

AicE-Bs2022KotaKinabalu

<https://www.amerabra.org>



10th Asia-Pacific International Conference on E-B Studies
The Magellan Sutera Resort, Kota Kinabalu, Sabah, Malaysia, 07-08 Sep 2022

Exploring the influence of e-Service Quality toward Customer Engagement Behavior via PLS-SEM: Findings from a hotel's customer perspective

Nur Amira Mohd Ridzuan ¹, Rasidah Hamid ¹, Mohd Hanafi Azman Ong ², Ilma Indriasri Pratiwi ³

¹ Faculty of Hotel and Tourism Management, Universiti Teknologi MARA, Puncak Alam, Malaysia

² Department of Statistics and Decision Sciences, Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA Cawangan Johor (Kampus Segamat), 85000 Segamat, Johor, Malaysia.

³ Faculty of Social Science Education, Universitas Pendidikan Indonesia, 40154 West Java, Indonesia.

ridzuanna97@gmail.com, rasidah9898@uitm.edu.my, napieong@uitm.edu.my, ilma.indriasri@upi.edu
Tel: +6018-9450325

Abstract

Covid-19 has a significant impact on the hotel's operations. The reopening process has begun, especially on the hotel website. Therefore, the hotel industry must understand the need to influence customers' choices through advanced I.T. This study is intended to explore the effect of e-service quality on customer engagement behaviors via the SEM method with the PLS estimation technique with 247 respondents. The findings indicate that system availability is the most significant influence influencing customer engagement behaviors, followed by system efficiency, system privacy/security, and system fulfillment. This finding will help the hotel's manager boost customer engagement.

Keywords: e-service quality, customer engagement, hotel industry, website.

eISSN: 2398-4287 © 2022. The Authors. Published for AMER ABRA CE-Bs by e-International Publishing House, Ltd., U.K. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). Peer-review under responsibility of AMER (Association of Malaysian Environment-Behaviour Researchers), ABRA (Association of Behavioural Researchers on Asians/Africans/Arabians), and cE-Bs (Centre for Environment-Behaviour Studies), Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia.
DOI: <https://doi.org/10.21834/ebpj.v7i21.3748>

1.0 Introduction

The hospitality sector encompasses many enterprises and establishments concerned with amusement and customer happiness (Natnaporn & Aeknarajindawata, 2019). Focusing on comfort, enjoyment, relaxation, and experiences, as defined in meeting customers' requirements and offering services, defines the quality hospitality sector. In terms of global economic power, the hotel and tourism sectors have expanded considerably in recent years. As in other Malaysian nations, several sectors actively lure tourists to Malaysia. Globally, the hotel business is growing at an unparalleled pace. As a worldwide business, the hotel sector has gained appeal. The hotel sector is quickly expanding (Fong, Lam & Law, 2017). The issues caused by Covid-19 have greatly affected almost every element of the hotel's operation, notably the online hotel booking websites (Jiang & Wen, 2020). Pieces of information technology (I.T.) advancements, especially in hotel operations, are driving a radical change in the distribution of product services (Khoo, 2019). Since most reservations or bookings are now made online rather than offline, the hotel business is more likely to employ e-service (Ayob, Lan, & Sheringham, 2021). In addition, 3 out of every 4 billion people use electrical gadgets to surf the material every month to make hotel reservations via social media, digital travel agencies, and direct hotel websites, for example, according to preliminary findings by McDonald (2018). Many more people are relying on

eISSN: 2398-4287 © 2022. The Authors. Published for AMER ABRA CE-Bs by e-International Publishing House, Ltd., U.K. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). Peer-review under responsibility of AMER (Association of Malaysian Environment-Behaviour Researchers), ABRA (Association of Behavioural Researchers on Asians/Africans/Arabians) and cE-Bs (Centre for Environment-Behaviour Studies), Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia.
DOI: <https://doi.org/10.21834/ebpj.v7i21.3748>

electronic services because of the growing interest of hotel guests in making reservations through online internet platforms. To make matters more complex, Covid-19 has significantly impacted practically every aspect of the hotel's administration (Jiang & Wen, 2020), necessitating strict hygiene practices for everyone involved, including both service providers and customers. It is still possible to speed up the deployment of Industries 4.0, which combines digital technologies such as e-services into individuals' private, professional, and social lives in the face of pandemics (Jiang & Wen, 2020). The process of reopening, however, began gradually, and the government has begun to relax some of the rules. For example, the hotel can now be permitted to reopen with fewer customers (Chi & Gursoy, 2020). Due to these challenges, hotel operators can now promote their services locally and internationally, especially with the development of e-services, particularly in online hotel booking. This relatively brief break gave them an ideal chance to improve their online presence, particularly their website, by including more direct booking platforms like Agoda.com, Booking.com, and Trivago, thereby enhancing the user experience across all of these online booking tools (Mauguin, 2020).

2.0 Literature Review

2.1 E-Service Quality

Electronic service as known as e-service quality can be described as efforts and performance whose delivery is mediated by information technology (Rowley, 2006). The concept of service quality can be defined as consumers' overall evaluation and judgment of the excellence and quality of e-service products in virtual markets (Parasuraman et al. 2000). The concept of e-service quality existed from the use of traditional service quality to evaluate the quality of a website itself (Husain, 2017). According to Li, Peng, Jiang, and Law (2017), the hotel website is defined by online lookers and investigated its variables for such e-service quality. It is perhaps one of the important ways to communicate with its customer's online platform (Chen & Dhillon, 2003). Moreover, Parasuraman et al. (2000) pointed out that quality problems of e-services should be assessed across the entire online shopping process, from information search to information search. The e-SERVQUAL scale measured e-service by a core dimension within this study, including performance, system availability, efficiency, privacy/security, and fulfillment.

System Availability

The hotel reservation system, for instance, is a method that allows clients to make safe online reservations. While the procedure is comparable to hotel online booking, the hotel's booking engine connects directly to its website, avoiding any further expenses for the property. Using the hotel's online booking system, customers may pick the length of their stay, the sort of room they like, and any extras, and pay using a secure payment platform (Lacalle, 2021). For instance, Law and Hsu (2006) assess the dimension of the hotel's website, including the reservation information, hotel amenities, property contact information, the surrounding region, and website administration, as well as the features those online users in each dimension value most. The reservation information dimensions include the room rate, availability, and security of payment, the location map, hotels, and room conveniences (in facility data), the telephones, address, and e-mail addresses of the hotels (for contact details), transportation services to the hotels, airport, and entertainment venues (for surroundings details), and up-to-date data, multilingual sites, and a rapid download time are among the essential system availability (for website management).

Efficiency

According to Parasuraman, Zeithaml, and Malhotra, efficiency is defined as the ease and rapidity with which users may access and utilize a website (2005). In other terms, efficiency is the potential to decrease website consumption or browsing time. When developing a website, efficiency is often one of the most significant factors to consider, since customers are typically more concerned with usability, requiring relevant information about the goods and services (Abdullah et al., 2016). On the other hand, most hotel website visitors are mobile due to the nature of the hotel and tourism industries. Therefore, cell phones, tablets, and other computing devices will be able to access the website. A decent website must be resizable and permit these devices' reservations. In addition, delivery and payment information processing through automatic answers, hotel websites' search speeds, and a well-structured website are instances of efficiency (Li, Peng, Jiang, & Law 2017). When customers view a particular e-service of a website as trustworthy, they are more likely to return to the site and interact with the service in the future (Abdullah et al., 2016).

Privacy and Security

Privacy and security include measures that prevent unauthorized third parties from accessing confidential client information at the start and finish of a transaction (Fong, Lam, & Kaw, 2017). Website security and privacy are frequently discussed in the travel and hospitality industry in today's internet age. When making an online purchase, customers are leery about giving their personal information to an untrusted website because they want to receive better service from that site in the future (Fong, Lam, & Kaw, 2017).

Fulfillment

Orders can only be fulfilled if they are correctly described, delivered on time, and contain the necessary information. The sustainability of online websites at danger when customers can't complete a transaction, things are not delivered on time or at all, e-mails aren't replied to, and essential information isn't gathered. On-time delivery, order fulfillment, and appropriate delivery circumstances are all critical

components of a hotel's ability to provide excellent customer service. Electronic services are judged on the quality of their customers' happiness. Investigate customer engagements on hotel websites to serve them better. Reservation systems must match the needs and expectations of customers, for example, by allowing them to rapidly access their personal information and connect with hotel sites (Khoo, 2019). Customer satisfaction also depends on the correctness of product demonstration, with the items generated by the customer matching the things requested and being delivered on time (Khoo, 2019).

2.2 Customer Engagement Behaviors

Involvement in an industry's products and/or organizational operations initiated by the company or its customers are defined as "interaction" (Beatty et al., 2012). The behavior aspect of consumer interaction is also described. Numerous personality traits impact how well a company engages with its customers. The three-way communications networks start with a focus on customers' online reviews of their most recent dining encounters. Thus, the perceptions, assessments, and opinions expressed in these user-generated internet comments often significantly impact the hotel business and prospective clients (Roy et al., 2018). This interaction has an impact on businesses in a variety of ways, including word-of-mouth (WOM) activities, references and feedback, customer assistance offered voluntarily, web posts and blogging, brand groups participation, product creation engagements, and other behavioral manifestation that may affect the business and its product (Gounaris et al., 2010; Roy et al., 2018). To enhance customer engagement with the hotel, the hotel provider must provide the customers with easy-to-use and trustworthy websites. As a result, the customers recurring contentment with the hotel websites might return and engage to use the service offered, thus can developing customer engagement behaviors towards the hotel websites themselves.

3.0 Methodology

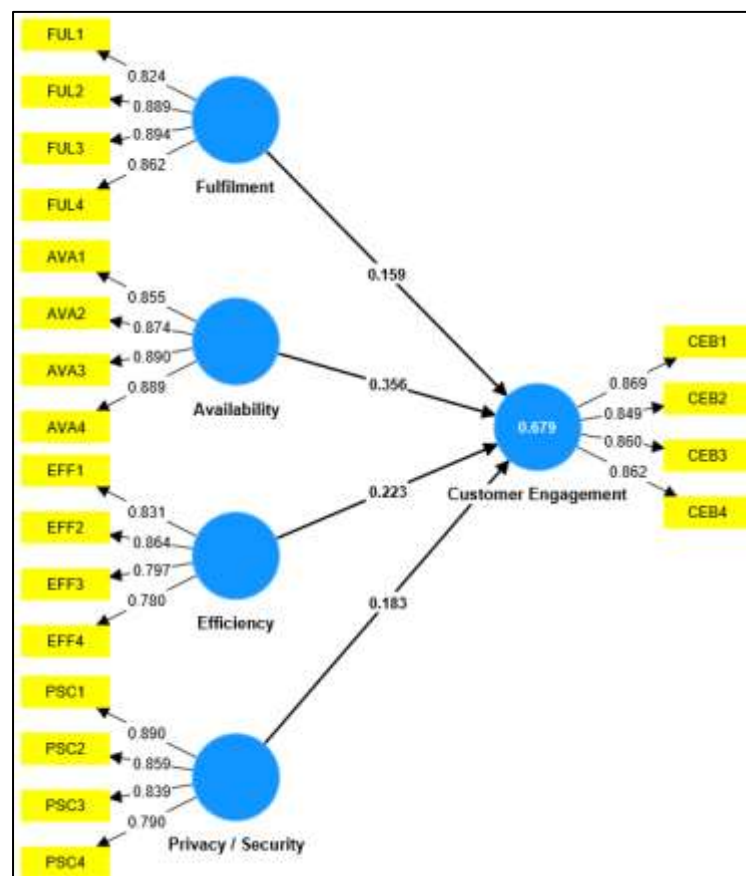


Figure 1: PLS-SEM Analysis Output for Loading and Path Coefficient Values

According to Creswell (2014), quantitative analysis and surveys were used in this study to determine the quantitative influence of the targeted latent components. A well-designed questionnaire is assigned. Since this study fundamentally aims at the influence of e-service quality on customer engagement behavior, the researchers used the non-probability multi-stage sampling technique where the population elements' sampling frame is unavailable. This study's non-probability sampling technique combines judgmental and purposive-convenience sampling techniques. In this study, the researchers chose 247 participants who agreed to participate. The details characteristics of the targeted population are that the respondent must be an adult who already has a job and income, and the respondents can be Malaysian or non-Malaysian citizens; thus, the respondent must have experience visiting a hotel in Malaysia. Besides, in the first stage, judgmental sampling was applied with several important characteristics: the respondent must be an adult who already has jobs and

income. The respondents must have experience visiting a hotel in Malaysia. After that, purposive-convenience sampling was applied at the final stage to get a response from the respondent. The survey was distributed using Google Forms and circulated via social media such as Facebook. Hossain (2011) provided the customer engagement behaviors variable, and Hahn et al. (2017) provided the e-service quality variable of fulfillment, system availability, efficiency, and privacy/security for this study's research questions. Since this study attempts to simultaneously investigate the new conceptual framework, the statistical analysis used the Structural Equation Modeling using Partial Least Squares (Hair et al., 2017). Bootstrapping was employed to determine the significance test in this PLS-SEM experiment, which is more trustworthy than the usual t-test (Hair et al., 2017). According to Hair et al recommendation's 5000 sample replications were used to calculate empirical t-statistics and the Bias Corrected (BCa) bootstrap (2017).

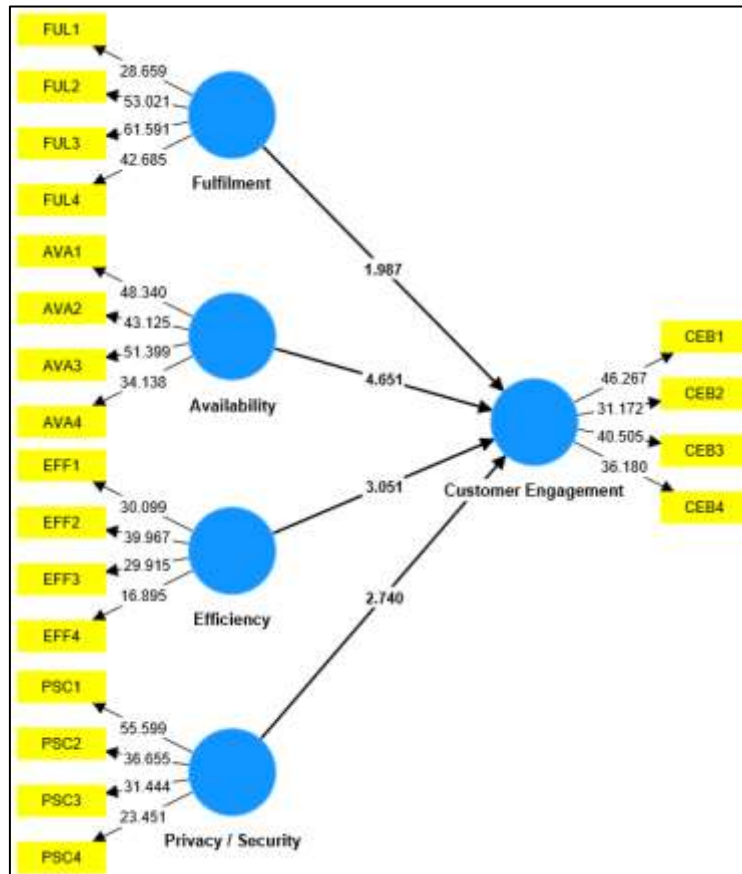


Figure 2: PLS-SEM Analysis Output for t-statistic values via Bootstrapping Analysis

4.0 Findings and Discussion

4.1 Measurement Model Analysis

Table 1 shows that all items measuring the targeted variables have a factor loading value greater than 0.70. Other criteria, such as Average Variance Explain, Composite Reliability, and Cronbach's Alpha for each variable, also meet the PLS-SEM analysis's minimum requirements of 0.50 and 0.70. (Hair et al., 2017). In terms of discriminant validity, Table 2 showed that each variable was distinguishable from the others because the HTMT ratio value was less than 0.90. (Henseler et al., 2015). As a result, it confirms that each variable in this measurement model has optimal convergence and discriminant validity.

Table 1: Convergent Validity for Measurement Model

Indicator	Loading	AVE	γ	α
Fulfillment				
It delivers orders when promised (FUL1)	0.824*	0.753	0.924	0.890
This site makes items available for delivery within a suitable time frame (FUL2)	0.889*			

It quickly delivers what I order (FUL3)	0.894*			
It sends out the items ordered (FUL4)	0.862*			
Availability				
This site is always available for business (AVA1)	0.855*			
This site launches and runs right away (AVA2)	0.874*	0.769	0.930	0.900
This site does not crash (AVA3)	0.890*			
Pages at this site do not freeze after I enter my order information (AVA4)	0.889*			
Efficiency				
This site makes it easy to find what I need (EFF1)	0.831*			
It makes it easy to get anywhere on the site (EFF2)	0.864*	0.670	0.890	0.835
It enables me to complete a transaction quickly (EFF3)	0.797*			
Information at this site is well organized (EFF4)	0.780*			
Privacy / Security				
It protects information about my Web-shopping behavior (PSC1)	0.890*			
It does not share my personal information with other sites (PSC2)	0.859*	0.714	0.909	0.866
This site protects information about my credit card (PSC3)	0.839*			
I feel safe when dealing with web transactions (PSC4)	0.790*			
Customer Engagement				
I prefer to book the hotel on this hotel website (CEB1)	0.869*			
I will make my next booking from this hotel website (CEB2)	0.849*	0.740	0.919	0.883
I will revisit this website in the future (CEB3)	0.860*			
I will recommend the others to visit this website (CEB4)	0.862*			

Note: AVE = Average Variance Explained; γ = Composite Reliability; α = Cronbach's Alpha; *p <0.05.

Table 2: HTMT Discriminant Analysis for Measurement Model

	(1)	(2)	(3)	(4)	(5)
(1)	-				
(2)	0.773*	-			
(3)	0.889*	0.850*	-		
(4)	0.798*	0.804*	0.862*	-	
(5)	0.795*	0.852*	0.860*	0.811*	-

Note: (1) = Fulfillment; (2) = Availability; (3) = Efficiency; (4) = Privacy / Security; (5) = Customer Engagement; *p <0.05.

4.2 Structural Model Analysis

According to the structural model analysis, the independent variables which are fulfillment, availability, efficiency, and privacy/security can explain approximately 67% of the variance explained toward the dependent variable which is customer engagement behaviors. According to the effect size analysis in Table 3, system availability has a medium effect size on customer engagement, whereas fulfillment, efficiency and privacy/security have a small effect size relationship towards customer engagement behaviors. In terms of structural path analysis, fulfillment, system availability, efficiency, and privacy/security had a statistically significant effect with a positive direction toward customer engagement behaviors at the 5% level of significance because the p-value was less than 0.05. (Hair et al., 2017). It is also supported by of BCa Bootstrapping confidence interval analysis, which found that the 95 % confidence interval did not contain the value of zero (Hair et al., 2017).

Table 3: Structural Model for Measurement Model

Path	β	t-statistic	p-value	95% BCa Bootstrap	f^2	Remark
FULL → CEB	0.159	1.987*	0.047	(0.005, 0.313)	0.028	Small
AVA → CEB	0.356	4.651**	<0.01	(0.207, 0.505)	0.149	Medium
EFF → CEB	0.223	3.051**	<0.01	(0.072, 0.361)	0.028	Small
PSC → CEB	0.183	2.740**	<0.01	(0.044, 0.307)	0.039	Small

Note: FUL = Fulfillment; AVA = Availability; EFF = Efficiency; PSC = Privacy / Security; CEB = Customer Engagement; β = Path Coefficient; f^2 = Effect Size; The bootstrap sample was 5000 samples; *p <0.05; **p <0.01.

5.0 Conclusion & Recommendations

This study's findings explain E-service quality toward customer engagement behaviors. Customers are more likely to be engaged if they can count on high average levels of satisfaction, availability, efficiency, and privacy/security. However, the analysis also revealed that, due to the highest value of the path coefficient, system availability is the most significant influence influencing customer engagement behaviors, followed by system efficiency, system privacy and security, and finally, system fulfillment. It is believed that the results of this research have made a substantial contribution to both the academic and industrial fields of hotel management. This study may give a complete picture of the manager's factors influencing customer engagement behaviors. This gives them an advantage over their competition. In addition, this study aids the organization in sustaining and even enhancing the quality of their e-services, specifically hotel online services. Academically speaking, the testing of hypotheses and subsequent connection to the results of empirical data gathered from existing literature will substantially contribute to the current body of knowledge. It will give additional information about the elements driving consumer engagement behaviors and enable the other researcher to publish future work on the topic. This study will also serve as one of the new reading resources and reference materials for future scholars. If the hotel's service provider can increase the customer's engagement on its website, this relatively brief hiatus was the perfect chance for them to strengthen their online presence, notably their website, by introducing extra direct online booking tools. They may gain more customers for their firm if the e-service portal is appropriately installed and thoroughly examined. The research limitations are significant for researchers to gain more knowledge about research. More detailed and in-depth research should be performed using a little improvisation of theoretical framework. It would be fascinating to explore the influence of e-service quality on customer engagement behaviors and how it will affect the hotel industry in enhancing the successful implementation of e-service itself in the modern era of innovative technology.

Acknowledgment

Thank you to Prof Madya Dr. Rasidah Hamid from the Faculty of Hotel and Tourism Universiti Teknologi MARA Selangor Campus Puncak Alam Malaysia and Mr. Hanafi Azman Ong from the Faculty of Computer and Mathematical Science, Universiti Teknologi MARA Segamat Campus Johor Bahru Malaysia as well as to Ilma Andriasri Pratiwi from the Faculty of Social Science Education, Universitas Pendidikan West Java Indonesia for all their help and support. Geran Penyelidikan Khas funded this research, Universiti Teknologi MARA Selangor Campus Puncak Alam Bandar Puncak Alam, 42300 Puncak Alam, Selangor Darul Ehsan, Malaysia.

Paper Contribution to Related Field of Study

Upon this basis of the finding of this research, it is hoped that the research results will provide light on how successfully e-service deployment may be carried out in Malaysian hotels. It is good news for hoteliers since e-services can help them increase income, cut costs, and improve customer service in the hospitality business. This study's results will aid the Malaysian Association of Hotels (MAH) and Malaysian hotels in enhancing the quality of e-services to stimulate consumer involvement by hotels themselves. In the future, the practical and integrated performance of e-service quality may contribute to the performance of Malaysian hotels. Soon after the successful deployment of the e-service, the Malaysian Association of Hotels (MAH) would be able to advertise and entice customers to stay and remain involved with hotels. Besides, this study also is to improve the hospitality business, where it is beneficial for management to understand the hotel's customers to adopt the e-service in their hotel reservations. In addition, from the researchers' point of view, this study will help all the overall hotel operation management to understand the convenience better using the e-service. This research is vital for both the hospitality industry and hospitality researchers. The hotel service provider can use their information to decide whether they want to improve the service. Completing the study will enable the researchers to enhance their understanding so that they can acknowledge the e-service from various aspects.

References

- Abdullah, D., Jayaraman, K., & Kamal, S. B. M. (2016). model of interaction hotel website: The role of perceived website interactivity and customer perceived value toward website revisit intention. *Procedia Economics and Finance*, 37, 170-175.
- Ayob, M.F., Lan, Y.C., & Sheringham, C. (2021, March). *Impact on e-commerce towards hotel management in Malaysia*. Paper presented at International Academic Multidisciplines Research Conference, Lucerne, Switzerland.
- Beatty, S.D., Morgan, R.M., & Vivek, S.D. (2012). Customer engagement: Exploring customer relationships beyond purchase. *The Journal of Marketing Theory and Practice*, 20(2), 122–146.
- Chen, S. C., & Dhillon, G. S. (2003). Interpreting dimensions of consumer trust in E-commerce. *Information Technology and Management*, 4(2), 303–318. doi:10.1023/A:1022962631249
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Fong, L.H.N., Lam, L.W., & Law, R. (2017). How locus of control shapes intention to reuse mobile apps for making hotel reservations: evidence from Chinese consumers. *Tourism Management*, 61, 331-342.
- Gounaris S., Dimitriadis S., & Stathakopoulos, V. (2010). An examination of the effects of service quality and satisfaction on customers' behavioral intentions in e-shopping. *Journal of Service Marketing*, 24(2/3), 142–156.
- Hahn, S. E., Sparks, B., Wilkins, H., & Jin, X. (2017). E-service Quality Management of a Hotel Website: A Scale and Implications for Management. *Journal of Hospitality Marketing & Management*, 7(1), 149-286.
- Hair, J. F., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management and Data Systems*, 117(3), 442–458.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling. *Journal of the Academy of Marketing Science*, 43(1): 115-135.
- Hossain, M.Y. & Hossain, M. (2011). *E-service quality and consumer loyalty: A study on consumer electronic retail industry*. (Unpublished master's thesis). Umeå School of Business, Umeå, Sweden.
- Husain, S. (2017). The determinants of loyalty in online commerce - an exploratory study in India. *Journal of Information Management System*, 81, 1–17.
- Gursoy, D. & Chi, G.C. (2020). Effects of COVID-19 pandemic on hospitality industry: review of the current situations and a research agenda. *Journal of Hospitality Marketing & Management*, 29(5), 527-529
- Jiang, Y. & Wen, J. (2020). Effects of COVID-19 on hotel marketing and management: A perspective article. *International Journal of Hospitality Management*, 32(8), 2563-2573.
- Lacalle, E. (2021, April 2). How does an online hotel reservation system work? *Industry*. Retrieved June 13, 2022 from <http://www.mews.com/en/blog/hotel-reservation-system>
- Li, L., Peng, M., Jiang, N., & Law, R. (2017). An empirical study on the influence of economy hotel website quality on online booking intentions. *International Journal of Hospitality Management*, 63, 1–10.
- Khoo, N. (2019). *This is how hotels get their 5-star ratings in Malaysia*. Retrieved July 9, 2019, from <https://firstclasse.com.my/5-star-hotel-ratings-malaysia/>
- Krejcie, R.V., & Morgan, D.W., (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610.
- Leedy, Paul, D. & Ormrod, J.E. (2013). *Practical research: Planning and Design*. (10thed.), Boston, MA: Pearson.
- Mauguin, M. (2021). *What Is Next For Hotel Online Bookings? A look at the state of hotel digital distribution post-Covid*. Retrieved October 25, 2021, from <https://www.hospitalitynet.org/opinion/4104231.html>
- Natnapom & Aeknarajindawata (2019). The factors influencing tourists' online hotel reservations in Thailand: an empirical study. *International Journal of Innovation, Creativity and Change*, 10(1), 121-140.
- Parasuraman, A. (2000). Technology Readiness Index (TRI): A multiple-item scale to measure readiness to embrace new technologies. *Journal of Services Research*, 2(4), 307-20.
- Parasuraman, A., Zeithaml, V.A. & Malhotra, A. (2005). E-S-QUAL: a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3), 213-33.
- Rowley, J. (2006). An Analysis of the e-service literature: Towards a research agenda. *Internet Research*, 16 (3), 339-359.
- Roy, S.K., Shekhar, V., & Lassar, W.M. (2018). Customer engagement behaviors: The role of service convenience, fairness, and quality. *Journal of Retailing and Consumer Services*, 44(12), 293-304.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.