ATLANTIS
PRESS

Monitoring in Tourism at the Regional Level: Theory and Practice

G A Gomilevskaya[1], Y Y Sergienko[2]

[1]Vladivostok State University of Economics and Service, International Institute of Tourism and Hospitality, 41 Gogolya st., Vladivostok 690014, Russia
[2]Vladivostok State University of Economics and Service, International Institute of Tourism and Hospitality, 41 Gogolya st., Vladivostok 690014, Russia

E-mail: gag17@yandex.ru

Abstract. The availability of timely and reliable information about the processes taking place in the tourism sector is a prerequisite for the organization of effective management in the corresponding area. The application of the integrated assessment methodology proposed in this work allows to analyze the impact of the tourism industry on the economic performance of the region. The resulting indicators are of great practical importance, as they help to set up the analysis procedures not only for the enterprises engaged in the direct tourist services, but also for the enterprises engaged in the related and indirect industries. The scientific significance of the work is attached to the attempts to develop a methodology for a comprehensive assessment of the tourism industry as well as to determine the significance of tourism activities in terms of their direct and indirect influence on the gross regional product of Primorsky Krai. The practical significance of the study lies in the analysis of the actual indicators of the tourism industry of Primorsky Krai.

1. Introduction

Tourism is a complex socio-economic system. The tourism sector includes a great number of industries and activities that are directly or indirectly engaged in the production or sale of tourist goods and services. That requires certain tooling for continuous tracking of socio-economic changes in the industry, for analyzing the factors affecting the state of the studied industry, for timely preventing the possible negative consequences, for planning and forecasting possible directions of the development. That's why it's vital to set up a reliable framework for carrying out monitoring works in tourism.

2. Rationale

Tourist services sphere is currently one of the most dynamically developing. The rapid development of tourism corresponds to significant shifts in the awareness of its role and impact on the socio-economic development of the whole country and separate regions.

2.1. Scientific merit

The scientific significance of the work is attached to the attempts to develop a methodology for a comprehensive assessment of the tourism industry as well as to determine the significance of tourism

activities in terms of their direct and indirect influence on the gross regional product of Primorsky Krai.

2.2. Literature review

Aspects of the studied problem are reflected in the works of domestic and foreign authors. Features and problems of world tourism development, the impact of tourism on the national and regional economy, social life and culture are considered in the works by J Krippendorf [1], K Lindberg, R L Johnson [2], S Aynalem, K Birhanu and S Tesefay [3].

Questions on methodological features of organizing the system of national accounts are addressed in the works of F Bos [4], N Oulton [5], F den Butter [6].

Methodological basis for creating the tourism-related satellite accounts for measuring its economic impact is tackled in the works of M Shopova [7], A Canada [8], D C Frechtling [9].

Additionally, the issues of economic assessment of the tourism contribution to the economy are discussed in the works of A Matias, P Nijkamp and M Sarmento [10], F T Ardahaey [11].

Information on economic assessment of the contribution of tourism in Primorsky Krai can be found in the works of G A Gomilevskaya, V VSchur [12], N S Martyshenko [13], A B Kosolapov, V M Uurusova [14], V I Surzhikov [15].

2.3. Problem statement

The aim of the study is to develop a methodology for monitoring tourism and hospitality in Primorsky Krai in order to use the results for forecasting purposes to improve the efficiency of the state program "Tourism Development in Primorsky Krai" for 2013-2021.

3. Methodology

The proposed model of tourism and hospitality monitoring includes two stages. The first stage introduces a study of legal entities and individual entrepreneurs providing accommodation services in the territory of Primorsky Krai through a questionnaire. Additionally, the first stage includes selective statistical survey of tourists in Primorsky Krai, through the questioning. The second stage of monitoring includes determining the contribution of tourism to the macroeconomic indicators of the region.

In order to determine the contribution of tourism to macroeconomic indicators, it is necessary to compare the turnover with the gross regional product (GRP), so adjustments towards Gross value added (GVA) need to be made. This is possible using the equations listed in Table 1.

For the types of activities in which it is difficult to identify the share of tourism consumption, it is proposed to calculate the share of tourism in gross value added of tourism related economic activity by calculating the ratio of tourism consumption out of total consumption of population. For sections A, E, G, J, K, N, O of Russian National Classifier of Types of Economic Activity calculation is performed according to Equation 1:

$$GVA_{itc} = GVAi * K_{tc}, \qquad (1)$$

where GVAitc represents the share of tourism in GVA by i-th type of activity;

GVAi – gross value added by i-th type of activity;

Ktc – coefficient of tourist consumption.

Coefficient of tourist consumption is calculated according to the Equation 2:

$$K_{tc} = \frac{TN * Savg}{CP * 365 + TN * Savg}, \qquad (2)$$

where TN – total number of tourists, visiting the region;

CP – constant population;

Savg – Average length of stay;

Table 1. Equations for calculating the contribution of enterprises of the tourism industry.

No	Equation
	Direct and indirect effect of tourism
1	$TGVAi = TTi \cdot K\ TgGVAi$
	$TGVAi$ – gross value added of organizations of the i-th type of economic activity, received from the service of tourist flows;
	TTi– tourist turnover of organizations of the i-th type of economic activity;
	$K\ TgGVAi$– conversion factor of turnover of organizations into gross value added of the i-th type of economic activity.
2	$K\ TgGVAi = Ti\ /\ GVAi$
	Ti– turnover of organizations of the i-th type of economic activity;
	$GVAi$– gross value added of organizations of the i-th type of economic activity.
3	$dT\ D = 100 \cdot \Sigma TGVAi\ /\ GRP$
	GRP– Gross regional product;
	$dT\ D$ – Tourism's direct influence on GRP, %
4	$dT\ D +I = 100 \cdot \Sigma TTi\ /\ GRP$
	$dT\ D +I$ –contribution to GRP of tourism alongside with the related industries, %
	Tourism-related employment rate
5	$K\ TTкTi = TTi\ /\ Ti$
	$K\ TTкTi$ – the ratio of the turnover of enterprises from tourism to the turnover of the entire i-th type of economic activity
6	$TEi = Ei \cdot K\ TTкTi$
	TEi– number of employees of the region of the i-th type of economic activity engaged in the tourism services;
	Ei– employed in the economy of the region in the i-th type of economic activity.
	Tax revenues to local and regional budget levels from tourism activities
7	$TTFi = TFi \cdot K\ TTкTi$
	$TTFi$– taxes and fees from the i-th type of economic activity received as a result of tourist consumption;
	TFi– taxes and fees received from the i-th type of economic activity.

4. Data analyses and results

The study obtained data on the total volume of tourist costs by groups. For foreign tourists, the results are presented in Table 2.

Table 2. The aggregate amount of tourism spending by groups: foreign tourists.

Direction of costs	Total expenditure, mln. RUB.				Overall, mln. RUB.
	Business	Tourism	Private	Paa-through	
Transport	145,4	789,5	447,3	0,3	1 382,5
Public catering enterprises	233,3	1 388,2	153,2	0,1	1 774,9
Communication	0,0	0,0	0,0	0,0	0,0
Entertainment services	360,1	1 078,1	206,5	0,3	1 645,0
Consumer services	196,8	973,6	93,7	0,1	1 264,2
Medical and health services	188,9	522,7	152,8	0,1	864,5
Educational services	128,8	778,1	201,7	0,1	1 108,8
Retail	1 563,5	2 440,7	250,7	0,2	4 255,1
Other (including charity)	528,8	5 734,4	201,0	0,3	6 464,6
Overal	3 345,6	13 705,3	1 707,2	1,4	18 759,5

In a similar way, the total tourist costs by groups were calculated for Russian tourists (Table 3).

Table 3. The aggregate amount of tourism spending by groups: Russian tourists.

Direction of costs	Total expenditure, mln. RUB.					Overall, mln. RUB.
	Business	Recreational	Educational	Sanatory	Other	
Transport	309,4	1 116,2	2,8	92,2	20,4	1 541,1
Public catering enterprises	496,3	3 500,8	4,3	161,0	50,7	4 213,1
Communication	0,0	0,0	0,0	0,0	0,0	0,0
Entertainment services	1 128,6	4 486,0	29,7	229,8	95,0	5 969,0
Consumer services	722,4	1 989,5	5,6	166,4	60,8	2 944,7
Medical and health services	755,4	1 887,2	5,3	698,0	32,3	3 378,2
Educational services	712,1	2 178,6	7,4	187,2	33,8	3 119,1
Retail	613,5	4 126,9	4,8	83,6	151,2	4 980,0
Other (including charity)	1 878,2	23 515,9	14,9	139,5	92,3	25 640,7
Overall	6 615,8	42 801,2	74,8	1 757,7	536,5	45 170,2

Further analysis of the data obtained by the above methodology allowed to determine the contribution of tourism to macroeconomic indicators (Table 4).

Table 4. Indicators of the tourism contribution to the economy of Primorsky Krai in 2018.

Exponent	Sum, mlrd. RUB.
GRP 2017	767,4
Growth index in 2018 (forecast), %	4,2
GRP 2018	799,6
Turnover of tourism enterprises	23,0
Direct economic effect	2,9
Turnover of associated industries	51,9
Indirect economic effect	6,5
Overall economic effect	9,4

Tourism-related employment for accommodation facilities was determined based on monitoring data, while the corresponding data for tourism organizations and supporting services and areas was calculated with the expert estimates based on the average values of the number of employees in a community organization and norms of the employees of the service industry per person (Table 5).

Table 5. Estimation of tourism-related employment.

Category	Calculation	Result, thousand people
Places of accommodation	According to the correspondent monitoring	18,51
Tourist companies	the register of tourist organizations lists 274 tourist companies; on average, one organization accounts for 4.2 job places	1,15
Supporting services and areas	according to statistics, 1000 tourists create 13 jobs	39,91

Thus, employment due to tourism in Primorsky Krai is 59.56 thousand people. The share of tourism workers in the total number of employment in the region is about 5.9%.

5. Conclusion

Obtained were the results aimed at the development of the methodology for assessing the contribution of tourism to the macro economical indicators of the region. On the basis of the developed methodology for the assessment of tourist sector, the analysis of the actual indicators of the tourism industry of Primorsky Krai was carried out, corresponding dynamics was evaluated in order to identify positive trends, negative factors and possible ways to improve efficiency. The presented method of monitoring the tourism industry of Primorsky Krai allowed to allocate the share of tourism in the gross regional product using available information resources and official statistics. Using the proposed methodology, the shares of GVA of each of the sections of Russian National Classifier of Types of Economic Activity were calculated based on the corresponding tourist consumption.

References

[1] Krippendorf J 1982 Towards new tourism policies: The importance of environmental and sociocultural factors *Tourism management* vol 3 pp 135–148

[2] Lindberg K, Johnson R L 1997 The economic values of tourism's social impacts *Kent Business Annals of tourism research* vol 24(1) pp 90–116

[3] Aynalem S, Birhanu K Tesefay S 2016 Employment Opportunities and Challenges in Tourism and Hospitality Sectors *ournal of Tourism & Hospitality* vol 5 p 5

[4]   Bos F 2013 Meaning and Measurement of National Accounts Statistics *Munich Personal RePEc Archive* (Munich: Munich University Library)

[5]   Oulton N 2018 GDP and the System of National Accounts: Past, Present and Future *Centre for Macroeconomics/London School of Economics* (London: National Institute of Economic and Social Research)

[6]   den Butter F 2007 National accounts and indicators *Measurement in Economics: a Handbook* ed Boumans M (Amsterdam: University of Amsterdam, The Netherlands) pp 189–230

[7]   Shopova M 2017 Tourism satellite accounts – an information basis for the analysis of tourism expenditure *Economic bulletin of Donbas* vol 4(50) pp 38–43

[8]   Canada A 2013 Regional tourism satellite account *UNWTO Issue paper series* (Madrid: World Tourism Organization) p 52

[9]   Frechtling D C 2010 The tourism satellite account A Primer *Annals of Tourism Research* vol 37(1) pp 136–153

[10]   Matias A, Nijkamp P and Sarmento M 2011 Tourism Economics: Impact Analysis (Berlin: Physica Verlag) p 292

[11]   Ardahaey F D 2011 Economic Impacts of Tourism Industry *International Journal of Business and Management* vol 6(8) pp 206–215

[12]   Gomilevskaya G A, Shchur V V 2016 Cluster method of sea tourism development in Primorski Krai (example of Russki Island) *Fundamental study* vol 12 pp 842–846

[13]   Martyshenko N S 2011 Tourist potential of Primorsky Krai and prospects of development of the tourist industry in its territory *National economy. Mrsatt of innovative development* vol 1 pp 74–88

[14]   Kosolapov A B, Urusov V M 2011 Trends in the development of tourism business in Primorsky Krai *Bulletin of the Pacific State University of Economics* vol 3 pp 21–31

[15]   Surzhikov V I 2017 To the question of the structure of foreign economic potential municipality *Azimuth of scientific research: Economics and management* vol 6 pp 337–341