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Employing the Model of Analyze of Variance in the Study of Regional Tourism Development in the Black Sea Countries

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Abstract:

An attempt to draw up a coherent effective strategy for developing the regional tourism in the region of Black Sea in accordance with the market economy must begin with a realistic evaluation and analysis of the actual state of the tourism in the region and must have a starting point in a comparative analysis with the neighbourhood, from central and eastern Europe.

A model of bifactorial variance analysis with regard to the issue of international tourism development in these countries is important for the economic and social policy, by sustaining the hypotheses about the existence of differences in average number of nights spent by foreign tourists in hotels and similar establishments between countries.

This paper targets on an analysis of the tourism market in the countries that border the Black Sea (Romania, Bulgaria, Ukraine, Georgia, Turkey and Russia) as sustainable tourism develops in the area. Therefore, interest focused on two issues: the existent status quo in those countries, as well as the sustainable tourism now and in the future.

All efforts made so as to analyze the tourism activity in the countries mentioned above are justified by the tremendous potential due to the natural and cultural resources that are largely miscellaneous and of high quality. Those features turn the listed countries in to attractive destinations for the tourists. The main problem that occurs refers to the fact that the existence of some resources is not reason enough to make tourists chose such destinations. While investigating the strong and weak issues referring to the Southern Europe area, one can easily notice the low level of development in the tourism industry and the lack of some basic organizational rules. The formerly used infrastructure (hotels, restaurants etc.) has certain weak points and is nowadays in a wane, requiring a fast replacement. In countries like Romania, Bulgaria or Ukraine, many hotels are in very pour conditions, being poorly administrated. Some other issues refer to the access in the Black Sea area. Almost all formerly used coast and cruise routes have been cancelled and the terrestrial transportation variants are rare and difficult to use.

All countries involved have problems regarding pollution aspects and those problems do not refer only to the beach area.

Such weak issues are consequences of some facts like (Stănciulescu, 2000):

- in many ex-communist countries the tourist infrastructure is owned mostly by the state, which proves to be a weak administrator for the change that is needed today;
- there occurs some lack of managerial skills, as few managers are well trained to face aspects connected with marketing, tourist services, business administration, maintenance; therefore, the western tourists know few things of the analyzed area. Many local tour operators and government officials do not have some basic skills of marketing and management, so as to gain connections on the international markets.

One must acknowledge that there are some success tales in the field too, however, those are results of the joint-ventures accomplished with the western companies (although in some countries this thing is hard to conceive, as the law system referring to the private property or to the firms is not properly settled).

Therefore although some attractions like castles, botanical gardens, deltas etc. are largely intact from a physical point of view, the lack of real management and of some funds destined to preserve and protect these resources undermine their future use for any tourist purpose.

So, there can be identified many problems referring to this area, whose solving could offer real solutions for this region. There are of course some basic common needs, like the need:

- to improve the transportation links;
- to provide well implemented customs procedure;
- to provide the tourist industry authorities with good managerial training;
- to provide the tourist industry staff with good operational skills;
- for marketing knowledge;
- for co-operation during the environmental issues approach;
- for some de-centralized control referring to the tourist development;
- for training, referring to the way of doing business with the private-owned companies and the joint-ventures partnerships.

Answers to such tasks demand some initiatives like settling some "sustainable tourism centers" and "green itineraries".

This issue is analyzed for the countries on Black Sea region, comparative with other countries from Southern Europe, the main focus being to achieve a basic common level of comprehension referring to the sustainable tourism in the Black Sea area. The tourist field objectives, targeted so as to develop the sustainable tourism, refer to the main elements of durability: environment, economy and mankind. These objectives should be as follows:

- sustaining a healthy environment, preserving the recreational quality of all natural or man-designed areas and the full integration of the natural, cultural and human environments;
- promoting and sustaining a competitive quality and a certain efficiency of the tourist field as business;
- creating some satisfactory social conditions for both tourists and the residents.

The system of the tourism statistic indicators has the purpose to characterize quantitatively and qualitatively, the process of the tourist activity and the causal relation

between the factors that influence it. One of the main functions of the tourism indicators system is the characterization of the economic relation of Black Sea countries with other countries, of the efficiency of the cooperation relations in the frame of the international tourism relations.

An attempt to draw up a coherent effective strategy for developing the regional tourism in the region of Black Sea in accordance with the market economy must begin with a realistic evaluation and analysis of the actual state of the tourism in the region and must have a starting point in a comparative analysis with the neighbourhood, from central and eastern Europe.

A model of bifactorial variance analysis (Țițan, 2001) with regard to the issue of international tourism development in these countries is important for the economic and social policy, by sustaining the hypotheses about the existence of differences in average number of nights spent by foreign tourists in hotels and similar establishments between countries.

This study aims at performing such evaluation using the data offered by the CESTAT Statistical Bulletin and the indicator selection and interpretation have taken into account the facilities of the actual information system.

Thus, for such an analysis, data are depicted in a bidimensional matrix with r x s size and with x_{ij} elements which describe the average number of nights spend by foreign tourists in hotels and similar establishments, when one factor is on level i, $i=\overline{1,r}$ (countries) and another on level j, $j=\overline{1,s}$ (years).

On the one hand, we analyze whether the differences recorded over the mentioned countries in the average number of night spend in hotels have statistic significance or not. In the other hand, we study whether the differences recorded over the years have statistic significance. A research into this issue can use the absolute total number of overnight stays of foreign tourists, but in order to ensure comparability of data and because there are differences between countries in number of bed-places, we proceed to turn absolute total figures in average figures.

After computation for four years (1997-2000), for the countries: Czech Republic, Hungary, Poland, Romania, Republic of Slovenia and Slovak Republic and for a type I error probability $\alpha=0.05$, we find the values for Fisher-Snedecor test for statistic significance of the differences between countries:

$F_{r-1;(r-1)(s-1)}=F_{5;15}=71.776>F_{tab\,0.05;5;15}=4.62$

and between years:

$$F_{s-1;(r-11)(s-1)}=F_{3;15}=0.02<F_{tab\ 0.05;3;15}=8.70$$

So, the result confirm the hypotheses of significant differences (p<0.05) between counties in central and eastern Europe in average number of nights spend by foreign tourists in hotels. In a Post-hoc comparison of means with Scheffe test we found that there are significant differences between Poland and Romania (on the one hand) and almost all the other countries, in the other hand: in Poland and Romania, the average number of nights spend in hotels by foreign tourists is smaller.

With a view to justify the necessity and the role of sustainable tourism development in the region of Black Sea, must be made an analyze of the existent economic state in the counties the border the Black Sea – on the one hand – and in other countries from Eastern Europe – on the other hand.

The significant differences in sustainable development between these two groups of countries is a pleading for the necessity to turning to account the huge tourism potential of countries from Southern Europe.

Data research, from this point of view, used variance analysis, multicriterial ranking and hierarchic differentiation and nonparametric correlation methods.

The figures, for year 2000 or for the most recent available year are presented in table 1 and table 2:

Indicators of Economic Development

Table 1

Economy	GNI per capita (Atlas method, US$)	Life expectancy at birth (years)	Infant mortality (per 1000 live births)	Export of good and services/GDP	Total debt per GDP	Annual growth GDP (%)
Bulgaria	1520	71	15	58.5	86.5	5.8
Georgia	610	72	15	37.7	60.1	1.8
Russia	1660	66	15	43.9	64.5	8.3
Romania	1670	70	19	34.1	29.3	1.6
Turkey	3080	69	36	23.8	58.1	7.2
Ukraine	790	68	12	61.5	35.6	5.8
Czech Republic	5250	74	6	71.5	45.4	2.9
Estonia	3530	71	10	96.5	50.5	6.4
Latvia	2870	70	14	45.8	41.0	6.6
Lithuania	2750	72	9	45.5	43.2	3.3
Poland	4210	73	9	27.4	42.0	4.0
Slovak Republic	3700	73	11	73.5	49.3	2.2
Slovenia	10050	74	6	59.1	34.3	4.6
Hungary	4710	70	11	62.5	63.1	5.2

Source: World Bank – World Development Report 2000/2001

Indicators of Tourism and Services Development

Table 2

Economy	Services'output as % of GDP	Invisible trade balance (as % of GDP)	Invisible trade balance ($m)	% of workforce employed in services	Tourist arrivals ('000s)	Earnings from tourism ($ per head)
Bulgaria	57	-1.88	-188	36.0	2684	46
Georgia	29	…	…	…	<650	45
Russia	54	-2.95	-13620	46.7	15350	2
Romania	39	-2.65	-927	32.3	2741	24
Turkey	55	4.27	7850	32.3	9040	13
Ukraine	48	4.07	2025	…	818	4
Czech Republic	58	2.18	1070	52.3	17400	361
Estonia	65	9.80	445	54.2	<650	323
Latvia	58	7.89	423	55.2	<650	73
Lithuania	55	-0.73	-64	48.8	<650	97
Poland	59	1.73	2329	46.2	19514	225
Slovak Republic	64	-0.27	-51	51.8	808	100
Slovenia	57	4.01	721	47.4	974	663
Hungary	61	2.16	974	58.9	17248	255

Source: The Economist – Pocket Europe in Figures, London, 1999

The result of variance analysis confirm that there are significant statistical differences ($p<0,05$) between the two groups of countries, concern sustainable development. The methods of correlation show that there are a strong correlation between sustainable development and tourism development, in the countries on the Black Sea area.

It be must emphasized that development potential in these countries in the very next future is highlighted by faster-present and forecasting – growth in Russia, Turkey, Bulgaria, Ukraine.

One should never for get the fact that tourism is to be politically accepted, without compromising its durability. Without any support and political help for the sustainable tourism, any tourism program that relies on the sustainable development will not succeed in being accomplished.

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