CUSTOMERSATISFACTIONANDSERVICE QUALITY IN FIVE-STAR HOTELS WITH SERVICE ROBOTS

K.Nazni

(Research Scholar)

Dr.K.Subathra

(Assistant Professor)

S.JacqulineMartina

(Research Scholar)

Dr.S.Senthil Kumar

(Professor), SRM School of Management, Kattankulathur

ABSTRACT

The findings elucidate that that guests in male category, having joint family, in 31-40 years of age and holding post-graduation are having higher degree of Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots. Benefits, drawbacks and personal experience are dimensions of Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots. Benefits and personal experience are positively and significantly influencing, while, drawbacks is negatively and significantly influencing overall Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots.

Key Words: Customer satisfaction, service quality, Guests, Service Robots, Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots

INTRODUCTION

In present times, the entire globe is witnessing outstanding growth in robotics, artificial intelligence and automation of services (Neapolitan and Jiang 201;). Robots are using in industrial production, transportation, surgery and medical diagnoses, education, supply chain management practices (Kanda and Ishiguro, 2012), logistics and agriculture and service sectors and they are helping old people and children of special needs (Ivanov, 2017), entertainment, surveillance and militaryandsafetyoperations(Samani,2016).Nowadays,robotsarelargelyusingin travel, hotel and tourism industries across the globe (Ritzer, 2015; Gladstone, 2016) and they are creating opportunities to hospitality organizations for fully automation to enhance their operational efficacy and quality of product and services deliveryand profitability and offering superior quality of services to consumers or guests (Borràs et al 2014).

Hospitality companies are increasingly using robots for different operations namely cleaning (Lukanova and Ilieva 2019), delivery of food items (Collins etal 2017), room services, giving information, entertainment (Tuomi et al. 2020) and assistance to guests (Ivanov and Webster 2019). Service robots are entering in to restaurants (Lee etal 2018; Berezina etal 2019;), hotels (Nakanishi et al 2020) and operations of bars (Foster etal 2013).

The viewpoint of owners and manages of hotels in using robots from the supply side is largely important (Lietal 2019) because they are making decision to use robots in their hotel operations (Leeeal 2018) based on benefits (Xu et al 2020) they are receiving from them and practical difficulties faced by them in operating them and they are highly useful and supplement to employees of hotels in carrying out dirty and harmful activities and operations and they are efficiently using robotsin different operations (Lin etal 2019). In the demand side, attitude of guests for acceptance of robots in delivering services (Lu et al 2019), their confidence (Park, 2020)and appropriateness(IvanovandWebster2019)are very important for adoption of service robots in hotel industries. Therefore, an attempt is made to study Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots.

REVIEWOFEARLIERSTUDIES

The usefulness of robots in providing services in hotel and hospitality industries is having different kind of impacts in operations of hotels and attitude and satisfaction of guests. Attitudeof consumers in using robots in delivering services in hotels is highly important and they are having favourable and unfourable attitude towards them and it is also affecting their views (Ajzenand Fishbein, 2005). Attitude is the group of feelings of consumers based on their evaluation of a particular phenomenon (Kraus, 1995) and it is their mental aspect and they are also getting information about it from others (Ajzen, 2001) and it is a psychological component of individuals and their evaluation about a subject(Eagly and Chaiken, 1993) and it is also considered as their learning state(Chakraborty et al 2007).

Attitude of consumers is influenced by several aspects of a particular object orphenomenonoradoptionofnewthings(GlasmanandAlbarracín,2006;Kabadayi andGupta,2011) anditisevaluatedin differentformatsandways(Lorenzo-Romero et al 2011) and it is closely related with evaluation of consumers about a subject and its formation is taking timeand sometimes they are notclosely associated with them (Wittenbrink and Schwarz, 2007) and attitude of guests is connected with their behaviour (Kroesen et al 2017; Kroesen and Chorus, 2018) and in some cases, it is very difficult to measure and is having little linkage with their behaviour (Bamberg et al 2003; Bamberg, 2006;) and in general, it is largely connected with their behaviour (Kroesen et al 2017) and attitude is using predict the behaviour of consumers in hospitality sector.

New and modern technologies are intensively adopting and are affecting attitude of consumers especially in hotel industries (Cui et al 2009; Denis-Rémis, 2011; Morosan and DeFranco, 2014) and adequate technologies are also adopting in hospitality industries (Burner and Kumar, 2005;

Lin and Hsieh, 2006; Reisch et al 2011l; Kim and Qu, 2014). Guests are feeling that new technologies are highly attractive and improving service operations and their attitude and satisfaction (Lin and Hsieh, 2006). Attitude of consumers are improving or changing due to use of technologiesandtheymaketheirlifemoreeasier(Bilgihanetal2010;Singh,2014) and it helps for reduction of time, cost and quick in providing services to consumers (Bilgihan et al 2016) and it is also influencing their behaviour in future periods (Cobanoglu et al 2017) and at the same time, it is creating more complication and difficulties in adoption and delivering services through advanced technologies (Wang and Qualls, 2007).

Robotsareusing indeliveringservicesandcarrying outvariousoperations in hospitality industries (Katz and Halpern, 2014; Dinet and Vivian, 2014; Pino et al 2015)and interaction among technologies (Malchus et al 2013) and consumers are also significantly growing (Frennert and Östlund, 2014; Reich-Stieber and Eyssel, 2015; Pochwatko et al 2015; Piçarra, 2016; Hudson et al 2017) and there are some factors that are affecting use of robots in hotel industries and gender of guests are indifferent in their attitude for use of robots (Dinet and Vivian, 2014) and female consumers are cynical to use of robots in delivering services to them and consumes of urban areas are having positive and favourable attitude towards use of robots (Hudson et al 2017) and it is the index for readiness to employ mechnoid in hotel operations (Malchus et al 2013). Meanwhile, larger segment of consumers are interested in using robots in providing services to them (Ivanov et al 2018) and they are holding favourable attitude towards them.

METHODOLOGY

The survey had conducted for collection of data from guests of five star hotels in Tamil Nadu, India and random sampling method had adopted for selection guests of five star hotels. The interview schedule had used to collect data from 300 guests by adopting personal interview method. Descriptive statistics, Mann Whitney Utest,Kruskal-WallisH test,exploratoryfactoranalysis andregressionanalysishad applied to study the objectives of this study.

RESULTS

Profileof Guests

The profile of guests is disclosed in Table-1.Out of 300guests,ofwhich158 (52.67%)aremalesand142(47.33%)arefemales.Withrespecttoage,118

(39.33%) are in 31-40 years, 104 (34.67%) are in 21-30 years and 78 (26.00%) arein 41-50 years. Regarding to educational level, 114 (38.00%) are having under gradation,97(32.33%)arehavingpostgraduation,56(18.67%)arehavingdiploma

and 33 (11.00%) are having higher secondary. With regarding to family type,232 (77.33%)are in nuclear family and 68 (22.67%) are in joint family.

Table-1.ProfileofGuests

Profile	Frequency	%
Gender		
Male	158	52.67
Female	142	47.33
Age		
21-30 years	104	34.67
31-40 years	118	39.33
41-50 years	78	26.00
Education		
HigherSecondary	33	11.00
Diploma	56	18.67
UnderGraduation	114	38.00
Post Graduation	97	32.33
FamilyType		
Joint	68	22.67
Nuclear	232	77.33

Customer Satisfaction and ServiceQualityin Five-StarHotels with Service Robots

Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots is disclosed in Table-2.

Table-2.CustomerSatisfactionandServiceQualityinFive-StarHotels with Service Robots

Sl.No.	CustomersatisfactiontowardsUsingService Robots	Mean	SD
1.	Robotsarequickerascomparedtoemployees	3.90	0.87
2.	Robotsaremakingcomputationaccuratelythan employees	3.84	1.02

3.	Robotsarealwaysprovidingcorrectinformation incomparisonwithemployees	3.32	0.71
4.	Robotsarehavingcapacitytogiveinformationin differentlanguagesascompared toemployees	3.77	0.92
5.	Robotsaremorefriendlyincomparisonwith employees	3.29	1.52
6.	Robotsarehighlyrespectfulascomparedto employees	3.04	1.16
7.	Robotsarecapabletounderstandthedegreeof satisfactionofguests	3.23	1.50
8.	Robotsarenotfunctioningproperlyindelivering servicesinalltimes	3.62	1.12
9.	Robotsareusinghigherelectricity	3.66	1.18
10.	Robotsaremisinterpretingqueriesofguests	3.72	0.82
11.	Robots are working based on programmes incorporatedwiththem	3.97	0.88
12.	Theexperiencewithservicesgivenbyrobotsis unforgettable	3.80	0.97
13.	Theexperiencewithservicesgivenbyrobotsis enjoyable	3.69	1.05
14.	Theexperiencewithservicesgivenbyrobotsis exhilarating	3.82	0.86

The guests are agreed with robots are quicker as compared to employees, makingcomputationaccuratelythanemployees,havingcapacitytogive information in different languages as compared to employees, not functioning properly in delivering services in all times, are using higher electricity, are misinterpreting queries of guests, areworking based on programmes incorporated with themand the experience with services given by them is unforgettable, is enjoyable and is exhilarating, while, they are neutral with robots are always providing correct information in comparison with employees, are more friendly in comparison with employees, are highly respectful as compared to employees and are capable to understand the degree of satisfaction of guests.

Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots and their Gender and Family Type-Mann WhitneyU Test

The difference amidst Customer Satisfaction and Service Quality in Five- Star Hotels with Service Robots and their gender and family type is disclosed in Table-3.

Sl.No.	Profile	Particulars	Mean Rank	Sumof Rank	Mann-Whitney UTest	Z-Value	Sig.
1.	Gender	Male	153.22	24209.00	1.079E4	-.574	.566
		Female	147.47	20941.00			
2.	FamilyType	Joint	131.46	8939.50	6.594E3	-2.062	.039
		Nuclear	156.08	36210.50			

The above table indicates that guests in male category and having joint family are having higher degree of Customer Satisfaction and Service Quality in Five-StarHotelswithServiceRobots.Significantdifferenceiswitnessedamidst

Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots and their family type because Z-value is significant for it.

Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots and their Age and Education- Kruskal-Wallis HTest

ThedifferenceamidstCustomerSatisfactionandServiceQualityinFive- Star Hotels with Service Robots and their age and education is disclosed in Table-4. Table-4. Customer Satisfaction and Service Quality in Five-Star Hotels withServiceRobotsandtheirAgeandEducation-Kruskal-WallisHTest

Sl.No.	Profile	Particulars	Mean Rank	Kruskal WallisH	Sig.
1.	Age	21-30 years	158.68	45.088	.000
		31-40 years	179.39		
		41-50 years	95.89		
		Higher Secondary	142.33		
		Diploma	119.55		

| 2. | Education | Under Graduation | 158.69 | 10.038 | .018 |
| | | Post Graduation | 161.52 | | |

The above table reveals that guests in 31-40 years of age and holding post graduationarehavinghigherdegreeof CustomerSatisfactionandServiceQualityin Five-Star Hotels with Service Robots. Significant difference is prevailing amidst Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots and their age and education since Kruskal Wallis H values are significant.

Dimensions of Customer Satisfaction and Service Quality in Five- Star Hotels with Service Robots

An exploratory factor analysis is employed to dimensions of Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots and the result is disclosed in Table-5.

Kaiser-Meyer-Olkin test value to assess adequacy of sampling is 0.876. Bartlett test of Sphericity's Chi-Square value is 0.0082 and it is significant in 1% level. Hence, method of factor analysis is apt. Principal Component Analysismethod is applied to obtain factors by using varimax type of rotation and it is converged in 7thiterations. Cronbach's Alpha value is 0.86 displaying that the level of internal consistency is very much acceptable. Three dimensions are attained and they are sharing together 74.76% of total variation.

Table-5.DimensionsofCustomerSatisfactionandServiceQualityin Five-Star Hotels with Service Robots

Dimensions	Factor Loadings (Rotated)	Eigen Value	Variation (%)
Dimension1:Benefits			
Robotsarequickerascompared toemployees	0.82		
Robotsaremakingcomputation accuratelythanemployees	0.77		
Robots are always providing correct information in comparisonwithemployees	0.89	4.82	37.56
Robotsarehavingcapacityto give information in different languages as compared to employees	0.68		

Robots are more friendly in comparisonwithemployees	0.70		
Robotsarehighlyrespectfulas comparedtoemployees	0.72		
Dimension2:Drawbacks		1.96	22.45
Robots are not functioning properlyindeliveringservicesin alltimes	0.74		
Robots are using higher electricity	0.79		
Robots are misinterpreting queriesofguests	0.65		
Robotsareworkingbasedon programmes incorporatedwith them	0.70		
Dimension3:Personal Experience		1.14	14.74
The experience with services givenbyrobotsisunforgettable	0.83		
The experience with services givenbyrobotsisenjoyable	0.68		
The experience with services givenbyrobotsisexhilarating	0.66		
Robotsarecapabletounderstand thedegreeof satisfactionof guests	0.71		
Total	-	-	74.76

Dimension - I includes robots are quicker as compared to employees, robots are making computation accurately than employees, robots are always providing correct information in comparison with employees, robots are having capacity to give information in different languages as compared to employees, robots are more friendly in comparison with employees and robots arehighly respectfulas compared to employees and this first dimension is described as Benefits and it shares 37.56% of variation.

Dimension - II comprises of robots are not functioning properly in delivering services in all times, robots are using higher electricity, robots are misinterpreting queries of guests and robots are working based on programmes incorporated with them and this second dimension is denoted as Drawbacks and it shares 22.45% of variation.

Dimension - III contains the experience with services given by robots is unforgettable, the experience with services given by robots is enjoyable, the experience with services given by robots is exhilarating and robots are capable to understandthedegreeofsatisfactionofguests andthis thirddimensionis denotedas Personal Experience and it shares 14.74% of variation.

Benefits, drawbacks and personal experience are dimensions of attitude of guests towards the introduction of automation using service robots in five starhotels.

Influence of Dimensions of Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots

The regression analysis is employed to analyze dimensions of attitude on overallattitudeofguests towardstheintroductionofautomationusingservicerobots in five star hotels and the result is disclosed in Table-6. $R^2$and Adjusted $R^2$are 0.48 and0.46intheordershowingtheregressionmodelhasgoodfitandF-valueis

29.325indicatingthatthemodelis significant.

Table-6. Influence of Dimensions of Satisfaction on Overall Customer SatisfactionandServiceQualityinFive-StarHotelswithServiceRobots

Dimension	PartialRegression Coefficients	t-Value	Sig.
Constant	3.615	19.718	.000
Benefits(X_1)	.427	8.532	.000
Drawbacks(X_2)	-.158	3.397	.000
PersonalExperience(X_3)	.392	7.245	.000
R^2	0.48	-	-
AdjustedR^2	0.46	-	-
F	29.325	-	.000

Benefitsandpersonalexperiencearepositivelyand significantlyinfluencing, while, drawbacks is negatively and significantly influencing overall Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots in 1%level.

Other things remain constant, 1% increase in benefits, there will be 0.43% will increase in overall Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots and 1% increase in personal experience, there will be 0.39% will increase in overall attitude of guests towards the introduction of automation using service robots and 1% increase in drawbacks, there will be 0.16% will decrease in overall Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots.

DISCUSSIONANDCONCLUSION

From the results, it is evident that guests in male category are having higher degreeof attitudetowards theintroductionof automationusing servicerobots infive star hotels and it is on par with findings of Katz and Halpern (2014) Dinet and Vivian (2014), Pochwatko et al (2015), Piçarra (2016), Hudson et al(2017) and Ivanov etal(2018)astheyarehighlyreceptiveinuseofadvancedtechnologiesand service robots are continuously and steadily using for providing various services to guests in five star hotels.

Guests in 31-40 years of age are also having higher degree of Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots and it is contractwithotherstudiesnamelyReich-Stieberand Eyssel(2015)andHudsonet al (2017 that reveal that youngsters are having higher and positive attitude in using service robots as they aretech-savvy and easily accepting innovations and it is also par with finding of Brandl et al (2016).

Further, benefits and personal experience of guests with robots are largely contributing to their customer satisfaction towards them and it is interestingly implying that guests of star category hotels in Tamil Nadu are looking positive aspects of using service robots and they are just ignoring negative aspects of service robots in providing services in star category hotels and benefits and personal experience are influencing overall attitude of guests towards the introduction of automation using service robots and it is confirmed by outcomes of (Malchus et al 2013) and (Ivanov et al (2018) and also they are confirming that guests are positive Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots.

This study is concluded that guests in male category and 31-40 years of age and having post graduation and joint familyare having higher degree of attitude towards the introduction of automation using service robots in five star hotels. Further, benefits and personal experience are positively and significantlyinfluencing, while, drawbacks is negatively and significantly influencing overall Customer Satisfaction and Service Quality in Five-Star Hotels with Service Robots.

IMPLICATIONS

Managers of star category hotels should use robots for delivering various services and activitiesto guests thataregreatly acceptableand enjoyed by themand they must take serious efforts to increase Customer Satisfaction and Service Quality in Five-Star Hotels with ServiceRobots and they may attractmorenumber of guests tostayand enjoytheexclusivenessinstarcategoryhotels.Managersofstarcategory hotelsmustuserobotsreception,cleaning,informationgiven,paymentactivities and carryingoutroomservicestoguests.Managersofstarhotelsshoulduseemployees along with service robots for increasing operational and service efficacy and they will improve their image among guests and they must properly manage mixture of employees and robots in hotel operations. Meanwhile, managers of star hotels must increase benefits and improve personal experience of

guests by using services of robots without affecting their satisfaction and it will improve their competitiveness and profitability.

LIMITATIONANDAGENDAFORFUTURERESEARCH

This study is confined to guest staying in star category hotels in Tamil Nadu and the sample size is also limited to 300 only. The future research may be taken in other geographical locations in India for assessing whether attitude is cultural and or regional specific or not. The similar research would be carried out on resorts and other type of hotels in India in future and also assess the impact of introduction of service robots in changing their attitudes and satisfaction about services andthe future study may be carried out in tourism, travelling and hospitality sectors.

REFERENCES:

Ajzen, I. (2001). Nature and operation of attitudes. Annual Review of Psychology, 52(1), 27-58.

Ajzen, I. & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracín,B.T.Johnson&M.P.Zanna(Eds.),Thehandbookofattitudes (173-221). Mahwah, NJ: Erlbaum.

Baggio, R. & Klobas, J. (2011). Quantitative methods in tourism. A handbook. Bristol: Channel View Publications.

Bamberg,S.(2006). Isaresidentialrelocationagoodopportunity to changepeople's travel behavior? Results from a theory-driven intervention study. Environment and Behavior, 38(6), 820-840.

Bamberg, S., Ajzen, I. & Schmidt, P. (2003). Choice of travel mode in the theory of planned behavior: The roles of past behavior, habit, and reasoned action. Basic and Applied Social Psychology, 25(3), 175-187.

Berezina, K., Ciftci, O., & Cobanoglu, C. (2019). Robots, artifcial intelligence, and service automation in restaurants. In: Ivanov S, Webster C (eds) Robots, artifcial intelligence, and service automation in travel, tourism and hospitality. Emerald Publishing Limited, Bingley, 185–219

Bilgihan, A., Cobanoglu, C. & Miller, B. L. (2010). Importance-performance analysis of guest entertainment technology amenities in the lodging industry. FIU Hospitality Review, 28(3), 84-108.

Bilgihan, A., Smith, S., Ricci, P. & Bujisic, M. (2016). Hotel guest preferences ofin-roomtechnologyamenities. JournalofHospitalityandTourismTechnology,7(2), 118-134.

Borràs, J., Moreno, A., & Valls, A. (2014). Intelligent tourism recommender systems: A survey. Expert Systems with Applications, 41(16), 7370-7389.

Brandl, C., Mertens, A. & Schlick, C. M. (2016). Human robot interaction inassisted personal services: factors infl uencing distances that humans will accept between themselves and an approaching service robot. Human Factors and Ergonomics in Manufacturing & Service Industries, 26(6), 713-727.

Bruner, G. C. & Kumar, A. (2005). Explaining consumer acceptance of handheld internet devices. Journal of Business Research, 58(5), 553-558.

Chakraborty, G., Srivastava, P. & Marshall, F. R. (2007). Are drivers of customer satisfaction different for buyers / users from different functional areas?. Journal of Business & Industrial Marketing, 22(1), 20-28.

Cobanoglu, C., Berezina, K., Kasavana, M. L. & Erdem, M. (2011). The impact of technology amenities on hotel guest overall satisfaction. Journal of Quality Assurance in Hospitality & Tourism, 12(4), 272-288.

Collins, G. R., Cobanoglu, C., Bilgihan, A. & Berezina, K. (2017). Hospitality information technology: Learning how to use it (8thed.). Dubuque, IA: Kendall / Hunt Publishing Co. Chapter 12: Automation and Robotics in the Hospitality Industry (413-449).

Cui, G., Bao, W. & Chan, T. S. (2009). Consumers' adoption of new technology products:theroleofcopingstrategies.JournalofConsumerMarketing,26(2), 110-120.

Pushkarprabhat D Saxena, Krishna Mayi, R. Arun, S. Santhosh Kumar, Biswo Ranjan Mishra, K. B. Praveen (2023), Impact of Artificial Intelligence on Healthcare Informatics: Opportunities and Challenges, journal of Informatics Education and Research,3(2), Pp. 2309-2316, https://doi.org/10.52783/jier.v3i2.384

Denis-Rémis, C. (2011). Relation of Green IT and aff ective attitude within the technology acceptance model: the cases of France and China. Management & Avenir, 9, 371-385.

Dinet, J. & Vivian, R. (2014). Exploratory investigation of attitudes towards assistive robots for future users. Le travail humain, 77(2), 105-125.

Eagly, A. H. & Chaiken, S. (1993). The psychology of attitudes. Belmont, CA: Wadsworth Cengage Learning.

Foster, M.E.,Gaschler, A., & Giuliani, M. (2013). How can I help you? Comparing engagement classifcation strategies for a robot bartender. In: Proceedings of the15thACM on International conference on multimodal interaction, New York.

Frennert, S. & Östlund, B. (2014). Review: Seven matters of concern of socialrobots and older people. International Journal of Social Robotics, 6(2), 299-310.

Gau, J. M., Gursoy, D. & Sirakaya-Turk, E. (2017). Relationship analysis: t-tests, analysis of variance, cross tabulations and non-parametric tests. In E. Sirakaya- Turk, M. Uysal, W. E. Hammitt & J. J. Vaske (Eds.), Research methods for leisure, recreation and tourism (2nd ed.) (284-303). Wallingford: CABI.

Gladstone, N. (2016). Are robots the future of hotels? Website: https://www.oyster. com/articles/53595arerobotsthefuture ofhotels

Glasman, L. R. & Albarracin, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitudebehavior relation. Psychological bulletin, 132(5), 778-822.

Hudson, J., Orviska, M. & Hunady, J. (2017). People's attitudes to robots in caring for the elderly. International Journal of Social Robotics, 9(2), 199-210.

Ivanov, S. (2018). Tourism beyond humans – robots, pets and Teddy bears. Paper presentedattheInternationalScientificConference"TourismandInnovations", 14-15thSeptember 2018, College of Tourism – Varna, Varna, Bulgaria. Retrieved from https://ssrn.com/abstract=3215437.

Arun, R. "A Study on the Performance of Major Spices in India." Recent Trends in Arts, Science, Engineering and Technology (2018): 149.

Ivanov, S. (2017). Robonomics – principles, benefi ts, challenges, solutions. Year Book of Varna University of Management, 10, 283-293.

Ivanov, S. & Webster, C. (2017). Designing robot-friendly hospitality facilities. Proceedings of the Scientifi c Conference "Tourism. Innovations. Strategies", 13-14 October 2017, Bourgas, Bulgaria.

Ivanov, S., & Webster, C. (2019). What should robots do? A comparative analysisof industry professionals, educators and tourists. In: Pesonen J, Neidhardt J (eds) Information and communication technologies in tourism 2019, proceedings of the international conference in Nicosia, Cyprus.

Ivanov, S., Webster, C. & Berezina, K. (2017). Adoption of robots and service automation by tourism and hospitality companies. Revista Turismo & Desenvolvimento, 27/28, 1501-1517.

Ivanov, S., Webster, C. & Garenko, A. (2018) Young Russian adults' attitudes towards the potential use of robots in hotels. Website: https://doi.org/10.1016/j.techsoc.2018.06.004.

Kabadayi, S. & Gupta, R. (2011). Managing motives and design to infl uence web site revisits. Journal of Research in Interactive Marketing, 5(2/3), 153-169.

Kanda, T., &Ishiguro, H. (2012). Human-robot interaction in social robotics. Boca Raton, FL: CRCP.

Katz, J. E. & Halpern, D. (2014). Attitudes towards robots suitability for variousjobs as aff ected robot appearance. Behaviour and Information Technology, 33(9), 941-953.

Kim, M. & Qu, H. (2014). Travelers' behavioral intention toward hotel self-service kiosks usage. International Journal of Contemporary Hospitality Management, 26(2), 225-245.

Kraus, S. J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. Personality and Social Psychology Bulletin, 21(1), 58-75.

Kroesen, M. & Chorus, C. (2018). The role of general and specifi c attitudes in predictingtravel behavior–Afatal dilemma?Travel BehaviourandSociety,10, 33-41.

Kroesen, M., Handy, S. & Chorus, C. (2017). Do attitudes cause behavior or vice versa?Analternativeconceptualizationoftheattitude-behaviorrelationshipintravel behaviormodeling.Transportation ResearchPartA: Policyand Practice, 101, 190-202.

LaGrandeur, K. & Hughes, J. J. (Eds.) (2017). Surviving the machine age:Intelligent technology and the transformation of human work. London: Palgrave Macmillan.

Lee, W.H., Lin, C.W., & Shih, K.H, (2018) A technology acceptance model for the perception of restaurant service robots for trust, interactivity, and output quality. International Journal of Mobile Communication, 16(4), 361-376.

Li, J.J., Bonn, M.A., &Ye, B.H. (2019). Hotel employee's artifcial intelligence and robotics awareness and its impact on turnover intention: the moderating roles of perceived organizational support and competitive psychological climate. Tourism Management, 73(1),172-189.

Lin, H.,Chi, O.H., & Gursoy, D. (2019). Antecedents of customers' acceptance of artifciallyintelligentroboticdeviceuseinhospitalityservices. JournalofHospitality Marketing Management, 2991), 1-20.

Lin, J.S. C. & Hsieh, P. (2006). The role of technology readiness in customers' perception and adoption of self-service technologies. International Journal of Service Industry Management, 17, 497-517.

Arumugam, T., Arun, R., Anitha, R., Swerna, P. L., Aruna, R., & Kadiresan, V. (2024). Advancing and Methodizing Artificial Intelligence (AI) and Socially Responsible Efforts in Real Estate Marketing. In S. Singh, S. Rajest, S. Hadoussa, A. Obaid, & R. Regin (Eds.), Data-Driven Intelligent Business Sustainability (pp. 48-59). IGI Global. https://doi.org/10.4018/979-8-3693-0049-7.ch004

Arun, Bernard Edward Swamidoss, Venkatesan (2023), Impact of Hospitality Services on Tourism Industry in Coimbatore District, Journal of Namibian Studies - History Politics Culture, Volume 33, Special Issue 3, Pp. 2381-2393.

K. Rani, Dr. J.Udhayakumar, Dr. M.Umamaheswari, Dr.R.Arun,(2023) "Factors Determining The Purchases of Clothing Products Through Social Media Advertisements in Coimbatore City", European Chemical Bulleting,12(special issue 6), 4728– 4737.

Edson Nirmal Christopher, Sivakumar, Arun ,Umamaheswari (2023) Iiimmunoinformatic Study for a Peptide Based Vaccine Against Rabies Lyssavirus Rabv Strain Pv, European Chemical Bulleting, 12(special issue 9), 631– 640.

Arun (2019), "Sustainable Green Hotels -Awareness for Travelers", International Journal of Emerging Technologies and Innovative Research ISSN:2349-5162, Vol.6, Issue 4, page no. pp343-347,http://doi.one/10.1729/Journal.20408

Buying behavior of meet's consumption relates to food safety from north and south part of the Coimbatore City. International Journal of Recent Technology and Engineering, 7, 429-433. https://www.ijrte.org/wp-content/uploads/papers/v7i5s/ES2177017519.pdf

Arumugam, T., Arun, R., Natarajan, S., Thoti, K. K., Shanthi, P., & Kommuri, U. K. (2024). Unlocking the Power of Artificial Intelligence and Machine Learning in Transforming Marketing as We Know It. In S. Singh, S. Rajest, S. Hadoussa, A. Obaid, & R. Regin (Eds.), Data-Driven Intelligent Business Sustainability (pp. 60-74). IGI Global. https://doi.org/10.4018/979-8-3693-0049-7.ch005

Lorenzo-Romero, C., Constantinides, E. & Alarcon-del-Amo, M. (2011). Consumer adoption of social networking sites: implications for theory and practice. Journal of Research in Interactive Marketing, 5(2/3), 170-188.

Lu, L., Cai, R.,&Gursoy, D. (2019), Developing and validating a service robot integration willingness scale. International Journal of Hospitality Management, 80)1), 36-51.

Lukanova, G., & Ilieva, G. (2019). Robots, artifcial intelligence, and service automation in hotels. In: Ivanov S, Webster C (eds) Robots, artifcial intelligence, and service automation in travel, tourism and hospitality. Emerald Publishing Limited, Bingley.

Malchus, K., Jaecks, P., Wrede, B. & Stenneken, P. (2013) Application of social robots in speech and language therapy?! An investigation into speech and language pathologists' attitudes towards embodied agents [Einsatz sozialer Roboter in der Sprachtherapie?!ErhebungeinesStimmungsbildesvonSprachtherapeutlnnen]

L.O.G.O.S.Interdisziplinair,21(2),106-116.

Morosan,C.&DeFranco,A.(2014).Understanding theactualuseof mobiledevices in private clubs in the US. Journal of Hospitality and Tourism Technology, 5(3), 278-298.

Nakanishi, J., Kuramoto, I., Baba, J., Ogawa, K., Yoshikawa, Y., & Ishiguro, H. (2020). Continuous hospitality with social robots at a hotel. SN Applied Science, 2(3), 1-13.

R. Arun, Sundarapandiyan Natarajan, K. Sampath, Kiran Kumar Thoti, R. Mahalakshmi and K. Sivaperumal, "The Influence of Online Education on the Behavioral Patterns of University Students in India", In: Ashish Kumar Tripathi and Vivek Shrivastava (eds), Advancements in Communication and Systems, SCRS, India, 2024, pp. 335-348. https://doi.org/10.56155/978-81-955020-7-3-29

Neapolitan, R. E., & Jiang, X. (2013). Contemporary artificial intelligence. Boca Raton, FL: CRC Press.

Piçarra, N., Giger, J.-C., Pochwatko, G. & Gonçalves, G. (2016), Making sense of social robots: A structural analysis of the layperson's social representation of robots Revue Europeenne de Psychologie Appliquee, 66(6), 277-289.

Pino, M., Boulay, M., Jouen, F. & Rigaud, A.-S. (2015). "Are we ready for robots that care for us?" Attitudes and opinions of older adults toward socially assistive robots. Frontiers in Aging Neuroscience, 7(1), 97-124.

Pochwatko, G., Giger, J.-C., Różańska-Walczuk, M., Świdrak, J., Kukiełka, K., Możaryn, J. & Piçarra, N. (2015). Polish version of the negative attitude toward robots scale (NARS-PL). Journal of Automation, Mobile Robotics and Intelligent Systems, 9(3), 65-72.

Reich-Stiebert, N. & Eyssel, F. (2015). Learning with educational companion robots?Towardattitudeson education robots,predictorsofattitudes,and application potentialsforeducationrobots.InternationalJournalofSocialRobotics,7(5), 875-888.

Reisch, L. A., Scholl, G. & Bietz, S. (2011). 'Better safe than sorry': Consumer perceptions of and deliberations on nanotechnologies. International Journal of Consumer Studies, 35(6), 644-654.

Ritzer, G. (2015). Hospitality and presumption. Research in Hospitality Management, 5(1), 9-17.

Samani,H.(Ed.)(2016).Cognitiverobotics.BocaRaton,FL:CRCPress.

Singh, V. (2014). "We are not phobic but selective": the older generation's attitude towards using technology in workplace communications. Development andLearning in Organizations: An International Journal, 28(4), 18-20.

Solon,O.(2016,17Jun).Self-drivingtrucks:what'sthefutureforAmerica's3.5 million truckers? Website: https://www.theguardian.com/technology/2016/jun/17/self-driving-trucks-impact-on-drivers-jobs-us.

Tuomi, A.,Tussyadiah, I.P., & Stienmetz, J. (2020), Applications and implications ofservicerobots inhospitality.Website:https://doi.org/10.1177/1938965520923961

Wang, Y. & Qualls, W. (2007). Towards a theoretical model of technology adoption in hospitality organizations. International Journal of Hospitality Management,26(3), 560-573.

Wittenbrink,B.&Schwarz,N.(2007).Introduction.InB.Wittenbrink&N. Schwarz (Eds.), Implicit measures of attitudes . New York: The Guilford Press.

Xu, S.,Stienmetz, J., & Ashton, M. (2020). How will service robots redefne leadership in hotel management? A Delphi approach. International Journal of Contemporary Hospitality Management, 32(6), 2217-2237.

Yan, H., Ang Jr., M. H. & Poo, A. N. (2014). A Survey on perception methods for human-robot interaction in social robots. International Journal of Social Robotics, 6(1), 85-119.