

Factor Analysis of Using Social Media in Tourism Enterprises for Competitiveness

Panee Suanpang

Abstract—Social media is the “mega trend” on the digital platform for connecting, participating, communicating and sharing information among users and being using as a tool to support tourism enterprises to raise efficiency and competitiveness in the tourism industry. The objective of this paper is to analyse the factors that affect the use of social media in tourism enterprises for competitiveness in Thailand. This study has a mix method of a quantitative approach which collected information from a questionnaire of 490 tourism enterprises in five major tourism cities and a qualitative approach which collected data from interviews. The results found that, there were eight factors (provide information, contact customer, marketing, feedback, build network, brand building, increase income and customer engagement) of using social media in tourism enterprises for gain competitiveness. The highest score is provided information ($\bar{x}=3.88$, S.D. =1.12), second engaging with customers ($\bar{x}=3.69$, S.D. =1.18) and third marketing ($\bar{x}=3.68$, S.D. =1.16). The confirmatory factory analysis found that the highest loading factor of build customer network ($b=1.13$), second customer engagement ($b=1.07$), third marketing ($b=1.05$) and finally provide information ($b=0.91$) respectively. Therefore, the variance of use of social media in the tourism enterprises was 84.60%, 75.20% and 81.30% respectively. The statistical significance of the of fitness indices are 20.31, $df=14$, $p\text{-value}=0.12081$, $RMSEA=0.030$. Finally, the results of interviews found that social media use in tourism enterprise for providing information, customer engagement and a reduction of business operation costs.

Index Terms—Social media, social network, factor analysis, tourism enterprise, competitiveness.

I. INTRODUCTION

With the advance of technology, ‘social media’ is a new dimension of digital platform that is becoming the most predominant for connecting, participating, communicating and sharing information with other users around the world [1]-[3]. Social media is a “mega trend” that can significant impact business especially tourism enterprises who are using it for advancing business competitiveness [4], [5]. The social media platform allows users to generate and share various types of information including text, photo, video and location of their groups to users including community, business, customer, friends and family and organizations. The extensive use of social media sites includes Facebook, YouTube, LinkedIn, Instagram, Twitter, Google+, Line, etc. [8]. Social media is becoming an important mechanism for the diving tourism business due to its changing the way

tourist are using social media sites to share their tourism experience with other friends on social networking sites which affects tourist motivation [6]-[8]. Social media has been adopted by travelers to search, organize, share, and annotate their travel stories and experience through blogs, online community (e.g., Facebook, Twitter), media sharing (e.g., YouTube), social bookmarking sites (e.g., Delicious) and other tools that are used in a collaborative way [8]. With the advantages of using social media to support businesses leading to the growth of user social media has been exponential over recent years, there are 4.021 billion users around the world, of which the leaders are Facebook, YouTube, WhatsApp and Facebook Messenger respectively [8].

The situation of using social media in Thailand is that the number of users are increasing dramatically, the number of Internet users is 57 million people of which 51 million are SNS users (74%). Surprisingly, Thai people spend 9.38 hours per day using mobile Internet which the highest in the world, they spend on average 3.10 hours per day using SNS and spend 4.3 hours per day for broadcasts, streaming and Video on Demand [9].

The advantage of using social media to support the tourism business includes information searching and decision making behavior [10], [11] tourism promotion [11], [12] and focusing on the interaction of tourist via social media (e.g. social sharing of tourism experience) [11]. Moreover, social media is used to promote tourism products with online strategies [10], [11] to increase tourism revenue for the tourism businesses.

The tourism enterprise on the supply side includes five major business areas including tourist attraction, services, promotion, transportation and information [13] which the tourism enterprise use as a “tool” to develop tourism business transactions. Additionally, using social media in a tourism enterprise can lead to financial, social or political benefits for a tourism service provider [14], [15] who can then understand the factors that affect tourist behavior and can apply this knowledge to manage and use SNS in order to increase their revenue.

Thailand is a world class destination, UNWTO– United Nations World Tourism Organization ranked Thailand 9th in the world, having 32.6 million International tourists in 2017 with a revenue of 1.65 trillion baht that raked number three in the world [16]. The use of social media for supporting the tourism business in Thailand is growing and becoming important for enterprise to gain the advantage and competitiveness. Therefore, social media is becoming a significant factor to influence decision making for booking accommodation, selecting an airline, sharing tourist comments, building their community and finally creating

Manuscript received August 29, 2019; revised January 3, 2020. This work was supported by The Thailand Research Fund (TRF) which provided the budget to conduct this research Grant no. RDG 5550033.

Panee Suanpang is with Suan Dusit University, Thailand (e-mail: dtechanpanee@yahoo.com).

brand awareness [17].

The objective of this paper is to study the analysis of the use of social media in tourism enterprise in Thailand to gain a competitive advantage

II. LITERATURE REVIEW

A. Social Network Theory

The social media concept was initiated from social network theory. The theory of social networking focuses on the relationship between the node and ties while much of the research in social science is frequently focused on individual characteristics and the behavior of using social network approaches [18], [19]. The social network research in the social sciences are found in sociology, social psychology, information science, and organization management [19], [20]. From the perspective of technology, some issues related to the innovation potential of social network platforms have been promoted [11], [19]. Social network research has yet to be developed fully in recreation, leisure, and tourism studies [19], [21] however, the related concept of using social media in the tourism enterprise has been deployed in tourism literature.

B. Competiveness of Using Social Media Using in Tourism Enterprises

Social media is used in tourism enterprises to gain competitiveness in many dimensions including:

Providing information: The major function of social media is used for providing information about products and services directly to the customer [22]-[24] which is becoming a very effective channel, such as using Facebook to provide information about a new promotion. Furthermore, social media use for sharing information by blogging can provide information and reviews for the customer [25]-[27].

Contact with customer marketing: Tourism enterprises always use social media to contact customers directly such as using Line to confirm the booking of hotels and restaurants [28]-[30].

Marketing to the tourist: Social media can be a powerful marketing tool that helps the tourism enterprise create online marketing directly, especially by ‘word-of-mouth’ from the tourist to share their tourism experience of their journey [23], [31], [32]

Feedback from customer: The customer can send feedback via social media to the enterprise, such as comments about products or services of the tourism business, for example feedback about what is good and bad about hospitality services via Trip Advisor [28], [29], [32].

Building a customer network: Customers use social media to develop their community network for sharing information (text, graphic, video, location) among their group [23], [29]-[31].

Brand engagement: Social media use for developing corporate brand engagement of the tourism enterprise by developing ‘trust’ [33], [34]. Trust may also be affected by the social media where information is posted [35] to influence the customer intention to re purchase tourism products and services again in the future.

Increase profit: Social media is an important tool used for stimulating revenue and income to increase profit [22]-[24],

[36] and reduce operational costs (e.g. advertisement costs, telephone costs, operational costs)

Customer engagement: The conceptualization of customer engagement incorporates five dimensions: enthusiasm, attention, absorption, interaction and identification [37], [38]. Where social media is generally a powerful enabler of customer engagement [35], [38], [39] it follows that tourism social media brands like Trip Advisor and Booking.com will seek to inspire customer engagement in each of the five dimensions [39].

The research framework is designed for this study to include eight factors including: providing information (X_1), contact with customers (X_2), marketing (X_3), feedback from customers (X_4), building a customer network (X_5), brand engagement (X_6), increase profile (X_7) and customer engagement (X_8).

III. METHODOLOGY

This study used a quantitative research approaches that collected data from questionnaires and a qualitative approach that collected data from interviewing business owners of the tourism enterprises as follows:

A. Populations and Sampling

The population of this study is a tourism business case study in Thailand including tourist attractions, accommodation, restaurants, tour operators and souvenir shops, consisting of about 310,336 companies [40]. The sample size was 400 based on Yamane [41] with the confidence level of 95% ($\alpha = 0.05$). The sampling technique used simple sampling to distribute to 5 major tourism cities (Fig. 1) including Bangkok, Chang Mai, Udon Thani, Ubon Ratchathani, Hua Hin and Phuket.



Fig. 1. Research areas.

B. Measurement Development

Based on the research framework and the literature review carried out, 4 questions that related to the demographic of the sample, used close ended questions. The second section of the questionnaire about the use of social networking sites in the tourism business comprised of 8 questions and the type of social networking that had been used in the tourism business comprised of 6 questions using the Likert 5 scale ranging from 5=strongly agree, 4=agree, 3=moderate, 2=disagree, 1=strongly disagree.

The reliability of the measures were tested with the use of SNS in tourism business Cronbach's alpha = 0.98 and type of social networking Cronbach's alpha = 0.91. Data was analyzed using SPSS for descriptive statistics and a confirmatory factor analysis (CFA) using LISREL 9.0.

C. Data Collection

The data was collected using a convenience sampling method by sending mail to the tourism business companies. Links to the survey were placed on Facebook and the website of the researcher's wall. The questionnaire was available online between June and December 2018. A total of 490 completed a response.

D. Data Collection from Interview

The qualitative data was collected from 10 tourism business owners' by interviewing them about using social media to support their tourism business. The qualitative data was analyzed by the content analysis method.

IV. RESULT

A. Quantitative Result from Questionnaires

The descriptive statistics of the respondents are shown in Table I, the results found that most of the tourism enterprises operated in accommodation (hotel, resort, guesthouse) (26.12 %), most of the tourism enterprise are small, employing 2-10 people (52.24 %), mostly the tourism enterprise has been operating for 6-10 years (37.76 %) and mostly operated tourism enterprises for Thai people (54.08 %).

TABLE I: DESCRIPTIVE STATISTICS OF THE RESPONDENTS

Variable	Value	
	Frequency	Percent
Type of tourism enterprise	Tourist attraction	3.27
	Accommodation	26.12
	Resturant	24.90
	Tour company	12.04
	Sourvenir shop	18.16
	Spa	9.36
	Other	6.12
	Company size/number of employee	1 people
2-10 people		52.24
11-20 people		10.20
21-30 people		4.69
31-40 people		4.69
< 40 people		10.61

Variable	Value	
Time has been operated business	>5 years	26.73
	6-10 years	37.76
	11-15 year	11.63
	16-20 years	11.02
	<20 years	12.86
Type of customers	Thai	54.08
	International	25.71
	Both Thai and international	20.20

The results of the social network type used in the tourism enterprises are shown in Table II, most of the tourism enterprises use Facebook (\bar{x} =3.98, S.D. =1.08) and second use YouTube

The results of the social network type used in the tourism enterprise are shown in Table II, most of the tourism enterprises use Facebook (\bar{x} =3.98, S.D. =1.08), second use YouTube (\bar{x} =3.55, S.D. =1.11) and third use Line (\bar{x} =3.65, S.D. =1.13).

TABLE II: TYPE OF SOCIAL NETWORK USING IN TOURISM ENTERPRISE

Type of social network used in tourism enterprise	Means	S.D.
Facebook	3.98	1.08
YouTube	3.55	1.11
Line	3.65	1.13
Twitter	2.98	1.30
Trip Advisor	1.41	1.06

The results of the purpose of using social media in tourism enterprise are shown in Table III, providing information (\bar{x} =3.88, S.D. =1.12), second engaging with customers (\bar{x} =3.69, S.D. =1.18) and third marketing (\bar{x} =3.68, S.D. =1.16).

TABLE III: THE PURPOSE OF USING SOCIAL NETWORK IN TOURISM ENTERPRISE

Variable	The purpose of use social media in tourism enterprise	Value	
		Means	S.D.
X ₁	Provide information	3.88	1.12
X ₂	Contact with customer	3.54	1.16
X ₃	Marketing	3.68	1.16
X ₄	Feedback from customer	3.44	1.20
X ₅	Build customer network	3.52	1.23
X ₆	Brand building	3.51	1.20
X ₇	Increase income	3.55	1.24
X ₈	Customer engagement	3.69	1.18

Table IV shows that the results of the range of the relationship of variable (X₁-X₈) were between 0.600-0.900.

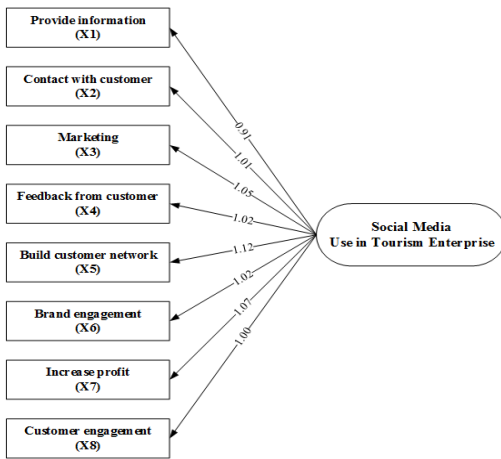
A factor analysis model of social media using tourism enterprise is shown in Fig. 2 which identifies 20.31, df =14, p-vale =0.12081, RMSEA=0.030. The factor that affects the use of social media in tourism enterprise the highest was (X₅) building a customer network, loading factor (l) (l=1.13), second (X₇) increase income (l=1.07), third (X₃) marketing

($l=1.05$) and finally (X_1) providing information ($l=0.91$) respectively.

TABLE IV: RELATIONSHIP OF THE VARIABLES

Variable	Variable							
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
X_1	1							
X_2	0.786	1						
X_3	0.790	0.807	1					
X_4	0.713	0.761	0.768	1				
X_5	0.729	0.787	0.772	0.794	1			
X_6	0.710	0.750	0.774	0.735	0.809	1		
X_7	0.690	0.753	0.774	0.739	0.810	0.829	1	
X_8	0.678	0.729	0.756	0.745	0.748	0.726	0.805	1

The results of the confirmatory factor analysis (Fig. 2) found that (X_5) building a customer network is the highest confirmatory factor analysis ($b=1.13$), second (X_7) customer engagement ($b=1.07$), third (X_3) marketing ($b=1.05$) and finally (X_1) providing information ($b=0.91$) respectively. Therefore, the variance of using social network in tourism enterprise was 84.60%, 75.20% and 81.30% respectively.



Chi-Squares = 20.31, df=14, P-Value 0.12081, RMSEA = 0.030

Fig. 2. The factor analysis model of the social media use in tourism enterprise.

The results of the statistics significance of the fit indices in Table V, found that every variable passed the criteria [42]. The 1.451 which is < 2 then passed the criteria, p-value = 0.121 which is $> .05$ then passed the criteria, GFI = 0.990 which is $.95 > .95$ then passed the criteria and RMSEA = 0.008 which is $> .05$ then passed the criteria.

TABLE V: STATISTICAL SIGNIFICANCE OF THE GOODNESS OF FIT INDICES

Variable	Factor			
	b	SE	t	R^2
X_1	0.91**	0.042	21.518	0.656
X_2	1.01**	0.042	24.292	0.760
X_3	1.05**	0.041	25.506	0.813
X_4	1.03**	0.043	23.839	0.743
X_5	1.13**	0.043	26.399	0.846
X_6	1.03**	0.043	24.005	0.750
X_7	1.07**	0.044	24.024	0.752
X_8	1.00**	0.044	22.899	0.713

$\chi^2 = 20.31$, $df=14$, p -value 0.121, GFI = 0.99, AGFI = 0.974
CFI = 0.998, NNFI = 0.997, NFI = 0.995, RMSEA = 0.030
SRMS = 0.008 RMR = 0.012

** p -value $< .01$

TABLE VI: STATISTICAL SIGNIFICANCE OF THE GOODNESS OF FIT INDICES

Statistic	Criteria	Value	Result
	< 2.00	1.451	pass
p-value	> 0.05	0.121	pass
GFI	> 0.95	0.990	pass
AGFI	> 0.95	0.974	pass
CFI	> 0.95	0.998	pass
NNFI	> 0.95	0.997	pass
NFI	> 0.95	0.995	pass
RMR	< 0.05	0.012	pass
RMSEA	< 0.05	0.008	pass

Finally, the eight variable factors were suitable for use for social media in tourism enterprises.

B. Qualitative Result from An Interview

The results of interviewing tourism business owners found that social media were used to gain competitiveness in many aspects such as:

- Build customer network and marketing directly to the target especially using Facebook to providing information about promotions and tourism services according to their code "... We always use Facebook Fan page for providing information about our campaign directly to the target customer. For Chinese tourist use We Chat, that is a very powerful social media for Chinese tourist. The numbers of Chinese tourists are growing by more than 20% therefore, we need the use social media to providing information on a Chinese platform..."
- Customer engagement by using social media such as "Line@" because most of the tourists always using Facebook to search information but always use Line to engage and communicate with the enterprise. "... our customer always uses 'Line' for asking and keep in touch with us. We always send new promotions by using Line@ for engaging our loyalty customers..."
- Reduced cost of operation such as the cost of advertisements in traditional media "... we save a lot of money on advertisements just post information which very fast and an efficient communication way..."

V. CONCLUSION AND RECOMMENDATION

The use of social media in tourism enterprise to gain competitiveness is becoming a "mega trend" in the digital economy worldwide [4], [5]. The functionality of using social media to support tourism enterprise, to provide and share information, create contact directly with the customer, marketing, get customer feedback, build customer networks, build brand engagement, increase profit, and build customer engagement [25]-[28]. However, a significant problem of this study is that Thailand as a world class destination has been using social media to support tourism business [17]. It is very important to study the factors of using social media to increase the profit and gain competitiveness of the tourism enterprise. The aim of this study is to analyses the factors that affect the use of social media in the tourism enterprises for competitiveness in Thailand. This study has a mixed method by integrating a quantitative approach, the data was collected from a questionnaire of 490 tourism enterprises in five major tourism cities and a quality approach that collected data from interviewing key informants. The results found that the most important factor of using social media are as follows:

(X₅) building a customer network ($b=1.13$) which most of user use social media develop their social group and social networking group which have the same interest about their travel [29]-[31].

(X₇) customer engagement ($b=1.07$) in support, Leung *et al.* (2013) posts that social media especially “Facebook” offers an alternative web based tool for tourism enterprise to respond to customer inquiries [6], [37], [38]

(X₃) marketing ($b=1.05$), social media is direct marketing from the tourism enterprise to the customer that is a very effective marketing channel [30], [31].

(X₁) providing information ($b=0.91$) about tourism product and promotion directly to the target group [22]-[24].

Finally, the variance of use of social media in tourism enterprise was 84.60%, 75.20% and 81.30% respectively.

The recommendation is that the tourism businesses should develop a strategy plan [43] for using social networks to become a competitive advantage. Future research should study on the factors that affect tourist behavior from using social networks to support their decision marking of tourism.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interests regarding the publication of this paper.

AUTHOR CONTRIBUTIONS

Suanpang presented idea and develop the research questionnaire of this study. Suanpang contributed to the results. Suanpang took the lead in writing the manuscript and provided critical feedback and approved the manuscript

ACKNOWLEDGMENT

The author would like to acknowledge Suan Dusit University which provided a research lab for this project.

REFERENCES

- [1] D. Buhalis and E. Mamalakis, “Social media return on investment and performance evaluation in the hotel industry context,” presented at the Information and Communication Technologies in Tourism 2015, Lugano, Switzerland, February 3-6, 2015.
- [2] R. Gay, A. Charlesworth, and R. Esen, *Online Marketing: A Customer-Led Approach*, New York, NY: Oxford University Press, 2007, pp. 1-32.
- [3] V. Pornsakulvanich, “Personality, attitudes, social influences, and social networking site usage predicting online social support,” *Computers in Human Behavior*, vol. 76, pp. 255-262, 2017.
- [4] A. Aimiwu, “Building a competitive edge through social media,” present in the Conference on Information System Applied Research, New Orleans, LA, November 2012.
- [5] S. Pietarien, “Corporate branding in social media — Stakeholder involvement in value co-creation a case study,” Master’s thesis, Alto University, Finland, 2014.
- [6] D. Leung, R. Law, H. V. Hoof, and D. Buhalis, “Social media in tourism and hospitality: A literature review,” *Journal of Travel & Tourism Marketing*, vol. 30, pp. 3-22, 2013.
- [7] R. Nema and A. Pandey, “A review on online social network: Issue & challenges,” *Social Networking*, vol. 5, pp. 57-61, 2016.
- [8] L. Mosweunyane, P. Rambe, and D. Dzansi, “Use of social media in free state tourism small, medium and micro enterprises to widen business networks for competitiveness,” *South African Journal of Economic and Management Sciences*, vol. 22, pp. 1-10, 2019.
- [9] D. Chaffey. (2018). Global social media research summary. [Online]. Available: <https://www.smartinsights.com/social-media-marketing/social-media-strategy/new-global-social-media-research/>
- [10] WP. (2018). Statistic of Thai people using social networking site. [Online]. Available: <https://www.brandbuffet.in.th/2018/02/global-and-thailand-digital-report-2018/>
- [11] J. Fotis. (2012). Discussion of the impacts of social media in leisure tourism, the impact of social media on consumer behavior: Focus on leisure travel. [Online]. Available: <http://johnfotis.blgospot.com.au/p/projectes.html>
- [12] B. Zeng and R. Gerritsen, “What do we know about social media in tourism? A review,” *Tourism Management Perspectives*, vol. 10, pp. 27-36, 2014.
- [13] K. Bradbury. (2011). The growing role of social media in tourism marketing. [Online]. Available: <https://kelseybradbury.weebly.com/uploads/1/0/9/2/10927387/tourism-socialmedia-comm427.pdf>
- [14] A. M. French, X. Luo, and L. R. Bose, “Toward a holistic understanding of continued use of social networking tourism: A mixed-methods approach,” *Information & Management*, vol. 54, no. 6, pp. 802-813, 2017.
- [15] P. P. Viren, C. A. Vogt, C. Kline, A. M. Rummel, and J. Tsao, “Social network participation and coverage by tourism industry sector,” *Journal of Destination Marketing & Management*, vol. 4, pp. 110-119, 2015.
- [16] A. Morrison, P. Lynch, and N. Johns, “International tourism network,” *International Journal of Contemporary Hospitality Management*, vol. 15, no. 3, pp. 197-202, 2004.
- [17] UNWTO. (2017). UNWTO tourism highlight. [Online]. Available: <https://www.e-unwto.org/doi/pdf/10.18111/9789284419029>
- [18] P. Suanpang, “The current using of social network of tourist and tourism business,” *Thailand Research Fund (TRF)*, Bangkok, Thailand, 2014.
- [19] S. P. Borgatti and M. Everett, *Notions of Position in Social Network Analysis*, San Francisco: Jossey-Bass, 1994.
- [20] P. P. Viren, C. A. Vogt, C. Kline, A. M. Rummel, and J. Tsao, “Social network participation and coverage by tourism industry sector,” *Journal of Destination Marketing & Management*, vol. 4, pp. 110-119, 2015.
- [21] J. Barnes, “Class and committees in Norwegian Island Parish,” *Human Relation*, vol. 7, pp. 39-58, 1954.
- [22] P. A. Stokowshi, “Extending the social group model: Social network analysis in recreation research,” *Leisure Sciences*, vol. 12, pp. 251-263, 1990.
- [23] R. W. Mack, J. E. Blose, and B. Pan, “Believed it or not: Credibility of blogs in tourism,” *Journal of Vocation Marketing*, vol.14, no. 2, pp. 133-144, 2008
- [24] T. P. Liang, Y. T. Ho, Y. W. Ki, and E. Turban, “What drives social commerce: The role of social support and relationship quality,” *International Journal of Electronic Commerce*, vol. 16, no. 2, pp. 69-90, 2011.
- [25] C. Koo, Y. Joun, H. Han, and N. Chung, “Mediating roles of self-image expression: Sharing travel information of SNSs,” in *Proc. Information and Communication Technologies in Tourism 2015, Switzerland*, 2015.
- [26] Y. Enoch and R. Grossman, “Blogs of Israeli and Danish backpackers to India,” *Annals of Tourism Research*, vol. 37, no. 2, pp. 520-536, 2010.
- [27] C. Huang, C. Chou, and P. Lin, “Involvement theory in constructing blogger’s intention to purchase travel products,” *Tourism Management*, vol. 31, no. 4, pp. 513-526, 2010.
- [28] A. A. Murnar and J. K. S. Jacobsen, “Trust and involvement in tourism social media and web-based travel information source,” *Scandinavian Journal of Hospitality and Tourism*, vol. 13, no. 1, pp. 1-19, 2013.
- [29] H. H. Chang and S. S. Chuang, “Social capital and individual motivations on knowledge sharing: Participant involvement as a moderator,” *Information and Management*, vol. 48, no. 1, pp. 9-18, 2011.
- [30] J. Chen and X. Shen, “Consumer’s decision in social commerce context: An empirical investigation,” *Decision Support System*, vol. 79, pp. 55-64, 2015.
- [31] W. S. Chow and L. S. Chan, “Social network, social trust and shared goals in organizational knowledge sharing,” *Information Management*, vol. 45, no. 7, pp. 458-465, 2008.
- [32] A. M. Hede and P. Kellett, “Building online brand communities: Exploring the benefits, challenges and risks in the Australian event sector,” *Journal of Vocation Marketing*, vol. 18, no. 3, pp. 239-250, 2012.
- [33] G. Thevenot, “Blogging as a social media,” *Tourism & Hospitality Research*, vol. 7, no. 3/4, pp. 287-289, 2007.

- [34] L. Dessart, C. Veloutsou, and A. Morgan-Thomas, "Consumer engagement in online brand communities," *The Journal of Product and Brand Management*, vol. 24, no. 1, pp. 28-42, 2015.
- [35] D. Gefen, "E-commerce: The role of familiarity and trust," *Omega*, vol. 28, pp. 725-737, 2000.
- [36] F. Bronner and R. Hong, "Vacationers and e-WOM: Who posts, and why, where, and what?" *Journal of Travel Research*, vol. 50, no. 1, pp. 15-26, 2011.
- [37] H. Zhang, Y. Lu, S. Gupta, and S. J. Zhao, "Building brand loyalty in social commerce: The case of brand microblogs," *Electronic Commerce Research and Applications*, vol. 15, pp. 14-25, 2016.
- [38] K.K. So, C. King, and B. Spark, "Customer engagement with tourism brands: Scale development and validation," *Journal of Hospitality & Tourism Research*, vol. 38, no. 3, pp. 304-329, 2014.
- [39] P. Harrigan, U. Evers, M. Miles, and T. Daly, "Customer engagement with tourism social media brands," *Tourism Management*, vol. 59, pp. 597-609, 2017.
- [40] R. J. Brodie, A. B. Illic, and L. D. Hollebeek, "Customer engagement in a virtual brand community: An exploratory analysis," *Journal of Business Research*, vol. 66, pp. 105-114, 2013.
- [41] Department of tourism, statistics of tourism business in Thailand. (2015). [Online]. Available: <http://tourism.go.th/2010/th/statistic/index.hp>
- [42] T. Yamane, *An Introductory Analysis*, 3rd ed. New York: Harper and Row Publication, 1973.
- [43] R. E. Schumacker and R. G. Lomax, *A Beginner's Guide to Structural Equation Modeling*, New York: Routledge, 2010.
- [44] A. Kiralova and A. Pavlicecka, "Development of social media strategies in tourism destination," in *Proc. International Conf. on Strategies Innovative Marketing*, 2014, Madrid, Spain.

Copyright © 2020 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).



Pannee Suanpang was born in Thailand on January 29, 1976. She received her bachelor of information systems and master of information systems from Griffith University, Australia in 1997 and 2001, respectively. She completed her doctor of technology in science from University of Technology Sydney, Australia, in 2005. She is now working as an associate professor at the Department of Information Technology, Suan Dusit University.

Her research interests lie in advanced information technology in tourism, big data, IoT, mobile application, smart tourism.