

DETERMINANTS OF AGRI-HOTEL CUSTOMERS' EXPERIENCE FROM THE PERSPECTIVE OF USER-GENERATED CONTENT: TEXT MINING ANALYSIS

Vinay Chittiprolu, School of Management Studies, University of Hyderabad

Mohan Venkatesh Palani, School of Management Studies, University of Hyderabad

D.V.Srinivas Kumar, School of Management Studies, University of Hyderabad

V.Venkata Ramana, School of Management Studies, University of Hyderabad

ABSTRACT

In the hospitality industry, majority of the guests depend upon online reviews while choosing the hotels due to intangible services and risks associated with them. So, it is necessary to analyze the online reviews to understand the level of customers' satisfaction and their experiences to improve the services. Moreover, consumer-generated reviews have an economic impact on the hospitality industry. The purpose of this paper is to identify the positive and negative determinants of agritourists' experience by using text mining analysis. A total of 2566 online reviews of agri-hotels reviews were collected from 16 agri-hotels in India, which are listed on tripadvisor.com by using web-crawler developed in Python and NVivo 12, qualitative analysis software, was used to identify the determinants of agritourists' experience. R Software was used to extract the technical features of user-generated content. The results of our analysis reveal a set of important insights about the drivers of guests' positive and negative experiences in the agritourism industry. The findings revealed that experience, members, place of business, core products, and sleep quality and value are the common determinants of the positive and negative experience of agritourists. However, the sentiment polarity score is positive for the above-mentioned determinants. The paper focused on niche tourism segments, i.e., agritourism. This study helps agritourism entrepreneurs to understand the experience and expectations of agritourists.

Keywords: Agritourism, Customer Experience, Online Reviews, TripAdvisor, Sentiment Analysis.

INTRODUCTION

User-generated content is a valuable source for consumers in selection of services and products and helps the managers in business decisions (He et al., 2017). It is evident in research that purchasing decision is influenced by user-generated content like online reviews of peer groups (Zhang et al., 2014). Majority of travellers depend upon user-generated data in choosing a hotel (Ye et al., 2011). Hospitality and tourism industry also depend on big data and extract insights from day to day generated data (Hoeber et al., 2016). Reviewing user-generated content helps hoteliers to understand the level of customers' satisfaction (Li et al., 2013).

In hospitality industry, hoteliers operate in a dynamic and highly competitive business environment so it is a necessity to look at user-generated content in order to improve their services

and hotel performance (Berezina et al., 2016; Tax et al., 1998). Performance of a hotel is directly influenced by guest experience, which is considered to be the core offering in the hospitality industry. It is necessary for hoteliers to understand and evaluate the guest experience using various methods like taking feedback from guests or through analysing guests' online reviews. Guest experience is a complex phenomenon in tourism and hospitality industries (Cetin & Walls, 2016) and it is difficult to measure guests' experience and guest satisfaction through traditional research methods (Baek et al., 2019). In recent times, hoteliers are using big data analytics to address this issue by gathering user-generated content from review websites to identify guests' experience and satisfaction levels without direct interaction with guests (Zhou et al., 2014). All over the world, analysis of user-generated content using various methods is a hotspot in recent years and has drawn the attention of academicians, researchers, industry and government (Thomson et al., 2014).

Particularly, digging of online reviews helps in understanding the experience of guests (Pantelidis, 2010) and based on that, hoteliers can design marketing strategies and modify their services according to the needs of the guests (Ye et al., 2009). As most of the travellers share their opinions, views, and ratings on the online platforms and vast amounts of data are generated, analysing such a big amount of data has become an adequate method to explore the choices, feelings, opinions, emotions, and satisfactions of customers (Tang & Guo, 2015). Analysing the online reviews through data mining techniques will help hoteliers to forecast the percentage of customer purchases of products and services (Ludwig et al., 2013) and the consequences of reviews on hotels' performance (Blal & Sturman, 2014). Moreover, researchers stated that online reviews are a rich source to understand customer opinion (Gao et al., 2018).

In order to analyse big data and process user-generated data on online platforms, there is a need for the application of automated evaluation methods such as sentiment analysis, text analysis, text mining, natural language processing etc. (He et al., 2017). Previous studies identified that the positive and negative experiences of customers by analysing textual data and ratings using automated text mining analysis (Xiang et al., 2015; Zhao et al., 2019). Researchers believed that the highest rating indicates satisfaction and the lowest rating indicates dissatisfaction (Xu & Li, 2016). Whereas Kim et al. (2016) manually analysed hotel reviews of full-service and limited-service hotels and they concluded that 20.8% positive rated reviews have unfavourable reviews in full-service hotels and 24.4% negative rated reviews have favourable reviews. However, there is limited research available that investigates the positive and negative experiences of agritourists by analysing textual reviews. Our study extends previous research by testing the sentiments of online reviews irrespective of ratings. The objective of the study is to find out the determinants of positive and negative experiences of agritourists. Some studies related to understanding the guests' experience through analysing the user-generated content have proved, it is one of the best approaches to understand the guests' experience (Calheiros et al., 2017). Therefore, qualitative and quantitative big data analytics were used in this study to understand the guests' experience and satisfaction.

LITERATURE REVIEW

Agritourism

Agritourism is defined as a visit to an agricultural setting especially a working farm to spend leisure time or to engage in recreational or educational activities (Tew & Barbieri, 2012). The major activities at the farm field are participating in harvesting, farm festivals, camping and arranging accommodation at the field, eating local cuisine for breakfast, lunch and dinner and

actively engaging in the agricultural or farm related workshops to familiarise and learn farming methods through hand-on activities (LaPan & Barbieri, 2014).

Agritourism should have terms like “*Agricultural setting, farm, and education*” and it is suggested that agritourism experience is more of spending quality time at working farms to engage in authentic activities (Arroyo et al., 2013). Agritourism and activities related to it have been gaining demand rapidly from the past few decades; it is not just limited to a few counties but appears to be a global phenomenon, especially recreational activities which are associated with working farms (Santeramo & Barbieri, 2017). Agritourism is growing constantly and positive growth is likely to be projected in near future (Arroyo et al., 2013). There is a steady growth in agritourism industry in US and Europe. In United States, agritourism increased by 42% during the period of 2007-2012 (Rozier Rich et al., 2016) and In Europe the growth of Rural tourism is three times higher when compared with the general form of tourism (Zoto et al., 2013). The literature on agritourism could be divided into three main approaches. One group of studies focused on agritourism definitions and typology (Flanigan et al., 2014). Second group studies contributed towards supply side like agritourism entrepreneurs’ motivation (Ingram, 2002), farmers role in staging the experience (Kaaristo & Järv, 2012), management practices of farmers at the farm field (Prince & Ioannides, 2017), the relationship between the host and guest and its impact on guest’s experience (Prince, 2017) and the impact of culture and heritage on guest – host relation (Brandth & Haugen, 2014). The third group studies mainly focused on the demand side like farm tourists’ motivation (Ingram, 2002), the role of guests’ holistic experience on satisfaction and loyalty (Kidd et al., 2004), guest experiences at wine tourist destinations and various evaluations methods (López-Guzmán, Vieira-Rodríguez, & Rodríguez-García, 2014), visitor’s experience at wine tourism destinations (Quadri-Felitti & Fiore, 2016) purchasing behaviour of wine tourist (Kolyesnikova & Dodd, 2008) and revisit intentions of wine tourists (Back et al., 2018). Limited literature is available on understanding the experience of agritourists through analysis of online reviews. This study is aimed at understanding the satisfied and dissatisfied Agritourists through online reviews posted on tripadvisor.com.

Agri-Hotels in India

We identified 16 agri-hotels which have online reviews post in tripadvisor.com. These reviews are about agritourism experiences in their hotel properties. The concept of agritourism is one of the oldest practices of Indians (Kiran et al., 2014) but recently it has been attracting special interest tourists among tourists, not only foreign tourists but also urban people are visiting agritourism destinations in the weekends for recreation and rejuvenation. Stress at the workplace and pollution in urban areas are another reasons for increase in demand for agritourism (Schilling et al., 2012). As a whole, agritourism is in the nascent stage and slowly gaining momentum in India.

Online Customer Reviews

Broadly we can divide the online customer reviews into four major categories based on their motivations. First category customers write online reviews to help the future customers who want to choose that particular property and giving scope for hoteliers to improve their property (Yoo & Gretzel, 2011). Second category of customers write online reviews to fulfil their psychological needs by sharing their satisfaction and dissatisfaction on online platforms (Cantalops & Salvi, 2014). Third category of customers write online reviews to fulfil their social

need by being recognised in their online community (Cheung & Thadani, 2012). Fourth category of customers write reviews to get incentives and rewards (Hennig-Thurau et al., 2004). All these four categories of reviews influence the purchase, loyalty, demand for the hotels (Viglia et al., 2016) and finally financial performance of hotel (Sparks & Browning, 2011); that is why hoteliers are more keen on understanding and analysing online reviews. Satisfied customer gives good rating and positive review, on the other hand dissatisfied customer gives poor rating and negative review. The relation between reviews and antecedents of satisfaction has been investigated in the literature (Banerjee & Chua, 2016). In the era of e-tourism, reviews are being analysed to improve services offered, experiences staged and overall satisfaction level in order to improve the marketing strategies (Cantalops & Salvi, 2014) and these customer online reviews are expressed in the form of text (comment). Review ratings contributes to EWOM (E-word of Mouth) that influences the demand and hotel performance as a whole effects business value (Xie et al., 2014).

Hotel Guest Experience

Guest receives guestroom, food, beverages and other complimentary services as a part of hotel service purchase (Xiang et al., 2015). Hotel guest experience is a result of emotional and cognitive encounter of services in the hotel during the stay (Cetin & Walls, 2016). Hoteliers design various strategies to provide unforgettable memories during the stay (Baek et al., 2019). Guest experience can be defined as total evaluation of all services provided during the stay at the hotel and it happens during the consumption of services at different stages with interactions (Kotler et al., 2017).

Text Mining

For first time, Feldman & Dagan (1995) used machine for text mining methods. Now text mining is a modern tool to extract meaningful patterns from big amount of user-generated content (He et al., 2013). Text mining tools and techniques are used to analyse textual data in an automated way (Berry & Kogan, 2010). In business, text mining tools and techniques are advantageous in analysing huge amount of user-generated data (Ingvaldsen & Gulla, 2012). In hospitality Industry, Xiang et al. (2015) deployed text mining techniques to measure the satisfaction of customers through analysis of online reviews. It is well known fact that, applying text mining techniques to user-generated content will give insights on consumer behaviour (Abdous et al., 2012). Particularly, text mining is used in tourism and hospitality industry to solve real time problems too.

Sentiment Analysis

Sentiment analysis and Opinion mining are the processes of analysis of customer's opinions, emotions, attitudes based on the reviews written on the online platforms (Liu, 2012). Various opinion mining techniques were used to understand perceptions, experience of customers and to predict the loyalty of customer and different kinds of opinion mining techniques were developed depending upon the need of their particular domain. (Ribeiro et al., 2016). In tourism domain, very few studies are available which focus on applications of sentiment analysis on tourists' online reviews and their results (Alaei et al., 2019).

Overview of Sentiment Analysis

Customers provide their opinions on online platforms in the form of text either subjective or objective in nature. Subjective online reviews reflect opinions, beliefs, feelings, and judgements, on the other hand objective online reviews reflect facts, and observations which are measurable (Feldman, 2013). Online reviews mainly reflect different kinds of emotions like happiness, sadness, anger, frustration, and other feelings (O'leary, 2011). Analysing these big volumes of subjective data (Subjective online reviews) would be great help to tourism organizations and hoteliers who can benefit by improving customer management and hotel profits (Choi et al., 2007; Kuttainen et al., 2012) in Table 1.

Previous Studies on Text mining

Author	Number of reviews	Data Source	Context	Sample	Analysis techniques	Results
(Xiang et al., 2015)	60,648	Expedia	Hotel	10,537 hotels for Dec 18-29, 2007	Factor Analysis, Linear Regression	Six factors were identified, Deals, family friendliness and core products has positive impact on guest satisfaction
(Capriello et al., 2013)	800	TripAdvisor	Agri Hotels	USA, Australia, UK, Italy	Content Analysis, Corpus-based semantic techniques, Stance-shift analysis	Sentiment analysis performed country wise. The satisfaction factors are friendliness, hospitality and knowledge about farm
(Kim et al., 2016)	70,184	TripAdvisor	Hotels	100 hotels from New York, USA	Content Analysis, Manual	Satisfaction and dissatisfaction factors were identified for full service and limited service hotels and comparison analysis done and identified common factors between full service and limited service hotels.
(Berezina et al., 2016)	2510	TripAdvisor	Hotels	Sarasota, Florida	Text Mining approach, PASW Modeler, text-link analysis	Satisfied and dissatisfied factors were identified and factors related to recommendation were identified
(Xu & Li, 2016)	3480	Booking.com	Hotel	580 hotels from 100 largest cities in U.S.	Text Mining-Latent semantic approach	Satisfied and dissatisfied determinants identified for four different hotels and comparison analysis was done.
(Büschken & Allenby, 2016)	5163	Expedia, we8there.com	Restaurants, Hotels	New York, USA	Topic Modelling	Sentence based topic modelling was done for restaurants, mid-scale and upscale hotels.
(Geetha et al., 2017)		TripAdvisor	Hotels	20 budget, 20 premium hotels from Goa, India	Sentiment Analysis, Regression Analysis	Sentiment polarity score was calculate and finds the relationship between polarity score and customer ratings
(Cheng & Jin, 2019)	1,81,263	Airbnb	Hotels, Home stays, Apartment	Sydney, Australia	Text Mining, Sentiment Analysis	By using sentiment analysis the author finds the positive and negative experiences for top ten themes.

RESEARCH METHODOLOGY

Data

Online review platforms are gathering online travel reviews through different features but the whole idea behind collecting reviews, and metrics are similar (O'connor, 2010). We chose tripadvisor.com website to collect the customer reviews due to the importance and popularity of tripadvisor.com among customer review platforms(Zhao et al., 2019). TripAdvisor.com has become one of the successful online review platforms because of reliability and trust created in the market (Fileri et al., 2015). Emergence of online review platforms made hoteliers to focus on online reviews to maintain hotel reputation (Baka, 2016). Main focus of this study is to understand the agrihotel customers' experiences. So, we gathered reviews by using web-crawler developed in Python and saved the data in excel file. The data contains user geographic information, review ratings, text review, date of review and managerial reply. A total of 2566 online reviews of agrihotels was collected from 16 agrihotels in India which are listed on TripAdvisor.

Variables

Quantitative and Qualitative data were used in this study and list of the variables are given in the below Table 2. We used text review as a qualitative data in which customers express their experience and (dis)satisfaction by writing in the text form. Rating was taken as quantitative data, in which 5-point scale was employed by the tripadvisor.com to measure the level of customer satisfaction, 1 and 2 star rating indicates dissatisfaction of the customer, 3 star rating indicates neutral or not satisfied and 4, 5 star rating indicates satisfied and highly satisfied customers respectively in Table 2.

Variable	Details
User Id	User id of the customer
Review Date	The date of the review written by customer
User Location	The geographical location of the users
Review slug	Customers gives small titles, mentions most important attributes
Rating	A numerical rating gives by the customer on 5 point likert scale in TripAdvisor. Its overall satisfaction expressed by customers in numerical form from 1 ("worst") to 5 ("excellent")
Review	customers express their stay experience by writing text review
Hotel replay	Members from hotel track the reviews and gives replay

RESULTS

Exploratory Data Analysis

The following Table 3 gives summary of technical features of online reviews. Out of 2566 reviews, 5 star reviews has shared larger volume with 2171, followed by 4 star, 3 star, 2 star and 1 star reviews respectively. Minimum and maximum number of words, mean, average polarity are measured and shown in the below Table 3.

Rating	Number of reviews	Word length summary			Ave polarity
		Minimum	Maximum	Mean	
1	8(0.311)	31	444	95.25	-0.098
2	14(0.545)	35	362	84.64	0.156
3	22(0.857)	37	276	67.09	0.38
4	351(13.678)	25	632	61.68	0.564
5	2171(84.606)	19	768	62.07	0.617
Total	2566(100)				

Table 3 indicates 98% reviews are positive since 4 star and 5 star ratings represent satisfied customers and rest of the reviews i.e., 1 star, 2 star and 3 star constitute 2% which is very small proportion. 5 star rated reviews have a mean number of words 62.07 whereas 4 star, 3 star, 2 star and 1 star rating have 61.68, 67.09, 84.64 and 95.25 respectively. Every review has positive and negative words, polarity gives a value by taking the average of positive and negative words used in the review as a whole. According to Rinker (2016) polarity range is described between -1 to +1, where positive value indicates positive polarity and negative value indicates negative polarity. In the Table 3, five star rating reviews have polarity of +0.617 and one star rating reviews have -0.098 and these values are on par with the results (Rinker, 2016).

Sentiment Analysis

We performed sentiment analysis using Nvivo 12 software, results are categorised into positive sentiments and negative sentiments consequently determinants of positive experience and negative experience. Co-related words are grouped together and framed as 10 determinants: members, place of business, core products, sleep quality and value, service, physical evidence, experience, activity, location, and recommendations Tables 4,5,6 and Figure 1,2,3,4.

Rank	Determinants	Frequency	High loading terms
1	Members	1524(3.91)	Hosts (375), Family (308), Staff (297), Friends (280), People (136), Owner (128)
2	Place of business	1337(3.44)	Places (812), Farms (326), Village (199)
3	Core products	1093(2.81)	Food (610), Rooms (254), Cottages (150), Accommodation (79)
4	Sleep quality and value	1043(2.68)	Stay (736), Comfortable (160), Clean (147)
5	Service	540(1.39)	Welcome (238), Hospitality (221), Service (81)
6	Physical evidence	464(1.19)	Nature (227), View (164), Mountains (73)
7	Experience	308(0.80)	
8	Activity	163(0.42)	Cooking (95), Treks (68)
9	Location	155(0.40)	
10	Recommend	141(0.36)	



FIGURE 2
NEGATIVE SENTIMENT WORD CLOUD

Table 6 SENTIMENT POLARITY SCORE	
Factors	Sentiment Polarity Score
Experience	8.1
Members	11.72
Place of Business	9.61
Core Products	10.71
Sleep quality and value	9.07
Service	13.84
Physical Evidence	8.6
Location	8.15
Recommend	5.03
Learning	7.3
Activities	2.83

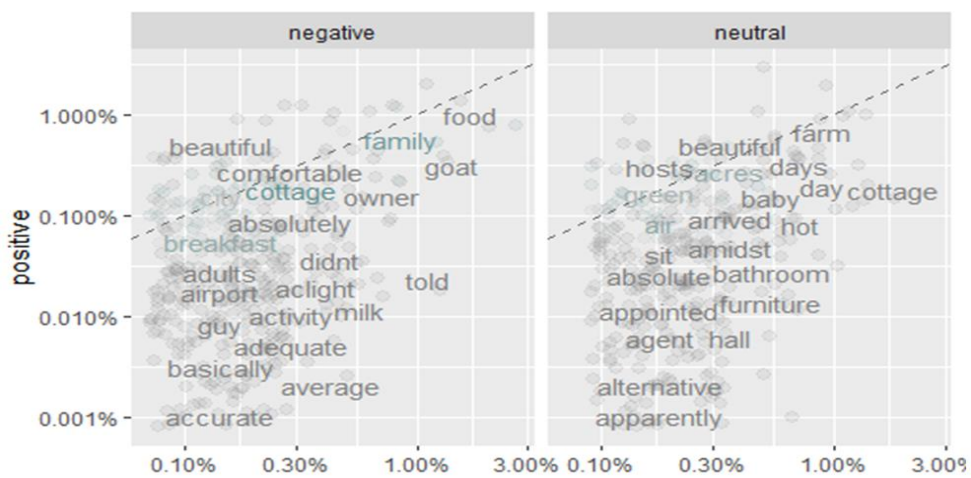


FIGURE 3
COMMONALITY CLOUD

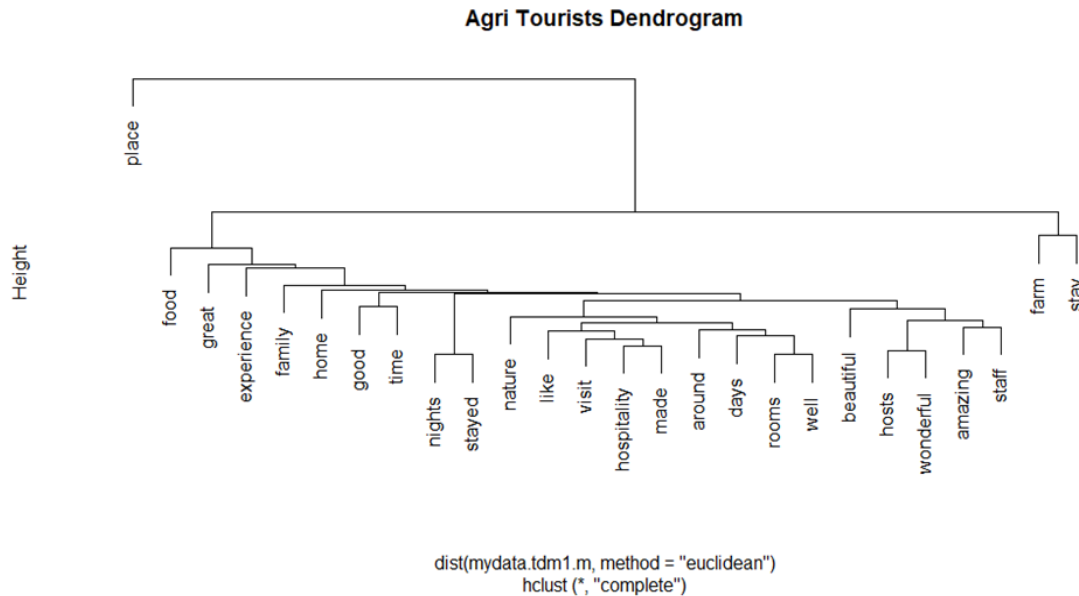


FIGURE 4
AGRITOURIST DENDROGRAM

DISCUSSIONS

With the ease of technology, user-generated content is getting hold in the hospitality and tourism industry. Internet plays one of the key roles in consumer decision making process (Law et al., 2014). For example, studies proved that 77% of the travellers refer user-generated content before planning for a trip (Travelport, 2019) and user-generated reviews have economic impact on hospitality industry by increasing sales (Ye et al., 2009).

Online reviews are in two forms, structured (numerical ratings) and unstructured (text reviews) (Chang et al., 2017; Zhao et al., 2019). Previous studies identified the positive and negative experiences by analysing textual data by rating wise and they believed that highest rating indicates satisfaction and lowest rating indicates dissatisfaction (Xu & Li, 2016). Whereas Kim et al. (2016) manually analysed hotel reviews of full service and limited service hotels and concluded that 20.8 % positive rated reviews has unfavourable reviews in full service hotels and 24.4% negative rated reviews has favourable reviews. However, there is limited research available to investigate the positive and negative experiences of agritourists by analysing textual reviews. Our study extended previous research by testing the sentiments of online reviews irrespective of ratings. This study aimed to explore the determinants of positive and negative experiences of agritourists by analysing textual reviews using sentiment analysis. The results of our analysis revealed a set of important insights about the drivers of guests' positive and negative experiences in the agritourism industry. Our results are in twofold: First, we explored technical features of text data with the applications of text mining. Second, we extracted hidden meaning from the text data by performing sentiment analysis.

In terms of technical features of agri reviews, our findings are in line with previous studies. First, in hotel context, polarity score and word length are two important attributes that can influence customer satisfaction (Geetha et al., 2017; Singh et al., 2017; Zhao et al., 2019). Our findings revealed that positive polarity for positive rated reviews and negative polarity for negative rated reviews which are in line with Zhou et al. (2014) which report that the customers express their emotions and experiences either in positive or negative manner and sometimes combine positive and negative emotions. Second, negative rated reviews have the highest mean word length compared to positive rated reviews. A possible explanation is that dissatisfied customers write their experience in a detail way and try to explain the reasons for dissatisfaction which are in line with Zhao et al. (2019). The minimum word length of dissatisfied customers' is more than the satisfied customers. Third, majority of the agritourists rated positively about their experiences because of first time experience, less crowded destinations and quality of service provided by agri hoteliers.

Further, we identified the determinants of positive and negative sentiments based on sentiment analysis. We categorised the determinants based on (Barreda & Bilgihan, 2013; Berezina et al., 2016) studies. The most common positive and negative determinants experienced by agritourists are "*members*", place of business, core products, sleep quality and value, and services. The results are partly in line with the findings of Berezina et al. (2016), the common determinants were members, place of business, core products. Whereas, agritourists were found to be least bothered about furniture and architecture of the hotel. Moreover, agritourists mentioned about physical evidence and their experiences. The possible explanation is most of the agri farms are located in rural settings, customers who wish to explore the rural settings don't bother about architecture and they like to experience the scenic beauty of agri lands. Agritourists mentioned about some activities they experienced and enjoyed like cooking and trekking. This study identified further determinants namely, activity, sleep quality and value, physical evidence and services.

We categorized the food, accommodation, stay and rooms into core products category rather than keeping separate. Finally, we calculated the sentiment polarity score proposed by Geetha et al. (2017) i.e., Polarity Score is the ratio of positive sentiment score divided by negative sentiment score. All the determinants in this study have positive threshold value (1.5).

CONCLUSION

Studies have proved that online reviews are gaining importance in hospitality industry and identified structured and unstructured reviews have the positive impact on hotels' performance (Anagnostopoulou et al., 2019; De Pelsmacker et al., 2018), customer satisfaction (Zhao et al., 2019) and brand value (Barreda & Bilgihan, 2013). Satisfied customers spread the positive word of mouth, recommendations about the hotels, whereas dissatisfied customers spoils the brand reputation by spreading negative word of mouth. Understanding customers' reviews is very important for hoteliers to understand the customers' compliments and complaints. Since agritourism is in nascent stage in India it is very important for Agri hotel management to be active in social media to engage with the customers and to attract the potential customers.

Limitations and Future Research Agenda

We relied on the data from tripadvisor.com and sample from Indian agri hotels, the results may differ on other review websites and in the other areas. We didn't consider the customers' geographic location and their expertise in reviewing the hotels. Studies revealed that, customers' experience, satisfaction and expectations may differ based on their geographic locations (Alrawadieh & Law, 2019). Some determinants may vary specific to agritourism, for example, trekking and cooking. The future studies can use an advanced text mining analysis to find out the themes, and hidden patterns by analysing text data and the consequences of negative reviews on brand image and repetitive purchase. Agritourism experience may change the human thinking towards sustainability and eco environment. Future studies can investigate the agritourists' purchase behaviour.

REFERENCES

- Abdous, M.H., Wu, H., & Yen, C.J. (2012). Using data mining for predicting relationships between online question theme and final grade. *Journal of Educational Technology & Society*, 15(3), 77.
- Alaei, A.R., Becken, S., & Stantic, B. (2019). Sentiment analysis in tourism: capitalizing on big data. *Journal of Travel Research*, 58(2), 175-191.
- Alrawadieh, Z., & Law, R. (2019). Determinants of hotel guests' satisfaction from the perspective of online hotel reviewers. *International Journal of Culture, Tourism and Hospitality Research*, 13(1), 84-97.
- Anagnostopoulou, S.C., Buhalis, D., Kountouri, I.L., Manousakis, E.G., & Tsekrekos, A.E. (2019). The impact of online reputation on hotel profitability. *International Journal of Contemporary Hospitality Management*.
- Arroyo, C.G., Barbieri, C., & Rich, S.R. (2013). Defining agritourism: A comparative study of stakeholders' perceptions in Missouri and North Carolina. *Tourism Management*, 37, 39-47.
- Back, R.M., Bufquin, D., & Park, J.Y. (2018). Why do They Come Back? The Effects of Winery Tourists' Motivations and Satisfaction on the Number of Visits and Revisit Intentions. *International Journal of Hospitality & Tourism Administration*, 1-25.
- Baek, J., Choe, Y., & Ok, C.M. (2019). Determinants of hotel guests' service experiences: an examination of differences between lifestyle and traditional hotels. *Journal of Hospitality Marketing & Management*, 1-18.
- Baka, V. (2016). The becoming of user-generated reviews: Looking at the past to understand the future of managing reputation in the travel sector. *Tourism Management*, 53, 148-162.
- Banerjee, S., & Chua, A.Y. (2016). In search of patterns among travellers' hotel ratings in TripAdvisor. *Tourism Management*, 53, 125-131.
- Barreda, A., & Bilgihan, A. (2013). An analysis of user-generated content for hotel experiences. *Journal of Hospitality and Tourism Technology*, 4(3), 263-280.
- 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.
- Berry, M.W., & Kogan, J. (2010). *Text mining: applications and theory*: John Wiley & Sons.
- Blal, I., & Sturman, M.C. (2014). The differential effects of the quality and quantity of online reviews on hotel room sales. *Cornell Hospitality Quarterly*, 55(4), 365-375.
- Brandth, B., & Haugen, M.S. (2014). Embodying the rural idyll in farm tourist hosting. *Scandinavian Journal of Hospitality and Tourism*, 14(2), 101-115.
- Büschken, J., & Allenby, G.M. (2016). Sentence-based text analysis for customer reviews. *Marketing Science*, 35(6), 953-975.
- Calheiros, A.C., Moro, S., & Rita, P. (2017). Sentiment classification of consumer-generated online reviews using topic modeling. *Journal of Hospitality Marketing & Management*, 26(7), 675-693.
- Cantalops, A.S., & Salvi, F. (2014). New consumer behavior: A review of research on eWOM and hotels. *International Journal of Hospitality Management*, 36, 41-51.
- Capriello, A., Mason, P.R., Davis, B., & Crotts, J.C. (2013). Farm tourism experiences in travel reviews: A cross-comparison of three alternative methods for data analysis. *Journal of Business Research*, 66(6), 778-785.

- Cetin, G., & Walls, A. (2016). Understanding the customer experiences from the perspective of guests and hotel managers: Empirical findings from luxury hotels in Istanbul, Turkey. *Journal of Hospitality Marketing & Management*, 25(4), 395-424.
- Chang, Y.C., Ku, C.H., & Chen, C.H. (2017). Social media analytics: Extracting and visualizing Hilton hotel ratings and reviews from TripAdvisor. *International Journal of Information Management*.
- Cheng, M., & Jin, X. (2019). What do Airbnb users care about? An analysis of online review comments. *International Journal of Hospitality Management*, 76, 58-70.
- Cheung, C.M., & Thadani, D.R. (2012). The impact of electronic word-of-mouth communication: A literature analysis and integrative model. *Decision Support Systems*, 54(1), 461-470.
- Choi, S., Lehto, X.Y., & Morrison, A.M. (2007). Destination image representation on the web: Content analysis of Macau travel related websites. *Tourism Management*, 28(1), 118-129.
- De Pelsmacker, P., Van Tilburg, S., & Holthof, C. (2018). Digital marketing strategies, online reviews and hotel performance. *International Journal of Hospitality Management*, 72, 47-55.
- Feldman, R. (2013). Techniques and applications for sentiment analysis. *Communications of the ACM*, 56(4), 82-89.
- Feldman, R., & Dagan, I. (1995). *Knowledge Discovery in Textual Databases (KDD)*. Paper presented at the KDD.
- Filieri, R., Alguezaui, S., & McLeay, F. (2015). Why do travelers trust TripAdvisor? Antecedents of trust towards consumer-generated media and its influence on recommendation adoption and word of mouth. *Tourism Management*, 51, 174-185.
- Flanigan, S., Blackstock, K., & Hunter, C. (2014). Agritourism from the perspective of providers and visitors: a typology-based study. *Tourism Management*, 40, 394-405.
- Gao, S., Tang, O., Wang, H., & Yin, P. (2018). Identifying competitors through comparative relation mining of online reviews in the restaurant industry. *International Journal of Hospitality Management*, 71, 19-32.
- Gavilan, D., Avello, M., & Martinez-Navarro, G. (2018). The influence of online ratings and reviews on hotel booking consideration. *Tourism Management*, 66, 53-61.
- Geetha, M., Singha, P., & Sinha, S. (2017). Relationship between customer sentiment and online customer ratings for hotels-An empirical analysis. *Tourism Management*, 61, 43-54.
- 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.
- He, W., Zha, S., & Li, L. (2013). Social media competitive analysis and text mining: A case study in the pizza industry. *International Journal of Information Management*, 33(3), 464-472.
- Hennig-Thurau, T., Gwinner, K.P., Walsh, G., & Gremler, D.D. (2004). Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the internet? *Journal of Interactive Marketing*, 18(1), 38-52.
- Hoeber, O., Hoeber, L., El Meseery, M., Odoh, K., & Gopi, R. (2016). Visual Twitter Analytics (Vista) Temporally changing sentiment and the discovery of emergent themes within sport event tweets. *Online Information Review*, 40(1), 25-41.
- Ingram, G. (2002). Motivations of farm tourism hosts and guests in the South West Tapestry Region, Western Australia: A phenomenological study. *Indo-Pacific Journal of Phenomenology*, 2(1), 1-12.
- Ingvaldsen, J. E., & Gulla, J. A. (2012). Industrial application of semantic process mining. *Enterprise Information Systems*, 6(2), 139-163.
- Kaaristo, M., & Järv, R. (2012). Our clock moves at a different pace': The Timescapes of identity in Estonian rural tourism. *Folklore. Electronic Journal of Folklore*, 51, 109-132.
- Kidd, J.N., King, B.E., & Whitelaw, P.A. (2004). A profile of farmstay visitors in Victoria, Australia and preliminary activity-based segmentation. *Journal of Hospitality & Leisure Marketing*, 11(4), 45-64.
- Kim, B., Kim, S., & Heo, C. Y. (2016). Analysis of satisfiers and dissatisfiers in online hotel reviews on social media. *International Journal of Contemporary Hospitality Management*, 28(9), 1915-1936.
- Kiran, J., Prasad, V.L., Kavya, C., & Nagaraja, G. (2014). Investment opportunities in agri-tourism in India. *International Journal of Commerce and Business Management*, 7(2), 400-405.
- Kolyesnikova, N., & Dodd, T.H. (2008). Effects of winery visitor group size on gratitude and obligation. *Journal of Travel Research*, 47(1), 104-112.
- Kotler, P., Bowen, J.T., Makens, J., & Baloglu, S. (2017). Marketing for hospitality and tourism.
- Kuttainen, C., Lexhagen, M., Fuchs, M., & Höpken, W. (2012). *Social media monitoring and analysis in tourism*. Paper presented at the Advances in hospitality and tourism marketing & management conference, 31st May-3rd of June 2012, Corfu, Greece.
- LaPan, C., & Barbieri, C. (2014). The role of agritourism in heritage preservation. *Current Issues in Tourism*, 17(8), 666-673.

- Law, R., Buhalis, D., & Cobanoglu, C. (2014). Progress on information and communication technologies in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 26(5), 727-750.
- Li, H., Ye, Q., & Law, R. (2013). Determinants of customer satisfaction in the hotel industry: An application of online review analysis. *Asia Pacific Journal of Tourism Research*, 18(7), 784-802.
- Liu, B. (2012). Sentiment analysis and opinion mining. *Synthesis lectures on human language technologies*, 5(1), 1-167.
- López-Guzmán, T., Vieira-Rodríguez, A., & Rodríguez-García, J. (2014). Profile and motivations of European tourists on the Sherry wine route of Spain. *Tourism Management Perspectives*, 11, 63-68.
- Ludwig, S., De Ruyter, K., Friedman, M., Brügggen, E. C., Wetzels, M., & Pfann, G. (2013). More than words: The influence of affective content and linguistic style matches in online reviews on conversion rates. *Journal of Marketing*, 77(1), 87-103.
- O'Connor, P. (2010). Managing a hotel's image on TripAdvisor. *Journal of Hospitality Marketing & Management*, 19(7), 754-772.
- O'leary, D.E. (2011). The use of social media in the supply chain: Survey and extensions. *Intelligent Systems in Accounting, Finance and Management*, 18(2-3), 121-144.
- Pantelidis, I.S. (2010). Electronic meal experience: A content analysis of online restaurant comments. *Cornell Hospitality Quarterly*, 51(4), 483-491.
- Prince, S. (2017). Working towards sincere encounters in volunteer tourism: an ethnographic examination of key management issues at a Nordic eco-village. *Journal of Sustainable Tourism*, 25(11), 1617-1632.
- Prince, S., & Ioannides, D. (2017). Contextualizing the complexities of managing alternative tourism at the community-level: A case study of a nordic eco-village. *Tourism Management*, 60, 348-356.
- Quadri-Felitti, D., & Fiore, A.M. (2016). Wine tourism suppliers' and visitors' experiential priorities. *International Journal of Contemporary Hospitality Management*, 28(2), 397-417.
- Ribeiro, F.N., Araújo, M., Gonçalves, P., Gonçalves, M.A., & Benevenuto, F. (2016). Sentibench-a benchmark comparison of state-of-the-practice sentiment analysis methods. *EPJ Data Science*, 5(1), 23.
- Rinker, T.W. (2016). sentimentr: Calculate text polarity sentiment. *University at Buffalo/SUNY, Buffalo, New York. version 0.5, 3*.
- Rozier Rich, S., Standish, K., Tomas, S., Barbieri, C., & Ainely, S. (2016). The current state of agritourism research in the United States.
- Santeramo, F.G., & Barbieri, C. (2017). On the demand for agritourism: a cursory review of methodologies and practice. *Tourism Planning & Development*, 14(1), 139-148.
- Schilling, B.J., Sullivan, K.P., & Komar, S.J. (2012). Examining the economic benefits of agritourism: The case of New Jersey. *Journal of Agriculture, Food Systems, and Community Development*, 3(1), 199-214.
- Singh, J.P., Irani, S., Rana, N.P., Dwivedi, Y.K., Saumya, S., & Roy, P.K. (2017). Predicting the "helpfulness" of online consumer reviews. *Journal of Business Research*, 70, 346-355.
- Sparks, B.A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, 32(6), 1310-1323.
- Taecharungroj, V., & Mathayomchan, B. (2019). Analysing TripAdvisor reviews of tourist attractions in Phuket, Thailand. *Tourism Management*, 75, 550-568.
- Tang, C., & Guo, L. (2015). Digging for gold with a simple tool: Validating text mining in studying electronic word-of-mouth (eWOM) communication. *Marketing Letters*, 26(1), 67-80.
- Tax, S.S., Brown, S.W., & Chandrashekar, M. (1998). Customer evaluations of service complaint experiences: implications for relationship marketing. *Journal of Marketing*, 62(2), 60-76.
- Tew, C., & Barbieri, C. (2012). The perceived benefits of agritourism: The provider's perspective. *Tourism Management*, 33(1), 215-224.
- Thomson, R., Lebiere, C., & Bennati, S. (2014). *Human, model and machine: a complementary approach to big data*. Paper presented at the Proceedings of the 2014 Workshop on Human Centered Big Data Research.
- Travelport. (2019). Demand from travelers for value, personalization and digital solutions continues to mount. Retrieved 25 10 2019, 2019, from https://www.travelport.com/company/media-center/press-releases/2019-09-16/demand-travelers-value-personalization-and_digital?_elqTrackId=bd8da59a00ba417db8cf9542d6bf8837&elqaid=4231&elqat=2
- Viglia, G., Minazzi, R., & Buhalis, D. (2016). The influence of e-word-of-mouth on hotel occupancy rate. *International Journal of Contemporary Hospitality Management*, 28(9), 2035-2051.
- Xiang, Z., Du, Q., Ma, Y., & Fan, W. (2017). A comparative analysis of major online review platforms: Implications for social media analytics in hospitality and tourism. *Tourism Management*, 58, 51-65.

- Xiang, Z., Schwartz, Z., Gerdes Jr, J.H., & Uysal, M. (2015). What can big data and text analytics tell us about hotel guest experience and satisfaction? *International Journal of Hospitality Management*, 44, 120-130.
- Xie, K.L., Zhang, Z., & Zhang, Z. (2014). The business value of online consumer reviews and management response to hotel performance. *International Journal of Hospitality Management*, 43, 1-12.
- 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.
- Ye, Q., Law, R., Gu, B., & Chen, W. (2011). The influence of user-generated content on traveler behavior: An empirical investigation on the effects of e-word-of-mouth to hotel online bookings. *Computers in Human Behavior*, 27(2), 634-639.
- Yoo, K.H., & Gretzel, U. (2011). Influence of personality on travel-related consumer-generated media creation. *Computers in Human Behavior*, 27(2), 609-621.
- Zhang, K.Z., Cheung, C.M., & Lee, M.K. (2014). Examining the moderating effect of inconsistent reviews and its gender differences on consumers' online shopping decision. *International Journal of Information Management*, 34(2), 89-98.
- Zhao, Y., Xu, X., & Wang, M. (2019). Predicting overall customer satisfaction: Big data evidence from hotel online textual reviews. *International Journal of Hospitality Management*, 76, 111-121.
- Zhou, L., Ye, S., Pearce, P.L., & Wu, M.Y. (2014). Refreshing hotel satisfaction studies by reconfiguring customer review data. *International Journal of Hospitality Management*, 38, 1-10.
- Zoto, S., Qirici, E., & Polena, E. (2013). Agrotourism-A sustainable development for rural area of Korca. *European Academic Research*, 1(2), 209-223.