

# LITHUANIAN TOURIST SATISFACTION INDEX MODEL

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**ABSTRACT:** Whereas tourism can be named as one of the most emerging areas of the service sector in Lithuania, the research aims to develop the Lithuanian Tourist Satisfaction Index. While developing the index, core variables (components of the index) are determined and their impact on tourist satisfaction measured. The Lithuanian Tourist Satisfaction Index is elaborated according to the following stages: 1. Manifest and latent variables (causes and consequences of tourist satisfaction) are determined based on the analysis of previous scientific researches; theoretical model of Tourist Satisfaction Index is elaborated; 2. Theoretical model of Tourism Satisfaction Index is being verified based on a questionnaire research with Lithuanian tourists who had visited foreign countries; 3. The impact of model's variables on tourist satisfaction with a specific country is determined; 4. After generalizing Tourist Satisfaction Indexes with different countries, main variables with impact on Lithuanian tourist satisfaction are determined; the general Lithuanian Tourist Satisfaction Index Model is composed.  
**Keywords:** customer satisfaction, Lithuanian tourist, satisfaction index, tourist satisfaction.

**RESUMEN:** El turismo puede ser considerado como una de las áreas más emergentes del sector de los servicios en Lituania, por lo que la investigación tiene como objetivo desarrollar el Índice Lituaniano de Satisfacción de los Turistas. Al desarrollar el índice, fueron determinadas variables fundamentales (componentes del índice) y su impacto en la satisfacción del turista. El Índice Lituaniano de Satisfacción de los Turistas fue elaborado a través de las etapas siguientes: 1. Se determinaron las variables manifiestas y latentes (causas y consecuencias de la satisfacción de los turistas) con base en el análisis de investigaciones científicas anteriores; 2. El Modelo teórico del Índice de Satisfacción de los Turistas sigue siendo analizado a través de una investigación por cuestionario con turistas lituanos que visitaron países extranjeros; 3. Se determinó el impacto de las variables del modelo en la satisfacción de los turistas en un país específico; 4. Después de generalizar los índices de satisfacción de los turistas en diferentes países, fueron determinadas las principales variables que tienen impacto en la satisfacción de los turistas lituanos; fue elaborado el modelo lituaniano del índice de satisfacción de los turistas.  
**Palabras clave:** satisfacción del consumidor, turistas lituanos, índice de satisfacción, satisfacción de los turistas.

**RESUMO:** O turismo pode ser considerado como uma das áreas mais emergentes do setor dos serviços na Lituânia, pelo que a investigação tem como objetivo desenvolver o Índice Lituaniano de Satisfação dos Turistas. Ao desenvolver o índice, foram determinadas variáveis fundamentais (componentes do índice) e o seu impacto na satisfação do turista. O Índice Lituaniano de Satisfação Turística foi elaborado através das etapas seguintes: 1. Determinaram-se as variáveis manifestas e latentes (causas e consequências da satisfação dos turistas) com base

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na análise de investigações científicas anteriores; 2. O modelo teórico do Índice de Satisfação dos Turistas foi verificado através de uma investigação por questionário com turistas lituanos que visitaram países estrangeiros; 3. Determinou-se o impacto das variáveis do modelo na satisfação dos turistas num país específico; 4. Após generalizar os índices de satisfação dos turistas em diferentes países, foram determinadas as principais variáveis que têm impacto na satisfação dos turistas lituanos; foi elaborado o modelo lituano do índice de satisfação dos turistas. **Palavras-chave:** satisfação do consumidor, turistas lituanos, índice de satisfação, satisfação dos turistas.

## INTRODUCTION

Customer satisfaction research is one of the most popular scopes in marketing research. Generally, customer satisfaction is determined by calculating the Customer Satisfaction Index, which is based on a specific model. In the world, there is a wide variety of national and international models of customer satisfaction indexes. After calculating the index, a level of customer satisfaction with a product, organization, or a sector is determined. Whereas tourism is considered as a driver of economic growth and one of the leading service industries in many countries (Klimek, 2013), tourist satisfaction measurement becomes a relevant topic among scholars.

While calculating the country's customer satisfaction index, country-specific factors affecting its customer satisfaction have to be determined. Various authors from all over the world have revealed different determinants and indexes of Tourist Satisfaction (Krešic, Prebešac, 2011; Song et al., 2011; Al-Majali, 2012; Siri et al., 2012; et al.). One of the many reasons for these distinctions may be due to dissimilarities among people in different countries, their values, habits, beliefs, cultural heritage, way of life, etc. (Quintal & Polczynski, 2010). This makes a suggestion that people living in different countries are affected by different determinants of tourist satisfaction with their destination. Therefore, the scientific problem solved in the article raises the question: what is Lithuanian tourist satisfaction and what are the factors determining their satisfaction?

Whereas tourism can be named as one of the most emerging areas of service sector in Lithuania, the research **aims** to develop Lithuanian Tourist Satisfaction Index. While developing the

index, core variables (components of the index) are determined and their impact on tourist satisfaction measured.

With the purpose of developing a research model for Lithuanian tourist satisfaction, theoretical analysis and synthesis are provided. Tourists' attitudes and evaluations towards selected countries are determined, based on a questionnaire research. Structural equation modelling (SEM) using partial least squares (PLS) path modelling methodology is applied for statistical analysis.

## LITERATURE REVIEW

In recent years the conception of customer satisfaction became very popular and important in most business sectors. The tourism industry is a large business sector and from a tourism point of view, the same conception of customer satisfaction applies to tourists because they are also subscribers to the services provided (Salleh et al., 2013).

In the largest part of customer satisfaction research methodologies, e.g. American Customer Satisfaction index, European Customer Satisfaction index, Norwegian Customer Satisfaction barometer, Swedish Customer Satisfaction barometer, etc. (Johnson et al., 2001), as well as in the tourists satisfaction researches (Som et al., 2011; Salleh et al., 2013), the main consequence of satisfaction is considered to be loyalty to the destination.

On the other hand, determinants of tourist satisfaction in different countries diverge. Various authors from all over the world have revealed different determinants and indexes of Tourist Satisfaction (see Table 1). One of the many reasons for these distinctions may be due to dissimilarities among people in different countries, their values, habits, beliefs, cultural heritage, way of life, etc. (Quintal & Polczynski, 2010). This makes a suggestion that people living in different countries are affected by different determinants of tourist satisfaction with their destination.

**Table 1: Determinants of Tourist Satisfaction indicated by various authors**

Author	Country (index)	Determinants of tourists satisfaction
Siri et al. (2012)	India	Hotel / Lodging attributes Local transport, food outside hotel attributes Shopping, local people, airport attributes Activity attributes Attraction attributes Information service attributes
Al-Majali, 2012	Jordan	Perceived risk Image Service climate
Song et al., 2011	China	Tourist characteristics Perceived performance Assessed value Expectations
Krešic, Prebežac, 2011	Croatia (Index of destination attractiveness)	Accommodation and catering facilities Activities in destination Natural features Destination aesthetics Environmental preservation Destination marketing
Song et al, 2012; PolyU Tourist Satisfaction Index Report, 2013	Hong Kong (Overall Tourist Satisfaction index)	Attractions Hotels Immigration Restaurants Retail Shops Transportation

*Source:* self-elaboration based on D. Krešic, D. Prebežac (2011), H. Song et al. (2011), M. M. Al-Majali (2012), R. Siri et al. (2012), H. Song et al. (2012), PolyU Tourist Satisfaction Index Report (2013), M. Salleh et al. (2013).

Nevertheless, many different determinants of customer satisfaction may be included as manifest variables in the other determinants, for example: *attractions* and *retail shops* in the Overall

Tourist Satisfaction index may be included as manifest variables for latent variable *activities in destination* in the Index of Destination Attractiveness, as well as *hotels* and *restaurants* may be included for variable *accommodation and catering facilities*.

Therefore, it could be stated that although there are many different determinants, most of them correspond to each other or may be a context of the other determinants. Accordingly, the Index of Destination Attractiveness has less generalized groups of determinants of tourist satisfaction in comparison with the Overall Tourist Satisfaction index. Consequently, the Index of Destination Attractiveness may include all the determinants from the Overall Tourist Satisfaction index and even more factors that may influence a particular country's tourist satisfaction level with their destination.

## RESEARCH METHODOLOGY

### *Selection of the theoretical Lithuanian Tourist Satisfaction Index model*

Based on the analysis of the scientific literature, the following latent variables constituted the theoretical Lithuanian Tourist Satisfaction Index model, used for the research: accommodation and catering facilities, activities in destination, natural features, destination aesthetics, environmental preservation, destination marketing, overall satisfaction, loyalty. All the determinants of customer satisfaction from the Overall Tourist Satisfaction index were included in the model as the manifest variables of their corresponding latent variables. Considering that all manifest variables of the exogenous latent variables in the model define their construct, changes in the construct do not necessarily impact all its observed items, manifest variables do not cover and define different aspects of the latent variables, these constructs are considered to be formative (Andreev et al., 2009). Contrarily, constructs of latent variables *satisfaction* and *loyalty* are reflective (Tenenhaus et al., 2005). Endeavoring to make a deeper analysis, the assumption was made that there can exist a possibility of exogenous va-

riables having a direct effect on loyalty. Consequently, structural equations representing the model are:

$$1) \text{ Satisfaction} = \beta_{70} + \beta_{71} \text{ Accommodation and catering} + \beta_{72} \text{ Activities in destination} + \beta_{73} \text{ Natural features} + \beta_{74} \text{ Destination aesthetics} + \beta_{75} \text{ Environmental preservation} + \beta_{76} \text{ Destination marketing} + \zeta_7$$

$$2) \text{ Loyalty} = \beta_{80} + \beta_{81} \text{ Accommodation and catering} + \beta_{82} \text{ Activities in destination} + \beta_{83} \text{ Natural features} + \beta_{84} \text{ Destination aesthetics} + \beta_{85} \text{ Environmental preservation} + \beta_{86} \text{ Destination marketing} + \beta_{87} \text{ Satisfaction} + \zeta_8$$

Subsequently, the theoretical Lithuanian Tourist Satisfaction Index model used for the research consists of eight latent variables (six exogenous and two endogenous). All manifest variables formed a questionnaire for respondents' evaluations (*the questionnaire is available from the authors upon request*). A 10-point evaluation scale was applied for the questionnaire. Coelho and Esteves (2006) highlighted that the accuracy of the satisfaction research results is higher when the 10-point scale is used for the research.

#### *The sample*

The total sample size (based on the recommendations for customer satisfaction researches) was 251. The survey was conducted in the summer of 2013. Achieving to increase the variety of the respondents, the survey was handled both, in person and via the Internet. 27 percent of males and 73 percent of females participated in the survey. 41 percent of the respondents indicated their income between 1000 and 2000 Litas (national currency: 1 Litas = 0.2896 Euro; further - Lt) per month, 21 percent – more than 3000 Lt and the same percent of respondents indicated their income is less than 1000 Lt per month; 17 percent of respondents' income indicated to be between 2001 and 3000 Lt per month.

## ANALYSIS OF THE RESEARCH RESULTS

Attempting to determine Lithuanian tourists' traveling patterns, respondents were asked about their traveling companions: if they were travelling to the destination as tourists alone, or with friends, or family. 40 percent of the respondents stated that they were travelling with family, 29 percent – with friends, 26 percent – with family and friends, and only 5 percent of respondents were travelling alone. Accordingly, it can be stated that most Lithuanian tourists prefer traveling with a company.

The twelve most popular outbound countries (Great Britain, Czech Republic, Slovakia, Austria, France, Spain, Portugal, Italy, Greece, Turkey, Egypt, and Tunisia) were given for respondents' evaluation. Distribution of the destinations identified by respondents is shown in Figure 1. Every fourth respondent indicated Turkey as the main travel destination. 13 percent of respondents indicated Spain, 10 percent – Italy. All the other specified countries were indicated by less than 10 percent of respondents each. 17 percent of respondents chose the option "Other" and indicated these countries: Papua New Guinea, Poland, Malta, Sweden, Latvia, Belgium, USA, Germany, Finland, Croatia, Norway, Albania, Jamaica, Netherlands, Bulgaria, Switzerland, and Australia. Hence, more than a half of the respondents chose southern European countries as their destination.

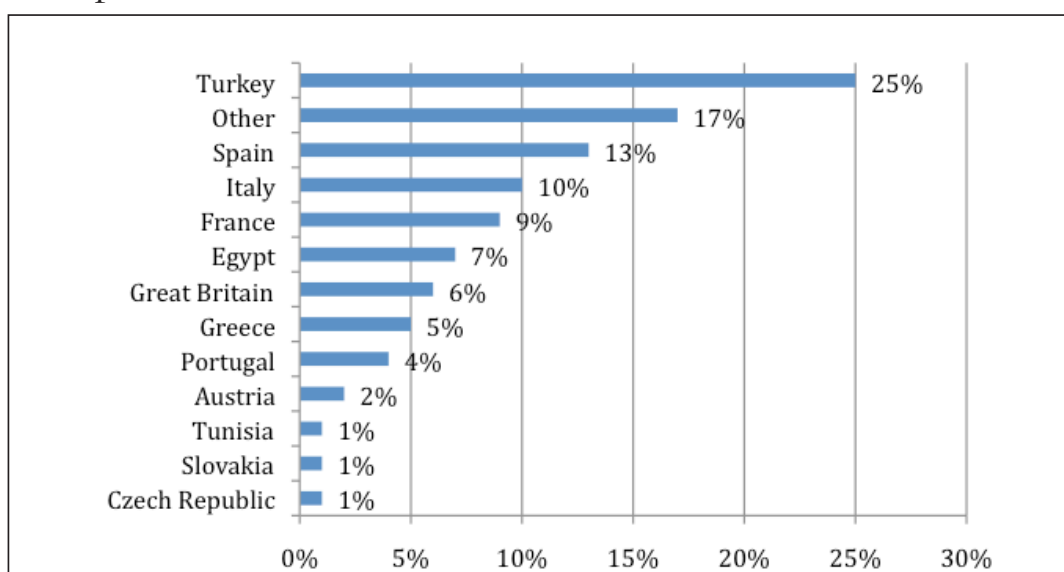


Figure 1. Distribution of travel destinations evaluated, N = 251

The theoretical Lithuanian Tourist Satisfaction index model had two latent variables, which had no positive neither or negative statistically significant direct impact on tourist satisfaction, as well as total impact on loyalty (see Table 2). According to J. F. Hair et al. (2011), non-significant impacts do not support the proposed causal relationship. These variables were *accommodation and catering* and *destination aesthetics*. These findings imply the assumption that whatever the services of accommodation and the aesthetics of the tourist destination were, this does not influence Lithuanian tourists' satisfaction with the country. Additionally, *accommodation and catering* and *destination aesthetics* do not even have an indirect impact on loyalty to Lithuanian tourists' destination. Variables *activities in destination*, *destination marketing*, and *environmental preservation* directly and statistically significantly impact *satisfaction*, but their direct influence on *loyalty* is insignificant. On the other hand, these variables have significant total effect on *loyalty*. Only the variable *natural features* directly and significantly impacts both: *satisfaction* and *loyalty*.

Consequently, the new PLS Path model of Lithuanian Tourist Satisfaction index was constructed with six latent variables: activities in destination, natural features, environmental preservation, destination marketing, overall satisfaction, loyalty. Each latent variable had two to three manifest variables.

The sufficient degree of convergent validity of reflective constructs indicated by AVE values, were high above 0.5. Values of Composite Reliability and Cronbach's Alpha were obtained higher than 0.7 and this displays the internal consistency reliability of reflective constructs. R square values of endogenous latent variables in the structural model were substantial (see Table 3).



**Table 2: Path Coefficients, Total Effects and their significances at the theoretical model**

Variables	Path Coefficient	T (path coefficient)	Total Effect	T (total effect)
Accommodation and Catering-> Loyalty	-0.0434	0.6167	0.0509	1.0339
Accommodation and Catering -> Satisfaction	0.0634	1.0308	0.0634	1.0308
Activities in destination -> Loyalty	0.0949	1.5441	0.1531	3.3427
Activities in destination -> Satisfaction	0.1909	3.2291	0.1909	3.2291
Destination aesthetics -> Loyalty	0.0100	0.1666	0.0429	0.7583
Destination aesthetics -> Satisfaction	0.0535	0.7651	0.0535	0.7651
Destination marketing -> Loyalty	0.0916	1.1100	0.2735	4.215
Destination marketing -> Satisfaction	0.3409	4.2919	0.3409	4.2919
Environmental preservation -> Loyalty	-0.0538	0.9987	0.1328	3.102
Environmental preservation -> Satisfaction	0.1655	3.0884	0.1655	3.0884
Natural features -> Loyalty	0.1935	2.7902	0.3854	5.4112
Natural features -> Satisfaction	0.2353	3.5773	0.2353	3.5773
Satisfaction -> Loyalty	0.8021	22.4681	0.8021	22.4681

**Table 3: Values of AVE, Composite Reliability, R Square and Cronbach's Alpha**

Variables	AVE	Composite Reliability	R Square	Cronbach's Alpha
Loyalty	0.911	0.9534	0.6631	0.9024
Satisfaction	0.787	0.917	0.693	0.8631

All exogenous latent variables had a moderate effect size on endogenous latent variable satisfaction. Hence, the highest effect size is created by variable '*destination marketing*'. The variable '*natural features*' had a great effect size on satisfaction too (see Table 4).

**Table 4: Effect size  $f^2$** 

Variables	$f^2$
Activities in destination -> Satisfaction	0.08
Destination marketing -> Satisfaction	0.17
Environmental preservation -> Satisfaction	0.07
Natural features -> Satisfaction	0.16

Reflective measurement model obtained discriminant validity at two criteria. In view of the first criterion, the lowest value of  $\sqrt{AVE}$  was obtained greater than the latent construct's, highest correlation (see Table 5) with any other latent construct. In view of the second discriminant validity assessment criterion, all manifest variables' loadings of their corresponding latent variables were higher than its cross loadings. Consequently, the reflective measurement model was considered as reliable and valid with reference to discriminant validity, convergent validity and internal consistency reliability.

**Table 5: Latent variables' correlations**

	Activities in destination	Destination marketing	Environmental preservation	Loyalty	Natural features
Destination marketing	0.5363				
Environmental preservation	0.3268	0.6508			
Loyalty	0.5551	0.6509	0.4644		
Natural features	0.5169	0.5791	0.425	0.6463	
Satisfaction	0.5982	0.751	0.6058	0.8017	0.6747

Outer loadings of reflective measurement model are represented in Table 6. All outer loadings are higher than 0.8. As a result, manifest variables of reflective measurement model were identified as reliable.

**Table 6: Outer loadings of reflective constructs**

Variables	Loyalty	Satisfaction
Manifest variable of <i>Satisfaction</i> No. 1	0	0.938
Manifest variable of <i>Satisfaction</i> No. 2	0	0.8964
Manifest variable of <i>Satisfaction</i> No. 3	0	0.8231
Manifest variable of <i>Loyalty</i> No. 1	0.9513	0
Manifest variable of <i>Loyalty</i> No. 2	0.9576	0

Evaluating cross-validated redundancy measures for the endogenous latent variables, the chosen omission distance  $d$  was 7 ( $251 / 7 \neq \text{integer}$ ). All cross-validated redundancy values ( $Q^2$ ) for endogenous latent variables are above zero (see Table 7). Consequently, the structural model is assessed as displaying predictive relevance.

**Table 7: Stone-Geisser's Q2**

Total	SSO	SSE	1-SSE/SSO
Satisfaction	753.0000	342.7093	0.5449
Loyalty	502.0000	201.3042	0.5990

Formative indicators' weights and their significance are shown in Table 8. All formative indicators' weights are moderate and significant (95 % significance level).

**Table 8: Formative indicators' weights and their significance**

N.º of manifest variable of specified latent variable	Original Sample	Standard Deviation	T Statistics
1 -> Activities in destination	0.4836	0.1472	3.2858
2 -> Activities in destination	0.4039	0.1843	2.1919
3 -> Activities in destination	0.2774	0.1417	1.9572
4 -> Destination marketing	0.7193	0.0844	8.5254
5 -> Destination marketing	0.4138	0.0995	4.1601
6 -> Environmental preservation	0.3968	0.1438	2.7586
7 -> Environmental preservation	0.2559	0.0927	2.7592
8 -> Environmental preservation	0.5612	0.1421	3.9492
9 -> Natural features	0.4197	0.0971	4.3239
10 -> Natural features	0.5523	0.0925	5.9736
11 -> Natural features	0.3284	0.0858	3.8293

When applying formative constructs, it is important to avoid multicollinearity problems. The variance inflation factor (VIF) for the exogenous latent variables is provided in Table 9. J. F. Hair et al. (2011) detailed that the value of VIF must be less than 5 in order to claim that multicollinearity is not the problem. As it can be seen in Table 9, all the values of VIF for each exogenous variable is less than 3; accordingly, in this case multicollinearity problems have been avoided.

**Table 9: Collinearity Statistics**

Variables	Collinearity Statistics	
	Tolerance	VIF
Activities in destination	.646	1.548
Destination marketing	.418	2.394
Environmental preservation	.571	1.752
Natural features	.600	1.668

Path coefficients, total effects and their significances for the Lithuanian Tourists Satisfaction index model are shown in Table 10.

**Table 10: Path Coefficients, Total Effects and their significances**

Variables	Path Coefficient	T Statistics	Total Effect	T Statistics
Activities in destination -> Loyalty			0.1325	3.4242
Activities in destination -> Satisfaction	0.1974	3.41	0.1974	3.41
Destination marketing -> Loyalty			0.2402	3.8371
Destination marketing -> Satisfaction	0.358	4.4563	0.358	4.4563
Environmental preservation -> Loyalty			0.1254	3.367
Environmental preservation -> Satisfaction	0.1868	3.3335	0.1868	3.3335
Natural features -> Loyalty	0.1935	2.7902	0.3854	5.4112
Natural features -> Satisfaction	0.286	4.8766	0.286	4.8766
Satisfaction -> Loyalty	0.6712	11.1104	0.6712	11.1104

The variable '*activities in destination*' has a direct significant average impact on *satisfaction* and indirect significance average total impact on *loyalty*. *Destination marketing* has a great direct significant impact on *satisfaction* and the average indirect significant total impact on *loyalty*. *Environmental preservation* has a direct significant average impact on *satisfaction* and indirect significance average total impact on *loyalty*. The variable '*natural features*' of the destination directly significantly affects *satisfaction* and *loyalty*. Impact on satisfaction is average as well as direct impact on loyalty, though total effect on loyalty is substantial. Satisfaction directly significantly affects loyalty and this effect is the strongest in the whole model.

The Index values of latent variables are shown in Table 11. The worst evaluated variable was '*environmental preservation*'. *Activities in destination* was evaluated quite well, considering that index values above 75 scores were regarded as high, predicting business success in the future. Then again, taking under consideration that all variables' scores (except *environmental preservation*) achieve the high level, *activities in destination* was assessed as the worst variable in the high scores level group.

**Table 11: Index values of latent variables**

Variable	LV Index Values
Activities in destination	82
Destination marketing	83
Environmental preservation	73
Loyalty	87
Natural features	84
Satisfaction	84

*Destination marketing* almost achieves the level of satisfaction, and *natural features* even meet the level of satisfaction. Bearing in mind that five variables in the model directly and / or indirectly positively affect tourist loyalty, it is expected and proved that tourists' loyalty for their destination has the highest index score.

## DISCUSSION

The analysis of the research results suggests that *accommodation and catering* and *destination aesthetics* does not have a statistically significant direct or indirect impact on satisfaction and loyalty in terms of Lithuanian tourists. Considering that the research specifically contains tourists approach and most of the Lithuanian tourists have the average income (according to Statistics Lithuania (2013), average 2012Q2 income was 1745.8 Lt), it can be assumed that most of the decisions for *accommodation and catering* is are based on the price. Consequently, because of the tourist's own decision, this does not influence the satisfaction level with the foreign country, as well as their loyalty to the destination. Therefore, it can be stated that if tourists were dissatisfied with the accommodation and catering, but satisfied with the country itself, it may not decrease the loyalty to the country, just due to the specific accommodation and catering facilities they were dissatisfied with. As for *destination aesthetics*, the assumption could be made that the aesthetics of the destination had no impact on tourist satisfaction because it was considered more like the natural characteristics of the country; respondents perceived that the destination must be in such condition of aesthetics that it was.

As a result, Lithuanian Tourist Satisfaction index model is provided in Figure 2.

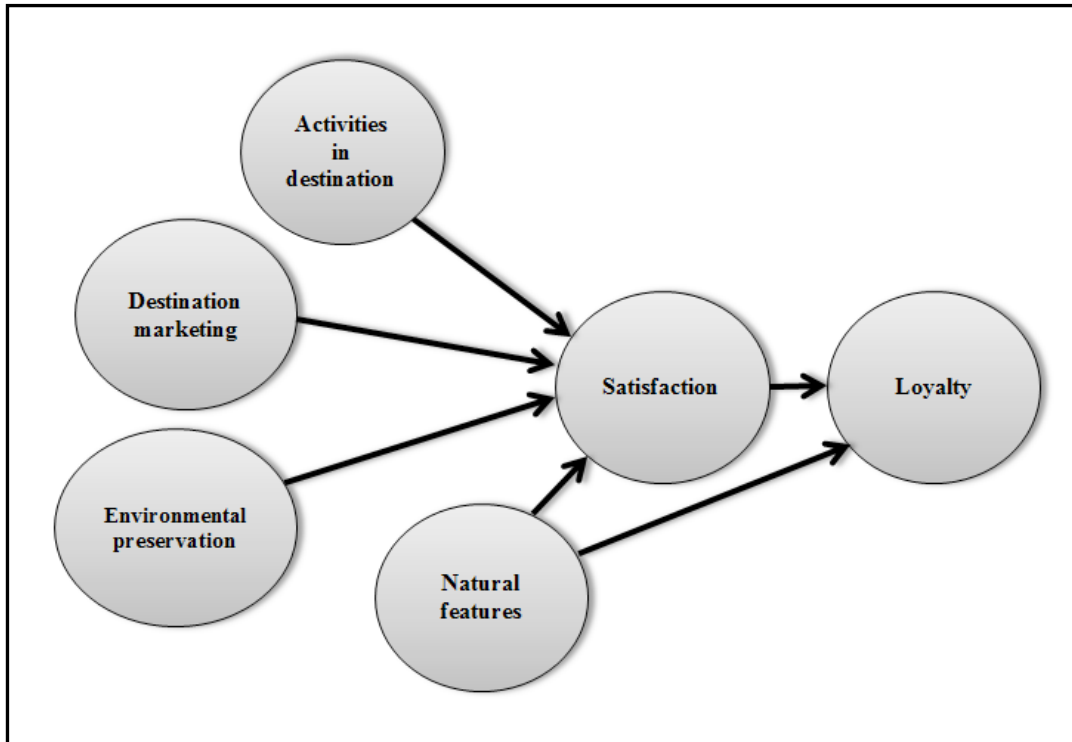


Figure 2. Lithuanian Tourist Satisfaction index model

The model contains four exogenous latent variables and two endogenous latent variables. All the exogenous latent variables activities in destination, destination marketing, environmental preservation, and natural features, are the determinants of tourist satisfaction. These determinants directly positively and significantly affect satisfaction. Therefore, enhancing one or more of these determinants would have a positive effect on satisfaction. In addition, the variable '*natural features*' directly positively and significantly affects *loyalty*. Moreover, enhancing the index scores of natural features would have a direct positive effect on both: satisfaction and loyalty. Because of the great direct positive and significant effect of satisfaction in loyalty, enhancing one or more determinants of satisfaction would have indirect and positive effect on loyalty, too.

## CONCLUSIONS

There are various different Tourist Satisfaction indexes developed all over the world due to dissimilarities among people in different countries. Despite this, the analysis of the scientific literature led to the conclusion that most of the determinants of tourist satisfaction defined in different indexes correspond to each other and could be connected.

The analysis of the research results shows that most of Lithuanian tourists prefer traveling with a company and the most popular destination among Lithuanian tourists is southern European countries.

Activities in destination, destination marketing, environmental preservation and natural features of the country are the determinants of Lithuanian tourists' satisfaction. Furthermore, Lithuanian tourists' satisfaction and natural features of the country are two determinants that directly affect Lithuanian tourists' loyalty to the country.

Consequently, it could be stated that if natural features of the destination are not striking, then marketing of the destination should be improved in order to increase Lithuanian tourists' loyalty to the particular destination.

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*Submitted: 20<sup>th</sup> September, 2013*

*Final version: 10<sup>th</sup> December, 2013*

*Accepted: 17<sup>th</sup> December, 2013*

*Refereed anonymously*