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Using Online Customer Reviews to Understand Customers' Experience and Satisfaction with Integrated Resorts

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Abstract: With the diverse demands of customers for their accommodation experiences, integrated resorts have emerged and have been popular among tourists. Meanwhile, in the context of Tourism and Hospitality 4.0, online information collection and marketing has been one of the most effective strategies for industry operators and investors. Thus, the present study adopted online reviews generated by customers themselves to explore their experience and satisfaction with integrated resorts. With the qualitative and quantitative analyses of online customer reviews, firstly, 70 prominent keywords were extracted from the reviews, and some general understanding was obtained from the top frequent words. After conducting a semantic network analysis of the top frequent words, significant and central words in the network were identified, which were utilized as basic variables for the specific exploration of factors reflecting customers' experience. In the meantime, four dimensions, "Amenities", "Entertainment", "Tourist", and "Atmosphere", were garnered via CONCOR analysis to illustrate the key dimensions of customers' cognition and awareness towards resorts. At last, a quantitative analysis with an exploration factor analysis and a linear regression analysis were conducted to testify the correlation between customer experience and satisfaction. Three factors, "environment", "staff service", and "food service", have a significant effect on customer satisfaction. Analytics of online customer reviews with a big volume, which differ from traditional research methods by designed structure or content, could generate more comprehensive understanding and cognition of research subjects. The findings obtained from analytics could provide baseline information for future research and industry development and promotion.

Keywords: integrated resort; online customer reviews; customer experience; satisfaction; text analytics

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1. Introduction

The tourism and hospitality industry is a volatile sector, with customers' demand fluctuations influenced by a range of external and internal factors [1]. With the diverse market demand, a single hotel industry can no longer meet customers' diverse requirements, which has led to the emergence of the term "integrated resort" that encompasses entertainment venues, casinos, hotels, dining services, shopping malls, and other recreational activities [2]. The diversification of market demand, coupled with the worldwide outbreak of new coronavirus diseases in 2019, has led to increasingly fierce competition in the hotel industry, and the more risk-resistant "resorts" have become essential objects of study. Based on MacDonald and Eadington, an integrated resort is defined as "a multidimensional resort costing billions of dollars, with a casino occupying no more than 10% of the public area of the resort, but generating at least $300 million in revenue for the casino operator." [3]. Hence, it is easy to see the differences between integrated resorts and traditional hotels, and it has been declared by many sources in the literature that integrated resorts are often associated with the presence of casinos and hotels, that is, the combination of entertainment

and accommodation [4]. Therefore, understanding customers' experience and satisfaction with integrated resorts, which are different from hotels, is a relatively new research niche for the tourism and hospitality industry.

With the advancement of technology and the widespread use of smartphones, consumer purchasing behavior has undergone a change in the era of Industry 4.0. Online consumer reviews, which cover a wide range of products/services such as restaurants, electronic games, and hotels, have become one of the primary resources for consumers to make purchasing decisions, and they have been rapidly applied in various fields [5]. For example, in the accommodation sector, Xiang et al. adopted online customer reviews from TripAdvisor to investigate the relationship between hotel guests' experience and satisfaction [6], Guo et al. utilized online numeric ratings and textual reviews to explore tourist satisfaction via latent Dirichlet allocation [7], and in the sector of travel, it was testified that travel blogs with text and pictures are one way for guests to share their accommodation experiences and their opinions, which can later help in identifying the factors influencing other tourists' behavioral intentions. That is, online travel blogs not only provide an affordable way to collect feedback from visitors, but also offer an opportunity to identify attributes reflecting customers' experience [8].

Therefore, with the effective application of online resources in the hospitality industry and with the limited cognition of integrated resorts, the present study adopted online customer reviews on integrated resorts to understand customers' experience and its association with their satisfaction. In the present study, Galaxy Macau was selected as the research subject since it is a large-scale integrated resort that combines dining, gambling, hotels, and leisure activities. This study features a multidimensional survey of customer satisfaction by selecting online customer reviews of Galaxy Macau resorts. Thus, we can accurately grasp the consumption behaviors and habits of customers. In terms of review analytics, a qualitative analysis and a quantitative analysis with a dummy variable were applied to explore customers' cognition of integrated resorts and examine the relationship between customers' experience and satisfaction.

Collectively, the research objective is mainly to explore and understand the potential value embedded in customers' online reviews by employing Galaxy Macau integrated resorts as the research object with the methods of semantic network analysis and quantitative analysis. Specifically, this study addresses the following research questions: (1) What dimensions of customers' experience could be extracted from online reviews? (2) What is the relationship between the factors reflecting resort customers' experience and their satisfaction? (3) What new attributes impacting resort customers' satisfaction could be explored from online customer reviews?

Consequently, this article has several strengths. First, it analyzes factors reflecting customers' experience and its association with customers' satisfaction based on a relatively large volume of online reviews on the Galaxy Macau Integrated Resort over the past four years, which could provide timely, authentic, and targeted information for the development and promotion of integrated resorts. Furthermore, the present study examines integrated resort customers' experience across multiple levels and dimensions using an overall satisfaction approach. Unstructured content generated by customers themselves was adopted to explore brand-new insights for a better cognition of corresponding academia and industry development.

2. Literature Review

2.1. Customers' Experience and Satisfaction with Integrated Resorts

Customer satisfaction can be formed through a single service experience or multiple service experiences, and it is defined as a customer's subjective evaluation of a service or product provided based on expectations and actual performance [9–11]. The significance of customer satisfaction has been testified by numerous studies since it plays an important role in motivating customers' behavioral loyalty, such as giving positive reviews, revisiting, or positive reviewing [12,13]. Within the hospitality service setting, customer satisfaction is

a complex human experience [6]. Recently, scholars have adopted the service-dominant logic, arguing that guest experience is not limited to what the hotel offers, but instead, it is co-created by both the service provider and the customer [14]. Therefore, guest satisfaction can be seen as the guest's evaluation of their experience through their interaction with various service areas [6].

As for guest experience and satisfaction with integrated resorts, several studies were conducted to investigate this issue. In 2011, So et al. conducted research on integrated resorts, with research subjects covering tourists and convention and exhibition visitors [15]. Generally, service quality can be defined as customers' overall impression of the relative efficiency of an organization and its overall service, and it is an important factor in determining customer satisfaction [15]. In 2017, Gao and Lai investigated the factors impacting integrated resort customers' satisfaction and its association with customer loyalty. The above-mentioned research findings were mainly procured using traditional research methods such as a questionnaire survey on the basis of an established framework. Overall, the literature related to customer experience and satisfaction are synthesized in Table 1.

Table 1. The literature related to customers' experience and satisfaction with integrated resorts.

Author	Year	Reference	Main Point
So, Li, and Lehto	2011	[15]	Viewing the Galaxy Macau Resort from the perspective of conference attendees, it is shown that the resort's target audience is not just limited to gambling and leisure tourists, but also includes conference and exhibition visitors. Conference attendees have a positive attitude towards shopping facilities.
Gao and Lai	2017	[16]	Tourists' overall satisfaction with the integrated resort is influenced by specific levels of satisfaction, and overall satisfaction has a strong direct impact on customer loyalty.
Ahn, Back, and Choe	2019	[17]	By examining customers' comprehensive vacation experience from a multi-dimensional perspective of need satisfaction, this study verifies the basic structure of customers' need satisfaction in a comprehensive vacation resort and investigates the impact of multi-dimensional vacation experience on customers' positive emotions.
Ji and Prentice	2021	[18]	Using customer transaction-specific satisfaction (CTSS) and delight as the primary variables, this study examines their impact on customer loyalty using a casino resort as an example.

2.2. Online Customer Reviews and Big Data Analytics

A large number of studies have unearthed that online customer reviews have a great impact on customers with the effect of online word of mouth. Online reviews with textual and numeric formats provided by online platforms have become one of the important sources of information acquisition for modern consumers [19,20]. For example, Vermeulen and Seegers indicated that online hotel reviews are primarily influenced by review valence, reviewer expertise, and consumer familiarity with the reviewed object in regard to their impact on consumers [19]. Customers can obtain information about the quality of hotel services and other customers' satisfaction through online reviews, allowing for more efficient and rational consumption. Based on the examination of satisfied and unsatisfied hotel customers, Berezina et al. used text mining methods to compare online reviews of satisfied and unsatisfied customers [20].

Along with the development of information technology and the diverse application of online information in business operation or management such as the use of online marketing to run customer reviews, various analytics were developed to explore and dig out information from online user-generated content. At present, the concept of big data and relative analytics have had significant roles in diverse fields [21]. Since the advent of the internet era, users continuously generate new data through their online activities [22]. This increase in data has heightened the need for complex statistical and analytical skills,

especially with the emergence of the concept of big data. Big data encompass an ever-increasing range of information sources, such as internet clicks, mobile transactions, user-generated content, social media, and business transactions, and is omnipresent in people's lives [23,24].

The collection and data pre-processing of online customer reviews were generally conducted using the techniques of web crawling and text mining [25]. For example, Philander and Zhong analyzed customer satisfaction with American hotel resorts by mining customer comments from Twitter [26]. Xiang et al. collected online reviews from TripAdvisor with web crawling written in Python and processed the data firstly with text mining [6]. Moreover, Guo et al. mined information from online numeric ratings and textual reviews to understand tourist satisfaction using latent Dirichlet allocation (DLA), and before DLA, text mining was employed to pre-process the data [7].

3. Methodology

Suggested by studies such as those by Xiang et al., Kim and Noh, and Tao and Kim, two major steps were included in the process of investigating and digging out insights from online customer reviews [6,27,28]. The first step was data collection, which involved the selection of relative platforms to collect data and the content included. The second step was data analysis, which refers to the analytical methods adopted in the current study to explore and generate information from the collected data.

3.1. Data Collection

Google Travel (https://www.google.com/travel/) (also known as Google Trips) (accessed on 13 March 2023) was applied to collect data for this research since it is a trip planner developed by Google for the web, which includes Google Flights and Google Hotel Search (Wikipedia, Google Travel, 2023). SCTM3, which is a statistical program for web crawling and data processing developed by the Wellness and Tourism Big Data Institute of Kyungsung University, was used for collecting research data. The primary search keyword "Galaxy Macau" was inserted in SCTM3 to collect relative online customer reviews because "Galaxy Macau" is one of the most popular and famous world-class Asian resort destinations. Moreover, exploring and understanding the successful business mode of "Galaxy Macau" by extracting information from their customers could be instrumental for the sustainable development of the industry. Hence, a four-year period (December 2019 to December 2022) was set to collect online comments from customers who visited "Galaxy Macau". As a result, a total of 5000 customer reviews including textual reviews, numeric reviews, and other information of reviewers such as their name (nickname), review posting time, etc., were collected.

3.2. Data Analysis

Three major steps were adopted in the current study for analyzing the collected online customer reviews. Along with different steps of data analysis, different research hypotheses were developed in the meantime. The first procedure was data pre-processing, which is the preliminary step when dealing with unstructured data such as textual reviews generated by customers in the current study [29]. The textual reviews with the format of sentences were divided into words or phrases with their corresponding frequencies using text mining running in R studio. As such, it could be hypothesized that the extracted top frequent words from online customer reviews could provide general cognition towards resorts.

Afterwards, the semi-structured data of words or phrases were analyzed via semantic network analysis. And the centralities of the top frequent words were analyzed to identify the most significant words in the network. At the same time, CONCOR analysis was applied to generate various clusters to illustrate customers' understanding or cognition towards casino hotels. Semantic network analysis was performed using Ucinet 6.0, and the visualization was demonstrated using its packaged tool—NetDraw. Thus, the semantic

network analysis of the top frequent words could help to explore the hidden connections among diverse words in the network and garner the variables that have strong connections.

At last, the qualitative data were transferred into quantitative data with dummy variables, and quantitative analysis was processed with SPSS 26.0. Factor analysis and linear regression analysis were performed to, firstly, explore different factors revealing dimensions of customers' experience, and secondly, to understand factors contributing to customers' satisfaction with their casino hotel lodging experience. To this end, it could be induced that the factors extracted from online customer reviews could positively impact customers' satisfaction towards resorts. Overall, the flowchart of the research methodology is synthesized in Figure 1.

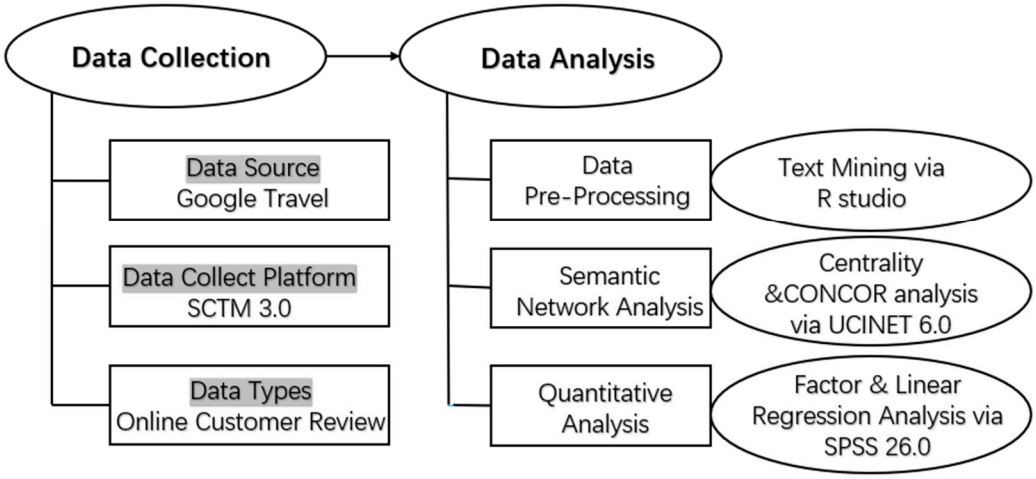

Figure 1. Flowchart of research methodology.

4. Results

4.1. Data Pre-Processing

The collected textual reviews were pre-processed via text mining relative coding written in R studio. Thus, sentences posted by customers were divided into single words or phrases, and their corresponding frequencies were calculated as well. Table 2 indicates the top 70 most frequently used words in customer reviews. It is obvious and not surprising that the words "hotel" (1021 times, ranked at 1), "Macau" (440 times, ranked at 4), and "casino" (426 times, ranked at 5) are the most frequent since they are common words for customers when writing their experiences with casino hotels in Macau. Therefore, it can be seen that when people think of Macau, the first thing that comes to mind is gambling, which is the same as when people think of Alaska in the United States, and therefore, hotels with legal casinos are more popular among people.

Additionally, words that are related to employee service such as "service" (264 times, ranked at 13), "staff" (264 times, ranked at 13), and "friendly" were found to be highly mentioned in customer reviews. Furthermore, there is also a group of words that are closely associated with recreational activities that are provided by the hotel, for instance, "pool" (345 times, ranked at 8), "mall" (109 times, ranked at 30), "bar" (109 times, ranked at 31), etc. Moreover, words like "rooms" (97 times, ranked at 39), "floor" (77 times, ranked at 42), "bathroom" (46 times, ranked at 57), and so forth, which are the core products provided by the hotel, were indicated to be frequently used in customer reviews. Furthermore, words that are associated with the price or the cost–performance of the hotel have high frequencies as well, for instance, "worth" (91 times, ranked at 37), "price" (80 times, ranked at 40), and "expensive" (66 times, ranked at 47). Other words such as "gambling" (45 times, ranked at 58) and "beach" (35 times, ranked at 68) that represent the characteristics of the subject hotel are indicated to be in the top frequently used words as well. Employee service accounts for a large portion of the frequency of use for the words that appear and has a significant impact on customer satisfaction.

Table 2. The top 70 most frequently used words in customer reviews.

Word	Freq	%	Rank	Word	Freq	%	Rank
hotel	1021	11.51%	1	park	96	1.08%	36
good	822	9.26%	2	worth	91	1.03%	37
place	614	6.92%	3	family	83	0.94%	38
Macau	440	4.96%	4	fountain	82	0.92%	39
casino	426	4.80%	5	price	80	0.90%	40
great	376	4.24%	6	enjoy	78	0.88%	41
galaxy	348	3.92%	7	floor	77	0.87%	42
pool	345	3.89%	8	night	71	0.80%	43
nice	342	3.85%	9	area	70	0.79%	44
food	280	3.16%	10	eat	70	0.79%	45
shopping	278	3.13%	11	grand	68	0.77%	46
beautiful	266	3.00%	12	expensive	66	0.74%	47
service	264	2.98%	13	entertainment	65	0.73%	48
big	259	2.92%	14	star	55	0.62%	49
diamond	209	2.36%	15	location	53	0.60%	50
water	198	2.23%	16	wonderful	53	0.60%	51
swimming	175	1.97%	17	children	52	0.59%	52
staff	170	1.92%	18	gorgeous	51	0.57%	53
comfortable	154	1.74%	19	spacious	50	0.56%	54
restaurants	149	1.68%	20	love	49	0.55%	55
clean	141	1.59%	21	buffet	47	0.53%	56
resort	141	1.59%	22	bathroom	46	0.52%	57
large	134	1.51%	23	gambling	45	0.51%	58
facilities	130	1.47%	24	delicious	45	0.51%	59
lobby	122	1.37%	25	famous	43	0.48%	60
luxurious	122	1.37%	26	world	41	0.46%	61
visit	119	1.34%	27	breakfast	40	0.45%	62
convenient	112	1.26%	28	broadway	40	0.45%	63
fun	109	1.23%	29	new	39	0.44%	64
mall	109	1.23%	30	building	39	0.44%	65
bar	104	1.17%	31	Chinese	38	0.43%	66
friendly	101	1.14%	32	buy	37	0.42%	67
spa	100	1.13%	33	beach	35	0.39%	68
rooms	97	1.09%	34	relax	34	0.38%	69
bus	96	1.08%	35	stores	32	0.36%	70

4.2. Semantic Network Analysis

4.2.1. Centrality Network Analysis

Based on the studies by Kim and Noh [27] and Oh and Kim [30], it was suggested that degree centrality and eigenvector centrality could be addressed in the network analysis to recognize the power of nodes in a network. Degree centrality refers to the number of direct ties that a word has. The higher the degree of a word, the more significant it is in the network [28,30]. Eigenvector centrality refers to the influence of the node in the network. The higher the eigenvector centrality coefficient, the more influential this node is in the network [30]. The results of the centrality analysis and its comparison between the words' frequencies are indicated in Table 3. As can be seen, the ranks of the two centralities are very similar. And some words have a similar rank in frequency and centralities, such as "hotel" (from left to right: frequency, degree centrality, and eigenvector centrality, ranked at 1, 1, and 1), "good" (2, 2, and 2), "fun" (29, 30, and 30), "bus" (35, 35, and 34), etc., and this suggests that these words not only have high frequencies, but are also central in the network. Additionally, words such as "shopping" (11, 8, and 8), "restaurants" (20, 16, and 16), "facilities" (24, 19, and 18), and so forth have high ranks in centralities, while their ranks in frequency are relatively low. This implicitly signifies that these words are quite significant and influential in the network, but they are relatively seldom used by the customers in their reviews. Moreover, there are words with high ranks in frequency but

relatively lower ranks in centralities such as "beautiful" (12, 18, and 18), "comfortable" (19, 28, and 29), and "luxurious" (26, 37, 37), and this means that these words are used in customers' reviews frequently, but their connections with other nodes in the network are relatively low.

Table 3. Comparison of keywords' frequency and centralities (degree and eigenvector).

Word	Frequency		Degree Centrality		Eigenvector Centrality	
	Freq	Rank	Degree	Rank	Eigenvector	Rank
hotel	1021	1	24.257	1	0.424	1
good	822	2	16.667	2	0.324	2
place	614	3	11.902	4	0.233	5
Macau	440	4	12.871	3	0.263	3
casino	426	5	11.44	7	0.231	6
great	376	6	8.659	9	0.176	9
galaxy	348	7	11.458	6	0.236	4
pool	345	8	11.612	5	0.224	7
nice	342	9	6.332	17	0.144	13
food	280	10	8.342	11	0.162	11
shopping	278	11	9.085	8	0.183	8
beautiful	266	12	5.543	18	0.105	19
service	264	13	8.351	10	0.174	10
big	259	14	7.047	13	0.146	12
diamond	209	15	4.81	21	0.094	20
water	198	16	8.007	12	0.143	15
swimming	175	17	6.848	15	0.144	14
staff	170	18	7.02	14	0.135	17
comfortable	154	19	4.23	28	0.08	29
restaurants	149	20	6.784	16	0.136	16
clean	141	21	4.755	23	0.091	23
resort	141	22	5.000	20	0.091	24
large	134	23	4.665	24	0.093	21
facilities	130	24	5.181	19	0.107	18
lobby	122	25	4.801	22	0.093	22
luxurious	122	26	3.034	37	0.062	37
visit	119	27	3.931	31	0.083	28
convenient	112	28	3.551	34	0.070	33
fun	109	29	4.022	30	0.074	30
mall	109	30	4.067	29	0.090	26
bar	104	31	4.611	26	0.064	35
friendly	101	32	4.665	25	0.091	25
spa	100	33	3.016	39	0.059	38
rooms	97	34	4.457	27	0.087	27
bus	96	35	3.324	35	0.067	34
park	96	36	3.777	32	0.074	31
worth	91	37	2.998	40	0.059	39
family	83	38	3.034	38	0.059	40
fountain	82	39	1.993	51	0.038	53
price	80	40	2.862	41	0.058	41

4.2.2. CONCOR Analysis

A CONCOR (convergent correlation) analysis is a repetitive analysis technique that evaluates correlations to identify structural equivalence and locate similar and related clusters in complex semantic network environments [28,31]. Therefore, a CONCOR analysis was performed in the current study to explore different segmentations to reflect customers' understanding and cognition of integrated resorts. A visual representation of the CONCOR analysis result is illustrated in Figure 2, and the corresponding words concluded in each cluster are summarized in Table 4. As can be seen, there are four clusters extracted via the CONCOR analysis, which are "Amenities", "Entertainment", "Tourist", and "Atmosphere",

respectively. The labeling of each cluster was mainly decided based on the significant words contained in the segment, for instance, words like "pool", "bar", "beach", "floor", "lobby", and so forth are gathered into the cluster of "Amenities", and the cluster "Entertainment" consists of the words "casino", "shopping", "entertainment", "park", "spa", etc. The naming process was firstly conducted by two authors separately. And then, a cross check was performed, and a final agreement was made after discussion.

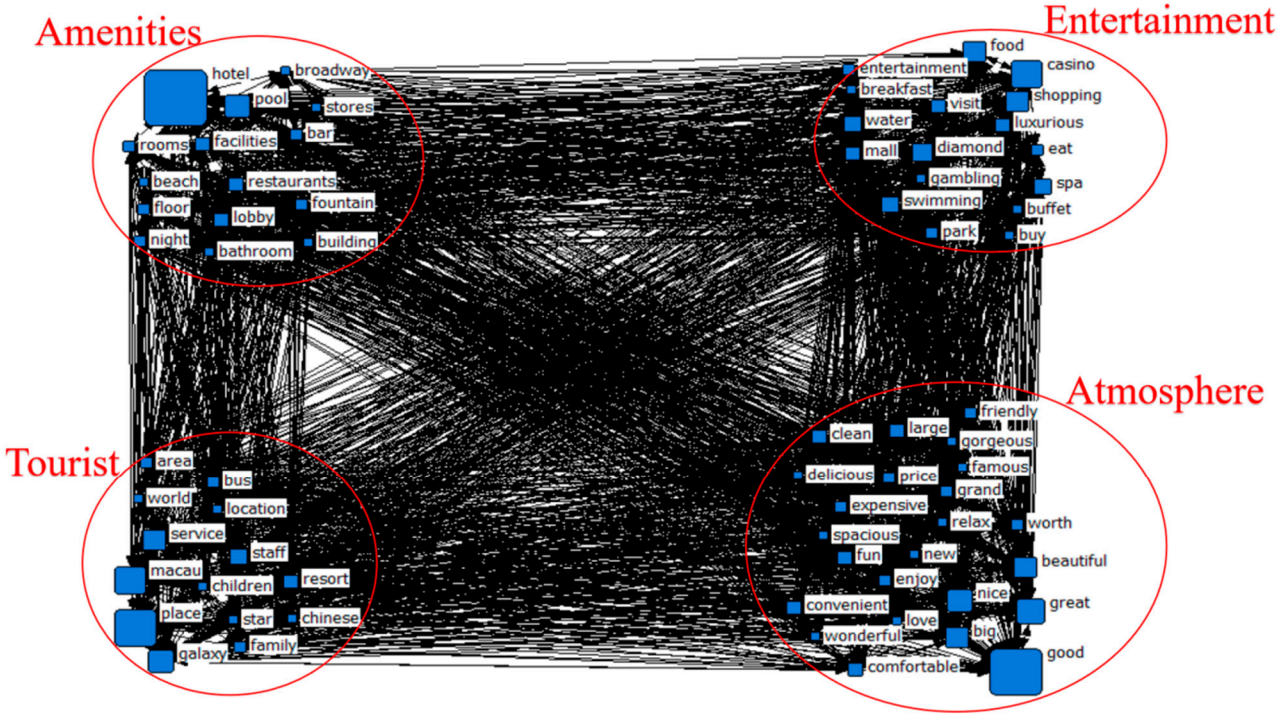

Figure 2. Visual representation of CONCOR analysis.

Table 4. Word summary of CONCOR analysis.

Clusters	Concluded Words	Significant Words
Amenities	hotel/pool/rooms/facilities/bar/bathroom/beach/ restaurants/stors/floor/night/building/lobby/ fountain/broadway	pool/bar/beach/floor/ lobby/rooms/restaurants/ broadway
Entertainment	casino/food/shopping/service/ entertainment/water/diamond/visit/ gambling/park/buy/mall/swimming/buffet/ breakfast/eat/spa	casino/food/shopping/ service/entertainment/ park/buffet/swimming/breakfast/spa
Tourist	location/area/family/bus/galaxy/resort/macau/ children/star/macau/place/world/chinese/staff	location/family/bus/ galaxy/chinses/staff
Atmosphere	good/beautiful/comfortable/expensive/worth/ love/new/convenient/enjoy/price/famous/luxurious/ wonderful/fun/nice/great/gorgeous/clean/large/grand/ relax/spacious/friendly/delicious	good/comfortable/ expensive/price/fun/ nice/gorgeous/clean/ friendly/delicious

4.3. Quantitative Analysis

4.3.1. Factor Analysis

After the qualitive analysis, a quantitative analysis was performed to explore the factors reflecting customers' experience and their contribution to customers' satisfaction. A total of 19 keywords were used as variables. Based on the above qualitive analysis, it can be seen that these 19 keywords are strongly correlated. Thus, even though they are non-metric,

they could be chosen as variables [27,32]. A factor analysis can derive the commonalities among these keywords and show the connectivity of the variables through the variance of words within the same customer review [27,28]. A maximum likelihood method with varimax rotation and Kaiser normalization was applied for an exploratory factor analysis. Common factorial criteria were used to extract the factors. In general, variables with factor loadings greater than 0.4 were entered for the final model [33]. The results of the factor analysis (EFA) are indicated in Table 5. As a result, the Kaiser–Meyer–Olkin (KMO) measure is 0.616, which is higher than the recommended value to testify the construct validity [34]. Additionally, the Bartlett's test of sphericity value (χ^2) is 13,669.225, with overall significance of the correlation matrix ($p < 0.001$), and this suggests that the data used in this study did not produce an identity matrix. Thus, the data were classified as multivariate normal and were fit for applying EFA. Six factors, namely "Environment", "Employee Service", "Indoor Facilities", "Outdoor Facilities", "Dining Service", and "Family Friendliness", were derived from 19 words and have values greater than 1. They account for 48.353% of the total variance and can explain a significant portion of the overall variance.

Table 5. Results of factor analysis.

Factors (n = 6)	Words (n = 19)	Factor Loading	Eigen Values	Variance (%)
Environment	shopping	0.607	2.188	11.518
	mall	0.603		
	casino	0.569		
	restaurants	0.563		
	bar	0.504		
Employee Service	staff	0.805	1.661	8.742
	friendly	0.762		
	service	0.459		
	clean	0.420		
Indoor Facilities	bathroom	0.907	1.531	8.059
	floor	0.895		
Outdoor Facilities	swimming	0.893	1.394	7.335
	pool	0.884		
Dining Service	buffet	0.695	1.288	6.778
	delicious	0.579		
	breakfast	0.505		
	food	0.466		
Family Friendliness	family	0.737	1.125	5.92
	children	0.709		
Total variance (%): 48.353 KMO (Kaiser–Meyer–Olkin): 0.616 Bartlett chi-squared (p): 13669.225 ($p < 0.001$)				

The naming process for each factor was consistent with the labeling process for the CONCOR results (see Section 4.2.2). The first factor, "Environment", refers to the physical environment provided by the resort and contains words such as "shopping", "mall", "casino", "restaurants", and "bar". The second factor, "Employee Service", which consists of words like "staff", "friendly", "service", and "clean", is very obviously associated with the staff service provided by the resort. The third factor, "Indoor Facilities", which is closely related to indoor facilities, includes keywords such as "bathroom" and "floor". The fourth factor, "Outdoor Facilities", relates to outdoor facilities and includes keywords like "swimming" and "pool". The fifth factor, "Dining Service", is related to food service and includes keywords like "buffet", "delicious", "breakfast", and "food". The sixth factor, "Family Friendliness", which covers words like "family" and "children", is intimately related to family-oriented customers.

4.3.2. Linear Regression Analysis

A linear regression analysis was conducted to examine the relationship between customer experience and satisfaction. Six factors extracted by the EFA were treated as independent variables, and customer satisfaction (CS) was considered as a dependent variable to perform the linear regression analysis. The result of linear regression analysis was illustrated in Table 6. As can be seen, six variables only explain a variance of 0.04 with which the adjusted value of R^2 is 0.04. The low correlation between the independent variables and the dependent variable is due to the fact that there are many factors that affect customer satisfaction that are not included in these six factors, and some of these factors are less frequently mentioned in online hotel reviews. In the text mining regression model, it is not possible to include all relevant variables, so the R^2 value may be low [27,35,36].

Table 6. Results of linear regression analysis.

Model	Unstandardized Coefficients		Standardized Coefficients	*t*
	B	Std. Error	Beta	
(Constant)	4.527	0.008		569.078
Entertainment (E)	0.03	0.008	0.038	3.789 ***
Employee Service (ES)	−0.039	0.008	−0.049	4.884 ***
Indoor Facilities (IFs)	−0.003	0.008	−0.004	0.386
Outdoor Facilities (OFs)	0.004	0.008	0.005	0.454
Dining Service (DS)	0.027	0.008	0.034	3.423 ***
Family Friendliness (FF)	0.004	0.008	0.005	0.541

Notes: $R^2 = 0.071$, adjusted $R^2 = 0.04$, $F = 8.429$, *** $p < 0.001$. Dependent variable: customer satisfaction (CS).

Among the six factors, three factors, "Indoor Facilities (IF)" ($\beta = -0.003$, $p > 0.05$), "Outdoor Facilities" ($\beta = 0.004$, $p > 0.05$), and "Family Friendliness (FF)" ($\beta = 0.044$, $p > 0.05$), were examined to have an insignificant impact on customer satisfaction. However, the factors "Entertainment(E)" ($\beta = 0.038$, $p < 0.001$) and "Dining Service (DS)" ($\beta = 0.034$, $p < 0.001$) show a positive correlation with customer satisfaction. And "Employee Service (ES)" ($\beta = -0.049$, $p < 0.001$) shows a negative correlation with customer satisfaction.

To estimate the potential correlation between predictors, multicollinearity statistics were performed. Based on unstandardized β, the regression equation can be expressed as follows:

$$CS = 4.527 + 0.03E - 0.039ES + 0.027DS$$

Among these variables, Entertainment (E) has the highest standardized coefficient, suggesting that it is the most significant factor affecting customer satisfaction, while ES shows a negative correlation with customer satisfaction, implicitly indicating that this dimension may be the facet causing customers' dissatisfaction towards their lodging in resorts.

5. Discussions

With the great popularity of online customer reviews and their potential to generate new insight for academic research and industry development, the present research paper employed online customer-generated comments and feedback on the Galaxy Macau Resort to understand integrated resort customers' experience and their association with customer satisfaction. The first stage was to extract keywords from the customers' online reviews (both in the formats of numeric ratings and textual reviews) by using SCTM3.0. The second stage involved calculating the frequency of keywords that are present in the customers' online textual reviews. This process was performed using the text mining technique, which is also known as data pre-processing. After this, the semantic network of the top frequent words was analyzed to explore the hidden connection among the keywords and then the most significant and influential words of online customer reviews were selected. Freeman's

degree centrality and eigenvector centrality were used to understand the latent relationship within the semantic network [27,28,30]. The third stage of data analysis involved clustering keywords with a CONCOR analysis, and through this approach, the 70 frequently used keywords were grouped into four categories. These four groups were named "Amenities", "Entertainment", "Tourist", and "Atmosphere". In the fourth stage, a factor analysis was used to further reduce the original 70 keywords into 19 keywords within six factors, which were "Environment", "Employee Service", "Indoor Facilities", "Outdoor Facilities", "Gourmet Food", and "Family Friendliness", respectively.

Finally, a linear regression analysis, with six factors extracted from the exploratory factor analysis as independent variables and with customer satisfaction as the dependent variable, was performed to examine the correlation between customers' experience and their satisfaction with integrated resorts. As a result, the largest factor in the online regression analysis was Environment (E), which included keywords such as shopping, mall, casino, restaurants, and bar. This reflects a change in the resort's strategy from relying primarily on gambling as a means of attracting customers to providing a more diverse range of entertainment options, including a shopping street, an amusement park, and various bars and restaurants, as well as a food street that is specifically designed to showcase the traditional cuisine of Macau [37,38]. Furthermore, the second most important factor contributing to customer satisfaction was Family Friendliness (FF), which included the keywords "family" and "children". The Galaxy Resort has many themed rooms, such as couples' rooms and family rooms. Unique hotels and continuous innovation can help to maintain the hotel's position and reputation in the market. Specifically, if it is a customer's birthday, the hotel will prepare cake and other birthday gifts based on the registered membership information, making it more humanized and increasing customer loyalty. There are also entertainment programs such as surfing pools, beaches, rafting, etc., which are very attractive to children. Among the six factors in the linear regression model, Employee Service (ES) was examined to have a significant but negative impact on customer satisfaction, indicating that this facet was associated with customer dissatisfaction. This finding implicitly suggests a need for improvement in the resort's employee service to maintain their customer satisfaction.

6. Conclusions

6.1. Research Implications

Based on the research findings, this paper could contribute to academic research and industry development. For its academic significance, this paper adopted online customer reviews to understand customer experience and satisfaction with integrated resorts, which provide an example and a new research data source for the topic of integrated resorts. Moreover, the analytical results indicate that for integrated resorts, which are different from traditional hotels, diverse entertainment facilities or activities are important for their customers in which increasing the diversity of entertainment can help them resist the negative feelings caused by single-minded entertainment [39,40]. The importance of Employee Service (ES) to customer satisfaction was very in line with many other studies pertinent to the service industry that ES is always one of the significant factors affecting customer experience and their final level of satisfaction [38,41]. Therefore, it is pivotal for future research to dig deeper into ES concerning customer satisfaction in the context of integrated resorts. At last, the exploration of Dining Service (DS), which covers keywords like buffet, delicious, breakfast, and food, highlighted that food is also an important aspect in the service system of integrated resorts. For example, there is a food street in Broadway, as well as breakfast and buffets, that provide customers with more convenient ways to taste food. The culture of food safety has great value for both the food and beverage industry and the hospitality industry [29,42]. Moreover, the present study empirically presents that DS has the greatest impact on customers' satisfaction with the largest path coefficients, implicitly suggesting the significance of dining in the promotion of resorts' services, especially compared to business hotels, which concentrate on the lodging attribute. Additionally, theme-based

hotels and activities are important elements of the resort, and through multi-dimensional development, the resort's competitiveness will increase, thus attracting more customers. For example, the keywords shopping, malls, casinos, restaurants, bars, etc., show that resorts can diversify and improve their competitiveness.

In terms of the value of its practical application, the different dimensions affecting customer satisfaction explored from online customer reviews suggest that online reviews could be an important source for business operators and managers to understand their customers. For instance, considering that dining service has the largest impact on customers' satisfaction, it is essential and pivotal to promote this service. In addition, the significant but negative relationship between employee service and customers' satisfaction indicates that the employee services provided by resorts failed to satisfy their customers, which later could reduce customers' revisiting intention or loyalty to the resort. The necessity to enhance employee services has been verified by online customer reviews generated by customers themselves. As such, online marketing and the operation of online reviews were verified to be instrumental for the management of integrated resorts. In addition, As Zhao et al. stated, online reviews could impact customers' online booking intention towards the hotel, so the operators or investors of integrated resorts are supposed to pay attention to their online customer reviews to generate a positive impact on their customers' behavioral intentions [25].

6.2. Limitations and Future Research Directions

Though the study has been completed, several limitations should be taken into consideration. Firstly, the data collection scope is limited since it was only focused on the online customer reviews of six hotels at the Galaxy Resort. Thus, the interpretation of the research results was mainly concentrated on the case of the Galaxy Resort, and when applied to other resorts, the results may differ. Secondly, the analysis of the collected online reviews only involved a frequency analysis of keywords, making it possible to neglect other aspects of customer experience, which was reflected in the words with a relatively lower rank in frequency. Therefore, an improvement in the data analytics is required for exploring more information from online customer reviews.

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