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Factors Affecting the Decision Making and Satisfaction on Viewing the Phenomenon of Naga Fireballs in Phon Phisai District and Rattanawapi District, Nong Khai Province

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Abstract: The objective of this study is to know the factors affecting the decision making and satisfaction on viewing the phenomenon of Naga fireballs in Phon Phisai District and Rattanawapi District, Nong Khai Province, Thailand. The data is collected from 400 samples of questionnaire respondents by using the method of additional sampling. The research results reveal that 1) the marketing stimulus consists of the factors of advertisements from various media, data research from online media, and the promotion of accommodations during the End of Buddhist Lent festival affect the reasons in decision making of the tourists to travel to view the phenomenon of Naga fireballs, 2) the non-marketing stimulus consists of the factors of being persuaded by the acquainting persons and the trend to prove the occurrence of Naga fireballs in their own views are the factors affecting the reasons in decision making of the tourists to travel to view the phenomenon of Naga fireballs, 3) the decision making in travelling to view the phenomenon of Naga fireballs affects the satisfaction on viewing the phenomenon of Naga fireballs. According to the research results, relevant agencies should promote the marketing factors, promote the advertisements to persuade Thai and foreign tourists to come to visit by using various media especially for online media. The information should be provided completely in each tourist destination for the tourists to acknowledge and to be attracted. The accommodation promotion should be provided in the End of Buddhist Lent festival. Thenon-marketing factors should be promoted to be more efficient in order to impress the tourists coming to viewthe phenomenon of Naga fireballs.

Keywords: Naga fireballs, Nong Khai, Mekong River

JEL: M3, Z1, Z3

1. BACKGROUND AND SIGNIFICANCE

The phenomenon of Naga fireballs is the phenomenon occurring End of Buddhist Lent period of every year. Generally, people see the pinkish fireballs in the sizes from a thumb to an egg rising from the middle

of Mekong River. It has no smoke, no odor, and no sound. The rise is in the height from the river surface of around 20-30 maters and the fireballs disappear without bending back. This phenomenon occurs at 6PM until 8PM. The number of such fireballs is inexact depending on the localities in the area of Mekong River. The main areas are the areas around Mekong Riverin Phon Phisai District and RattanawapiDistrict, Nong Khai Province, Thailand. A lot of tourists come to view this amazing phenomenon each year. The tourists have only one chance each year to experience this phenomenon in the End of Buddhist Lent festival of Buddhists.

From such phenomenon of Naga fireballs, public and private agencies then arrange the World Naga fireballs Festival. This specialty is blended with the beliefs and marketing issues that the phenomenon is not man-made. The occurrence of this phenomenon is widely studied among the tourists and academicians who try to oppose that such phenomenon is man-made. Therefore, this may be the important motivation in viewing this phenomenon. Partly, it is believed that the fireballs are the fireballs of Naga rising for venerating the Lord Buddha. It started from the Buddha's lifetime when a Naga viewing the travel down from the heaven of the Lord Buddha after preaching his mother. With the faith, that Naga pray for making merits to be enlightened and become another Lord Buddha in the future. After that onwards, during the Buddhist Lent festival, Naga and the followers will keep the Buddhist precepts regularly and make merits throughout the period of 3 months in order to have the power to be able to spit the brilliant fireballs. If any Naga does not keep the Buddhist precepts regularly during such period, he will not have such power.

Meanwhile, the scientific study issues are widely interested among the academicians both in the idea describing that such Naga fireballs are caused by natural phenomenon with the inflammation of methane (Senghaphan, 2015) and the idea viewing that such fireballs are man-made. This is possibly the reason attracting the tourists to come to prove this secret by themselves. However, no matter what is the cause of this phenomenon, especially for the marketing factors and non-marketing factors, in each year a lot of tourists coming to Nong Khai Province in the End of Buddhist Lent festival. Moreover, there is no study on the factors affecting the decision making to travel to view the Naga fireballs with the explanation of Structure Equation Modeling (SEM) in the form of Variance Based which is considered the model development. These results can explain the doubt of the factors of tourists affecting the satisfaction on viewing the Naga fireballs as well as being the data supplementary for the tourist marketing strategies of Nong Khai Province.

2. LITERATURE REVIEWS

Phairotephiriyakul & Thaweephornpathomkul (2012) studied the factors affecting the decision making of Thai tourists in traveling to Luang Prabang. It was found that the factors of marketing mix affecting the decision making of tourists in traveling to Luang Prabang. In sense the marketingmix, the factors of marketing mix; product, price, place, people, procedure, and marketing promotion affecting the decision making of tourists in traveling (Tungchaicahna *et al.,* 2011).

Generally, the results of study on the behaviors of traveling of tourists traveling to natural tourist destinations reveal that the factors of tourist destinations, convenience in traveling, information in traveling affect the decision making in traveling of tourists in various areas (Boonrung, 2010; Tungchaicahna et al., 2011). Regarding the procedure of decision making of the tourists, Garg (2017) found that the decision making of the tourists have the effects from the level of risk recognition and the reasons for the decision

making in traveling towards the satisfaction gained from the tourist marketing behaviors and the tourist product development.

Moreover, from studying the behaviors of the tourists, Truong *et al.* (2017) found that the natural factors and facilities are the most remarkable properties of the tourist destinations affecting the satisfaction on the behaviors of tourists. The quality recognition and the experiences of the tour leaders will be the motivation in traveling affecting the traveling quality and the tour quality recognition. It will affect the satisfaction of tourists in the same direction between the satisfactions of tourists (Lee *et al.,* 2011). This leads to the conceptual framework as shown in Figure 1. From the Figure 1, the hypotheses are as followings:

H1: is the factor of marketing stimulus affects the reasons of decision making in viewing.

H2: is the factor of non-marketing stimulus affects the reasons of decision making in viewing.

H3: is the reason of decision making in viewing affects the satisfaction on public relation.

H4: is the reason of decision making in viewing affects the satisfaction on places and people.

H5: is the reason of decision making in viewing affects the satisfaction on impression.

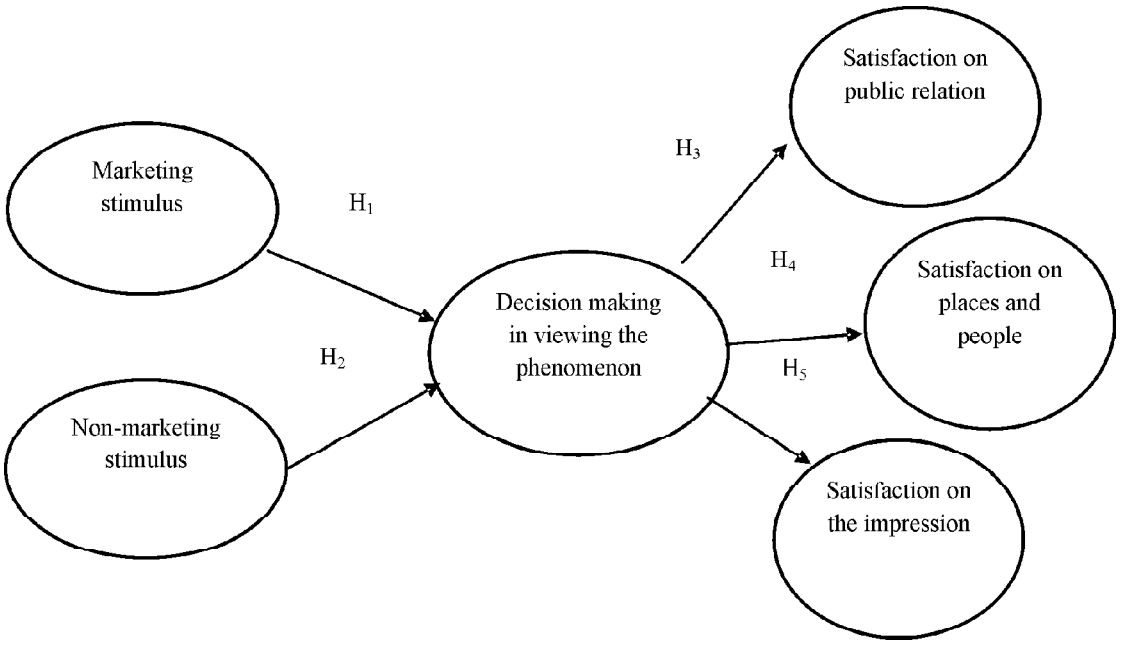

Figure 1: Research's conceptual framework

3. RESEARCH METHODOLOGY

3.1. Population and Sample group

The population in this research consists of the tourists coming to view the Naga fireballs in October, 2016. The samples are selected in the case of inexact number of population from the total number of 400 tourists using the accidental sampling.

3.2. Research tools

The researcher creates the questionnaires following the guidelines from the objectives by collecting the data on the opinions of informants affecting the travel to view Naga fireballs. The researcher defines the measurement of variables in the form of evaluation in 4 levels by applying the measurement of Likert scale which is the determination of feeling of persons (Thaweerat, 2000: 107) as follows:

Levels of opinion	Points
Totally agree/totally be satisfied	5
Agree/satisfied	4
Disagree/ dissatisfied	2
Totally disagree/totally be dissatisfied	1

After that, the points replied by the informants in each question will be used for the data analysis.

3.3. Test of the Tools

The questionnaires are tested for the content accuracy by 3 experts giving the Index of Item-Objective Congruence: IOC = 0.65 which represents that the questionnaires are accurate. Then, the questionnaires are used for testing the reliability of 30 tourists in Muang District, Nong Khai Province with the Alpha Coefficient of Cronbach according to the method of Thaweerat (2000: p.125-126). The research results reveal that $\alpha = 0.960$ which is higher than 0.70. Therefore, the questions are considered to be able to collect the real data in the research.

3.4. Data collection and data analysis

When the questionnaires are satisfactory, the data will be collected from the accidental sampling in the areas of Phon Phisai District and RattanawapiDistrict. Then, the collected data will be analyzed and the research results are processed further. The data obtained from inquiring will be analyzed to find the mean, frequency, percentage, arithmetic mean, and standard deviation. After that, the obtained data is tested for the research hypotheses using Structure Equation Modelling(SEM) with the Warp PLS Version 6.0 program (Kock, 2017). The relations are summarized with the statistics in testing the appropriateness of the study results which are R-Square, t-test, Q-Square Effect size leading to the conclusion of study results.

4. STUDY RESULTS

The Structure Equation Modelling of this research is reflective requiring the Convergent validity and discriminant validity. The Convergent validity has the consideration criteria which is Indicator Loading having the value of over 0.707 with the statistical significance ($|t| \geq 1.96$ at the confidence level at 95%) in all values representing that the scales have the Convergent validity (Lauro &Vinzi, 2004; Henseler et al., 2009). The analysis results are as shown in Table 1 below.

Table 1
Statistics representing the Convergent validity of the Reflective scales

Construct	*loading*	*t-stat*	*P - value*
Factor of Marketing stimulus			
1. Advertisements from various media	0.942	21.409	0.001
2. Self-research from online media	0.937	21.295	0.001
3. Accommodation promotion available during the End of Buddhist Lent festival	0.938	21.318	0.001
Factor of Non-Marketing stimulus			
1. Being persuaded from the acquaintpersons	0.965	21.931	0.001
2. The trend requesting to prove the occurrence of Naga fireballs by themselves	0.965	21.931	0.001
Reasons for the decision making in viewing Naga fireballs			
1. Wanting to prove the occurrence of Naga fireballs by themselves	0.910	20.681	0.001
2. Being persuaded to the advertisement or public relations from media	0.920	20.909	0.001
3. Convenient to find the accommodation	0.914	20.772	0.001
4. Being forced or persuaded from the acquaint persons	0.897	20.386	0.001
Construct	*loading*	*t-stat*	*P - value*
Satisfaction on the advertisements			
1. Notification on the order of activities	0.969	22.02222.022	0.001
2. Explanation on the meanings and reasons of each show	0.969		0.001
Satisfaction on the Place and people			
1. Cleanness in the event area	0.951	21.613	0.001
2. Car park availability	0.953	21.659	0.001
3. Distribution of food and beverage	0.948	21.545	0.001
Satisfaction on the Impression			
1. Cheering sound when the Naga fireballs occur	0.970	22.045	0.001
2. Culture and tradition of Buddhists in viewing Naga fireballs	0.970	22.045	0.001

Source: from the calculation

Factor of non-marketing stimulus consists of the variable of advertisements from various media, self-research from online media, accommodation promotion available during the End of Buddhist Lent festival, being persuaded from the acquaint persons, andthe trend requesting to prove the occurrence of Naga fireballs by themselves. The Loading value is from 0.707 and the 1 percent level of significance. It is considered that such factors affect the decision making in viewing the Naga fireballs (Decision). The decision making in viewing the Naga fireballs (Decision)affect the satisfaction on public relations (Advertise), satisfaction on place and people (Place), and satisfaction on the impression (Impression).

Therefore, the researcher applies the variables of advertisements from various media, self-research from online media, accommodation promotion available during the End of Buddhist Lent festival, being persuaded from the acquaint persons, andthe trend requesting to prove the occurrence of Naga fireballs by themselves in analyzing the structure equation.

For the discriminant validity of the dependent variables in reflectivemodel and the coefficients of the variables and the reliability of the scales can be considered from the value of composite reliability (CR), average variance extract (AVE), Cronbach Alpha, Q^2, and R^2. CR should not be lower than 0.60. The AVEshould not be lower than 0.50. The Cronbach Alpha should not be lower than 0.60. The Q^2 has the value over 0 and R^2 should not be lower than 0.20 (Lauro & Vinzi, 2004; Henseler et al., 2009). According to Table 2, it is found that CR has the value of over 0.60 in all values. AVE is higher than 0.50 in all values. Cronbach Alpha has the value of over 0.60 in all values. Q^2 has the value of over 0 in all values representing the model has predictive relevance for a certain endogenous construct(Chin, 1998a)including the R^2 having the value of over 0.83 which is over 0.67 representing R^2 values for endogenous latent variables are assessed substantial (Chin, 1998b). Thus, it can be seen that the explanation of estimation results with the Structural Equation Modeling (PLS-SEM) is reliable.

Table 2
Statistics of discriminant validity

Construct	*CR*	*R^2*	*AVE*	*Cronbach Alpha*	*Q^2*
Marketing	0.933		0.882	0.933	
Non Marketing	0.965		0.932	0.927	
Place	0.931	0.878	0.905	0.947	0.844
Impression	0.936	0.817	0.942	0.938	0.861
Advertise	0.947	0.876	0.940	0.936	0.782
Decision	0.938	0.894	0.829	0.931	0.859

Source: from the calculation

It can be seen that the AVE of the value in Table 3 is higher than all values of AVE in Table 2 representing that the scale has the discriminant validity in all Constructs. AVE is over 0.50 in all scales as shown in Table 2. Therefore, the research scales have discriminant validity which is reliable.

Table 3
Cross construct correlation

Construct	*Market*	*N-Market*	*Place*	*Impressi*	*Advert*	*Decision*
Market	(0.939)					
N - Market	0.908	(0.965)				
Place	0.870	0.891	(0.951)			
Impression	0.910	0.918	0.922	(0.970)		
Advert	0.890	0.856	0.890	0.901	(0.969)	
Decision	0.913	0.909	0.897	0.902	0.861	(0.910)

Note: Square roots of average variances extracted (AVE_s) shown on diagonal.

Considering the results of the test on hypotheses from both Table 1and 3, the empirical data is found to be able to support all hypotheses or the real hypotheses in the context of tourism on the satisfaction with the significance at the level of 0.01. The results of analysis on the coefficients of final model are as shown in Figure 2and the results of test on the research hypotheses are as shown in Table 4.

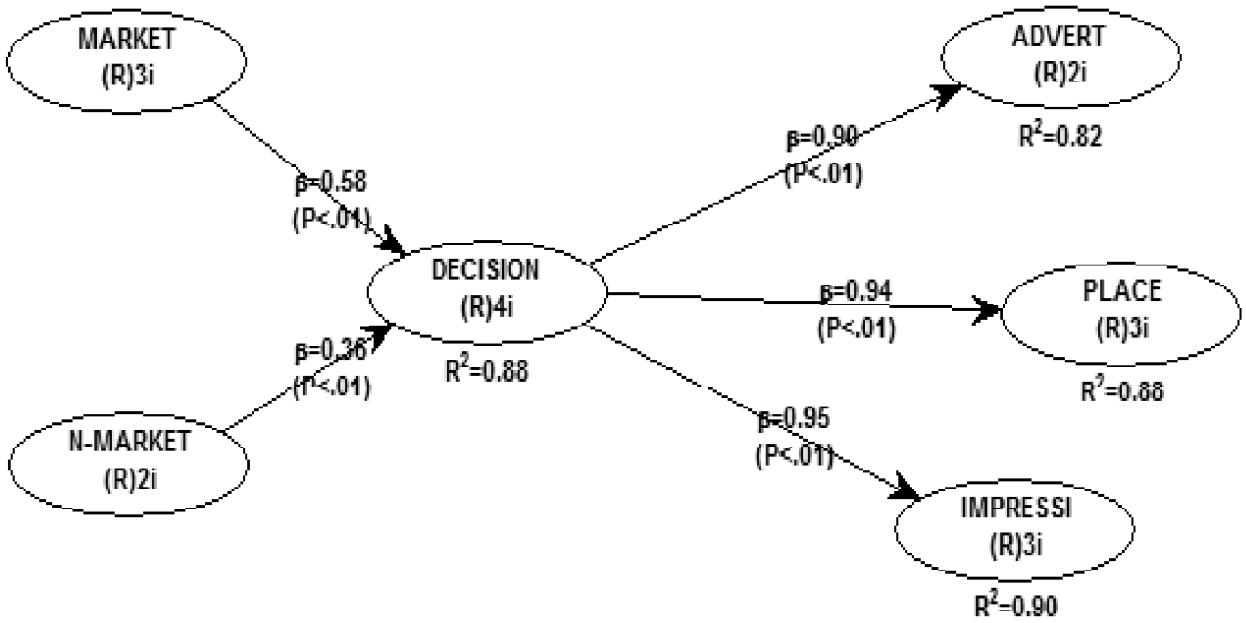

Figure 2: Final Model

Table 4
Results of test on the research hypotheses

Hypothesis	*coefficient*	*P - value*	*Results*
Hypothesis 1: Factor of marketing stimulus affects the reasons of decision making in viewing.	0.578	0.001	support
Hypothesis 2: Factor of non-marketing stimulus affects the reasons of decision making in viewing.	0.363	0.001	support
Hypothesis 3: The reason of decision making in viewing affects the satisfaction on public relation.	0.904	0.001	support
Hypothesis 4: The reason of decision making in viewing affects the satisfaction on places and people.	0.936	0.001	support
Hypothesis 5: The reason of decision making in viewing affects the satisfaction onimpression.	0.945	0.001	support

Source: from the calculation

When considering the direct and indirect effects and the overall of variables of factors on the satisfactions in various areas, it is found that the marketing factor has the indirect effects and the overall on the satisfaction on places and people, impression, and public relations equaling to 0.540, 0.546, and 0.522, respectively. The non-marketing factor has the indirect effects and the overall on the satisfaction on places and people, impression, and public relations equaling to 0.340, 0.343, and 0.328. The factor of decision making in viewing has the direct effects and the overall on the satisfaction on places and people, impression, and public relations equaling to 0.936, 0.945, 0.904, respectively as shown in Table 5.

Table 5
Effect Size

Effect	*Direct effects*	*Indirect effects*	*Total effect*	*P –value*	*f^2 Effect Size*
Marketing ->Place		0.540	0.540	0.001	
Marketing -> Impression		0.546	0.546	0.001	
Marketing -> Advertise		0.522	0.522	0.001	
Marketing -> Decision	0.578		0.578	0.001	0.540
Non-Marketing ->Place		0.340	0.340	0.001	
Non-Marketing -> Impression		0.343	0.343	0.001	
Non-Marketing -> Advertise		0.328	0.328	0.001	
Non-Marketing -> Decision	0.363		0.363	0.001	0.338
Decision ->Place	0.936		0.936	0.001	0.876
Decision -> Impression	0.945		0.945	0.001	0.894
Decision -> Advertise	0.904		0.904	0.001	0.817

Source: from the calculation

5. CONCLUSION AND DISCUSSIONS

The results of hypothesis test on various factors reveal that the hypotheses as defined are accepted. When considering the influences of variables in each aspect respectively, it is found that:

The marketing stimulus(coefficient = 0.578) affects the reasonsof decision making in viewing of the tourists coming to view the phenomenon of Naga fireballs in Phon Phisai District and Rattanawapi District, Nong Khai Province, obtained from the advertisements from media, self-research from online media, accommodation promotion available during the End of Buddhist Lent festival. This is correspondent with the concept of marketing mix of product, price, place, people, procedures, and marketing promotion influencing the decision making in traveling of the tourists.

The non-marketing stimulus (coefficient = 0.363) affects the reasonsof decision making in viewing of the tourists coming to view the phenomenon of Naga fireballs in Phon Phisai District and RattanawapiDistrict, Nong Khai Province, obtained from being persuaded by the acquainting persons and the trend to prove the occurrence of Naga fireballs in their own views. This is correspondent with Matchariyakul (2016) finding that the external factors affecting the decision making and behaviors of the tourists are friends, family affecting the decision making in traveling of the tourists.

The reasons of decision making in viewing the phenomenon of Naga fireballs is the most influential factor (coefficient= 0.945) affecting the satisfaction on the impression consisting of cheering sound when the Naga fireballs occur, cultures and tradition of Buddhists in viewing Naga fireballsin Phon Phisai District and Rattanawapi District, Nong Khai Province obtained from 1) the demand to prove the occurrence of Naga fireballs in their own views, 2) being convinced by the advertisement or public relations from various media, 3) convenience in finding the accommodation, and 4) being forced or persuadedby the acquainting persons. This is correspondent with Truong *et al.* (2017) finding that the natural factors and facilities are the remarkable properties of the tourist destinations affecting the satisfaction on the behaviors of tourists.

The reasons of decision making in viewing the phenomenon of Naga fireballs (coefficient= 0.936) affect the satisfaction on the place and people which are cleanness in the event area, car park availability, and distribution of food and beverage in viewing the phenomenon of Naga fireballs in Phon Phisai District and Rattanawapi District, Nong Khai Province obtained from 1) the demand to prove the occurrence of Naga fireballs in their own views, 2) being convinced by the advertisement or public relations from various media, 3) convenience in finding the accommodation and being forced or persuaded by the acquainting person.

The reasons of decision making in viewing the phenomenon of Naga fireballs (coefficient= 0.904) affect the satisfaction on public relations on the notification of order of activities and the explanation on meanings and reasons of shows to the tourists in viewing the phenomenon of Naga fireballs in Phon Phisai District and Rattanawapi District, Nong Khai Province obtained fromthe demand to prove the occurrence of Naga fireballs in their own views, being convinced by the advertisement or public relations from various media, convenience in finding the accommodation, being forced or persuaded by the acquainting persons representing general behaviors of tourists.

From the results, the public and private sector should have policy in promoting the marketing factors, promoting in the advertisements to stimulate both Thai and foreign tourists to visit by using the media especially online media. There should be full information in each tourist site for the tourists to acknowledge and be attracted. This includes the offer of promotion of accommodation in the End of Buddhist Lent festival which can make the tourists interested in viewing the phenomenon of Naga fireballs for the benefits in supplementary with the tourist strategic plan of Nong Khai Province.

In addition, the related organization should be the promotion on the non-marketing factors to create more efficiency by persuading the acquaint persons to prove and view the phenomenon of Naga fireballs by themselves in order to create the impression to the tourists coming to view the phenomenon of Naga fireballs.

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REFERENCES

Boonrung, K. (2010), Factors affecting the decision making in traveling to Ko Samui of Thai tourists. Master of Business Administration (Marketing Management), Graduate College, Dhonburi Rajabhat University, Bangkok. [In Thai].

Chin, W.W. (1998a), The partial least squares approach to structural equation modeling. In G.A. Marcoulides (E.d.), Modern business research methods. Mahwah, NJ: Lawrence Erlbaum associates.

Chin, W.W. (1998b), "Issues and opinion on structural equation modeling." *MIS Quarterly*, 22, No. 1, pp. 7-16.

Garg, A. (2017), "Tourists' Risk Perception Impact on Their Decision-Making." Trends, Issues and Women in Hospitality and Tourism Industry, 21, No. 1, pp. 218-227.

Henseler, J., Ringle, M., Ringle, R,. & Sinkovics. (2009), "The Used of Partial Least Squares Path Modeling in International Marketing." Advances in International Marketing, 20, pp. 277-319.

Kock, N. (2017), "Which is the best way to measure job performance: Self-perceptions or official supervisor evaluations?" International Journal of e-Collaboration, 13, No. 2, pp. 1-9.

Lauro, C. & Vinzi, V.E. (2004), Some contributions to PLS Path Modeling and a system for the European customer satisfaction. The European Commission Grant ESIS (European Satisfaction Index System) 2001-2004, pp: 201-210.

Lee, S., Jeon, S. & Kim., D. (2011), "The impact of tour quality and tourist satisfaction on tourist loyalty: The case of Chinese tourists in Korea."Tourism Management, 32, No. 5, pp. 1115-1124.

Matchariyakul, N. (2016), Factors affecting the decision making of independent traveling in Taiwan Island of Thai tourists. Master of Business Administration, Faculty of Commerce and Accountancy, Thammasat University. Bangkok.[In Thai].

Phairotephiriyakul, A. & Thaweephornpathomkul, S. (2012), "Factors affecting the decision making of Thai tourists traveling to Luang Prabang." *Journal of Physical Education and Health*, 13, No. 1, pp. 119-132.

Sengsaphan,W. (2015.), Naga fireballs, the amazing phenomenon.Retrieved from *http://www.neutron.rmutphysics.com/sciencenews/index.php?option=com_content&task=view&id=1081&Itemid=4*

Thaweerat, P. (2000), Research methodology on the behaviors and social science. (8thedition) Center of Educational and Psychological Test, Bangkok.

Truong, T.L.H., Lenglet, F., & Mothe., C. (2017), "Destination distinctiveness: Concept, measurement, and impact on tourist satisfaction." *Journal of Destination Marketing & Management, doi.org/10.1016/j.jdmm.2017.04.004*.

Tungchaichana, P., Phiphitsirisak, K., & Pinkaew, K. (2011), "Decision making and satisfaction of Thai tourists on the tourism in Nakhon Si Thammarat Province." Academic Journal, Bangkok University, 10, No. 1, pp. 356-372.[In Thai].