

Heritage Lodgings and Customer Satisfaction: An Examination of Internet Evaluations of the Tourist Facilities at the Petra Heritage Site, Jordan.

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Abstract

One of the most important sources of tourism worldwide is heritage. To gain a competitive edge in the marketplace, many locations draw on their rich history and cultural offerings. The purpose of this research is to evaluate consumer perceptions of historic lodgings in Jordan, with an emphasis on finding the characteristics that influence customer satisfaction.

The methodology used in the investigation was quantitative. A total of 500 surveys were issued to clients who had stayed in Jordan's historic lodgings, of which 288 usable responses were gathered and analyzed using structural equation modeling (SEM).

The findings demonstrate that building elements, concerns with service, and architectural features all had a substantial positive impact on tourist satisfaction. Sustainable innovation was found to attenuate the association between architectural elements and tourist satisfaction. However, it did not significantly modify the association between building features, service concerns, and tourist satisfaction.

These findings regarding customer satisfaction and dissatisfaction with the offers of historic hotels may assist advertisers to have a better understanding of the customers' real feelings and views. They may be able to deliver better insights to hotel advertising because the attributes were collected from consumer ratings of historic properties.

The study is a one-of-a-kind attempt to examine questionnaire responses from guests at historic hotels using text mining technology. It reveals behavioral tendencies and factors that influence happiness.

Keywords: Building Features, Issues with Service, Architectural Features, Heritage Lodgings and Client Satisfaction

Introduction

Heritage lodgings have a unique role in the hospitality business because they provide visitors with the opportunity to become completely engrossed in the allure and stories of a bygone period. However, it is necessary to have an understanding of the aspects that lead to either customer satisfaction or dissatisfaction in these one-of-a-kind enterprises in order to guarantee that visitors will have an experience that is genuinely valued (Al Fahmawee & Jawabreh, 2023). Building features, architectural features, and service issues are the three main aspects examined in this research.

Information provided by customers in the form of online reviews has been used to learn more about their satisfaction and identify any issues. Online resources like social media, review sites, and polls may be examined for this type of data. Businesses may learn more about what consumers value and where they can make improvements by studying the feedback they get in the form of customer evaluations (He et al., 2017).

Positive reviews can give significant insights into what consumers appreciate most about an organization, such as exceptional customer service, high-quality items, or prompt delivery. Positive reviews can also provide valuable insights into what customers value most about an individual. On the other side, bad evaluations can call attention to aspects of a company's service that need to be improved, such as a delayed response time, concerns with product quality, or poor contact with consumers (Su, Hsu & Swanson, 2017).

Businesses are able to uncover trends and patterns in customer feedback through the process of monitoring and analyzing customer evaluations. This information can then be utilized to guide strategic choices and enhance the entire customer experience (Jawabreh, et al., 2022). In addition, replying to reviews left by consumers, whether favorable or negative, may demonstrate a dedication to the satisfaction of the customers and contribute to the development of trust and loyalty among them.

The term "all informal interactions that target consumers through the use of the internet linked to the usage or characteristics of particular goods or services or their vendors" refers to digital word-of-mouth, which is abbreviated as "eWOM." (Hoang, Kim, & Truong, 2023). Consumers communicate them on websites, blogs, forums, mobile applications, and social networking sites; you can find reviews of the good or the service (Khan & Abir, 2022). These assessments may incorporate observations, advice, and opinions (Yoo & Gretzel, 2011). Online assessments are a part of eWOM (Jawabreh, et al., 2023; Le-Hoang, 2020). Online reviews help to form opinions, provide user statistics, and support decision-making for the potential buyers (Von Helversen et al., 2018). Due to the ease of information and network connectivity, customers are exposed to substantial peer product/service experience, views, and recommendations in the form of online assessments.

Online reviews have a significant impact on how decisions are made across almost every business and sector (Jawabreh et al., 2023; Saleh et al., 2023), and travel and tourism sector is no exception. Online reviews influence consumer purchasing decisions greatly (Chong, et al., 2018). Tourism sector is a leader in the use of technology and employs innovative business practices (Xiang, Magnini & Fesenmaier, 2015).

Many of the travelers concur that reading internet evaluations helps them learn about the sights, options, and create new ideas before visiting a location (Elwalda & Lu, 2016). More than 60% of the consumers believe that internet evaluations of products and places to visit are up to date (Gretzel & Yoo, 2008). The success of businesses is also impacted economically by online evaluations. According to Ye, Law & Gu (2009), a 10% rise in review variation can reduce sales by 2.8% and a 10% increase in critics' ranking can raise sales by 4.4%. However, reviews with low ratings express customer discontent through customer complaints while reviews with high ratings express customer contentment through service praise. Good evaluations boost a company's success by boosting revenue. However, poor evaluations harm a company's success (Jawabreh et al., 2023). Customers may "churn" as a result of repeated fails, and unhappy clients are ready to switch to other businesses (Knox & Van Oest, 2014). It is crucial to remember that in such a scenario, keeping current client is more lucrative than acquiring new ones (Abu-ALSondos et al., 2023). The difficulties facing businesses today are

client growth and retention. In this context, customer input information can be used to enhance services and reduce the likelihood of service breakdowns (Al-Hussein, et al, 2023).

In various hotel environments, previous studies have determined the elements that influence both client content and discontent. For instance, Berezina et al. (2016) conducted research on Sarasota motels and used text mining methods to identify the variables influencing both client happiness and discontent. According to the experts, guests value a hotel's ineffable qualities (such as politeness and stay) but bemoan its outward appearance (like furnishing, finance). It's interesting to note that Xu & Li (2016) discovered unique consumer content and discontent variables for various lodging types.

Despite extensive research, studies that compare evaluations of positive and bad quality for historic hotels in order to examine variables of service grievances and praise are uncommon. One of the key elements in the tourist sector are age accommodations. In Jordan, historic castles, forts, and houses that were abandoned after the breakup of royal federations following freedom are now being turned into historical hotels. The royal families and significant hotel companies kept these sites after the government of Jordan turned them into historic hotels.

Historic assets have many advantages, including maintaining the arts and culture, giving the locals work, and protecting the architecture and aesthetics of the historic settings (Piramanayagam, Rathore & Seal, 2020). Thus, the historic hotels are drawing a lot of domestic and foreign visitors by providing a regal experience and displaying Jordanian history and culture (Al Fahmawee & Jawabreh, 2023).

However, offerings at historic hotels vary from those at the modern lodgings. The main distinction between heritage hotels and commercial hotels should be understood in terms of historical components and commercial activities (Romero, et al., 2020). Historic hotels that are considered to have business-worth set themselves apart with chic clubs and fine eating establishments, giving the customers willing to pay a price an air of rarity and distinction. Unlike other hotels with a purely business purpose, legacy hotels offer their guests emotional, artistic, spiritual, and personal worth in addition to historical values (Piramanayagam et al., 2020).

Going to a business hotel produces distinct emotions than a regular hotel. The satisfaction of viewing a historical location and culture is present when staying in a heritage hotel, whereas this is less likely to be the case when staying in a business hotel. As a result, the distinctive and unusual experiences motivate the tourists to choose historic lodgings, which require careful analysis.

Together, architecture and tourism can fill in the gaps in our understanding of the past and the present and show us how a culture has grown and changed. Indeed, the recent surge in 'heritage tourism' may be attributed to a growing fascination with the past (AlMasri and Ababneh, 2021).

The preservation of the built environment is an increasingly vital part of local and international economies. The perception of heritage and historically significant buildings and locations as a nation's riches and as easily exploitable resources enhances their historical significance. Petra, located in Jordan, is a popular tourist destination and one of the world's most well-known ancient sites. It was named one of the New Seven Wonders of the World in 2007. As may be seen in the Fig. 1, the city's name comes from the pink hue of its stone, which has earned it recognition as "one of the most valuable cultural assets of the human cultural heritage" from UNESCO.

Using various text mining methods, this research compares evaluations of historic motels with positive and negative ratings in order to investigate the variables that influence both service praise and grievances in Jordan. Instead of objective consumers, highly happy and disgruntled customers submit service compliments and service grievances (Pourfakhimi, Duncan & Coetzee, 2020). In accordance with earlier studies, we gauge consumer happiness and discontent in this one, using text evaluations and web scores. The purpose of this study is to assess tourists' impressions of Jordan's historic lodgings and to pinpoint the factors that affect their levels of satisfaction.

Its objectives are as follows.

1. To investigate the relationship between architecture and tourist satisfaction
2. To investigate the relationship between building features and tourist satisfaction
3. To investigate the relationship between issues with service and tourist satisfaction
4. To investigate the moderating influence of sustainable between architecture and tourist satisfaction
5. To investigate the moderating influence of sustainable between building features and tourist satisfaction
6. To investigate the moderating influence of sustainable between issues with service and tourist satisfaction

It has the following hypotheses.

- H1: Client satisfaction is significantly affected by architecture.
H2: Client satisfaction is significantly affected by issues with service.
H3: Client Satisfaction is significantly affected by building features.
H4: Sustainable innovation has a positive moderating influence on the link between architecture and client satisfaction.
H5: The moderating influence of sustainable innovation improves the link between issues of service and client satisfaction.
H6: Sustainable innovation has a positive moderating influence on the connection between building features and client satisfaction.



Fig. 1: The Treasury, located at the Siq exit.

Source : <https://mymodernmet.com/petra-rose-city/>

Architectural Heritage Lodgings in Jordan

The villagers rent out Bedouin tents to visitors, and they may be seen stretching eastward into the desert. Tents used by Bedouins come in a wide variety of sizes, shapes, and materials. The one made of goat hair is the most popular and widely used because of its many desirable qualities, such as its durability and resilience to weather. Camels' hair and lambs' wool are also used in the construction of some of these tents. Campgrounds and hotels exist in the shape of bubbles. Each unit has a view of the sky, is equipped, and is connected to satellites. They are evenly dispersed and linked by a corridor, often in the midst of recreational and service facilities among the high rocks, as illustrated in the Fig.1

The camp has two distinct options for travelers looking to spend the night: bubble rooms, which range from plain to lavish in design to better convey the camp's stories and the Bedouin way of life. The bright sands of the desert often serve as inspiration for the furniture and color palette found within each bubble. Each bubble suite has its own bedroom, living area, jacuzzi, and private bathroom. It avails facilities to spend a cozy night beneath the stars in the panoramic bubble, which has a transparent ceiling so that the visitors may go stargazing in the middle of the night without leaving their bed. These bubble camps offer visitors all the amenities of a five-star resort, with the stunning Arabian Desert and ominous mountains as

their backdrops. They are some of the best in terms of visitor appeal and popularity.

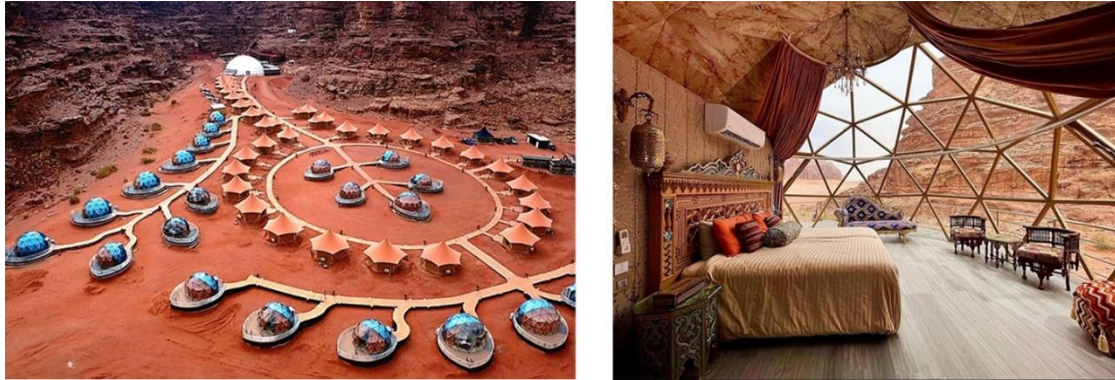


Fig. 2: Bubble camps

Source: <https://mymodernmet.com/petra-rose-city/>

Villas and stone palaces: They have been transformed into hotels for visitors without having them categorized as hotels in the first place because of the high demand for hotel rooms during the peak travel times. These motels provide an alternative for those who are unable to get a hotel reservation (Al Dein, & Jawabreh. 2022). Their structures are characterized by the use of indigenous stones found in Jordan and by facades that are reminiscent of Nabataean architecture, namely the Assyrian and Pharaonic styles. As shown in the Fig. 3, the city of Petra has 35 hotels with a total of about 2200 guest rooms, most of which feature narrative-driven interior design that incorporates Petra's natural beauty, historical monuments, and local materials. Especially in the hospitality industry, the narrative trend is seen as a cutting-edge way to convey an era, historical events, a well-known folk tale or anecdote, or the lives of notable historical figures like poets, artists, and so on through the integration of architectural and interior design. There, the front and inside of a single-story building has a unified aesthetic, down to the tiniest details like the logo and the furnishings.



Fig. 3: Narrative designs for Petra hotels

Source : <https://www.hayatzaman.com/en/gallery.html>

Literature Review

Many previous research has examined customer feedback as a crucial tool in the evaluations of hotels in the hospitality sector, particularly the lodging fan sites. Guests in the modern digital era depend largely on online evaluations to make choices about where to stay during holidays and travel. Virginia et al, (2013) examine the significance of fan page client evaluations in the hotel business and how they can affect a hotel's image. First, fanpage client evaluations can support a hotel's reliability and trustworthiness. According to VO, Chovancová & Tri (2020), good evaluations serve as societal evidence that the hotel is a decent location to stay, giving visitors confidence in the quality of their stay. Jahmani at al. (2023), show that customers are more likely to select a motel with favorable evaluations over one without. On the contrary, Knox & Van Oest (2014) say that unfavorable evaluations can harm the hotel's image and discourage prospective guests from booking a stay there.

Undoubtedly, fan page user evaluations offer lodgings useful input. Hotels can learn what visitors like and detest about their services, facilities, and general experience by examining consumer comments. The use of this data can enhance both the general image of the hotel and the visitor experience. For instance, Piramanayagam et al. (2020) show that hotel management can act to resolve the problem and raise the standard of cleaning services if customers regularly voice concerns about the hygiene of the accommodations

Fan pages user evaluations can aid motels in better understanding their target market. According to Ta (2019), hotels can learn more about the personalities, hobbies, and tastes of their visitors by examining consumer comments. He shows that to better satisfy the requirements of their target population, services and facilities can be tailored using this information to develop focused marketing strategies. For instance, a hotel can provide more family-friendly events and facilities if the bulk of its visitors are families with small children.

Motels can develop actively engaging with their patrons through fan page customer evaluations. Hotels can foster a feeling of community and customer devotion among their visitors by addressing input from visitors and demonstrating that they respect their views. Positive word-of-mouth referrals and recurring company may result from this (Al Fahmawee & Jawabreh, 2023).

A hotel's internet profile must include client evaluations from its fanpage. While unfavorable reviews can offer insightful advice for development, positive reviews can help a hotel gain authority and confidence (Piramanayagam et al., 2020). Hotels can enhance the tourist experience and develop tailored marketing strategies by evaluating consumer comments to learn more about the tastes and requirements of their visitors (Jahmani et al., 2023; Jawabreh, Mahmoud, et al., 2023; Saleh, Jawabreh, Emad Al Dein, & Ali, 2023). Hotels should actively promote client evaluations and quickly and properly address any feedback they receive (Al-Hussein et al., 2023).

Online customer reviews can be defined as feedback provided by customers (Alrabei, et al, 2022) about a product, service, or business on various online platforms (Abu-ALSondos et al., 2023). These reviews can be posted on social media, review websites, online marketplaces, or company websites. They offer valuable insights into the customer's experience with a particular business, product or service.

Online customer evaluations have been increasingly influential in recent years, and consumers frequently consult them before making a purchase (Chong et al., 2018). Research has recently found that 87 percent of consumers check online reviews for local companies, with 72 percent taking action based solely on the presence of favorable ratings.

There are two sorts of online consumer reviews: favorable and adverse reviews. Positive reviews emphasize a product's or service's merits and advantages, whilst negative reviews focus on problems that need improvement. Both forms of reviews may provide businesses useful feedback and insight into the requirements and preferences of their consumers (Felbermayr & Nanopoulos, 2016).

There are various reasons why firms need online consumer reviews. As Al-Hussein et al. (2023) point out, for starters, they give vital input to firms about their products and services. According to Jawabreh et al. (2022), this input may be utilized to enhance product quality, service quality, and customer experience. Second, internet reviews can improve a company's online exposure and reputation. Positive reviews may increase a company's credibility and attract new consumers, whilst bad reviews can undermine a company's image and turn off potential customers. Third, internet consumer reviews may help firms differentiate themselves from their competition. A high number of favorable evaluations can help a company stand out from its competitors and gain a competitive edge (Ban, et al., 2023).

Organizations must continually monitor and respond to online consumer reviews in order to properly manage them (Al-Rawashdeh, Jawabreh & Ali, 2023). Responding to both good and negative reviews shows that the company values customer input and is dedicated to improving customer experience. It also enables firms to resolve any consumer problems or difficulties and transform a poor experience into a pleasant one (Alananzeh et al., 2023; Ye et al., 2009). To summarize, online customer evaluations are an important tool for businesses to

collect vital input, boost their exposure and reputation, and distinguish themselves from competition. Businesses may enhance their goods, services, and customer experience by regularly monitoring and reacting to customer feedback, resulting in higher loyalty and client satisfaction (Pourfakhimi et al., 2020).

Furthermore, researching TripAdvisor evaluations of tourist sites may give useful insights into visitors' experiences and assist companies and destinations in improving the entire consumer experience (Alhaj et al., 2023). Businesses and destinations may improve their online reputation and establish trust and loyalty with their consumers by monitoring and responding to reviews (Jawabreh et al., 2022). To accomplish this effectively, however, companies and destinations must have the knowledge and resources to evaluate and analyze evaluations, as well as respond quickly to any complaints or difficulties mentioned by the visitors.

The Expectancy Disconfirmation Theory (EDT) describes how customers create pleasure or discontent with a product or service. It implies that customers have preconceived notions about the quality and efficiency of a product or service, which are based on previous experiences, marketing, and other sources of information. When consumers use a product or service, they compare their expectations to their actual experience, and the difference determines whether they are satisfied or dissatisfied (Hasan, 2019).

Customers are satisfied when their expectations are met or surpassed, according to EDT. On the other side, they feel dissatisfied when their expectations are not reached. The degree of disconfirmation, or the discrepancy between consumers' expectations and their actual experience, determines the amount of pleasure or discontent (Vargo et al., 2007).

According to this idea, expectation disconfirmation occurs in three stages: expectation creation, product performance, and post-purchase appraisal. Customers build expectations about the product or service during the expectation creation stage based on prior experiences, marketing purposes, and other sources of information. Customers utilize the product and service to assess their expectations to their actual experience throughout the product performance stage. Finally, customers judge their happiness or discontent with the product or service depending on the degree of disconfirmation (Schwarz & Zhu, 2015).

EDT has various commercial ramifications. To begin with, it implies that firms must successfully manage consumers' expectations to assure satisfaction. This may be accomplished by marketing and advertising that appropriately depicts the qualities and benefits of the product or service. Second, businesses must guarantee that their good or service exceeds or meets the expectations of their customers. Quality control procedures, client feedback, and continuous improvement programs can help achieve this. Finally, companies have to follow up with clients after they have purchased a product or service to verify that they are pleased with it and to handle any difficulties that may occur (Serrano, Shah & Abramoff, 2018).

Finally, the Expectancy Disconfirmation Theory sheds light on how customers create pleasure or discontent with a product or service. Businesses may assure customer happiness and loyalty by knowing and controlling their consumers' expectations. Businesses may gain a competitive edge by regularly analyzing and enhancing the quality of their products or services.

Research Methodology

This study used a quantitative research methodology to investigate the relationship between heritage lodgings and client satisfaction in Jordan. A questionnaire for a survey was sent out to a convenient sample of 500 visitors who had travelled to Petra, Jordan. 500 questionnaires were sent out, and a total of 288 valid responses were returned; this yielded a response rate of 57.6%.

Five constructs—architecture, issues with service, building features, client satisfaction, and sustainable innovation—were measured through the questionnaire's components. The items were derived from earlier research and evaluated using a Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree), with 1 being the most disagree and 5 representing the most agree.

A technique known as Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized to conduct the analysis on the collected data. The analysis consisted of studying the structural model, testing the hypotheses, and evaluating the reliability and validity of the measurement model.

In a nutshell, this investigation utilized a quantitative research design, collected data with a survey questionnaire from a convenient sample consisting of 288 tourists who visited Petra, and evaluated those data through the application of the PLS-SEM approach.

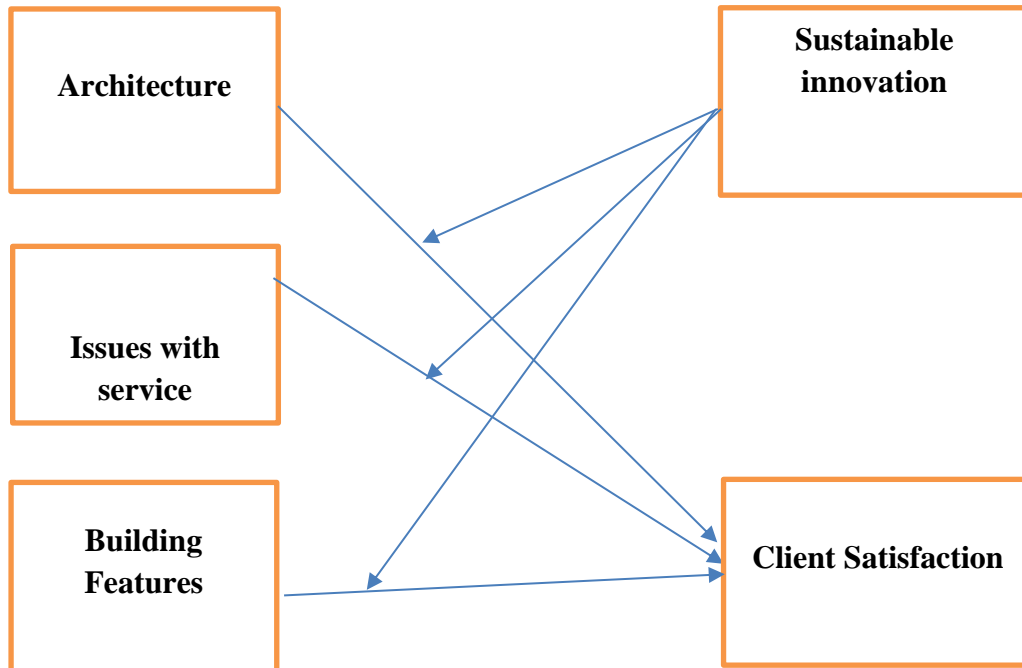


Fig. 4: Framework of the study
Source: Authors

Analysis and the Discussion

There are two parts to the PLS structural equation: the measurement model and the structure model. Structural model explains the path coefficients between and among the latent variables, whereas the measurement model explains the reliability and validity of the conceptual model. The measuring framework for this research is shown in the Fig. 4.

Measurement Model

Fig. 1 depicts the measuring framework of the study. It incorporates both the overt indications and the hidden structures that underlie them. The names of the indicators are presented in rectangles, whereas the names of the constructs are shown in ovals. Connections **between the concepts** and their respective indicators are shown by the arrows. Five latent variables make up the measuring model: architecture, building features, issues with service, sustainable Innovation, and tourist satisfaction. Several observable variables (indicators) are used to quantify each of these latent variables, all of which are indicative of the construct they measure. Directional arrows indicate causality between the shown structures and their corresponding indicators. For instance, Ar1, Ar2, Ar3, Ar4, Ar5, and Ar6 are the six indications used to evaluate the architecture framework. Connecting the architecture circle with these metrics shows how the construct is mirrored in their values.

The measurement model of the study, depicted in the Fig. 1 summarizes the connections between the latent variables and their indicators. It is helpful since it gives an image of the variables and how they were measured.

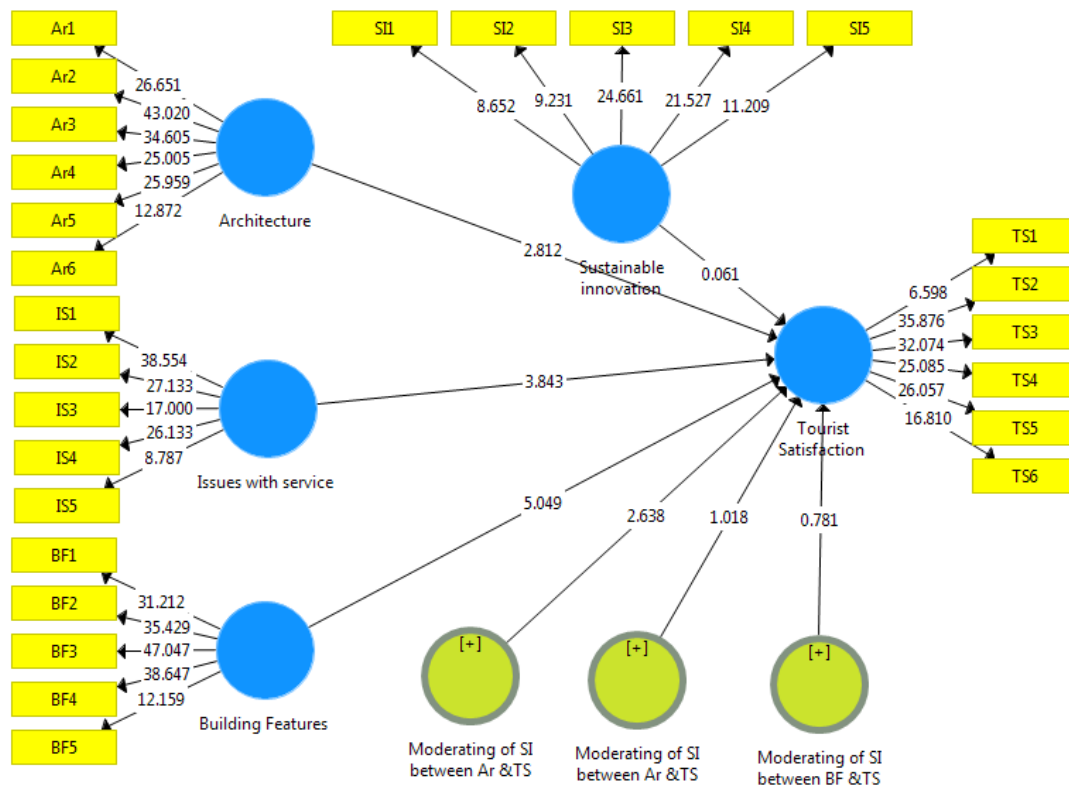


Fig. 2: Measurement Model
Source: Author's Calculation

Descriptive Data

Descriptive data for the five variables in the research are presented in the Table 1. Values for each variable are listed in the table along with their respective means, medians, minimums, and maximums. A variable's mean score is the average evaluation given by the participants. The average rating for Architecture (Ar) was 4.977, which suggests that guests were pleased with the design aspect of the accommodation. The mean ratings for Building Features (BF), Issues with Service (IS), and Sustainable Innovation (SI) are all higher than the scale's midpoint, suggesting that participants had a favorable opinion of these aspects. A lower-than-average mean score on the Tourist Satisfaction (TS) scale indicates that guests were less than satisfied with their stay. The median score is the average rating obtained from a random sample of responses to a given question. Here, the median rating for all the criteria is 5,000, which means that half of the evaluations were higher than 5, and half were lower. The range of evaluations submitted by the participants is shown by the minimum and the highest values for each variable. Architecture, for instance, has a minimum rating of 1.000, suggesting that at least one respondent rated this aspect very poorly. No respondent rated any of the factors higher than a 7, as 7.000 is the maximum possible score. The average ratings and range of answers for each variable are summarized in the Table 1.

Table 1: Descriptive Data
Source: Author's Calculation

	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness	Number of Observations Used
AR	4.977	5.000	1.000	7.000	1.310	0.054	-0.482	261.000
BF	4.874	5.000	1.000	7.000	1.291	0.683	-0.763	261.000
IS	5.050	5.000	1.000	7.000	1.431	0.003	-0.696	261.000
SI	4.958	5.000	1.000	7.000	1.351	0.683	-0.767	261.000
TS	4.716	5.000	1.000	7.000	1.358	0.127	-0.639	261.000

Outer Loadings

Outer loadings for each latent variable and their respective indicators are displayed in the Table 2. Higher values for the outer loadings suggest a greater correlation between the latent variable and its indicators. All six indicators measure high loadings ranging from 0.700 to 0.862 for the Architecture (Ar) latent variable, indicating a significant association with the latent variable. All five indicators exhibit high loadings (rating from 0.701 to 0.859) on the Building Features (BF) latent variable, suggesting a robust connection. Four of the five indicators have high loadings (between 0.750 and 0.844) on the Issues with service (IS) latent variable, and one has a moderate loading (0.702). Three indicators have high loadings (between 0.793 and 0.801) on the Sustainable innovation (SI) latent variable, while two have moderate loadings (between 0.700 and 0.706). Finally, all six variables exhibit moderate to high loadings (range from 0.705 to 0.838) on the Tourist Satisfaction (TS) latent variable, suggesting a moderate to strong link.

It's notable that loadings of 0.7 or higher are deemed appropriate for suggesting a strong link between the latent variable and its indicators, as stated by (Hair, Risher, Sarstedt, & Ringle, 2019). Therefore, it can be concluded that the loadings of all the indicators used in this analysis validate the relevant hypothesis.

Table 2: Outer Loadings
Source: Author's Calculation

	Architecture	Building Features	Issues with service	Sustainable innovation	Tourist Satisfaction
Ar1	0.800				
Ar2	0.862				
Ar3	0.826				
Ar4	0.767				
Ar5	0.772				
Ar6	0.700				
BF1		0.827			
BF2		0.842			
BF3		0.859			
BF4		0.846			
BF5		0.701			
IS1			0.832		
IS2			0.844		
IS3			0.750		
IS4			0.792		
IS5			0.702		
SI1				0.700	
SI2				0.706	
SI3				0.801	
SI4				0.793	
SI5				0.701	
TS1					0.705
TS2					0.838
TS3					0.815
TS4					0.770
TS5					0.772
TS6					0.715

Construct Reliability and Validity

Table 3 presents the reliability and validity analysis results of the constructs used in the study. The constructs are measured using multiple items, and Cronbach's alpha and composite reliability (CR) are used to assess the internal consistency or reliability of the measures. The table shows that all the constructs have high Cronbach's alpha and CR values, indicating that the measures used are reliable and consistent.

Moreover, the table indicates that the sustainable innovation construct has a lower Cronbach's alpha and CR value compared to the other constructs. However, the values are still above the recommended threshold of 0.7, indicating acceptable reliability.

Table 3: Cronbach's Alpha and composite reliability
Source: Author's Calculation

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Architecture	0.877	0.882	0.907	0.620
Building Features	0.870	0.884	0.906	0.661
Issues with service	0.823	0.821	0.877	0.591
Moderating of SI between AR & TS	1.000	1.000	1.000	1.000
Moderating of SI between BF & TS	1.000	1.000	1.000	1.000
Moderating of SI between IS & TS	1.000	1.000	1.000	1.000
Sustainable innovation	0.764	0.767	0.841	0.517
Tourist Satisfaction	0.832	0.843	0.879	0.554

Discriminant Validity

Table 4 presents the square root of the average variance extracted (AVE) for each construct on the diagonal, while the off-diagonal cells show the correlations between the constructs. Discriminant validity is assessed by comparing the square root of the AVE for each construct with the correlation between that construct and the other constructs in the model. According to Fornell & Larcker (1981), discriminant validity is established when the square root of the AVE for a construct is greater than the correlations between that construct and the other constructs. In the Table 4, the diagonal cells show that the square root of the AVE for each construct is higher than the correlations between that construct and the other constructs, indicating that discriminant validity has been established. The off-diagonal cells show the correlations between the constructs, and these correlations are lower than the square root of the AVE for each construct, confirming that discriminant validity is met.

Therefore, the results in the Table 4 indicate that the constructs in the model have acceptable discriminant validity, which supports the interpretation of the construct interrelationships in the subsequent analysis.

Table 4: Discriminant validity
Source: Author's Calculation

	Architecture	Building Features	Issues with service	Moderating of SI between Ar & TS	Moderating of SI between BF & TS	Moderating of SI between IS & TS	Sustainable innovation	Tourist Satisfaction
Architecture	0.788							
Building Features	0.358	0.813						
Issues with service	0.780	0.520	0.769					
Moderating of SI between AR & TS	-0.253	-0.308	-0.281	1.000				
Moderating of SI between BF & TS	-0.448	-0.248	-0.478	0.677	1.000			
Moderating of SI between IS & TS	-0.425	-0.234	-0.469	0.607	0.915	1.000		
Sustainable innovation	0.597	0.485	0.588	-0.268	-0.271	-0.252	0.719	
Tourist Satisfaction	0.642	0.620	0.723	-0.176	-0.408	-0.414	0.502	0.744

Path Coefficients

The route coefficients for the hypothesized links between the latent variables in the research model are shown in the Table 5. The table's rows reflect relationships between the two latent variables, and the columns display the associated t-statistic and the p-value for each association.

H1: Client satisfaction is significantly affected by architecture.

The t-value of 2.812 with a p-value of 0.005 supports the hypothesis that architecture has a substantial impact on customer satisfaction. Better qualities of architecture are related with better levels of customer satisfaction, according to the positive t-value. This shows that the visual attractiveness, design, and general aesthetic attributes of the lodgings have a beneficial influence on visitor satisfaction.

H2: Client satisfaction is significantly affected by issues with service.

The t-value of 3.843 with a p-value of 0.000 supports the hypothesis that service difficulties have a substantial influence on customer satisfaction. The positive t-value indicates that resolving service problems and offering high-quality service are important factors in achieving better levels of consumer satisfaction. This conclusion highlights the significance of attentive and responsive employees, fast service delivery, and successful problem resolution.

H3: Client Satisfaction is significantly affected by building features.

The hypothesis that building characteristics have a substantial impact on customer satisfaction is supported by a t-value of 5.049 and a p-value of 0.000. Better evaluations of building characteristics are connected with better customer satisfaction, according to the positive t-value. This emphasizes the significance of room layout, amenities, and comfort in molding visitor satisfaction levels.

H4: Sustainable innovation has a positive moderating influence on the link between architecture and client satisfaction.

The hypothesis that sustainable innovation positively moderates the link between architecture and customer satisfaction is supported by a t-value of 2.638 and a p-value of 0.009. This shows that combining sustainable techniques and features improves architecture's influence on customer satisfaction. Environmentally friendly components, energy efficiency, or sustainable construction materials are examples of sustainable innovations that contribute to a more enjoyable visitor experience.

H5: The moderating influence of sustainable innovation improves the link between issues of service and client satisfaction.

The t-value of 1.018 with a p-value of 0.309 does not support the hypothesis that sustainable innovations improve the connection between service problems and customer satisfaction. This shows that sustainable innovations may have little influence on the link between service concerns and customer satisfaction. Other criteria such as service quality and problem resolution may have a more direct influence on consumer satisfaction.

H6: Sustainable innovation has a positive moderating influence on the connection between building features and client satisfaction.

The t-value of 0.781 and p-value of 0.435 do not support the hypothesis that sustainable innovation has a moderating effect on the relationship between building characteristics and customer satisfaction. This suggests that sustainable improvements may not improve the link between building attributes and customer satisfaction considerably. Other elements, apart from sustainable innovation, may play a larger influence in influencing visitor satisfaction with building characteristics.

This research provides useful insights into the aspects affecting customer satisfaction by studying online ratings of visitor amenities at the Petra Heritage Site. The findings indicate the relevance of architecture, building features, and service issues in affecting the satisfaction of visitors. Furthermore, sustainable innovation has a favorable moderating effect on the link between architecture and client satisfaction. However, its impact on the links between building features and service issues and customer satisfaction is quite modest. These results add to a better knowledge of customer views and may inspire measures to improve satisfaction levels in historic lodgings at Jordan's Petra historic Site.

Table 5: Path Coefficients
Source: Author's Calculation

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Architecture -> Tourist Satisfaction	0.225	0.228	0.080	2.812	0.005
Building Features -> Tourist Satisfaction	0.404	0.388	0.080	5.049	0.000
Issues with service -> Tourist Satisfaction	0.288	0.296	0.075	3.843	0.000
Moderating of SI between Ar & TS -> Tourist Satisfaction	0.173	0.154	0.066	2.638	0.009
Moderating of SI between BF & TS -> Tourist Satisfaction	-0.068	-0.060	0.087	0.781	0.435
Moderating of SI between IS & TS -> Tourist Satisfaction	-0.090	-0.079	0.089	1.018	0.309

Conclusions and the Recommendations

The purpose of this study was to investigate consumer perceptions of historic hotels in Jordan, with a particular emphasis on finding the characteristics that impact customer satisfaction.

According to the findings of the study, there is a substantial positive association between building characteristics, service issues, architectural aspects and tourist satisfaction. This conclusion backs up prior studies that found these elements to be important in affecting visitor satisfaction. Sustainable innovation was found to have a considerable moderating influence on the link between architectural elements and visitor satisfaction. This shows that

long-term innovation can boost the favorable impact of architectural characteristics on visitor pleasure. The moderating influence of sustainable innovation on the association between building characteristics and service concerns with visitor satisfaction, on the other hand, was not significant.

Overall, the study emphasizes the need to incorporate sustainable innovations into tourism destination design and administration. This can improve tourist satisfaction and contribute to the tourism industry's long-term viability.

The study sheds light on the elements that determine visitor satisfaction, as well as the role of sustainable innovation in improving it. Building characteristics, service concerns, and architectural elements all have a substantial beneficial influence on visitor satisfaction, and sustainable innovation can further boost the positive impact of architectural features. According to the conclusions, tourism destination managers should promote sustainable innovation in their design and management methods. Incorporating sustainable practices and technology into the design of buildings and infrastructure, boosting service quality and efficiency, and improving the overall visitor experience are all examples of how this may be done.

- The results found that consumer satisfaction is influenced by architecture ($t = 2.812$, $p = 0.005$). Customer satisfaction is influenced by building features ($t = 5.049$, $p = 0.000$).
- Service issues have a significant impact on client satisfaction ($t = 3.843$, $p = 0.000$).
- The association between architecture and customer satisfaction is moderated by sustainable innovation ($t = 2.638$, $p = 0.009$). The link between building features and customer satisfaction is altered by sustainable innovation ($t = 0.781$, $p = 0.435$).
- Service and customer satisfaction are not improved by sustainable innovation ($t = 1.018$, $p = 0.309$).

Future studies should look at how sustainable innovations affect other elements that determine tourist satisfaction, such as destination image and cultural attractions. Furthermore, they might look at the link between sustainable innovations and tourism destinations' economic, social, and environmental sustainability.

References

- Abu-AlSondos, I., Alkhwalidi, A., Salhab, H., Shehadeh, M. & Ali, B. (2023) Customer attitudes towards online shopping: A systematic review of the influencing factors. *International Journal of Data and Network Science*, 7(1), 513-524. doi: www.GrowingScience.com/ijds
- Al Dein, A.F.E. & Jawabreh, O.A.A. (2022) Adaptive Reuse of Old Structures into Heritage Hotel Buildings: A Post-Occupancy Evaluation in Jordon, Amman. *ISVS e-journal*, 9(5), pp. 16–32
- Al-Hussein, M. A.-H. A., Alabdallat, W. I. M., Abu, M. A., Rumman, O. J. & Ali, B. J. (2023) Impact of E-Government Applications on Reducing Administrative Burden in Delivering Public Service. *Information Sciences Letters*, 12(3), 1663-1671 doi:<http://dx.doi.org/10.18576/isl/120350>
- AlMasri, Reem. & Abdelkader Ababneh. (2021) "Heritage Management: Analytical Study of Tourism Impacts on the Archaeological Site of Umm Qais—Jordan" *Heritage* 4, no. 3: 2449-2469. <https://doi.org/10.3390/heritage4030138>
- Al-Rawashdeh, O. M., Jawabreh, O. & Ali, B. J. (2023) Supply Chain Management and Organizational Performance: The Moderating Effect of Supply Chain Complexity. *Information Sciences Letters*, 12(3), 1673-1684. doi:<http://dx.doi.org/10.18576/isl/120351>
- Al Fahmawee, E. & Jawabreh, O. (2022) Narrative Architectural Interior Design as a New Trend to Enhance the Occupancy Rate of Low-Class Heritage Hotels. *New Design Ideas*, 6(2), 207-228.

- Al Fahmawee, E. A. D. & Jawabreh, O. (2023) Sustainability of Green Tourism by International Tourists and its Impact on Green Environmental Achievement: Petra Heritage, Jordan. *Geo Journal of Tourism and Geosites*, 46 (1), 27-36.
- Alananzeh, O. A., Almuhaissen, F., Jawabreh, O., Fahmawee, E. A. D. A., Ali, B. J. & Ali, A. (2023) The Impact of Job Stability, Work Environment, Administration, Salary and Incentives, Functional Justice, and Employee Expectation on the Security Staff's Desire to Continue Working at the Hotel. *Journal of Statistics Applications & Probability*, 12(2), 425-439. doi:<http://dx.doi.org/10.18576/jsap/120209>
- Alhaj, A., Zanoon, N., Alrabea, A., Alnatsheh, H., Jawabreh, O., Abu-Faraj, M. & Ali, B. J. (2023) Improving the Smart Cities Traffic Management Systems using VANETs and IoT Features. *Journal of Statistics Applications & Probability*, 12(2), 405-414. doi:<http://dx.doi.org/10.18576/jsap/120207>
- Alrabei, A. M., Al-Othman, L. N., Al-Dalabih, F., Taber, T. A. & Ali, B. (2022) The Impact of Mobile Payment on the Financial Inclusion Rates. *Information Sciences Letters*, 11(4), 1033-1044. doi:10.18576/isl/110404
- Ban, H.-J., Choi, H., Choi, E.-K., Lee, S. & Kim, H.-S. (2019) Investigating key attributes in experience and satisfaction of hotel customer using online review data. *Sustainability*, 11(23), 6570.
- Berezina, K., Bilgihan, A., Cobanoglu, C. & Okumus, F. (2016) Understanding satisfied and dissatisfied hotel customers: text mining of online hotel reviews. *Journal of Hospitality Marketing & Management*, 25(1), 1-24.
- Chong, A. Y. L., Khong, K. W., Ma, T., McCabe, S. & Wang, Y. (2018) Analyzing key influences of tourists' acceptance of online reviews in travel decisions.
- Elwalda, A. & Lu, K. (2016) The impact of online customer reviews (OCRs) on customers' purchase decisions: An exploration of the main dimensions of OCrs. *Journal of customer Behaviour*, 15(2), 123-152.
- Felbermayr, A. & Nanopoulos, A. (2016) The role of emotions for the perceived usefulness in online customer reviews. *Journal of Interactive Marketing*, 36(1), 60-76.
- Fornell, C. & Larcker, D. F. (1981) Structural equation models with unobservable variables and measurement error: Algebra and statistics: Sage Publications Sage CA: Los Angeles, CA.
- Gretzel, U. & Yoo, K. H. (2008) Use and impact of online travel reviews *Information and communication technologies in tourism 2008* (pp. 35-46): Springer. wrong
- Hair, J. F., Risher, J. J., Sarstedt, M. & Ringle, C. M. (2019) When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2-24.
- Hasan, M. R. (2019) Continuity of Using Social Networking Sites and the Expectation Disconfirmation Theory. *Journal of Business*, 40(3). pages missing
- He, W., Tian, X., Tao, R., Zhang, W., Yan, G. & Akula, V. (2017) Application of social media analytics: A case of analyzing online hotel reviews. *Online Information Review*, 41(7), 921-935.
- Hoang¹², S. D., Kim, A. D. & Truong, P. H. (2023) *Factors Influencing eWOM Review Adoption: An Empirical Evidence from Vietnam Tourism Website*. Paper presented at the ECSM 2023 10th European Conference on Social Media.
- Jahmani, A., Jawabreh, O., Fahmawee, E., Almasarweh, M. & Ali, B. J. (2023) The Impact of Employee Management on Organizational Performance in Dubai's Five-Star Hotel Sector. *Journal of Statistics Applications & Probability*, 12(2), 395-404. doi:<http://dx.doi.org/10.18576/jsap/120206>
- Jawabreh, O., Jahmani, A., Maaiah, B. & Basel, A. (2022) Evaluation of the contents of the five stars hotel website and customer orientation. *Information Sciences Letters*, 11(4), 1077-1085. doi:10.18576/isl/110408
- Jawabreh, O., Mahmoud, R., Alananzeh, O. & Ali, B. (2023) An Empirical Analysis of the Factors Influencing Online Meal Delivery Services. *Journal of Statistics Applications & Probability*, 12(2), 415-423. doi:<http://dx.doi.org/10.18576/jsap/120208>
- Jawabreh, O., Qaddhat, R., Jahmani, A., Al Najdawi, B., Ali, B. & Ali, A. (2023) Electronic Learning Platforms and Their Impact on Education Quality at Faculties of Tourism

- and Hospitality during Corona Pandemic. *Applied Mathematics & Information Sciences (AMIS)*, 17(1), 153-160. doi:10.18576/amis/170116
- Jawabreh, O., Shniekat, N., Saleh, M. M. A. & Ali, B. (2022) The strategic deployment of information systems attributes and financial performance in the hospitality industry. *Information Sciences Letters*, 11(5), 110504. doi:10.18576/isl/110510
- Khan, M. Y. H. & Abir, T. (2022) The role of social media marketing in the tourism and hospitality industry: A conceptual study on Bangladesh *ICT as Innovator between Tourism and Culture*, Vol. missing pp. 213-229: IGI Global.
- Knox, G. & Van Oest, R. (2014) Customer complaints and recovery effectiveness: A customer base approach. *Journal of marketing*, 78(5), 42-57.
- Le-Hoang, P. V. (2020). The effects of Electronic Word of Mouth (eWOM) on the adoption of consumer eWOM information. *Independent Journal of Management & Production*, 11(6), 1760-1777.
- Piramanayagam, S., Rathore, S.& Seal, P. P. (2020) Destination image, visitor experience, and behavioural intention at heritage centre. *Anatolia*, 31(2), 211-228.
- Pourfakhimi, S., Duncan, T. & Coetzee, W. J. (2020) Electronic word of mouth in tourism and hospitality consumer behaviour: state of the art. *Tourism Review*.
- Romero, I., Fernandez-Serrano, J. & Caceres-Carrasco, F. R. (2020) Tour operators and performance of SME hotels: Differences between hotels in coastal and inland areas. *International Journal of Hospitality Management*, 85, 102348.
- Saleh¹, M., Jawabreh, O., Jaber, J., Garaibeh, A., Ali, B. & Ali, A. (2023) The Impact of Financial Determinants On Bank Deposits Using ARDL Model. *Journal of Statistics Applications & Probability*, 12(2), 441-452. doi:<http://dx.doi.org/10.18576/jsap/120210>
- Saleh, M. H., Jawabreh, O., Emad Al Dein, A. & Ali, B. J. (2023) The Competitiveness of Jordanian Tourism Activity in Enhancement Economic Growth. *Applied Mathematics & Information Sciences (AMIS)*, 17(1), 161-174. doi:10.18576/amis/170117
- Schwarz, C. & Zhu, Z. (2015) The impact of student expectations in using instructional tools on student engagement: A look through the expectation disconfirmation theory lens. *Journal of Information Systems Education*, 26(1), 47.
- Serrano, C. I., Shah, V. & Abràmoff, M. D. (2018) Use of expectation disconfirmation theory to test patient satisfaction with asynchronous telemedicine for diabetic retinopathy detection. *International journal of telemedicine and applications*.
- Su, L., Hsu, M. K. & Swanson, S. (2017) The effect of tourist relationship perception on destination loyalty at a world heritage site in China: The mediating role of overall destination satisfaction and trust. *Journal of Hospitality & Tourism Research*, 41(2), 180-210.
- Ta, T. (2019). The impact of social media on customer's brand awareness. incomplete
- Vargo, S. L., Nagao, K., He, Y. & Morgan, F. W. (2007) Satisfiers, dissatisfiers, criticals, and neutrals: A review of their relative effects on customer (dis) satisfaction. *Academy of Marketing Science Review*, 11(2), 1-19.
- Virginia Phelan, K., Chen, H.-T. & Haney, M. (2013) "Like" and "Check-in": how hotels utilize Facebook as an effective marketing tool. *Journal of hospitality and Tourism Technology*, 4(2), 134-154.
- VO, N. T., Chovancová, M. & Tri, H. T. (2020) The impact of E-service quality on the customer satisfaction and consumer engagement behaviors toward luxury hotels. *Journal of Quality Assurance in Hospitality & Tourism*, 21(5), 499-523.
- Von Helversen, B., Abramczuk, K., Kopeć, W. & Nielek, R. (2018) Influence of consumer reviews on online purchasing decisions in older and younger adults. *Decision Support Systems*, 113, 1-10.
- Xiang, Z., Magnini, V. P. & Fesenmaier, D. R. (2015) Information technology and consumer behavior in travel and tourism: Insights from travel planning using the internet. *Journal of retailing and consumer services*, 22, 244-249.

- Xu, X. & Li, Y. (2016) The antecedents of customer satisfaction and dissatisfaction toward various types of hotels: A text mining approach. *International Journal of Hospitality Management*, 55, 57-69.
- Ye, Q., Law, R. & Gu, B. (2009) The impact of online user reviews on hotel room sales. *International Journal of Hospitality Management*, 28(1), 180-182.
- Yoo, K.-H. & Gretzel, U. (2011) Influence of personality on travel-related consumer-generated media creation. *Computers in human behavior*, 27(2), 609-621.

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