A comparative study on the perception of integrated resort in Korea before and after COVID-19 using social big data

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Abstract: The study was conducted to compare and analyze perceptions of integrated resorts before and after the outbreak of COVID-19 and to explore ways to revitalize the operation of integrated resorts that can be utilized in the post-Corona era. Keywords highly related to integrated resorts were collected from major social media and SNS channels in Korea, such as Naver, Daum, and Google. Unstructured big data analysis research was conducted using social network analysis and semantic network analysis, which are major methodologies for social big data. The keyword data collection period was divided into the time before and after the outbreak of COVID-19. A total of 7,933 keywords were collected before the outbreak, and 7,395 were collected during the period after the outbreak. The study included a total of 100 keywords, with 50 from each period. The research results showed that, first, before the outbreak of COVID-19, the keywords 'Casino', 'Yeongjong-do', 'Hotel', 'Dream Tower', 'Incheon', 'Development', 'Domestic', and 'Business' appeared with high frequency. After the outbreak, the keywords 'Jeju', 'Resort', 'Dream Tower', 'Hotel', 'Inspire', and 'Business' showed high frequencies of appearance. Second, CONCOR analysis confirmed the presence of seven keyword clusters before and after the outbreak of COVID-19. Based on the results of this study, various implications for integrated resorts that can be utilized in the post-Corona era suggested, along with future directions for integrated resort research.

Keywords: COVID-19, Integrated resort, Semantic network analysis, Social media big data, Social network analysis.

1. Introduction

As leisure time expands, interest in satisfying individual needs is increasing, along with a growing interest in recreation to improve overall quality of life [1]. Through recreation, people have the opportunity to refresh their repetitive daily lives and enhance their overall life satisfaction. Resorts have recently attracted renewed attention as tourist destinations for enjoyable vacations. These resort facilities typically include accommodations, food and beverage options, sports facilities, shopping areas, and MICE (Meetings, Incentives, Conferences, and Exhibitions) services, and they are gradually expanding to include additional complex facilities, such as theme parks and casinos [2]. The "integrated resort," which features large casino facilities, has seen significant development around Las Vegas, USA, with large-scale facilities also operating in Asia, primarily in Macau and Singapore [3]. Integrated resorts require a substantial workforce, leading to significant job creation in the operating area. Additionally, tourism revenue is greatly increased through the operation of major facilities such as casinos, which can positively impact the national image and elevate advanced countries in tourism [4, 5].

"Paradise City" was completed on Yeongjong-do Island in Incheon in April 2017, marking the beginning of an integrated resort with an international scale and a large casino dedicated to foreigners in Korea. Since then, the era of integrated resorts in Korea has begun in earnest with the opening of

"Jeju Shinhwa World" on Jeju Island, Korea's largest resort island, in March 2018 [6]. The Inspire Integrated Resort, which promotes a 'Korean-style Las Vegas' by Mohigan, an American casino company, also opened in Yeongjong-do, Incheon, in November 2023. The Midan City Integrated Resort project, centered on Chinese investment capital, has had its development period extended by one year and is being pursued as a single investment. With large-scale investments and regional development through the establishment of integrated resorts, social interest is increasing, and the domestic tourism industry, which has been stagnant due to the outbreak of COVID-19, is expected to experience a revival. In addition, continuous efforts should be made to enhance customer value to improve overall facility management and the quality of human services [7, 8, 9].

The flow of research on integrated resorts has largely focused on their development and necessity, improving laws, deriving strategies, analyzing overseas operation cases, and examining consumer behavior, such as the selection attributes, emotional reactions, and action intentions of tourists using actual integrated resorts. As the first research stream, there are studies examining the development direction and necessity of Korean-style integrated resorts [10], studies suggesting the development direction of the integrated resort casino industry within the Korean tourism sector [11], studies proposing improvement plans for related laws to foster the development of the casino industry centered on integrated resorts [12], and studies deriving strategies for creating value and securing a competitive edge in the integrated resort casino business [13]. The second research stream includes a study investigating the influence of the selection attributes of integrated resort VIP customers and the expertise of marketers on joint value creation and loyalty [14], a study examining the impact of the physical environment within integrated resorts on emotional responses, length of stay, and behavioral intention [15], a study analyzing the influence of the perceived restorative servicescape of integrated resort casino tourists on place attachment and place loyalty [16], and a study investigating the effect of integrated resort selection attributes on experience value and behavioral intention [1].

Despite the growing demand for integrated resorts, research on this topic is still in its early stages. There is a need for studies that can examine integrated resorts from various perspectives and provide concrete suggestions for their future development. In particular, utilizing unstructured big data analysis from social media—an area that has recently gained attention in hotels and tourism—would be meaningful for examining the comprehensive perceptions of integrated resort tourism consumers. This approach could lead to valuable developmental suggestions for integrated resorts moving forward. As the impact of the COVID-19 outbreak gradually weakens, comparing and analyzing tourism consumers' perceptions of integrated resorts before and after the outbreak could yield deeper insights into consumer behavior and inform differentiated management strategies in the context of infectious diseases. Currently, big data research related to these integrated resorts has only been conducted prior to the COVID-19 outbreak, highlighting the urgent need for studies that consider the post-COVID-19 perspective.

Therefore, the purpose of this study is twofold. First, we aim to identify the general perceptions of tourism consumers regarding integrated resorts by dividing the analysis into periods before and after the COVID-19 outbreak. This will involve collecting unstructured big data from social media platforms such as Naver, Daum, and Facebook to derive relevant keywords, followed by conducting unstructured big data research using these keywords. Second, we intend to specifically analyze the perceptions of integrated resorts by employing social network analysis and semantic network analysis to investigate these keywords further. Finally, we plan to conduct CONCOR analysis (CONvergence of iterated CORrelation) to identify additional results through clustering based on status and location among the organized keywords. Through this research, we aim to clarify tourism consumers' perceptions of integrated resorts before and after the COVID-19 outbreak and to suggest various strategies for revitalizing integrated resorts.

2. Theoretical Background

2.1. Concept and Studies of Integrated Resort

The origin of the word 'resort' is said to have started from the bathhouses of the Roman era, and there is a view that the scope of use of modern resorts expanded from the upper class to the general public starting in the 1950s [6]. In the 1980s, resorts began to include various forms of auxiliary facilities such as leisure amenities, and in addition to lodging, the number of users utilizing leisure sports facilities, such as skiing, expanded [18]. A resort can be defined as "a specific leisure space where one can move from a certain location of daily life to another space and stay" [19]. The first resorts in Korea are Hanwha Resort, which began construction in 1974 in the Gyeongju Bomun area of Gyeongju-si, Gyeongsangbuk-do, and Yongpyong Resort, which was developed as a ski resort in Hoeng-gye, Gangwon-do, in 1975 [19]. Subsequently, in the 1980s, ski resorts continued to be developed and opened, primarily in the mountainous areas of Gangwon-do. After the 2000s, resorts evolved into integrated resorts that included water parks in addition to ski facilities [20]. In October 2000, Gangwon Land opened in Gohan, Jeongseon-gun, Gangwon-do, in a closed mining village, aiming to revitalize the area and enhance regional competitiveness. This was the first integrated resort with a domestic casino within a comprehensive resort. Following this, 'Paradise City' opened in Yeongjong-do, Incheon, in April 2017, and 'Jeju Shinhwa World' opened sequentially in Seogwipo, Jeju, in March 2018 [6]. In November 2023, 'Inspire Integrated Resort' by Mohigan, USA, is scheduled to open in Yeongjong-do, Incheon. Resorts can be categorized into five types: golf and ski, ocean, hot spring, theme park, and complex [21]. Many golf and ski resorts operate around the world, with representative examples of ocean resorts including Marina del Rey in the US and Premier Marina in the UK. Notable hot spring resorts include Hawaiians in Japan and Friedrich Spa in Germany. Theme Park resorts include Walt Disney Resort in the US and Everland Resort in Korea. integrated resorts are those composed in a multifaceted manner, with representative examples including Marina Bay Sands Resort in Singapore. integrated resorts can be further categorized based on the facilities introduced and their location characteristics [22]. In terms of facilities, they are categorized into casino hotels, leisure, and business types; in terms of location characteristics, they are categorized into urban, suburban, and rural types.

There are two main characteristics of recent integrated resort studies. First, there are studies analyzing the development and necessity of integrated resorts, improvements in laws, strategies, and overseas operational cases [5, 10, 11, 12, 13, 23]. Second, there are studies that analyze consumer behaviors, such as selection attributes, emotional reactions, and intentions of tourists [1, 14, 15, 16, 24, 25]. Recently, studies have expanded to utilize unstructured big data from social media to suggest tourism consumers' perceptions and various implications based on these insights. These unstructured big data studies have the advantage of understanding diverse perspectives of tourism consumers beyond the effects of quantitative research, such as existing surveys. Additionally, because this data is collected in real time through social media, it is amenable to a variety of analytical methodologies. Therefore, this study aims to collect keywords highly related to integrated resorts across major social media and social network services in both Korea and abroad, conducting research through social network analysis and semantic network analysis. We also aim to draw further implications by applying CONCOR analysis.

2.2. Research Trends of Tourism Area Big Data

Exploring information about tourist destinations and facilities during the process of scheduling tourism and establishing detailed plans is a very important activity for tourists [26]. Through this exploration of tourism information, travelers select their preferred destinations and facilities, finalizing overall decisions related to tourism, such as accommodation schedules, food and beverage choices, and tourism plans [27]. With the recent advancement of information and communication technologies and the performance of mobile devices, infrastructure that allows access to the Internet anytime and anywhere at tourist destinations has been established. Tourists can conveniently collect real-time

information on destinations and facilities using their smartphones and other mobile devices. Against this backdrop, real-time usage data from various tourists is accumulated as formal or unstructured big data, particularly from major social media platforms in Korea, such as Naver and Daum, as well as international social network services like Facebook. The accumulation of unstructured big data through social media and social network services in the tourism sector is significant because it serves as an important asset for sharing and disseminating tourist information. This data allows for the quick sharing of information produced by tourists, which can rapidly spread to other travelers [28]. Analyzing big data based on this tourism information provides various insights, such as performance analysis of tourism businesses and emotional analysis of tourists. Big data, which is driving the data technology revolution, positively impacts knowledge discovery, transformative thinking, and the value of research in the hotel and tourism industries [29]. Furthermore, big data research can be approached from a new inductive perspective, shifting the focus from hypothesis-driven to data-driven methodologies [30]. This research is expanding rapidly and is being integrated into various domains within the tourism industry, including hotels, resorts, aviation, and MICE [31]. A study was conducted to examine tourists' comprehensive perceptions of the integrated resort [17]. However, only part of the study was conducted before the outbreak of COVID-19, which significantly impacted the tourism industry as a whole. Additionally, no research has been conducted to compare and analyze the perceptions of integrated resort tourists post-COVID-19. It is crucial to compare tourists' perceptions before and after the pandemic because global infectious diseases, such as SARS and MERS, have recurred. In the face of such diseases, tourists' perceptions at integrated resorts may differ, providing foundational data on how to establish operational strategies for integrated resorts during health crises. This information could also aid in revitalizing operations at integrated resorts, which have been highlighted as a promising future industry for tourism.Therefore, this study aims to conduct a comparative analysis of tourists' perceptions by categorizing the period before and after the onset of COVID-19 for keywords highly related to integrated resorts, collected from social media and social network services. This research will contribute positively to the field and serve as a reference for practical marketing strategies within the integrated resort industry.

3. Materials and Methods

3.1. Research Questions

This study aims to compare and analyze tourists' perceptions of integrated resorts before and after the outbreak of COVID-19. We intend to conduct in-depth research on keywords related to integrated resorts on Naver, Daum, Google, cafes, blogs, and Facebook—major social media platforms in Korea—during the period preceding the outbreak and three years following it, using social network analysis and semantic network analysis. To proceed with the research step by step, we have derived the following research tasks to address:

Research Question 1: What are the differences and characteristics of keywords
Related to integrated resorts before and after the outbreak of COVID-19?
Research Question 2: What central analysis results and clusters do the keywords related to integrated resorts show before and after the outbreak of COVID-19?
Research Question 3: What activation measures can be suggested for keywords related to integrated resorts through comparative analysis before and after the outbreak of COVID-19?

3.2. Analysis period and data collection

The analysis period of this study was divided into two distinct phases: the pre-COVID-19 period, from January 1, 2017, to December 31, 2019, and the post-COVID-19 period, from January 1, 2020, to December 31, 2022. The analysis focused on selected blogs, cafes, knowledge-sharing platforms, web documents, and news articles on Naver, Korea's leading portal site. Additionally, blogs, cafes, web documents, and news sources were chosen based on their long-standing presence in Korea. Finally, Facebook, web documents, and news from Google—some of the most active services globally—were

included in the analysis. These three social media channels were selected due to their popularity among Korean tourists, making them well-suited for comparing and analyzing tourists' perceptions of integrated resorts.

3.3. Analysis Procedures and Methods

A total of five stages were applied to the social media big data study comparing tourists' perceptions before and after the outbreak of COVID-19 [32]. Therefore, this study established a five-step process to ensure smooth progress. The first stage involved collecting integrated resort keywords by analyzing data from the period before and after the COVID-19 outbreak on "http://www.textom.co.kr," a professional keyword collection service. To examine recent trends in keywords related to integrated resorts, we used the 'keyword preview' function to analyze the search flow for these keywords. This process confirmed active discussions about the integrated resort and allowed us to earnestly collect related keywords. Keyword verification was conducted with two professors specializing in tourism to ensure that the selected keywords from before and after the COVID-19 outbreak were appropriate for the study. The verification results indicated that the keywords were suitable for application in this study. A total of 50 keywords were selected from 7,933 during the pre-COVID-19 period and 50 from 7,395 during the post-COVID-19 period, resulting in a total of 100 key keywords. The text mining process for selecting these key keywords was informed by prior studies in the tourism field [17]. The second stage involved establishing a one-mode matrix for the 100 keywords, all of which are highly related to integrated resorts. In the third stage, frequency analysis and centrality analysis were performed using the UCINET program. Centrality serves as an indicator of connectivity importance, taking into account both the number of connections between keywords and the significance of those relationships [33]. The fourth phase conducted social network analysis and semantic network analysis to compare and analyze tourism consumers' perceptions of integrated resorts, again using the UCINET program. Visualization efforts were also undertaken to enhance reader understanding by presenting the main research results. The fifth stage involved 'CONCOR (CONvergence of iterated CORrelation) analysis' using the UCINET program. CONCOR analysis clusters the collected key keywords based on correlations and identifies hidden sub-groups among the keywords to explore relationships within each group [34]. Finally, a visualization of the CONCOR analysis results was conducted.

4. Results

Text mining was implemented to enhance keywords in the process of comparative research on recognition related to integrated resorts. For this purpose, the KrKwic program was used to select a total of 100 key keywords associated with integrated resorts before and after the outbreak of COVID-19. Specifically, 50 keywords were selected before the outbreak of COVID-19 and 50 after the outbreak. The results of the frequency analysis and the 50 keywords that are highly related to integrated resorts before and after the outbreak of COVID-19 are shown in <Table 1>.

4.1. Analysis of Integrated Resort

In the period before the outbreak of COVID-19, the keyword that appeared most frequently among those highly related to integrated resorts was "Casino (2,777)." The casino is the main business venue among the integrated resort facilities, accounting for the largest portion of sales and employees. The next keywords are 'Jeju (2,479)', 'Yeongjong-do (2,236)', 'Hotel (1,742)', 'Dream Tower (1,639)', 'Incheon (1,349)', 'Development (1,281)', 'Domestic (1,272)', 'Inspire (1,239)', 'Business (1,061)', 'Scale (1,031)', 'Overview (1,004)', 'Maximum (919)', 'Paradise City (782)', 'Incheon Airport (764)', 'Investment (694)', 'Sightseeing (685)', 'Propulsion (657)', 'Attraction (642)', and 'Creation (627).' In the period after the outbreak of COVID-19, the keyword that showed the highest frequency among those highly related to integrated resorts was "Jeju (4,269)." Jeju is Korea's leading tourist destination and is home to integrated resorts such as Jeju Shinhwa World and Dream Tower. The subsequent keywords are 'Resort (3,648)', 'Dream Tower (2,869)', 'Casino (1,901)', 'Hotel (1,738)', 'Yeongjong-do (1,522)', 'Inspire (1,500)',

'Business (1,427)', 'Incheon (1,312)', 'Scale (1,154)', 'Midan City (1,074)', 'Domestic (1,031)', 'Maximum (909)', 'Overview (898)', 'Room (793)', 'Creation (776)', 'Proceed (759)', 'Grand (713)', and 'Lotte Tourism Development (683)', along with 'Development (676).'

Table 1.
Results of frequency analysis related to integrated resort.

Before the outbreak of COVID-19			After the outbreak of COVID-19		
Keyword	**Frequency**	**Percentage**	**Keyword**	**Frequency**	**Percentage**
Casino	2,777	1.352	Jeju	4,269	2.132
Jeju	2,479	1.207	Resort	3,648	1.822
Yeongjong-do	2,236	1.088	Dream Tower	2,869	1.433
Hotel	1,742	0.848	Casino	1,901	0.949
Dream Tower	1,639	0.798	Hotel	1,738	0.868
Incheon	1,349	0.656	Yeongjong-do	1,522	0.76
Development	1,281	0.623	Inspire	1,500	0.749
Domestic	1,272	0.619	Business	1,427	0.712
Inspire	1,239	0.603	Incheon	1,312	0.655
Business	1,061	0.516	Scale	1,154	0.576
Scale	1,031	0.502	Midan City	1,074	0.536
Overview	1,004	0.488	Domestic	1,031	0.515
Maximum	919	0.447	Maximum	909	0.454
Paradise city	782	0.38	Overview	898	0.448
Incheon airport	764	0.372	Room	793	0.396
Investment	694	0.337	Creation	776	0.387
Sightseeing	685	0.333	Proceed	759	0.379
Propulsion	657	0.319	Grand	713	0.356
Attraction	642	0.312	Lotte tourism development	683	0.341
Creation	627	0.305	Development	676	0.337
Facility	597	0.29	Hanwha construction	590	0.294
Theme park	594	0.289	China	557	0.278
Pre-sale	570	0.277	Facility	556	0.277
Japan	569	0.277	Jeju Island	555	0.277
Construction started	566	0.275	Open	536	0.267
Busan	566	0.275	Hyatt	517	0.258
World	558	0.271	Conclusion	490	0.244
Construction	540	0.262	Value	466	0.232
Industry	511	0.248	Foreigner	459	0.229
Tourism industry	511	0.248	Employment	449	0.224
Midan City	490	0.238	Entertainment	407	0.203
Location	469	0.228	Jeju Dream tower	401	0.2
Region	466	0.226	Construction	392	0.195
Jeju Shinhwa World	452	0.22	Mohigan	389	0.194
Open	451	0.219	Erection	385	0.192
Large scale	441	0.214	Paradise	382	0.19
Convention	408	0.198	plan	378	0.188
China	396	0.192	Starfield	377	0.188
Variety	390	0.189	Downtown	375	0.187
Korea	374	0.182	Jecheon city	372	0.185

Place	367	0.178	Pre-sale	366	0.182
Economy	362	0.176	Real estate	365	0.182
Outlook	358	0.174	Travel	353	0.176
Attention	358	0.174	Variety	352	0.175
Singapore	356	0.173	Jeju Shinhwa world	334	0.166
Macau	355	0.172	Outlook	328	0.163
Representative	346	0.168	Sightseeing	327	0.163
Northeast Asia	344	0.167	Investment	310	0.154
Saemangeum	329	0.16	Northeast Asia	298	0.148
The United States	308	0.149	Theme	296	0.147

Before the outbreak of COVID-19, the results of the degree centrality keyword analysis were 'Sightseeing (.102)', 'Jeju (.1)', 'Casino (.093)', 'Incheon (.088)', 'Hotel (.086)', 'Development (.074)', 'Yeongjong-do (.052)', 'Dream Tower (.052)', 'Industry (.049)', 'Business (.047)', 'Domestic (.042)', 'Economy (.039)', and 'Scale (.037)', among others. The results of the analysis of the closeness centrality keywords were 'Casino (1)', 'Yeongjong-do (1)', 'Hotel (1)', 'Incheon (1)', 'Development (1)', 'Domestic (1)', 'Business (1)', 'Scale (1)', 'Maximum (1)', 'Investment (1)', 'Creation (1)', and 'Facility (1)'. After the outbreak of COVID-19, the results of the degree centrality analysis were 'Resort (.198)', 'Jeju (.105)', 'Sightseeing (.069)', 'Dream Tower (.066)', 'Development (.063)', 'Business (.055)', 'Hotel (.045)', 'Erection (.04)', 'Casino (.039)', 'Inspire (.039)', 'Incheon (.039)', 'Lotte Tourism Development (.039)', etc. The results of the closeness centrality keyword analysis were 'Resort (1)', 'Hotel (1)', 'Business (1)', 'Scale (1)', 'Development (1)', 'Incheon (.99)', 'Domestic (.99)', 'Maximum (.99)', 'Creation (.99)', 'Proceed (.99)', 'Erection (.99)', 'Plan (.99)', 'Investment (.99)', and 'Casino (.99)', along with 'Overview (.98)', etc. Based on the results of the degree centrality and closeness centrality analysis before the COVID-19 outbreak, 'Sightseeing', 'Jeju', 'Casino', 'Incheon', 'Hotel', 'Development', 'Yeongjong-do', and 'Dream Tower' showed high results. The results of the analysis of degree centrality and closeness centrality before and after the outbreak of COVID-19 are shown in <Table 2>. Images that visualize the results of social network analysis and semantic network analysis based on the results of degree centrality and closeness centrality analysis are displayed in <Figure 1, 2> below.

Table 2.
Results of centrality analysis related to integrated resort.

Before the outbreak of COVID-19			After the outbreak of COVID-19		
Keyword	**Degree**	**Closeness**	**Keyword**	**Degree**	**Closeness**
Casino	0.093	1	Jeju	0.105	0.959
Jeju	0.1	0.99	Resort	0.198	1
Yeongjong-do	0.052	1	Dream Tower	0.066	0.929
Hotel	0.086	1	Casino	0.039	0.98
Dream Tower	0.052	0.929	Hotel	0.045	1
Incheon	0.088	1	Yeongjong-do	0.027	0.969
Development	0.074	1	Inspire	0.039	0.918
Domestic	0.042	1	Business	0.055	1
Inspire	0.036	0.98	Incheon	0.039	0.99
Business	0.047	1	Scale	0.026	1
Scale	0.037	1	Midan City	0.024	0.847
Overview	0.025	0.99	Domestic	0.018	0.99
Maximum	0.029	1	Maximum	0.023	0.99
Paradise City	0.019	0.99	Overview	0.022	0.98
Incheon	0.024	0.959	Room	0.017	0.949

Airport					
Investment	0.039	1	Creation	0.013	0.99
Sightseeing	0.102	1	Proceed	0.018	0.99
Propulsion	0.019	1	Grand	0.015	0.929
Attraction	0.022	0.99	Lotte Tourism Development	0.039	0.918
Creation	0.015	1	Development	0.063	1
Facility	0.032	1	Hanwha Construction	0.019	0.806
Theme park	0.016	0.99	China	0.013	0.918
Pre-sale	0.024	0.98	Facility	0.015	1
Japan	0.015	0.98	Jeju Island	0.01	0.939
Construction started	0.017	0.98	Open	0.009	0.98
Busan	0.022	0.98	Hyatt	0.013	0.857
World	0.014	1	Conclusion	0.009	0.918
Construction	0.026	1	Value	0.006	0.888
Industry	0.049	1	Foreigner	0.011	0.959
Tourism industry	0.023	1	Employment	0.01	0.949
Midan City	0.012	0.959	Entertainment	0.011	0.959
Location	0.009	0.99	Jeju Dream Tower	0.013	0.898
Region	0.025	1	Construction	0.025	0.98
Jeju Shinhwa World	0.012	0.939	Mohigan	0.015	0.847
Open	0.013	1	Erection	0.04	0.99
Large scale	0.014	0.99	Paradise	0.006	0.959
Convention	0.015	0.99	plan	0.007	0.99
China	0.012	1	Starfield	0.003	0.786
Variety	0.009	0.99	Downtown	0.007	0.908
Korea	0.016	1	Jecheon city	0.007	0.643
Place	0.014	1	Pre-sale	0.006	0.98
Economy	0.039	1	Real estate	0.009	0.959
Outlook	0.01	1	Travel	0.012	0.969
Attention	0.01	1	Variety	0.004	0.969
Singapore	0.01	1	Jeju Shinhwa World	0.006	0.867
Macau	0.006	1	Outlook	0.006	0.959
Representative	0.011	1	Sightseeing	0.069	1
Northeast Asia	0.01	1	Investment	0.013	0.99
Saemangeum	0.012	0.898	Northeast Asia	0.011	0.898
The United States	0.008	1	Theme	0.007	0.969

Figure 1.
Visualization result before the outbreak of COVID-19.
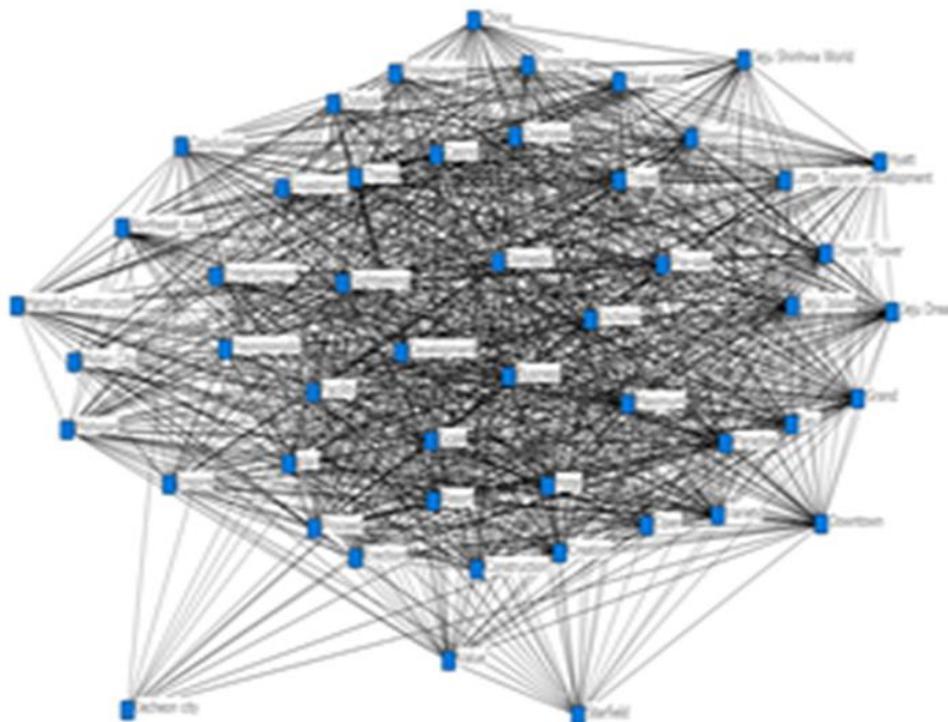
Figure 2.
Visualization result after the outbreak of COVID-19.

4.2. The Results of the CONCOR Analysis

CONCOR analysis was conducted to further interpret the meaning through community formation between keywords that are closely related to the integrated resort before and after the outbreak of COVID-19. CONCOR analysis can use centrality analysis to determine how words that interpret each meaning cluster and have a specific topic within the network [35]. In the period before the outbreak of COVID-19, the results of the CONCOR analysis formed a total of seven clusters. First, it was composed of Business, Economy, Propulsion, Yeongjong-do, Midan City, Creation, etc., and was named 'Yeongjong-do Integrated Resort.' Secondly, it was composed of Large scale, Open, Representative, Location, Place, Sightseeing, Scale, Investment, etc., and the community name was "Integrated Resort Attribute." Thirdly, it was composed of Representative, Development, China, Jeju, Pre-sale, Maximum, Attraction, Jeju ShinhwaWorld, etc., and was named 'Jeju Integrated Resort.' Fourthly, it was composed of Outlook, Incheon, Inspire, Incheon Airport, and Construction started, and was named 'Inspire Integrated Resort.' Fifth, it was composed of Overview, Paradise City, Northeast Asia, Singapore, Attraction, etc., and was named 'Paradise City Integrated Resort.' Sixthly, it was composed of Tourism industry, Saemangeum, Variety, Convention, etc., and was named 'Saemangeum Integrated Resort.' Lastly, it was composed of Casino, Korea, etc., and was named 'Integrated Resort Country.'

In the period following the outbreak of COVID-19, CONCOR analysis resulted in a total of seven clusters. First, it was composed of Mohigan, Hanwha Construction, Inspire, Maximum, Entertainment, Northeast Asia, Conclusion, etc., and was named 'Inspire Integrated Resort.' Secondly, it was composed of Pre-sale, Open, Casino, Hotel, Resort, and Outlook, and was named 'Integrated Resort Business.' Thirdly, it was composed of Midan City, China, Yeongjong-do, Incheon, Business, Real estate, etc., and was named 'Midan City Integrated Resort.' Fourthly, it was composed of Lotte Tourism Development, Downtown, Travel, Employment, Domestic, etc., and was named 'Lotte Dream Tower Integrated Resort.' Fifthly, it was composed of Jeju Dream Tower, Hyatt, Room, Jeju Shinhwa World, etc., and was

named 'Jeju Integrated Resort.' Sixthly, it was composed of Value, Variety, Theme, Starfield, etc., and was named 'Hwaseong Integrated Resort.' Lastly, it was composed of Jecheon City, plan, Investment, etc., and was named 'Jecheon Integrated Resort.' The CONCOR cluster analysis results are shown in <Table 3>, and the visualization images based on the CONCOR cluster analysis results are shown in <Figure 3, 4>.
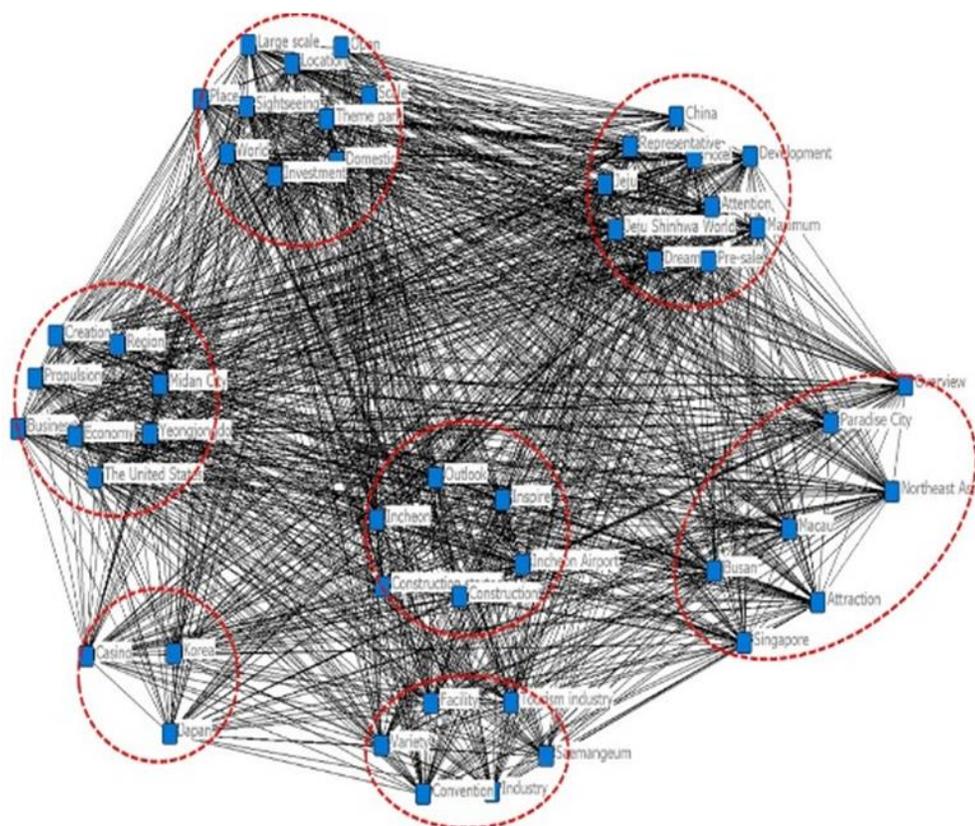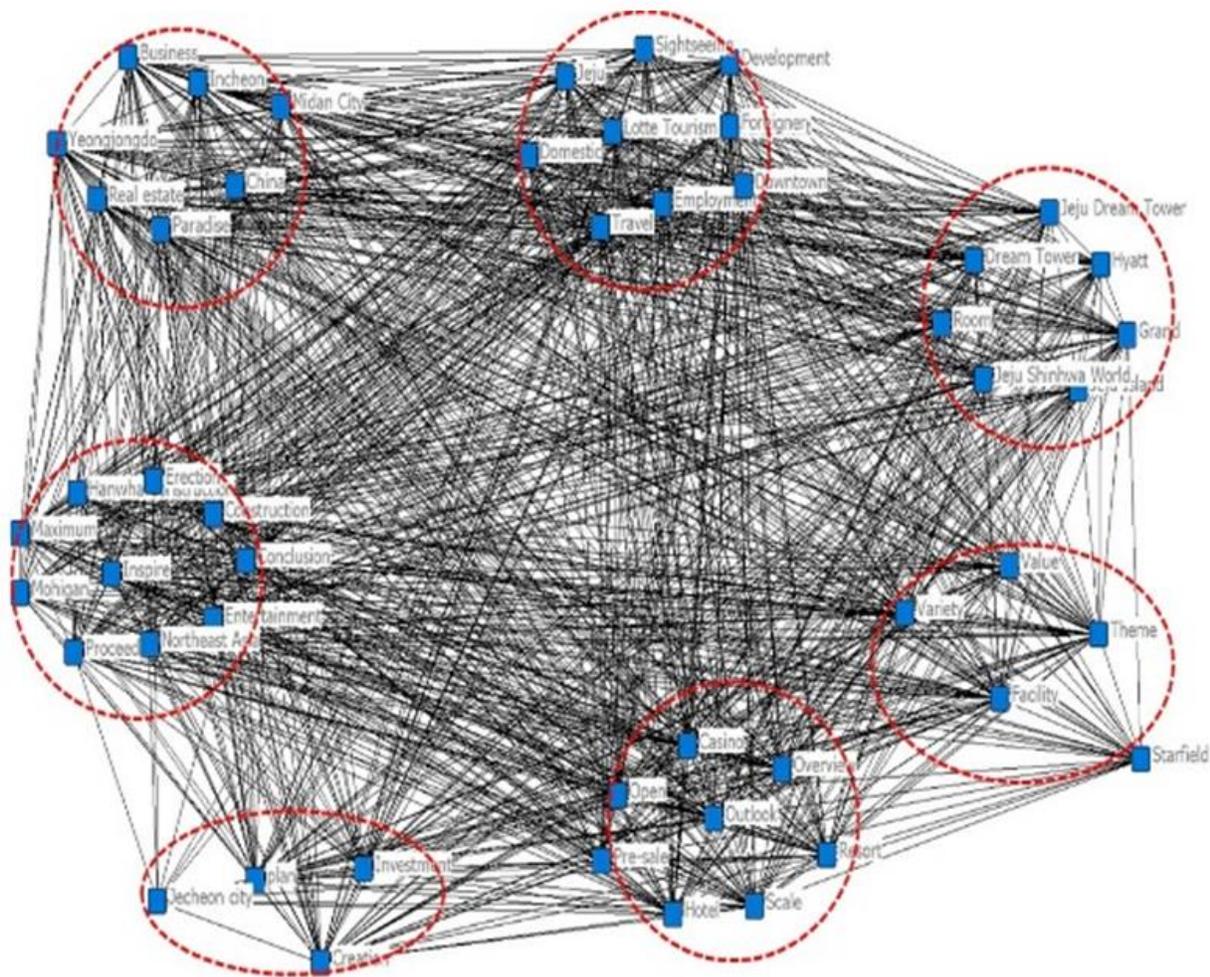

Figure 3.
CONCOR analysis visualization result before the outbreak of COVID-19.

Figure 4.
CONCOR analysis visualization result after the outbreak of COVID-19.

Table 3.
Results of CONCOR analysis related to integrated resort.

Before the outbreak of COVID-19		After the outbreak of COVID-19	
Yeongjong-do Integrated Resort	Business, Economy, Propulsion, Creation, Region, Yeongjong-do, Midan City, The United States	Inspire Integrated Resort	Mohigan, Hanwha Construction, Inspire, Maximum, Entertainment, Northeast Asia, Conclusion, Proceed, Construction, Erection
Integrated Resort Attribute	Large scale, Open, Location, Place, Sightseeing, Scale, Theme park, Domestic, Investment, World	Integrated Resort Business	Pre-sale, Open, Casino, Hotel, Resort, Outlook, Overview, Scale

Shinhwa World Integrated Resort	Representative, Development, China, Jeju, Pre-sale, Maximum, Attraction, Jeju Shinhwa World, Dream Tower, Hotel	Midan City Integrated Resort	Midan City, China, Yeongjong-do, Incheon, Business, Real estate, Paradise
Inspire Integrated Resort	Outlook, Incheon, Inspire, Incheon Airport, Construction, Construction started	Lotte Dream Tower Integrated Resort	Lotte Tourism Development, Sightseeing, Development, Downtown, Travel, Employment, Domestic
Paradise City Integrated Resort	Overview, Paradise City, Northeast Asia, Macau, Singapore, Busan, Attraction	Jeju Integrated Resort	Jeju Dream Tower, Grand, Hyatt, Room, Jeju Island, Jeju Shinhwa World
Saemangeum Integrated Resort	Tourism industry, Saemangeum, Variety, Industry, Convention	Hwaseong Integrated Resort	Value, Variety, Theme, Facility, Starfield
Integrated Resort Country	Casino, Korea, Japan	Jecheon Integrated Resort	Jecheon city, plan, Investment, Creation

5. Discussion

The integrated resort is a rapidly growing landmark industry that is attracting global attention. It offers a place to enjoy relaxation, shopping, and leisure activities, featuring hotels, casinos, theme parks, and shopping malls. In addition to tourists visiting primarily for the casino, integrated resorts also cater to family tourists, allowing them to spend their vacations enjoying various leisure and recreational facilities. These resorts operate as large-scale attractions in some of the world's most popular tourist destinations, such as Macau and Singapore, and serve as a tourism product that provides numerous benefits, including job creation and revitalization of the local economy.

This study aimed to compare and analyze the comprehensive perception of integrated resorts before and after the outbreak of COVID-19, and to propose ways to enhance the operational perspective of integrated resorts based on this analysis. To achieve the purpose of this research, keywords related to integrated resorts were collected from major social media platforms such as Naver, Daum, and the global search engine Google. The research was conducted gradually through social network analysis, an unstructured big data analysis methodology, and semantic network analysis. The keyword collection period spanned a total of six years, from January 1, 2017, to December 31, 2022, and a comparative analysis was performed by dividing the data into periods before and after COVID-19. Various big data analysis programs, including Krkwic, KrTitle, UCINET, and Netdraw, were used in stages. The research employed related methodologies such as text mining, frequency analysis, centrality analysis, and CONCOR analysis. Additionally, to help interpret and understand the results of this study, the main analysis results were visualized..

The main results of the study confirmed through these research stages are as follows:

First, the analysis of the frequency of integrated resorts before the outbreak of COVID-19 revealed that Casino, Yeongjong-do, Hotel, Dream Tower, Incheon, Development, Domestic, Inspire, Business, and others had a high frequency of appearance. In contrast, the frequency analysis of integrated resorts after the outbreak of COVID-19 indicated that Jeju, Resort, Dream Tower, Casino, Hotel, Yeongjong-do,

Inspire, and Business frequently appeared. Prior to the outbreak of COVID-19, there was significant interest in integrated resorts on Yeongjong-do in Incheon, while after the outbreak, interest in integrated resorts in Jeju appears to have increased. Second, the degree centrality and closeness centrality analysis conducted before the COVID-19 outbreak showed high results for Sightseeing, Jeju, Casino, Incheon, Hotel, Development, Yeongjong-do, and Dream Tower. This indicates a strong interest in tourism activities and the use of integrated resorts in Jeju and Incheon during this period. Following the COVID-19 outbreak, the degree centrality and closeness centrality analysis revealed that Resort, Sightseeing, Development, Business, Hotel, Erection, Inspire, and Incheon showed high results. This reflects significant interest in the Inspire New Integrated Resort, which is set to open in Yeongjong-do, Incheon, in November 2023. Third, the CONCOR analysis conducted before and after the outbreak of COVID-19 confirmed that seven clusters were formed, remaining the same. Prior to the outbreak of COVID-19, the clusters included 'Yeongjong-do Integrated Resort', 'Integrated Resort Attribute', 'Jeju Integrated Resort', 'Inspire Integrated Resort', 'Paradise City Integrated Resort', 'Saemangeum Integrated Resort', and 'Integrated Resort Country'. After the outbreak of COVID-19, the clusters included 'Inspire Integrated Resort', 'Integrated Resort Business', 'MidanCity Integrated Resort', 'Lotte Dream Tower Integrated Resort', 'Jeju Integrated Resort', 'Hwaseong Integrated Resort', and 'Jecheon Integrated Resort'.

The academic and practical implications of this study are as follows.

First, most of the integrated resort studies conducted in the past have focused on consumer psychology and behavior, including the development and necessity of integrated resorts, improvements in laws, strategy formulation, analysis of overseas operation cases, and the selection attributes, emotional reactions, and action intentions of tourists who actually visited integrated resorts. This study applied unstructured big data research using social big data, which has recently gained attention in hospitality and tourism industry research. It compared perceptions of integrated resorts before and after the outbreak of COVID-19 and analyzed these perceptions to provide various implications. Second, tourism consumers demonstrated greater interest in integrated resorts in Jeju, a major tourist destination and clean area in Korea, than before the outbreak of COVID-19. The integrated resort in Jeju seems to have been chosen as the best alternative during a time when it is difficult to visit overseas integrated resorts. It would be beneficial to establish and implement a marketing strategy by considering the trends and preferences of tourism consumers in the event that infectious diseases such as COVID-19 occur again in the future. Third, based on the results of the CONCOR analysis, interest in integrated resorts accounted for a significant portion of the Incheon area before the outbreak of COVID-19. However, since the outbreak, specific integrated resort brands such as Inspire and Lotte Dream Tower have been actively discussed, especially regarding integrated resorts under consideration for new development in Hwaseong, Gyeonggi Province. Referring to these characteristics, it will be effective for the nationwide marketing campaign to familiarize consumers with the integrated resort brand while delivering specific brand messages to promote viral marketing when establishing an integrated resort brand strategy in the future.

6. Limitations and Future Studies

This study compared and analyzed tourism consumers' perceptions of integrated resorts before and after the outbreak of COVID-19. To this end, unstructured big data from major social media in Korea was extracted, compared, and analyzed. Future studies could yield richer results if qualitative research is conducted alongside in-depth interviews with integrated resort management experts and tourism consumers who frequently use actual integrated resorts. In particular, a comparative analysis of tourism consumers' preferences and future intentions in relation to the opening of new integrated resorts will be significant.

Funding:

Copyright:

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