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A Study on the Promotion of Yakseon Food Using Big Data

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Abstract

The purpose of this study is to confirm and analyze the impact on consumers through big data keyword analysis on weak food. For data collection, web documents, blogs, news, cafes, intellectuals, academic information, and Google Web, news, and Facebook provided by Naver and Daum were used as analysis targets. The data analysis period was set from January 2018 to December 2021. For data collection and analysis, the frequency and matrix of keywords were extracted through Textom, a social matrix site, and the relationship and connection centrality between keywords were analyzed and visualized using the Netdraw function among UCINET6 programs. In addition, CONCOR analysis was conducted to derive clusters for similar keywords. As a result of analyzing yakseon food with keywords, a total of 35,985 cases of collected data were derived. Through this, it was confirmed that medicinal food affects consumers. Furthermore, if a business model is created and developed through yakseon food, it will be possible to lead the popularization of yakseon food.

Keywords: *Yakseon food, Promotion, COVID--19, Keyword analysis, Big data*

1. Introduction

The 21st century entered the era of COVID-19 as the world was affected by COVID-19. In this reality, as consumer income increases, the lifespan is lengthened and the well-being health wind has been blowing for many years, accelerating interest in medicinal herbs, which are medicines in diet [1]. As a result, health emerged as a keyword of interest, and the importance of food along with health was also great. In addition, as food is recognized to have an important effect on health, the interest in medicinal food based on the summary mobilization of our ancestors has been increasing (2), and furthermore, as the number of restaurant companies related to medicinal food has increased, consumers' perception has also been important.

Previous studies on medicinal food mainly consist of papers analyzed by questionnaire surveys based on social science models. In particular, previous studies related to yakseon food have been studied with a social science model using yakseon food awareness and oral characteristics. The social science model thesis has a problem in securing objectivity because it is a questionnaire method in which the subjectivity of the researcher

is involved. Image analysis through keyword analysis of consumers for weak food through social networks is insufficient. In fact, research is needed to develop a plan to revitalize weak food by analyzing words related to weak food and understanding consumer perception. Therefore, in this study, the data reflected in social network services with secured objectivity are processed and refined to analyze the weak food image as keywords and prepare a plan for activation.

Therefore, in this study, the purpose of this study is to lead the popularization of weak food by studying the image of weak food through big data keyword analysis by taking weak food as the central keyword. In addition, by analyzing the consumer social network for yakseon food to derive a cluster for keywords, the direction of yakseon food is studied.

This study derives words related to medicinal food for four years from January 2018 to September 2021 using Textorm, a textual analysis tool. In addition, words for yakseon food were identified and analyzed to visualize clusters between words. Research is conducted to popularize weak food by investigating consumers' perceptions through clusters.

2. Research Method

Yakseon is a food cooked with medicinal ingredients and is defined as eating to prevent and help treat diseases [3]. Therefore, Yakseon is a compound word that combines medicine and food lines, and it is good for our body and can maintain health. In addition, in previous studies on medicinal food, it was defined as "food that becomes a medicine" [4] and "food that becomes a medicine that helps health in addition to basic nutrition" [5]. In addition to basic nutrition, food products that utilize functionality that helps disease and health are mixed and cooked according to the health condition and constitution of the person who eats them so that specific effects can be exhibited in the body. Therefore, medicinal food is defined as food that can prevent and improve diseases in daily life according to each individual's body characteristics, and is defined as food that can improve health by mixing and cooking medicinal ingredients according to body or health condition. It is a dietary therapy aimed at preventing and treating diseases to maintain a healthy state, improving immunity, maintaining homeostasis, detoxification, and antioxidant to improve physiological activity in the body to achieve disease-free longevity [6]. In addition to basic nutrition, medicinal foods that utilize functionality that helps disease and health are mixed and cooked according to the health condition and constitution of the person who eats them so that specific effects can be exerted in the body [7].

3. Result

In order to study the image of weak food, this study applied a research method called text mining, one of the formal methods, away from the political research method, which is a questionnaire method of previous studies. For the study, data on medicinal foods were extracted using textomes. During the four-year data collection period from January 2018 to September 2021, a total of 101,195 texts extracted from blogs, news, cafes, web documents, and intellectuals provided by Naver, Daum, and Google were collected, and derived from the top 100 words. This study was conducted in the same procedure as in Figure 1. 1) A total of 101,195 text data related to weak food were extracted from social networks such as Naver, Daum, and Google. 2) For big data analysis, data purification and morpheme analysis were conducted using Textom. 3) Keywords related to weak food were visualized using Ucinet, a data visualization program. 4) A social science model was created based on the clusters that came out through CONCOR analysis.

Frequency analysis was performed using textual data for 145,501 refined weak foods using a texture. Among the data excluding the key keywords "weaksun," "food," and "cooking," the most frequent words include

"hospitals" (13291), "health (7878), "restaurants" (6860), "disease (6691)" and "education (5230). In Korea, pharmacies are classified as alternative medicine and are classified as oriental medicine, so many oriental medicine keywords came out. In addition, it was confirmed that many health and disease keywords came out because they looked for weak food to maintain health or treat diseases. In addition, the keywords for good restaurants came out to find yakseon food, and as consumers became more aware of yakseon food, keywords related to education appeared to developing yakseon food. It is a word cloud that visually represents words up to the top 100 in frequency. The larger the size of the word, the higher the frequency, and the smaller the size, the lower the frequency.

Table.1 Yakseon food keyword Frequency

Rank	Word	Freq.	Rank	Word	Freq.
1	oriental medicine	13291	51	Agriculture	774
2	health	7878	52	study group	762
3	restaurant	6860	53	medicinal	757
4	disease	6691	54	meal	756
5	education	5230	55	Competition	742
6	Korean	4311	56	teacher	724
7	cooking	3357	57	eating habits	715
8	experience	3320	58	enforce	710
9	ingredient	3123	59	vegetable	707
10	nature	3081	60	contest	688
11	tradition	3047	61	recipe	679
12	food	3021	62	hotel	649
13	representative	3006	63	industry	620
14	Restaurant	2911	64	prevention	609
15	medicinal herbs	2592	65	mind	582
16	cure	2306	66	herbal medicine	575
17	dining table	2221	67	course	573
18	tourism	2188	68	festival	570
19	Research	2140	69	exhibition	554
20	region	2010	70	medicine	551
21	culture	1937	71	herbal medicine	551
22	center	1670	72	theory	544
23	Use	1545	73	side dish	542
24	local	1529	74	corona	534
25	menu	1515	75	temple food	531
26	Training	1495	76	characteristic	518
27	expert	1445	77	Attention	506
28	suggestion	1407	78	popularity	503
29	season	1386	79	maintain	500
30	Intake	1356	80	promotion	474
31	Association	1294	81	Immunity	467
32	Travel	1278	82	effect	458
33	Development	1231	83	market	446
34	help	1201	84	wellness	444
35	healing	1190	85	lack	443
36	master	1183	86	diet	443
37	food	1177	87	Condiment	442
38	lecture	1170	88	founded	441
39	natural	1120	89	Strength	438
40	program	1007	90	eat out	437
41	Medicine	918	91	menu	437
42	Agricultural products	896	92	Improving	436
43	Person	890	93	temple	435
44	specialty	876	94	technology	429
45	life	862	95	nourishing food	429
46	Target	858	96	practice	428

47	efficacy	840	97	management	423
48	constitution	819	98	effect	420
49	seasonal	801	99	cafe	416
50	Academy	793	100	promotion	416

Since it was difficult to understand the clusters formed by words with similarity and what kind of perception consumers have about medicinal herbs with the frequency analysis performed previously, a CONCOR analysis was additionally performed. Therefore, after extracting the 1-mode matrix from the textome using the top 100 word frequencies, CONCOR analysis was performed in UCINET. It can be confirmed as shown in Figure 1.
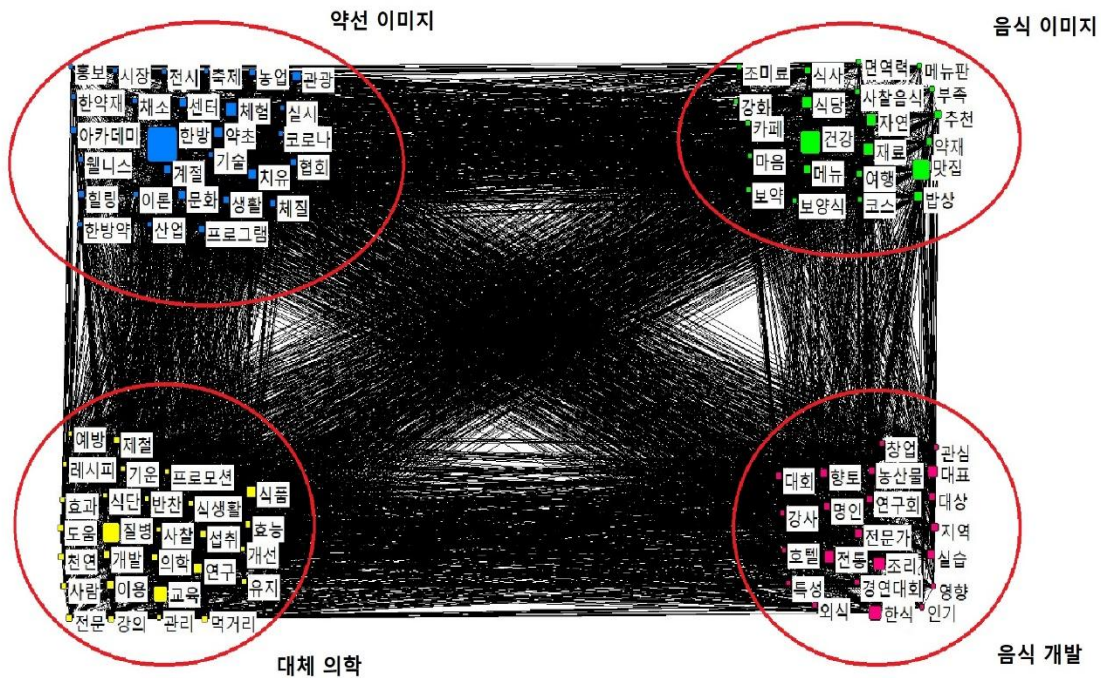

Figure. 1 Yakseon food CONCOR

The first cluster was named "weakline image". As well-being and well-being became popular due to COVID-19, consumers decided on a cluster name through original data that wrote a diet that helps cure diseases by preventing diseases and eating vegetables for a healthy life (blue group).The second cluster is clustered together with words with high frequency for health and good restaurants, and consumers recognize images of weak food such as restaurants, meals, temple food, nature, and medicinal herbs. Therefore, the second cluster was named "food image" (green group).The third cluster was named "Food Development" because it developed traditional local foods that took advantage of each region's characteristics and developed a popular local menu through a contest to develop the restaurant industry.The fourth cluster was named "Alternative Medicine". In the days when medicine was underdeveloped, herbal herbs native to mountains and fields were collected and consumed to protect their own health. Modern times are classified as alternative medicine because medical knowledge of the weak line comes mainly through word of mouth.This study attempts to present a social science model through the analysis of the previous weak food CONCOR. A previous study, the functional value of yakseon food, "Yakseon food is more effective than general food." "Medicinal food prevents disease." "Medicinal food is good for preventing adult diseases." "Medicinal food manages existing diseases."

"Medicinal food is natural/non-processed food" factors and emotional and economic value, "Medicinal food tastes better than regular food." "Considering the ingredients of Yakseon Food, the price of the menu is considered appropriate." Keywords were confirmed based on the factors. It was confirmed that functional values, emotional and economic values, which are perceived values, are affecting clustered food images and weak line images through the words "Herbal", "Wellness", "Health", "Health", and "Immune" in previous studies. The food development cluster affects the food image, and when the weak line characteristics transmitted through word of mouth are confirmed, it is confirmed that alternative medicine affects the weak line image. It was confirmed that food images and pharmacological image clusters affect pharmacies-related industries because there are words included in pharmacies-related industries such as "travel", "course", "café", "inspection food", "experience", "center", "tourism", "market", "culture", and "industrial". Therefore, we created a weak food business model such as Figure 4. Yakseon food has developed in the past because it was limited to restaurants. In addition, food tourism is facing a new phase due to the development of social media and new contents such as eating shows, and tourists are continuing to increase. Moreover, due to COVID-19, food tourism has been specialized and subdivided as the scale has decreased from large-scale tourism to small-scale tourism. In addition, as awareness of health is strengthened, consumers are looking for weak foods for disease and mental stability. However, it was confirmed that Yakseon food affects tourism through the industrial words related to Yakseon, "Hotel," "Agriculture," "Tourism," "Experience," "Festival," "Exhibition," "Travel," and "Education." Therefore, by confirming that the weak line-related industry is linked to tourism and affects agriculture, which is the primary industry, regional development should be sought through activation of weak line food tourism and agriculture.

4. CONCLUSION

In this study, the purpose of this study is to lead the popularization of weak food by studying the image of weak food through big data keyword analysis by taking weak food as the central keyword. This study investigated what keywords related to weak food were for four years from January 2018 to September 2021, using Textom, a textual analysis tool, and consumers' perceptions.

In order to study the image of weak food, this study applied a research method called text mining, one of the formal methods, away from the political research method, which is a questionnaire method of previous studies. For the study, data on medicinal foods were extracted using textomes. Over the past four years, a total of 101,195 texts extracted from blogs, news, cafes, web documents, and intellectuals provided by Naver, Daum, and Google were collected, focusing on weak food keywords. Four clusters were determined through CONCOR analysis, and the first cluster was determined as "weakline image", the second cluster as "food image", the third cluster as "food development", and the fourth cluster as "alternative medicine". Through the above four clusters, a business model for weak food was created, and it was confirmed that functional value, emotional and economic value were affecting the clustered food image and weak line image. In addition, it was confirmed that the food image and weak line image clusters affect the weak line-related industry. Therefore, a business model was created for the industrial group that could be developed along with the popularization of yakseon food. Through the business model, it was confirmed that it was possible to achieve regional development related to the medicinal food industry.

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