used by Erna Knutson at the American International Coffee Conference in 1978. Erna Knutson is "*Special environmental conditions develop coffee beans into coffee varieties with unique and special flavor*" Specialty coffee was defined using the descriptive term [7]. As the coffee industry grew, the term specialty coffee appeared, and various coffee associations presented evaluation methods and standards for evaluating coffee. As a method of evaluating current specialty coffee, the Specialty Coffee Association (SCA) If you look at the standards presented, it suggests a measurement standard that can set the value and value range of coffee based on scientific tests to evaluate high-quality coffee, It is said that it can exist by the lifelong commitment of people who have made the production of specialty coffee of the highest quality a priority[8]

### 2) Cupping

What is Cupping? It is to systematically evaluate and record the taste and aroma of coffee samples to determine the degree of characteristics and quality of coffee Professionals who have this profession are called Cupper. Cupper are nurtured through repetitive training and numerous experiences. This is because the ability of the cupper is very important in the cupping process. SCA Cupping From The main items of ① Fragrance/Aroma ② Flavor ③ Aftertaste ④ Acidity ⑤ Body ⑥ Uniformity ⑦ Balance ⑧ Clean Cup ⑨ Sweetness ⑩ Overall

A total of 10 items should have unique characteristics and no flavor defects. Total Score 95-100 Exemplary, 90-94 Outstanding, 85-89 Excellent, 80-84 Very Good, 75-79 Good, 70-74 Fair Only coffee with a high score of 80 or higher can be called specialty coffee The use of the name specialty coffee can be interpreted to mean high-quality coffee that has undergone a very demanding process[9].

### 3) Big Data

It is expected that its value and utility will play an innovative role in various fields, enough to say that it is the era of big data[10]. This is because, as the amount of information increases with the development of smartphones and SNS using big data, it is possible to develop new technologies or trends by collecting and analyzing various information. [11]. Gartner, Inc. Big Data "*Information assets with the characteristics of diversity*" was defined as, McKinsey & Company "*Large-scale data beyond the range that can be stored, managed, and analyzed through database management tools*" defined [12]. Manyika While defining big data as a set of data that exceeds the scope of the ability to store, analyze, and manage with existing data programs, It is not limited to simply quantitatively massive scale and size, It is also defined as the comprehensive value of an important value means of increasing competitiveness or productivity of companies or public institutions[13]. Big data analysis can collect a larger amount of information and data when using offline data, The usefulness as a semantic analysis data that objectively presents language is emphasized. It can be used immediately as a current issue that changes frequently and can be used as a meaningful data in that it can reflect individual values[14]. By predicting the diversified modern society due to the development of big data, targeted marketing and storytelling are possible by providing and analyzing information suitable for each individual, and it is actively used in politics, economy, and culture[15]. On the other hand, There are few studies using big data in the coffee industry, and it is difficult to find examples that can be tried in the field. It is expected that various studies applicable to the coffee industry will be attempted and produce remarkable

results.

### 3. Research method

#### 1) Data Collection

To extract the consumption change of specialty coffee, specialty coffee was selected as the final keyword. For data collection, Naver, Daum, and Google, which are the most used sites in Korea, were selected, COVID-19 on January 11, 2020 After the death of the first infected person in Hubei Province, China, March 11, World Health Organization (WHO) From the declaration of a pandemic It is limited to two years from March 12, 2020 to March 11, 2022.

#### 2) Text Mining

Text mining refers to the process of discovering new information by applying natural language processing technology and document processing technology to an unstructured DB text group. In other words, data cleaning & deletion is the essence of text mining. In this study, text mining was conducted by utilizing the SCRM function of Textom, which enables online data collection and storage, as well as purification of collected data, generation of matrix data, and visualization. In the data collected with the selected keywords, words with similar meanings were combined into one word through an inappropriate data purification process, and words with no meaning were deleted. Using the final refined words, the words that affect the change in specialty coffee consumption were derived through frequency analysis.

### 4. Conclusion

#### 1) Data Collection Results

As a result of data collection with specialty coffee keywords, a total of 15,118 words were collected, and the [Figure 1], [Figure 2] same as. A graph is used to show the number of collections by year. Data for 2020 and 2021 show similar collection results. Looking at [Figure 1], [Figure 2] it can be seen that Naver has relatively large number of data collection cases in the order of Naver, Daum, and Google.

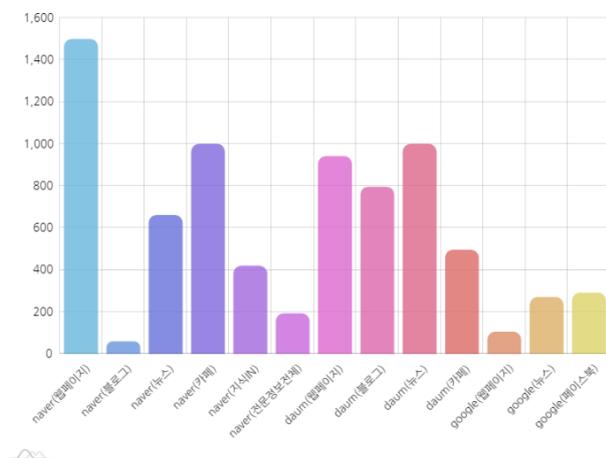


Figure 1. Data collection results (2020)

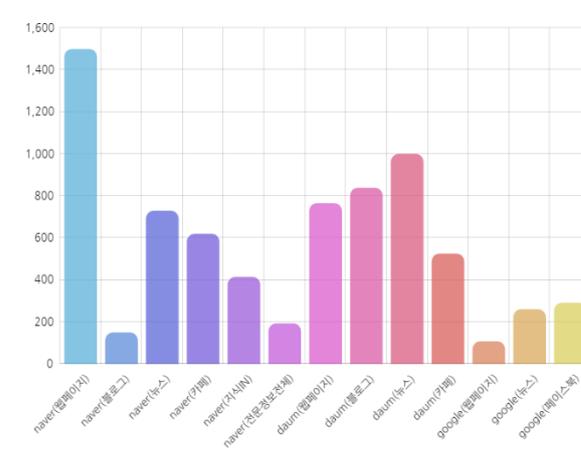


Figure 2. Data collection results (2021)

#### 2) Data analysis result

research question: What are the factors influencing changes in specialty coffee consumption? Text mining and frequency analysis of the collected data were conducted to identify factors affecting the change in consumption of specialty coffee, which is a research question, The top 36 words were selected. Words showing high frequency as a result of frequency analysis Coffee, specialty, cafe, bean, brand, etc, Words representing professionalism such as roasting, specialty store, and barista were included. In addition, Blue Bottle, a franchise representing specialty coffee shops, is also showing a high frequency. In addition, it is

worth noting that words that influence consumption of specialty coffee such as market, price, menu, luxury, and quality are shown as price and quality, It is judged that the location of the roasting company plays a very important role in the consumption of specialty coffee. It is seen as a group of occupations that require professional coffee education, such as associations and academies. The frequency analysis results are shown in [Table 1].

**Table 1. Frequency of key words in all data**

Ranking	word	frequency	ranking	word	frequency
1	Coffee	50,090	19	Store	1,174
2	Specialty	25,841	20	Use	1,165
3	Cafe	9,751	21	Price	1,164
4	Beans	6,929	22	Menu	1,155
5	Brand	3,118	23	Representative	1,133
6	Release	2,416	24	Seoul	1,094
7	Founded	2,006	25	Blue bottle	1,081
8	Roasting	2,005	26	A cafe la	1,058
9	Specialty store	1,959	27	Juju	1,022
10	Association	1,880	28	Sale	997
11	Specialty	1,800	29	Beer	975
12	Suggestion	1,790	30	Machine	938
13	Drip	1,769	31	Hand drip	914
14	Barista	1,737	32	Academy	912
15	Premium	1,518	33	Corona	877
16	Market	1,251	34	Franchise	877
17	Product	1,250	35	Advanced	867
18	Domestic	1,190	36	Quality	865

It is judged that the image of specialty coffee plays an important role in the change in specialty coffee consumption. Words such as high-end, specialty store, and quality are shown with the expectation of good coffee, as a place where specialty coffee is consumed, it can be seen that a differentiated coffee taste is expected through roasting. In addition, it is judged that the high frequency of baristas extracting coffee indicates that the taste of coffee is different according to the barista's competence. The words that are judged to have the most influence on the change in specialty coffee consumption are drip and hand drip. Drip is a method of extracting coffee, and it is a method that can extract coffee in various ways using simple tools rather than using an espresso machine in cafes and at home. Therefore, the fact that drip is included in the top word is judged to use a lot of drip tools that can easily enjoy coffee at home after Corona 19, It is judged that specialty coffee is consumed by using home cafes. As a result of the frequency analysis, the implications of this study are first, online big data can be used to provide guidance on analyzing changes in specialty coffee demand, It is that the

information data derived from unstructured big data presented a basic direction for a specific application method that can be applied to the field. second, the point is that meaningful results were derived by sampling information on specialty coffee using a large amount of data accumulated in real time. third, Existing studies have used traditional survey methods to collect data according to measurement scales and derive results the point of this study is to analyze the change in demand for specialty coffee by first collecting big data and then using it to analyze the data. However, this study has the following limitations. first, Since the text data extracted cognitive elements, there was no data to identify emotional elements. second, Since the data collection period is not the end of the COVID-19 period, limitations are seen around the study. It is expected that better research results can be derived in future studies if these limitations are overcome.

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