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THE ECONOMICS OF RURAL HERITAGE PARKS: WILLINGNESS TO PAY

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Abstract

One of the priorities should be the heart of Europe 2020: Sustainable growth – promoting more resource efficient, greener and more competitive economy.

Enhancing the competitiveness of European tourism sector is one of the perspective emphases of basic initiative Flagship Initiative: "An industrial policy for the globalization era" ***European Commission*** **Proposal for Europe 2020 Strategy. In circumstances of economical crisis there must be evaluated the use of existing and future heritage resources. Such evaluation is very important in the regions of Latvia Cultural heritage as a tourism resource can produce potential impulses for the development of local and regional economics. Rural heritage parks are recreational places for local inhabitants.**

There are approximately one thousand heritage parks in Latvia but most of them have not been properly studied and used. ***Maija Park*****, situated in Cēsis city, is one of 100 most spruced culturally historic objects in Latvia.**

In the research data from 127 respondents was gathered (were interviewed face-to face) and information was collected August – October 2009. By this time such research in the rural heritage parks in Latvia has not been done.

The aim of the research is increase of incomes in rural heritage Maija Park. As a result, authors determined visitors of Heritage Park, their individual WTP and stimulating factors.

To understand this, the author analyzed such willingness to pay (WTP) factors as travel expenses, income, distance, education and quality of recreation events.

The results of the research will be used for creating more effective policy of using heritage parks.

Keywords:

Tourism resources; Rural Heritage Parks; Willingness-to-pay.

Introduction

According to the suggestion of *European Commission* Proposal for Europe 2020 Strategy of tourism in Latvia must be paid attention for increasing its competitiveness. It is especially important to develop tourism in the regions of Latvia impacted by crisis. The World Travel & Tourism Council (WTTC) indicates to real advantages for local communities to develop tourism. (WTTC, 2009). Data made by UK national tourism agency survey shows interest about heritage objects, even 7% per year. It indicates that heritage parks are the second most visited objects (Visitbritain.org., 2008)

Most of researchers are interested in economics of nature, city parks (Thompson, 2002; Eagles, 2003; Carlsen & Wood, 2004; Cranz &Boland, 2004) or

historical heritage (Cuccia & Signorello, 2002; Navrud & Strand, 2002; Pollicino & Maddison, 2002; Bedate et al., 2004). Only a few researchers have explored economics of heritage parks (Santagata & Signorello, 2002; Willis, 2002; Hughes &Carlsen, 2009).

Although the number of heritage parks in the territory of the Republic of Latvia is more than one thousand, most of them are located in the regions and only a few are used for tourism because there is lack of infrastructure and maintenance (Grizane T., 2009). Full – scale studies have not been done in the heritage parks used for tourism. Researches of heritage parks in Latvia are based on exploring their history, flora and dendrology and it has been done by scientists and practitioners (Cinovskis et.al., 1985; Janele, 2010). Economics of heritage parks is weakness of researching of parks in Latvia; therefore this research is a novelty. Author pays attention to increasing usage possibilities of historical heritage, especially of parks, local inhabitants and tourists.

The object of the research is the usage of heritage parks of Latvia in culture tourism. Author uses Maija Park, located in Cēsis city, Vidzeme region, Latvia, as a basis for pilot project.

The aim of the research was to clarify Maija Park visitors' socialeconomic and other trip-related measurements and their willingness to pay for recreation values.

Research methods: is the analysis of scientific literature and quantitative personal survey method of heritage park visitors. To achieve empiric proof of the model, an econometric tool – regression analysis was used. Its results were used to assess the Maija Park recreation cinsumers' willingness to pay.

From all heritage parks in public use and located in Cēsis city, Vidzeme region of the Republic of Latvia being the authors chose Maija Park for the reserach because of the following reasons:

- In 2009 the author made a research about Maija Park and therefore have data precurse;
- secondly, and the other public park in Cēsis city, in the Castle Square, there is a reconstruction and it could encumber gathering stable scientific data;
- thirdly, in 2005 Maija Park was acknowledged being one of 100 most spruced cultural monuments in Latvia and a Europe heritage flag was raised in it. Maija Park is a part of Federal architecture monument in the castle ensemble. Since 2004 the park has been enrichened by scenery and dendrologic values;
- in 2007 previously increasing number of visitors has decreased. This is the fourth reason why Maija Park was selected for the research.

Willingness to Pay

There are several methods for measuring consumers' willingness to pay. One of the methods, usually used for non-market valuation, is contingent valuation method (CVM) and one of the most important CVM conceptions is willingness-to-pay (WTP). Several definitions of willingness to pay (WTP) are used but the most often used is that WTP is a maximum amount that an individual states they are willing to pay for a good or service (UNEP, 1995; ADB, 2007) To be more precise, WTP is a sum of money a person wants and is able to pay for recreation service (McConnel, 1984).

In precocious introductions CVM was based on the questions asked to respondents about their WTP. The question was formulated in such form: „How much would you like to pay for ...?" The question created difficulties for respondents to answer and a question with an auction approach was started (Randals et al., 1974), the value for the question was increased or decreased until it was acceptable and this was the final WTP. The next development step was based on the value of initial offer as the support point of increase. Cameron and Huppert (1988) believed that the selected amount is the lower border for the respondent's WTP and the upper border is the next highest offered sum. In the compliance of this interpretation WTP can be prognosed in this interval. The method of WTP for increasing income possibilities was explored by Willis (2002) and Santagata and Signorello (2002). Willis tried to state the price of introducing income in Bosco di Kapadimonte heritage park in Napoli suburb but Santagata and Signorello solved a similar problem in a forest park near Napoli emphasising Access to historic buildings. Willingness to pay in future proved to be much less (about one third) than it was stated during the research. Such result was prognosed by Diamond and Hausman (1994) who asserted that answers in reality do not comply with provisory surveys. Researchers explain this phenomenon by people's wish to support environment. Kahneman and Knetsch (1992) also emphasised people's understanding that more benefit is gained by higher consumption of recreation service. Cummings and Taylor (1999) concluded by their eksperiments that it is possible to solve this bias and approximate hypothetical willingness to pay for real life. It is possible by having more information about the respondent. To characterize the respondent information about the age, education, income etc. gained in surveys is used (Hanley et.al., 1993).

In the economic theory there does not sugest any of before mentioned WTP approaches and combinations of methods for practical use, states Michael Hughes un Jack Carlsen (2009), therefore researchers had to state arbitrary assumptions and as an answer stating solution of econometric model (Alberini, Boils un Welsh, 1999) and such a way was chosen also by the author.
WTP based on economic theory can be summarized by the following conceptual model:

$$WTP_i = f(A_i, B_i, C_i, Y_i), \quad (1)$$

where A, B, C, and Y are factors that influence study site WTP (e.g. age, gender, education, frequency of visits, availability of substitutes, etc).

Survey design

Individual WTP was elicited using an in- person survey conducted between August and October 2009 in Maija Park, located in Cēsis city, Vidzeme region in Latvia. The amount of the selection was based on visiting data for average 3 years Grizane (2009) and confirmed to representative criteria (Paniotto, 1982; Saunders, 2006) at probability 95 % where the highest possible mistake could be ±0, 0819. 127 respondents' questionnaires were collected. For having information from Maija Park visitors, a survey interview method face-to-face was used. A questionnaire was designed to gain information on WTP in this study. The questions in the questionnaire were: (1) according to contents – social demographic, (2) according to form – open and closed. The questionnaire was prepared in two languages, English and Latvian. The questions were dividend in 3 sections: (1) profile of visitors, (2) characteristics of visits, (3) characteristics of paying. Qustions in sections one and two were aimed to gather information about respondents and their trip connected

with the visit of Maija Park. Questions in the third section were aimed to obtain their willingness to pay.

A descriptive analysis was applied to obtain information on socio demographic and economic profiles and respondents' WTP. In the research 15 questions were asked which were included in the visitors' characterizing variable measurements: respondent's age, gender, education, respondent's income respondent's geographical location, respondent's road from home place to the park, transport and services used, assessment of Maija park quality, visitor's visit time (during th research), willigness to pay, respondent's payment for Maija park services, for way (during the research) and hypothetical payment for it.

Explanatory notes and limitations

Maija Park visitors were introduced with the aim of the research; respondents were warned about the data confidentiality. The sensual question about income was solved individually when the sum was said about a definite period (month, year) or income interval. Danish tourists answered they have average pensions. The authors therefore based on the data about pensioners' income and Danish and *Old-age Pension Systems* in the Nordic countries (NOMESCO, 2007). The currency was converted according to the current currency rate (Bank of Latvia, 2009). According to the WTP reserach experience (Randals et al., 1974; McConnel, 1984; Cameron un Huppert, 1988), the authors indicated the price examples for services in heritage parks and facilitated to say a provisory sum willing to pay when the economic situation in Latvia will improve. To ease calculation and data analysis, respondents' geographical location was divided in 4 groups: (1) respondents living in Cēsis **(C1);** (2) respondents living in Cēsis district **(C2);** (3) respondents living in other places of Latvia **(ND)** (other districts); and (4) respondents living abroad **(AC)** (other countries). Expenses for way to the park for people living in Cēsis is assumed to be 0 but distances in km to Maija Park are calculated according to Google map calculator and data gathered from a clerk in Cēsis bus station. According to praxis often used in trip calculation, the author assumes the only respondents' destination is Maija Park. When calculating the way two variants were used: (1) the respondent says the ticket price; (2) the author calculates travel expenses for an average car with A95 fuel use 10 l/100km according to the average fuel price in August – October, 2009 - 0.70Ls/l (AA Ireland: Petrol, 2009). Services offered by the park were dividend in 4 groups: 1-Greenery, 2 - Children's playground, 3 - Passive recreation and 4 - Active recreation where active and passive recreation srvices in 2009 were free of charge. Expenses of Children's playground activities were made by rent of gadgetry.

Socio-economic and other trip-related measurements by visitors of Maija Park

This section presents the summary statistics of the respondents' socio-economic characteristics, and also respondents' responses regarding their perceptions and attitudes.

***Profile of visitors*:** information about respondents' profile included their residential area, age, gender, education level, and income. The socioeconomic variables of respondents, collected in terms of categorical variables, are summarized in 65.4%, they are visitors living near Maija Park in Cēsis City, and 59.1% of them are inhabitants of the city. In average in autumn 2009 has visited Maija Park 2.3 times per month. 22 of them are foreigners from Russia, Germany, Denmark as well as Lithuania and Estonia. Further destinations are more chosen by elder people but the youngest visitors of Maija Park are neighbour countries of the Republic of Latvia. With respect to the age, the visitors who come to Maija Park come from various levels of age. The results indicated that the respondents' ages ranged from 18 to 78 year. The most of the respondents interviewed were those above more than 60 years. This information showed that most of visitors who visit Maija Park are able-bodied population and come from the middle age group. The average age of the respondents is 46 years and most of them are women – 66.1%. More women visit Maija Park from ND of Latvia, but foreigners who create 17.3% of visitors are in balance. Foreign respondents earn up to Ls1600 per month, 14% of local visitors of the park – less than Ls100.

Characteristics of visits: the most popular type of transportation to Maija park was car (38.6%) followed by tour bus (7.1%), bus/aeroplane (11.8%) and walker (42.5%). The most important reason for visiting Maija Park was to enjoy natural beauty of the park greenery (41.7%). Almost all repondents had visited Maija Park once during 3 months, respectively 92.1%. They were willing to visit the park again from one time (61.4%) up to 12 times (0.8%). The most part of respondents were willing to visit the park from one time to three (91.3%). It means, hypothetically the number of visits can increase by 99 times. 75 respondents from Cēsis and 44 visitors from AC and ND admit Maija Park to be qualitative. 30 respondents evaluate it to be excellent, 89 – good and only 3 are unsatisfied.

***Characteristics of paying*:** respondent's payment for Maija Park services in average was Ls1.21, maximum sum was Ls9, however hypothetical price of using service can reach Ls24 and in average – Ls4.6. If the sum in total for visiting the heritage park was Ls 806.80 then in average expenses per respondent was Ls 70.46.

Econometrical WTP model

WTP was calculated according to (1) formula and calculated β rate, multiplying with explanatory variable measurement: WTP = β_0 + β_1 *DIST + β_2*EDUC+ β_3*QUAL + β_4*GEN+ β_5*GEO + β_6 *EXPEN, (2)
Where β_0 – Constant coefficient and β coefficients of variables; DIST - road from home place to the park; EDUC – education, QUAL - park quality; GEN – gender; GEO - respondent's geographical location; EXPEN - visitor's visit expenses.

Linear Model test: it was concluded that model Anova shows statistic significance because Sig.0.00<0.05, therefore the model is acceptable. Model Summary shows information about determination rate R = 0.347, that explains 34.7% variations. However, the model shows all variables < 0.01 and Sig. value is valid and significant.

Diagram Y =*ZREDSID, X=*ZPRED scatter plot for residuals showed the initial data mistake or Heteroscedasticity. Heteroscedasticity check was with White's test:

To test the hypothesis:

- H_0: $R^2 = 0$ (Mistake dispersions are equal because all A_i=0)
- H_1: $R^2 > 0$ (Mistake dispersions are not equal)

White's test showed that $n \cdot R^2 > \chi^2_{\alpha;(k-1)}$, 127 > 71.3, then heteroscedestation exists with P=1-α, H_0 is denied.

Autocorrelation was tested by using Durbin-Watson statistics. Hypothesis was tested:

- H_0: $\rho = 0$ (no autocorrelation between mistakes)
- H_1: $\rho \neq 0$ (autocorrelation between mistakes exist)

D=1.46, *DL*=1.72 and *DU* = 1,75 with probability P=95%, where n = 127, p = 1 and α=0,05

D=1.46 < *DU* = 1,75 was denied H0: $\rho = 0$ ar P=95%, positive autocorrelation between mistakes exist because

$0 < D < 2$. D-statistic values are in interval [0; 4]

Colinearity for 2 variables was diagnosed for the model because Condition Index is >about 10 (11; 19).

Histogram Normal P-P plot of regression standardizes showed most probably the mistake division is not normal.

Normality test: testing hypothesis:

- H_0: $R^2 = 0$ (Mistake dispersions are equal because all A_i =0)
- H_1: $R^2 > 0$ (Mistake dispersions are not equal)

Jarque-Bera test showed that JB = 1.94, JB < χ^2_{α};(2), cannot deny zero hypothesis and mistake division conforms to normal division with α=0,05

Nonlinear Model estimation: For the model (formula 3) good conformity was showed because run stopped after 3 model evaluations and 2 derivative evaluations because the relative reduction between successive parameter estimates is at most PCON = 1.00E-008.

WTP = β_1 *DIST + β_2*EDUC + β_3*QUAL + β_4*GEN+ β_5*GEO + β_6 *EXPEN (3)

Evaluation of the model (formula 4) T (Asymptotic Std.Error/Estimate) is the following: B1 rate is not significant but B2 = 0.245, B3= 0.244, B4 = 0.377, B5= 3.77 and B6= 0.25, significant in 95% level because they are higher than 1.96 (critical value).

The research made by the authors confirmed Bateman et al. (2002), Ward and Beal (2000) conclusion about positive dependance on variables of the rates. It was showed by positive rate and negative – distance to Rural Heritage Park. Negative rate of variable gender (GEN) differs from cases described by other scientists and it should be explored more (formula 4).

WTP = - 0.001 *DIST + 0.656*EDUC + 1.055*QUAL - 0.570*GEN -0.201*GEO + 0.004 *EXPEN (4)

As a result WTP is = Ls253.74 per one visitor of Maija Park. The model showed that men's WTP is connected with travel expenses, rate - 0.042, but women pay more attention to the quality of Maija Park services, rate- 0.009.

R squared = 1 - (Residual Sum of Squares) / (Corrected Sum of Squares) = 0.301. Unfortunately R squared statistics does not explain the calculated function but as confirmed also by Bateman et al. (2002) it determines and gives information. Information about 127 respondents showed WTP for services of Maija Park 237 times, in 3 future months WTP = Ls253.74*237= Ls60136.38. The value calculated in the research is not absolute but empiric results indicate to possibilities that can be gained in regions.

Conclusions

In the research there were clarified visitors of Maija Park in Latvia region: 65% are from Cēsis city and its locality, the rest from other reģions of the country and foreigners from Russia, Germany, Denmark, Lithuania and Estonia with average age 46 years.

All study factors education, park quality; gender; respondent's geographical location and visitor's visit expenses, except way of means are also WTP promoting factors. Women with good education are ready to spend more for quality of park.

Wage of visitors of rural park from Cesis city and nearby regions is less than that of foreign tourists. Their willingness to attend HP is greater than their WTP.

It would be possible to raise HP revenue by offering less expensive rural park services. In 2009 the WTP was greater than the actual expenses (Ls 6846.50).

According to Santagata and Signorello (2002) it is possible to revenue 1/3 from WTP, assuming this it would be possible to revenue Ls 20045.46

The visitor's individual willingness to pay for rural Maija Park located in the Republic of Latvia was stated Ls253.74.

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