

THE IMPACT OF INNOVATION ON TOURISM BY CONSIDERING HUMAN RESOURCES AS A GROWTH VECTOR

Nicoleta Georgeta BUGNAR^{a}, Liana-Eugenia MEȘTER^b,
Monica-Ariana SIM^c, Andreea-Florina FORA^d,*

^{a,b,c,d} University of Oradea, Romania

ABSTRACT

Throughout history, tourism has been analysed according to natural resources, infrastructure, inherent qualities of the tourist destination, recreational and transport means, applied managerial procedures, which has led to the search for forms of innovation strictly related to these elements. In terms of development strategies in tourism, the last years have been marked by concerns about the creation of some novelty elements or innovation, which may turn into development vectors. Most studies have analysed the different categories of innovations from the perspective of tourism destinations and products, managerial processes, marketing tools and less in terms of the human resource - innovative process relationship. Too few studies have tried to find a connection between the human resource in tourism (other than top management) and the innovation degree of the tourism product. Our study will test the link between the structure of the employees in tourism, based on their level of training - the income obtained and the degree of innovation in this field to prove the need to overcome a purely quantitative approach to the quality of innovation just by assessing the value of universities, the number of patents and inventions, the number of scientific papers etc. The results obtained support the fact that solving skill deficits of employees can eliminate the main barrier to innovation in tourism, but this implies qualitative and quantitative analyses related to the level of training and the education system the employees come from.

KEYWORDS: *tourism, competition, innovation, employees, level of education*

1. INTRODUCTION

Most tourism studies discuss the economic importance of this sector by measuring the revenue generated by national/international travel, GDP share, impact on the socio - economic environment, sustainability issues etc. In 2014, for example, some member states - Cyprus (12.3%), Malta (14.4%) and Croatia (17.2%), had the highest GDP shares of tourism income; such levels show the utmost importance of tourism for the economies of these countries. In absolute terms, the greatest income from international tourism in 2014 were received by Spain (49 billion EUR) and France (43.2 billion EUR), followed by the United Kingdom, Italy and Germany (all three registering 33-35 billion EUR). Germany had the highest level of spending on international tourism, attaining a total of 70.3 billion EUR in 2014. The United Kingdom (EUR 47.8 billion) and France (EUR 36.7 billion) followed closely after Germany. On the other hand, the main issues that tourism will be faced to in the following years are: demographic aging in Europe, increasing overseas competition, consumer demand for more specialized tourism and the need to move to more sustainable and environmentally friendly practices in the field of tourism. (Eurostat, 2016)

* Corresponding author. E-mail address: nbugnar@uoradea.ro

2. LITERATURE REFERENCES

In this context, under the aegis of the European Commission, the report entitled "Agenda for Sustainable and Competitive European Tourism" (COM – 2007 - 621 final) was published, which proposed action on sustainable destination management, integrating sustainability concerns into the business environment and raising awareness of sustainability.

The Treaty of Lisbon recognized the importance of tourism, outlining a specific EU competence in this area and allowing the qualified majority decision-making. One article of the Treaty states that the EU "complements the action of Member States in the tourism sector, in particular by promoting the competitiveness of Union enterprises in this sector". "Europe, the world's No 1 tourist destination - a new political framework for European tourism" (COM, 2010) was adopted by the European Commission in June 2010. This Communication was intended *to encourage a coordinated approach to tourism initiatives and defined a new framework for action to enhance tourism's competitiveness and sustainable growth potential. The Communication proposed a series of European or multinational initiatives - including a strengthening of the socio-economic knowledge base in the tourism sector - in order to achieve these objectives* (http://ec.europa.eu/eurostat/statistics-explained/index.php/Tourism_statistics/ro).

The tourism is an area in which all natural, cultural and historical factors influence business. The effect of these factors is multiplied by the company's competitive forces, the market and the level of local development. Competition and rivalry in tourism must be analysed on two levels - locally and internationally. At the local level, the competition is manifested from the point of view of the employees, the services provided, the performance level of the company, while at the international level competition refers to the development of attractive tourist destinations for tourists. (Inman, Mesa, Flores & Prado, 2002)

Machiavelli states that - the condition that any small company in the tourism industry develop and cope with competitive forces is that it has the ability to collaborate, form partnerships and integrate into already functioning tourist systems. And this can be considered a form of innovation. (Machiavelli, 2001)

In the last few decades tour operators have begun to see more and more the link between the development of tourism and the increase of innovation. Hjalager states that - in general terms, part of the company's profit has begun to be allocated for the development of new products and destinations, and very little for innovation processes related to the company's internal elements - e.g. human resources, computer science etc. (Hjalager, 1997)

Within the OECD innovation is defined "the search for and the discovery, development, improvement, adoption and commercialization of new processes, new products and new organizational structures and procedures".

The Schumpeterian approach to defining innovation has also been applied in the field of tourism. While Hall's study follows the four OECD innovation categories, Hjalager offers a basic classification close to Schumpeter's typology. (Hall, 2009; Hjalager, 1997)

As mentioned in the OECD and Eurostat reports (2005), the distinction between types of innovation is not easy to achieve because innovations are often associated: innovation in a field leads to further innovations in others. (Barras, 1986)

"Innovation is the process of solving any new problem. Ideas for reorganization, cost reduction, and communication are also innovations. Innovation is the generation, acceptance and implementation of new ideas, processes, products or services." (Hall & Williams, 2008).

Hjalager is among the few authors who has detailed what innovation in tourism might mean production innovations, process innovations, management innovations, logistic innovations and institutional innovations. (Hjalager, 2002)

Abernathy and Clark have developed a model of what tourism innovation could mean, a model covering 4 levels: regular innovations, niche innovation, revolutionary innovation and architectural innovation. (Abernathy & Clark, 1985)

Table 1. Tourism Innovation

		<i>Conserve/entrench existing competence</i>			
<i>Conserve/entrench existing linkages</i>	Regular innovations	Niche innovations			
	Promoting new investments that raise productivity Training proprietors & staff to operate more efficiently Incremental raise of quality and staff	Promote the entry of new entrepreneurs to exploit business opportunities Encourage firms to enter new marketing alliances Combine existing products in new ways	<i>Disrupt existing/Creating new linkages</i>		
Revolutionary innovations	Architectural innovations				
	Diffusion of new technology to the business firms Introducing new methods that shift composition of staff Attachment to the same markets but with new methods	Creating new events & attractions that demand a reorganization Redefining the physical or legal infrastructure Creating centres of excellence that treat and disseminate new operational research-based knowledge			

Source: Abernathy & Clark (1985), p. 7-13.

Another approach to tourism innovation is strictly from the point of view of human resources. Failte asserts that success in tourism is directly influenced by how people are recruited, how they are managed, how they are trained and educated, how they are valued and rewarded, and how they are supported through a career learning process. (Failte, 2005)

There is a real contrast between major multinational tourism companies and smaller operators (operating within certain tourism sub-sectors, especially accommodation and restaurants), where the organization, productivity, employee specialization and pay levels are very low. (Riley, Ladkin & Szivas, 2002)

The empirical and conceptual analysis has disproportionately focused on the hospitality sub-sector and has neglected some major employment areas, such as transport. However, the field of tourism intermediation tends to be more innovative than other segments of the tourism industry. (Weiermair, 2005)

In their study on productivity growth, Blake talk about the impact of different types of innovations. They reveal that accommodation and leisure businesses mainly use marketing, promotional and product tools, while organizational and management innovations are issues that are less focused on as factors contributing to the increase of productivity. (Blake, Sinclair & Soria, 2006)

It has repeatedly been argued that studies on tourism innovation have been rather limited and demonstrated more empirically. (Hjalager, 2002; Sundbo, Orfila-Sintes & Sorensen, 2007)

In the field of tourism, the notion of human resources is directly associated with the creation of the tourism product, training and education, being essential not only for the recipient but also for the society as a whole. The policies for human resources development should not only be analyzed on the basis of economic criteria and the level of vocational training, but also through the social aspects of tourism activities. (UNWTO, 2016).

Hu demonstrated that in the hotel industry, education and knowledge exchange is the first stage of the managerial process. (Hu et al., 2009)

On an increasingly globalized labour market, where the human resource is particularly volatile, the innovation capacity and the employee education levels become the key parameters of success. (Williams, 2006)

In general, this theory has been analysed in top-level areas - IT, communications, robotics etc. - and less in the field of tourism. For the hospitality industry, Pikkemaat and Peters find that innovation is higher in well-known destinations, and smaller in new destinations. This concordance should also be linked to the level of development of the areas considered as well-known destinations, and implicitly to the level of education of the involved workforce. (Pikkemaat & Peters, 2005)

3. METHOD AND TOOL

In the proposed study, the indicators considered are:

- (a) revenue from tourism services - (the amount of tourism receipts in absolute value);
- (b) level of employee training - Less than primary, primary and lower secondary education (levels 0-2); upper secondary and post-secondary non-tertiary education (levels 3 and 4); tertiary education (levels 5-8);

(c) *The Global Innovation Index (GII)* - a scoring system for economies of the world *considering several categories of factors: institutions, human capital and research, infrastructure, market sophistication, business sophistication, knowledge and technology outputs, creative outputs. Each category is divided into subcategories and each sub-category is composed of individual indicators.* The scores for each subcategory are calculated as the weighted average of individual indices, and the category scores are calculated as the weighted average of the subcategory scores; The Global innovation index is a system of indicators with a decisive role in supporting economic growth. GII is considered the benchmark in determining the degree of innovation. Is important for designing policies that help promote economic development to understand the role of innovation. For this reason, the GII includes indicators that go beyond traditional innovation measures such as research and development. (GII, 2015)

The premises of the research are:

- (a) the structure of the employees in tourism, depending on the level of training, directly influences the income obtained from tourism;
- (b) the degree of innovation at the economy level directly influences the income from tourism.

We will use rank correlation analysis as a nonparametric technique to study the links between:

- (a) income from tourism (the amount of tourism receipts in absolute value) and the level of training of employees;
- (b) GII and income from tourism.

The research methodology is based on quantitative and statistical models that will analyse the interdependencies between three economic indicators - the income obtained from the tourism activity, GII and the level of training that the employees of the tourism sector benefit from. The ordering of the values of these economic indicators in an ascending or descending order is achievable for both quantitative and qualitative characteristics, the analysis of the correlation of

ranks being a nonparametric technique for the study of the links between the economic variables chosen.

Spearman's coefficient (SP ρ) is defined on the basis of Pearson's linear correlation coefficient between two variables and has the formula:

$$C_S = 1 - 6\sum d_i^2/n(n^2-1),$$

where:

n - the number of pairs of values ordered ascendingly;

d_i - the difference between the two variables:

d_i = rang x_i - rank y_i

rank i x - the rank of the value i x in the ascending order system;

rank i y - the rank of the value i y in the ascending order system.

The coefficients defined for the quantification of the intensity of the correlation of the ranks have values in the interval [-1,1] and allow the analysis of the correlations for two or more variables.

4. RESULTS AND DISCUSSION

The analysis of the correlation between tourism incomes and the level of education of the employed population in tourism indicates the need to increase the performance-oriented concern through education and higher specialization. Starting from the objective and real interdependence of income and certain factors on which income levels depend, the correlation between tourism income and the level of education in tourism in the EU among 2010-2015 was subjected to a statistical analysis.

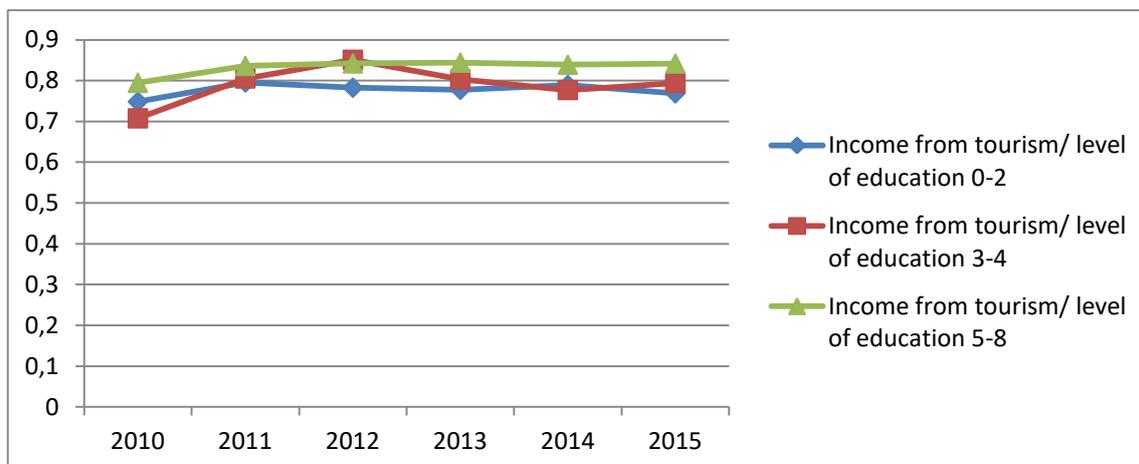
According to the level of education, in the structure of the employed population at EU level, in 2010, the secondary level prevailed, representing a total of 49% (in the case of the female 49% and in the case of male labour the share of this level of education was 50%). The second place in the structure of the employed population in the EU places the tertiary level in the same year, accounting for 29% of the total (26% for men and 32% respectively for women), followed by the primary one, with a share of 22% per total (23% for men and 20% for women respectively). By level of education, in the period 2010-2015, in the structure of the employed population, the share of employees with primary education level is 47.63%; the tertiary level with the weight of 30.04%, followed by the secondary one with a weight of 22.33%, is placed in the second place in the structure of the employed population in the EU. The method used for statistical analysis of the correlation between tourism incomes and the level of education in tourism in the EU over the period 2010-2015 is the nonparametric correlation of Spearman type. Based on data collected from Eurostat and grouping the considered countries (EU members) in order to apply the proposed method, the data synthesized in *Table 1* and represented in *Graph 1* were obtained from the calculations made using the Spearman correlation coefficient.

**Table 2. Correlation coefficient of Spearman ranks
(Income from tourism – level of education)**

Correlated indicators Years	Income from tourism/ level of education 0-2	Income from tourism/ level of education 3-4	Income from tourism/ level of education 5-8
2010	0.7484	0.7075	0.7948
2011	0.7954	0.8052	0.8363
2012	0.7826	0.8510	0.8421
2013	0.7772	0.8029	0.8442
2014	0.7892	0.7769	0.8390
2015	0.7687	0.7941	0.8418

Source: accomplished by processing the data from the *Global Innovation Index*, <https://www.globalinnovationindex.org>, Eurostat, <https://ec.europa.eu>

**Figure 1. Evolution of correlation of Spearman rankings
 (Income from tourism – level of education)**



Source: realized using data from Table 1

Considering now the results as correct, at least the following conclusions can be drawn:

(a) There is a direct and strong dependence between the income from tourism and the level of education for each year and on each of the three levels of education considered (income from tourism / education level - values of the Spearman coefficient are between 0.70 and 0, 85, so close to the maximum, i.e. 1, which means that the level of education indicator was a strong incentive for the income obtained in tourism, income that implies access to education (Table 1). At the beginning of the analysed period, in the period following the economic crisis (2010-2012), the correlation slightly increases in intensity (especially for the level 3-4 of education), which can be explained by the awareness and the need for higher level of specialization in tourism to the detriment of other factors (e.g., technical factors: operations that do not require a higher level of education, greater efficiency of middle-aged employees, etc.). This situation can be attributed to the fact that during this period the financial resources allocated to education have increased, but also to the fact that the prospects for tourism employment of the highly qualified /specialised staff can increase performance and, implicitly, revenue from tourism, especially in the countries with numerous population affected by the economic crisis. Since 2012 there has been noticed a slight decrease in the correlation between income and the number of employees in tourism that have an average level of training and a constancy regarding the number of employees with primary and higher education.

(b) The strongest link between tourism incomes and education levels is recorded in 2012 (for education level 3-4) when the correlation coefficient is 0.8510 and reflects the opportunity to develop a workforce capable of rapidly recovering some shortcomings of the recent crisis.

(c) The strongest and steadier correlation is found at the level 5-8 of education, which had an ascending evolution, reflecting the fact that in tourism it is necessary to have higher qualified personnel able to create new ways and sources of income not only to correctly exploit the existing ones.

(d) The weakest link is between tourism incomes and level 0-2 of education, but this is also strong and exceeds 0.74, indicating that the respective educational segment is a very good performer for specific activities anchored in the day by day practice.

It follows that education is one of the main ways to increase tourism revenue that needs to be approached as such. This can also explain that smaller countries (in point of territory) have very high income (Denmark, the Netherlands, Sweden, Finland and Ireland) - all of them showing a substantial rise of the tourism educations every year.

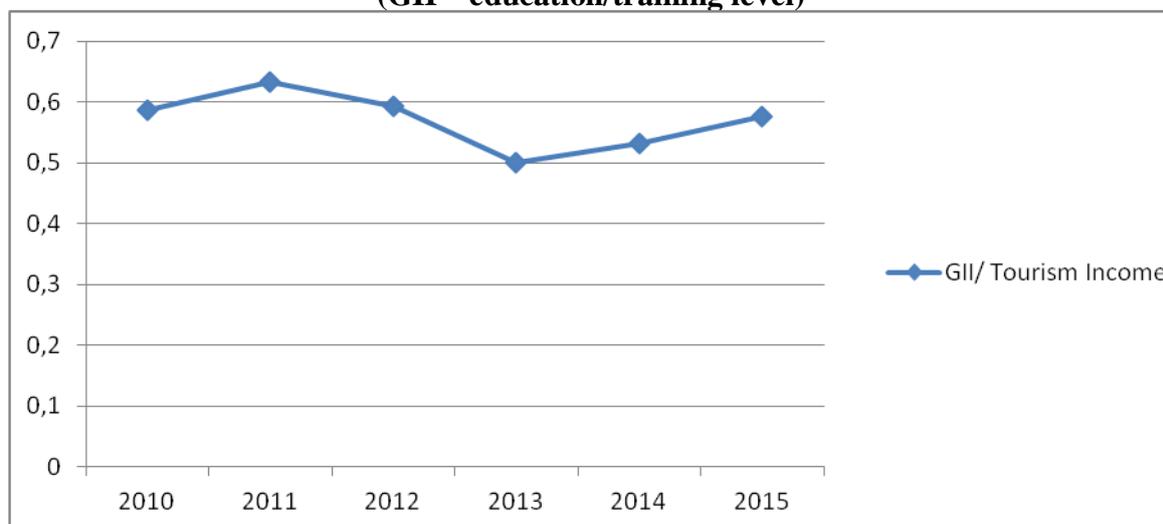
Achieving higher tourism revenues also allows investment in this area to grow, but it needs to take account of top-level standards and even improve them to become more efficient. In this respect, the correlation between income from tourism and innovation (GII) was analyzed, resulting in the fact that there is an intense direct dependence between them, the Spearman correlation coefficient exceeding 0.5 every year.

**Table 3. The correlation coefficient of Spearman ranks
(GII - Tourism Income)**

Years	Correlated indicators	GII/Tourism Income
2010		0.5860
2011		0.6336
2012		0.5934
2013		0.5002
2014		0.5322
2015		0.5758

Source: accomplished by processing the data from the *Global Innovation Index*, <https://www.globalinnovationindex.org>, Eurostat, <https://ec.europa.eu>,

**Figure 2. The evolution of Spearman Rankings correlations
(GII – education/training level)**



Source: realized using data from *Table 2*

Innovation could be a good way of increasing revenue in countries with high tourist potential but not properly capitalized for various reasons (including RO). Consequently, there is a need for pragmatic high level education, but also for research, creativity and adaptation to the actual time and space realities, for the state involvement through facilities for investors (through a minimum taxation, shopping trips or tourism fairs etc.).

5. CONCLUSION

Whatever the motivation of innovation - to improve the services offered or to maintain the market share, it will lead to differentiation of services and will offer benefits to both consumers of tourism services and tourism services providers. The analysis of the permanence and the trends in the

tourism market are essential in developing and substantiating appropriate policies and programs for development and innovation. Tourism policy is a key topic in tourism research and development, being the responsibility of the local, national and supra-national government bodies. Here comes the role of the state as a coordinator, planner, regulator. A major role emerges from the partnership between educational systems and business partners, including the creation of incubation networks and facilities for current and future firms. The study suggests a positive correlation between the inclination to innovate, the education and training system on one hand, and the success of the business on the other. However, the impact assessments are far from exhaustive. At present, the use of on-line booking and sales of tourist products are key incentives for tourism innovation, which requires a certain specialization, the education of both employees and tourists. It is very clear that skills shortages are barriers to tourism innovation. Moreover, it is necessary to develop a system of production and dissemination of the knowledge given by the educational system in the business environment.

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