
Utilization of Customer Satisfaction Measurement in Czech Tourism

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Abstract:

The paper deals with describing the method of satisfaction measurement as a one of marketing techniques used for detecting visitors' satisfaction in tourist regions in the Czech Republic. In the treatise, we try to analyse visitors' satisfaction with twenty four partial factors affecting total satisfaction. In the theoretical part of the paper, there are described methodological approaches to satisfaction measurement and presented various methods for satisfaction measurement with focus on the Satisfaction Pyramid method which is also used in the field part. Other presented methods are Customer Satisfaction Index, European Customer Satisfaction Model, Importance-Satisfaction Matrix, SERVQUAL Concept and KANO Model. Data have been collected all over the Czech Republic in years 2013, and 2014 twice every year. In the field part there are presented calculations of data and described total satisfaction, Satisfaction Index and partial satisfactions as well as level of satisfaction by tourist regions and the most important factors influencing total satisfaction, which are accommodation availability and information about region.

Key Words: *Tourism, Marketing Research, Satisfaction Measurement, Satisfaction Pyramid*

JEL Classification : *M31, L83*

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1. Introduction

Various methods of customer satisfaction measurement have been used for two last decades in companies as well as in non-profit organizations. In the area of tourism there are not so often used, even though tourist destinations use also principles of marketing to appeal to potential customers, who are domestic or foreign visitors. If we want to have a feedback from our guests, we have to do marketing research of customers' attitudes repeatedly. One of the methods how to discover visitors' satisfaction is called satisfaction measurement. The main reason, why to analyse visitors' satisfaction could be this: The average business loses between 10 and 30 per cent of its customers each year; but they often do not know which customers they have lost, when they were lost, why there were lost, or how much sales revenue and profit this customer decay has cost them (Hill, 2006). This principles are valid for private companies as well as for tourist destinations. In the paper there are described some methods used for customer satisfaction measurement with focus on Satisfaction Pyramid Method.

2. Literature Review

Key definition of customer satisfactions could be this: Satisfaction is a tool for retention of customers. This is a customer's agreement between expected and gained value. We can define satisfaction as a subjective feeling of customer about saturating his or her needs and wishes. These are determined by experiences, expectations as well as personality and environment.

The customer satisfaction would be a fundamental impact of higher value for customer and a scale of performance of market-oriented company as well (Lošťáková, 2009; Thalassinos et al., 2013). The principle of these factors has to be measurable and it is necessary to know their importance for customer within the total satisfaction (Kozel, 2006). Customer satisfaction is hardly predictable, because every respondent can assign different importance to various attributes. Some customers can evaluate the same services positive and other negative. There are also indirect indicators like customer interest or disinterest. We can use qualitative as well as quantitative methods for study of customer satisfaction. The method of qualitative research is an interview, which could be structured or unstructured. Some less frequent techniques are panel discussion or opinion poll. But the most often method is a questionnaire survey.

We can also detect the customer satisfaction using complaint analysis, feedback from entrepreneurs or employees, marketing research supported by psychological methods or representative marketing research of customer satisfaction. This could be

one-time or repetitive, which is better and illustrates the development of customer satisfaction.

If we have to really understand customer satisfaction and its reflection in potential company profit, we have to penetrate deeper to issues of customer satisfaction and to discover about the share of completely satisfied customers, substantially satisfied, rather satisfied, rather dissatisfied, substantially dissatisfied and completely dissatisfied customers. Different level of customer satisfaction has an impact on their loyalty to company and company economic outcomes (Lošťáková, 2009). We have to notify, that dissatisfied customers are for the enterprise also importance, because cost of gaining new customers are much higher, than retention of current customers. If there is an unsatisfied customer, who left, there are a lot of economic consequences for business, first of all lower company profits (Lošťáková, 2009).

Unsatisfied customers are complaining about companies and they do not keep his opinions for themselves. These customers undermine company market position and due to this, there is more complicated to gain new customers, because every dissatisfied customer tells about his dissatisfaction to 8 – 10 another customers (Kozel, 2006).

3. Customer Satisfaction Measurement

The reason why to do satisfaction measurement is to gain a feedback from customer and thus arrangement of information about expected needs, how the company satisfy customers' needs and how are customers satisfied with their needs satisfaction, so where is the contradiction between customer expectation and their real consumer behaviour on the products or services market.

There are presented some basic methods of satisfaction measurement, which are usually used. Of course, the list of these methods is not complete, there are also methods such as NPS – Net Promoted Scorer, some questionnaires inquire satisfaction as well as importance of factors, but if we use the method of Satisfaction Pyramid, then we do not have ask for importance of factors, because this emerges from correlations between partial satisfactions and total satisfaction.

Customer satisfaction theoretically bases from Theory of Contradiction. It consists in determination of customer expectations about the parameters of product and its benefits and then comparing of experiences after the purchase. If the experience is higher than the expectation, customer is satisfied, if failing, he is dissatisfied. We should also calculate with the level of adaptation on the market, time and repeated satisfaction or dissatisfaction and tendencies of customer to habitual behaviour (Kozel, 2006).

It is difficult to estimate satisfaction of destinations visitors, because every visitor can appreciate every attribute by different meaning: some visitors are looking for peaceful places and other search many attractions, thus one could evaluate it low and other high. There are also circumstantial proofs of visitors' satisfaction like number of relatives who visited the same destination in past, but also parts of macro environment, like accessibility of destination by car or public transport, competition of destinations and public opinion. Even though these indicators could show something about satisfaction, we cannot conclude, if we did not make satisfaction measurement. For visitors' satisfaction measurement we can use qualitative research as well as quantitative. We use structured or unstructured interview as a method of qualitative research. There is a proven method of quantitative research – questionnaire. Other methods, which are not so used, are survey and panel discussion with students. We have to make research repeatedly e. g. at the end of every semester or once per year.

When we use some method for satisfaction measurement, we have to split a content of product or service to particular factors where we evaluate individual satisfaction and importance. To know factor's importance is as significant as to know the satisfaction, because at mutual comparing of satisfaction and significance we can find factors, where we should strive for increasing in satisfaction considering with total satisfaction (Spáčil, 2003).

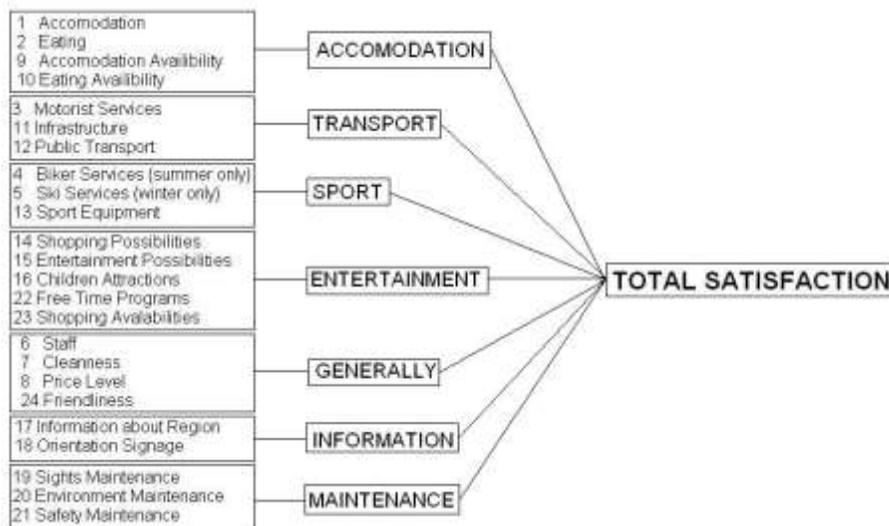
We can determine significance of factor using two procedures. In the first procedure respondents set significance of factors on their own and this is called declared significance. The second approach sets significance using a relationship between total satisfaction and partial factors. We use correlation analysis for this. This approach can reveal incongruity between respondent's declared significance of partial factors and their real significance. The incongruity can be intentional (respondents claim something different, than they are really thinking) or they cannot notify their attitudes. Some other approaches to satisfaction measurement are in publications (Anderson, 1994) and (Fornell, 1996) or other.

3.1 Satisfaction Pyramid Method

The method, which uses the second approach, is called Satisfaction Pyramid. At the top of the pyramid is situated total satisfaction, which we explain by partial factors (e. g. F1 to F10) (Spáčil, 2003).

Figure 1 Satisfaction Pyramid of Performed Research
(own elaboration according to Wiedmann, 2008)

Similar structural model can be found in Anil (2012), where he modelled influence of visitors' satisfaction on customer visitors' loyalty.



This method of satisfaction measurement is under way of correlation analysis, where we measure how intensive is relationship between partial and total satisfaction. Correlation analysis uses Pearson correlation coefficient (R) giving a value between -1 and 1, which measures strength of linear dependence between two variables. If the value of Pearson correlation coefficient goes to -1 (negative correlation, negative linear dependence), it means, while values of the first variable sink, values of the second variable grow. Positive correlation (positive linear dependence) comes when value of R goes to 1 and then values of both variables are growing. If the value of R moves around 0, both variables are variables linear independent and they do not influence mutually.

3.2 Customer Satisfaction Index

For calculating the level of satisfaction of each factor, there were used generally accepted pattern of Customer Satisfaction Index (CSI) with these variables: (Stávková, 2004)

Figure 2. Customer Satisfaction Index (Stávková & Dufek, 2004)

$$\varepsilon_j = \frac{\sum_{i=1}^n v_{ij} \cdot x_{ij}}{\sum_{i=1}^n v_{ij}} \quad (1)$$

ε_j	Customer Satisfaction Index of j customer
v_{ij}	weight of i- measurable variable for j-value
x_{ij}	value of measurable variable
z	number of levels used in the scale
n	number of measurable variables

First experiences with Customer Satisfaction Index have come from Sweden, where it is called Customer Satisfaction Barometer (author is prof. Fornell) since 1989. Since 1992, in Germany have been Customer Satisfaction Barometer used and after 1994 have been developed American Customer Satisfaction Index which followed countries like Israel, Taiwan and New Zealand. France started with measuring in 1996 and afterwards European Commission launched a study to make a index based on experiences from national experiment. The outcome was a recommendation for European countries. (Ryglová *et al.*, 2011)

3.3 European Customer Satisfaction Model

Customer satisfaction measurement is mostly doing by using Customer Satisfaction Index (ACSI, ECSI). There is American and European access to customer satisfaction measurement. European Model consists in definition of seven hypothetical variables, where everyone is determined of certain quantity of variables. We can express the relations between them with this figure:

Figure 3. European Customer Satisfaction Model
(own elaboration according to Kozel, 2006)

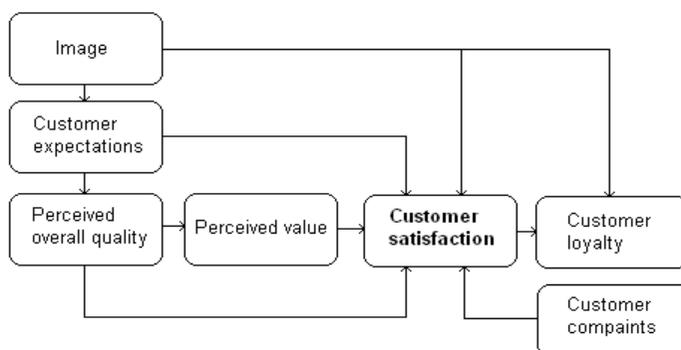


Image is an overall hypothetical variable of customer attitudes and total perceived notion about service, brand or a company. It represents a basis of customer satisfaction analysis and also for relation-building between customer and supplied product or service. Customer expectations are related to individual customer notions about a service. Expectations are outcomes of communication strategies of companies and previous experiences and it has a direct impact on customer satisfaction.

Perceived overall quality (or external quality) does not concern only to product but also to all accompanying services relating with its availability. Quality perception in tourism is based on overall level of service, infrastructure, tourist information, orientation signage, leisure time activities as well as safety and environmental maintenance. Perceived value is connected with service price and customer perceived utility. We can express it as a ratio of price and perceived value. Customer complaints are consequences of imbalance of performance and expectations and there is a contradiction between expected value and real provided service. Reasons are too high expectations on the one hand and bad service on the other hand. Customer loyalty makes a positive imbalance between performance and expectations, which means repeated purchase customary behaviour, price tolerance and references from other customers. Loyalty is a key term in Customer Relationship Management concept, where loyal customers repeatedly use provided services and they are very profitable for company (Kozel, 2006).

3.4 Importance-Satisfaction Matrix

Importance-Satisfaction Matrix uses (such as Gap Analysis) quadrant map to describing fields we have to be improved due to initial situation. The matrix is used for analysing relations between satisfaction and importance. It emphasizes the significance of all factors customers considering as the most important next to factor with bad performance. Priorities are marked graphical and the highest priority has factors with high importance and low satisfaction (Fontenet, 2006).

Figure 4. Importance-Satisfaction Matrix
(own elaboration according to Respond, 2009)

Satisfaction →	Over motivated factors	Motivators
	Marginal opportunities	Competitive opportunities
	Importance →	

3.5 SERVQUAL Concept

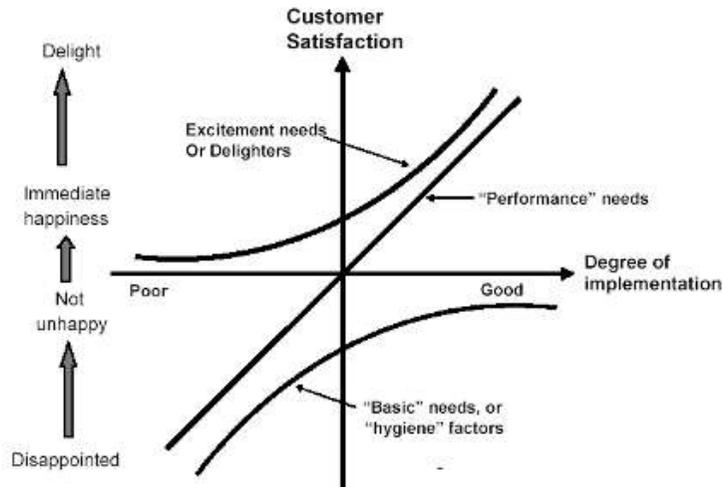
SERVQUAL Concept has been developed for service quality evaluation and it enables to evaluate various quality elements. Before using service customer marks at scale e.g. from 1 to 10, what standard of specific service is awaiting and after using a service customer states the real standard of service. There are three possibilities: Expected standard corresponds with customer expectation or expected value was higher than service quality or evaluated service standard was better than expected one. If the real evaluation is higher than expectation, it indicates good quality. We can also assign to each factors different value (Foret, 2003).

Figure 5. Example of SERVQUAL Concept (own elaboration according to Foret, 2003)

Factors	Importance (<i>i</i>)	Expectancy (<i>e</i>)	Total (<i>i·e</i>)	Real value (<i>r</i>)	Total (<i>i·r</i>)
Cleanness	1	7	7	5	5
Opening hours	4	6	24	7	28
Information in English	2	4	8	3	6
Parking	1	9	9	8	8
Admission fee	2	9	18	10	20
Total	10		66		67

3.6 KANO Model

KANO model of customer satisfaction emphasizes heterogeneity of customer requirements according to their importance for satisfaction. This model is oriented towards Maslow hierarchy, thus customer can satisfy his needs at different levels of priorities. The level of customer satisfaction and level of needs satisfaction are central dimensions determined by KANO model (Šalgovičová, 2006).

Figure 6. KANO Model (source: <http://www.agile-ux.com/tag/kano-model/>)

Other methods used for identification of visitor's satisfaction to find variables, which effects total satisfaction the most, frequently factor analysis (Gomezelj & Čivre, 2012), logistic regression (Ňakátová, 2014) or structural equation modelling (Marcussen, 2011) are used.

4. Results and Discussion

Using the technique of satisfaction measurement is quite frequent abroad, but in the Czech Republic is not used so often. The example of successful applications could be presented research project. In 2010 an extensive project was started in order to detect visitors satisfaction in particular regions of the Czech Republic. The research carried out by Ipsos Tambor and the Czech Tourism agency with the financial support of European Union Programs: IOP no. 01358 and IOP no. 01360. (More information is available at: <http://monitoring.czechtourism.cz/CzechTourism/uvod.html>).

The research maps turnout in particular tourist areas and regions in the Czech Republic and focuses on discovering of visitors' structure, their satisfaction with tourism, ways of spending free time, area equipment, services quality and interest of future visiting the region. The survey has been realized since 2010 to 2014 twice every year in winter and summer. Up to now there are at disposal outcomes from winters and summers since 2010. In the article, there are presented outcomes from 2013 a 2014.

There is used a method of random sample of only domestic visitors. The technique is a standardized questionnaire consisting of 23 questions, number of respondents

oscillated from 25.200 to 26.500. (Further information is available at: <http://monitoring.czechtourism.cz/CzechTourism/res/Methodika.pdf>)

4.1 Sample Structure

Respondents in the sample have been collected by random sampling of Czech respondents in certain 17 locations. Proportions of male and female respondents are quite balanced, above 40 – 49 %. Education profile corresponds with education structure in the Czech republic, where the most people obtained secondary school with the school leaving exam (approximately 60 %), and the rest of respondents are alumni of elementary and vocational schools on the one hand, and colleges and universities on the other hand.

Most frequent group of respondents is from the age from 35 to 49 years, important group for domestic tourism, “silver generation” over 60 year old has been covered by 8 to 10 % only.

Table 1. Sample Characteristics

(%)		2013		2014	
		Winter	Summer	Winter	Summer
Gender	Male	51	54	44	59
	Female	49	46	56	41
Education	Elementary and vocational school	21	17	19	17
	Secondary school	56	57	58	62
	Tertiary education - college, university	24	26	23	21
Age	< 25	14	14	13	13
	26 - 34	24	25	27	25
	35 - 49	40	39	40	40
	50 - 59	13	12	12	12
	> 60	8	10	8	10

Total Satisfaction Distribution Total satisfaction distribution shows, that in winter 2013 97 % of respondents were satisfied, in winter 2014 99 % were satisfied, in summer 2013 were also 99 % satisfied, in summer 2014 99 % satisfied as well. The

numbers of satisfied visitors means a high level of overall satisfaction on the one hand and on the other hand, almost no one respondent declared his or her dissatisfaction. The Satisfaction Index is for winter 2014 88.25 %, in summer 2014 90 %, for winter 2013 is 87.37 % and in summer 2013 91 %.

Table 2. Total Satisfaction Distribution

(%)	2013		2014	
	Winter	Summer	Winter	Summer
Very satisfied	51	65	54	61
Rather satisfied	46	34	45	38
Rather dissatisfied	3	1	1	1
Very dissatisfied	0	0	0	0

4.2 Partial Factors Satisfaction

In the paper we are focusing only at analysis of total respondents' satisfaction, which consists of 24 partial satisfactions, which are presented in the table below. The highest satisfaction declares respondents with partial factors like accommodation, cleanness, eating availability, sights and safety maintenance and friendliness. Factors with lowest level of satisfaction were motorist services or price level. In all these partial factors average satisfaction exceeded at least 84 %. In order to discover dependences of tracked characters, we proceeded Chi-square test at significance level $\alpha = 0.05$, when sig F= 0, and we can confirm total satisfaction depends on its partial factors.

Table 3. Partial Factors of Total Satisfaction

(Own calculations by <http://monitoring.czechtourism.cz/CzechTourism/zpravy.html>)

(%)		2013		2014	
		Winter	Summer	Winter	Summer
1	Accommodation	82	84	82	78
2	Eating	78	81	80	80
3	Motorist Services	74	79	77	77
4	Biker Services (summer only)		82		81
5	Ski Services (winter only)	77		80	

6	Staff	77	83	74	83
7	Cleanness	79	84	81	85
8	Price Level	79	79	81	76
9	Accommodation Availability	77	83	76	81
10	Eating Availability	79	85	81	82
11	Infrastructure (Roads, Parking)	79	78	81	78
12	Public Transport	73	80	77	78
13	Sport Equipment	74	83	77	81
14	Shopping Possibilities	78	81	80	81
15	Entertainment Possibilities	76	82	78	80
16	Children Attractions	75	80	78	79
17	Information about Region	78	84	76	83
18	Orientation Signage	80	84	81	83
19	Sights Maintenance	79	85	82	84
20	Environment Maintenance	78	84	82	84
21	Safety Maintenance	79	85	81	84
22	Free Time Programs	78	83	81	82
23	Shopping Availability	77	84	79	83
24	Friendliness	83	87	80	86

4.3 Total Satisfaction by Regions

Total satisfaction is calculated for 18 tourist destinations in the Czech Republic. Dividing to these was made by Czech Tourism. The table below presents values of total satisfaction by tourist destinations. The level of general total satisfaction is since 81 % (Bohemian Paradise) till 95 % (South Bohemia and South Moravia). Differences between regions are very small and the total satisfaction for whole Czech Republic is very similar to total satisfaction of each region.

For better understanding the space distribution of satisfaction orientation map is enclosed.

Table 4. Total Satisfactions by Tourist Regions (Own calculations)

(%)		2013		2014	
		Winter	Summer	Winter	Summer
1	Prague	84	87	84	84
2	Central Bohemia	85	86	84	85
3	South Bohemia	88	95	95	85
4	Bohemian Forest	92	94	93	93
5	Pilsen and Upper Palatine Forest	90	94	89	91
6	West Bohemia Spa Resort	85	89	88	91
7	Northwest Bohemia	89	92	89	89
8	Česká Lípa and Jizera Mountains	85	93	84	85
9	Bohemian Paradise	83	91	81	89
10	Krkonoše and Podkrkonoší	86	89	85	88
11	Hradec Králové	84	91	86	88
12	East Bohemia	86	89	87	88
13	Vysočina	89	93	88	94
14	South Moravia	89	95	87	93
15	East Moravia	88	94	92	93
16	Central Moravia and Jeseník	91	94	92	91
17	North Moravia and Silesia	84	87	90	93
18	Czech Republic	87	91	88	90
Sample (<i>n</i>)		25,320	27,637	25,219	26,642

Figure 6. Tourist Regions in the Czech Republic (own elaboration according to Czech Tourism <http://www.czechtourism.cz/pro-odborniky/mapa-turistickych-regionu-a-oblasti/>)



4.4 Factors Importance

In the table below there are presented values of Pearson correlation coefficient (R) for relations between total satisfaction with subject and partial satisfactions as an importance of partial factors for total satisfaction. In the whole number of factors, there is no one factor, which would influence total satisfaction the most. In the table below, there are presented factors with the biggest influence: Accommodation with Pearson correlation coefficient since 0.2 till 0.3 and information about region with value of 0.3.

Factor with the lowest correlation coefficient (0.11) is public transport. This is not surprising, because most of travellers are going on their own, by car, and public transport is utilized by few people only. As we can see, overall correlations are very low and differences between factors with the highest and the lowest importance are not significant – difference between lowest and highest correlation co-affection is 0.19 only, thus there is no one (or a group) factors, which would influence total satisfaction significantly, than other factors.

All values of Pearson correlation coefficient presented in the table are valid significant at = 0.05 level.

Table 5. Pearson Correlation Coefficient between Total Satisfaction and Most and Least Influencing Partial Factors (Own calculations)

Pearson R		2013		2014	
		Winter	Summer	Winter	Summer
1	Accommodation	0.3	0.3	0.2	
12	Public Transport	0.15	0.11	0.06	0.09
17	Information about Region				0.3

5. Conclusion

This article about utilization of satisfaction measurement in tourism cannot express all aspects of satisfaction measurement and also can not show all information gained by research. In the theoretical part there are mentioned some approaches to satisfaction measurement such European Customer Satisfaction Model, Importance-Satisfaction Matrix, SERVQUAL Concept and KANO Mode, but there is a biggest impact on Satisfaction Pyramid Method. Data have been collected all over the Czech Republic in years 2013 and 2014 twice an every year in winter and summer period. In the field part there are presented calculations of data and described total satisfaction, Satisfaction Index and partial satisfactions as well as level of satisfaction by tourist regions and correlations between partial satisfactions and total satisfaction which refers to importance of partial factors.

Visitors declare almost (in 90 % of all cases) satisfaction with tourist location. Visitors were most satisfied in regions of Bohemian Forest, Central Moravia and Jeseník, East Moravia, Pilsen and Upper Palatine Forest, Vysočina and South Moravia. Factors with highest satisfaction (over 80 %) are accommodation and its availability, eating availability, orientation signage, sights maintenance. Results indicate, the most important factors affecting total satisfaction are public transport, sport equipment, shopping possibilities, entertainment possibilities, children attractions, information about region, orientation signage, safety maintenance and free time programs. Entrepreneurs in tourism should focus just on these factors, which are affecting visitors' satisfaction, the most.

The implications for destination marketing and development can be summarized as follows: To keep loyal visitors take care about long-time relation with them. The effect of this is, loyal visitors will go back, in case they are satisfied. For visitors is important to offer additional services, like shopping possibilities or children

attractions, because families with children one of the main segments for domestic tourism.

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