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## PATTERNS IN YOUTH TOURISM AMONG EU COUNTRIES

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### Abstract

Even if there are still wide gaps between European countries, the youth tourism is spread throughout all business in EU market. The main goal of this paper is to determine the main characteristics of youth tourism (15-34 years people with at least one overnight stay in a tourist accommodation establishment) in European Union countries, based on Eurostat indicators for 2012-2017. Patterns like overall status, earning & spending, individual interest for tourism and dynamics are revealed and explain almost 70% of total variability. Moreover, Romania seems to be one of the biggest youth tourism industries in Southeastern Europe due to its size mostly, but the performance of the sector is still quite low.

### Keywords

Country profile, Principal Component Analysis, Regression model, Tourism.

### JEL Classification

C38, C52, L83

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### Introduction

Due to the increasing role of tourism activity in enhancing new economic opportunities, researchers all over the world have tried to identify its determinants and to find the best ways to maximize its efficiency. Youth tourism represents a specific market segment within tourism. Its importance is constantly increasing as the segment is rapidly developing based on its characteristics of an early adopter.

Khoshpakyants and Vidishcheva (2010) prospected this new, fast-growing sector. They provided basic definitions of the essence of youth tourism, and statistics for the sector over the last decade as well as the most popular destinations

Horak & Weber (2014) elaborated the concept of youth tourism, describe its characteristics, and then analyse the mobility and expenditure of this dynamic tourism market in more detail. Youth hostel accommodation capacity and travel flows in European countries are analysed and the main features of tourism products intended for young travellers are identified. Moreover, prospects for development of youth tourism in Europe are emphasized based on important key factors.

Bizirgianni & Dionysopoulou (2013) restates that the everyday life of young people is affected by Internet and social media (SM) is increasingly gaining ground in their activities. The importance of youth tourism and SM as a field of interest for policymakers and researchers leads the tourism industry to realize the needs of young people through this change and respond to this challenge with strong presence in social media around the world. Instead of methods of aggressive marketing through products and services sale centers,

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tourism market create places for exchange of views, advices, audio-visual material and anything that would attract the traveller and familiarise him with the philosophy of travel. In this way the promotion of tourist products and services becomes smoothly. (Bizirgianni & Dionysopoulou, 2013).

While youth tourism and cultural tourism – two increasingly important segments of tourism activity – have been widely researched, Pansukum & Swanson (2013) saw the opportunity of further examining the intersection of youth travel demand and cultural tourism supply.

On the basis of existing available sources and knowledge, this paper attempts to elaborate the country profile from youth tourism perspective, describe its characteristics, and then analyses the factors that might influence one of the key aspect in tourism - the expenditure variable.

### **Data and methodology**

The analysis aims at identifying the country profile for tourism of young people (15-34 years old), considering the tourism expenditure, volumes and the dynamic of the latest 5 years (2012-2017) for all 28 countries of European Union. Principal Component Analysis is conducted on EUROSTAT data, covering 28 European Union countries, for 2017 compared to 2012. The analysis covers twenty-nine variables characterizing the tourism environment for 15-34 years old segments as well as socio-economic environment describing other elements influencing the tourism activity in European Union countries.

With approximately 2 million passengers per year, in the period 2012-2017, we see that Romania is on the top 10 UE countries. But if we take into account the total young population in each country, the ranking changes dramatically. Thus, depending on the rate of young tourists, Romania ranked last, with 36% of young people going on a journey for at least one night. In the same situation, with a percentage below 40% there are only 2 countries: Portugal or Greece. In terms of spending/tourist, Romania, alongside Latvia and Czech Republic, is among the last three ranked countries with the lowest amount of expenditure per young tourist below 150 Eur per year.

Considering total number of trips made by the young people, Romania is in the top of the rankings with Austria, with 7 million trips per year in 2017, but taking into account the total expenditure in tourism made by them, young Romanians are sending only 1 billion Euros like those from Slovakia, Croatia and Hungary. The young people from these countries travel on average 3 times per year, 4 nights/trip, during which they spend about 710 €. Both the number of nights/trips and the travel/tourists are lower for these countries than for the other UE countries.

In order to identify significant influence factors on the tourism by youngsters in recent years, as well as various patterns in countries' touristic behavior it is used a principal component analysis (PCA). This method is usually used to reduce the complexity of the data and to present the information on fewer dimensions when all the variables are quantitative. It is mathematically defined as an orthogonal linear transformation that projects the data to a new coordinate system (which is made by principal components) in order to obtain the greatest variance explained by this projection of the data. The variables used in defining patterns of youth tourism are described in Table no.1.

**Table no. 1 Youth tourism: KPI set**

Variable	KPI	Formula & Significance
Target population 15-34 yo	Participation in tourism for personal purposes by 15-34 yo segment for at least one overnight stay in a tourist accommodation establishment (number of tourists)	Number of tourists 15-34 yo calculated as: -a level for 2017 -difference vs 2012 -percentage vs 2012 -weight in total no of tourists -weight in total population 15-34 yo
Number of trips made by a tourist 15-34 yo for at least one overnight stay in a tourist accommodation establishment [tour_dem_ttage]	2017 Trips 15-34 yo % Domestic of total Trips 2017 vs 2012 % Trips 2017 vs 2012 2017 Trips/person 2017 Trips/tourist	Number of trips made by a tourist 15-34 yo calculated as: -a level for 2017 -difference vs 2012 -percentage vs 2012 -average per person -average per tourist
Number of total nights spent by a tourist 15-34 yo for at least one overnight stay in a tourist accommodation establishment [tour_dem_tnage]	2017 Nights spent % Domestic of total Nights 2017 vs 2012 % Nights 2017 vs 2012 2017 Nights/trip 2017 Nights/tourist	Number of nights spent by a tourist 15-34 yo calculated as: -a level for 2017 -difference vs 2012 -percentage vs 2012 -average per trip -average per tourist
Expenditure made by 15-34 years old segment [tour_dem_exage]	2017 Expenditure by 15-34 yo % Domestic of total Expenditure 2017-2012 % Expenditure 2017 vs 2012 Expenditure/trip/tourist Expenditure/night	Value of total expenditure made by a tourist 15-34yo for a 1 night & over trip calculated as: -a level for 2017 -difference vs 2012 -percentage vs 2012 -average per trip -average per night (Euros or euros per night or per trip or %)
Socio-demographic by 15-34 years old segment	Hourly earnings in industry At-risk-of poverty rate Housing cost overburden rate Self-perceived health-very good	

Source: made by the authors based on EUROSTAT databases accessed on 13<sup>th</sup> of April 2019

**Patterns in youth tourism**

By applying PCA the projection of data on the first four principal components preserves 68.2% of the total inertia (27.1% for the first axis, 20.1% for the second axis, 11.1% for the third axis and 9.8% for the fourth axis).

**Table no. 2 Rotated Component Matrix**

		Component			
		1	2	3	4
Overall status	2017 Nights spent by 15-34 yo	,964	-,006	,060	,031
	2017 Expenditure by 15-34 yo	,960	,100	,128	,120
	2017 Trips 15-34 yo	,944	-,079	,106	,037
	2017 Tourists 15-34 yo	,927	-,079	-,046	-,094
	2017 Estimated population by 15-34 yo	,897	-,140	-,117	-,160
	Expenditure by 15-34 yo 2017 vs 2012	,624	,195	,219	,568
	2017 % tourists 15-34 yo of total tourists over 15 yo	-,420	,147	-,205	-,054
Earning & Spending	2017 Expenditure/trip/tourist 15-34 yo	,120	,834	,112	,223
	2017 Expenditure/night 15-34 yo	,079	,639	,451	,273
	% Domestic nights of total by 15-34 yo	,248	-,881	-,079	-,140
	% Domestic trips of total by 15-34 yo	,270	-,842	,097	-,133
	% Domestic expenditure of total	,320	-,766	-,178	-,088
	2017 Nights/trip by 15-34 yo	,147	,577	-,555	-,094
	2014 Hourly earnings in industry per less than 30 yo group in Eur	,257	,559	,453	,149
	2017 At-risk-of poverty rate by 15-34 yo	-,137	-,410	-,480	,303
Individual interest for tourism	2017 Trips/person 15-34 yo	,132	,074	,917	,105
	2017 Trips/tourist 15-34 yo	,177	-,030	,896	,195
	2017 % Personal purposes for 15-34 yo	,089	,345	,688	,188
	2017 Nights/tourist 15-34 yo	,320	,364	,631	,252
	2017 % tourists of population 15-34 yo	,000	,469	,582	-,037
	2017 Self-perceived health- very good by 15-34 yo	-,013	,230	-,541	,006
	2017 Housing cost overburden rate by 15-34 yo	,208	-,254	-,471	,077
Dynamics	Trips by 15-34 yo 2017 vs 2012	,161	,072	,051	,831
	% Nights spent by 15-34 yo 2017 vs 2012	-,042	,411	,138	,730
	% Tourists by 15-34 yo 2017 vs 2012	-,148	,035	-,185	,701
	% Trips by 15-34 yo 2017 vs 2012	-,194	,234	,122	,694
	% Expenditure by 15-34 yo 2017 vs 2012	,017	,153	,350	,693
	Tourists by 15-34 yo 2017 vs 2012	,109	-,161	,037	,673
	Nights spent by 15-34 yo 2017 vs 2012	,345	,378	,049	,492

Source: made by the authors, using SPSS 20, based on EUROSTAT databases accessed on 13<sup>th</sup> of April 2019. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 7 iterations.

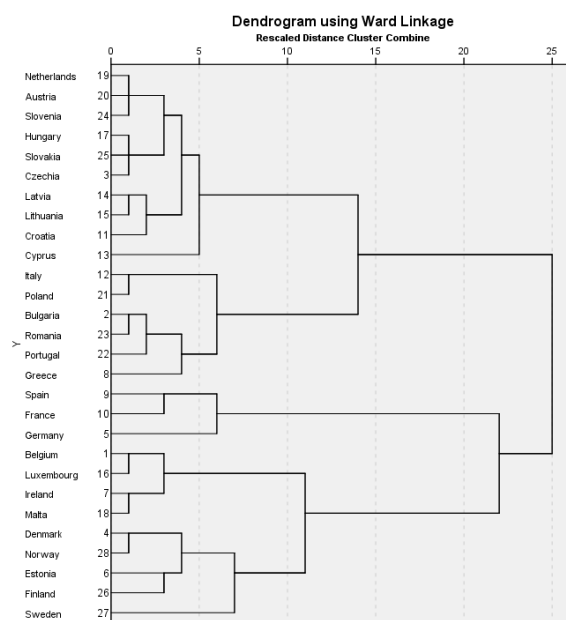
The first axis is determined positively by the variables regarding the *overall status* of tourism considering 15-34 years old segment: number of total nights spent by a tourist 15-34 yo for at least one overnight stay in a tourist accommodation establishment in 2017, expenditure made by 15-34 years old segment in 2017, number of trips made by a tourist 15-34 yo for at least one overnight stay in a tourist accommodation establishment in 2017, number of tourists 15-34 yo in 2017 and total population 15-34 yo. Moreover this component is determined positively by the changes in expenditure of 15-34 yo tourists in 2017 compared to 2012. On the negative side, this component is determined by the proportion of young tourists (15-34 yo) out of total population of tourists (15 yo and over).

The second axis is related to *earning and spending* because it accounts some of the most important aspects regarding consumption and expenditure issues that individuals might face when visiting. On the positive side there are average expenditure per trip, average expenditure per night, number of nights per trip for the spending area and hourly earnings in industry per less than 30 yo group for earning area. On negative side there are % of domestic area out of total (domestic + outbound) as a strong influencer on total expenditure due to lower cost for domestic tourism and At-risk-of poverty rate by 15-34 yo.

The third axis is related to *individual interest for tourism*: counting for number of trips that a person aged 15-34 years old may have or how many nights a tourist might spend on a trip, or the percentage of tourist in population. On negative side this component is determined by Self-perceived health as very good and Housing cost overburden rate.

The fourth axis is related to *the dynamics* in tourism of youngsters as long as all relative indicators (with one exception) are highly related to this component.

Moreover, we have used Ward Method in order to create some homogenous groups of countries related to the tourism of youngsters. This method is a hierarchical clustering technique used to create homogenous groups with the minimum variance within the groups. By applying this technique on selected data, three clusters were defined. (fig. no. 1)



**Fig. no. 1 Dendrogram using Ward Linkage**

Source: own representation based on Eurostat databases

First cluster contains 9 countries (Belgium, Luxemburg, Ireland, Malta, Denmark, Norway, Estonia, Finland, Sweden) with highest level of tourism among young people: these

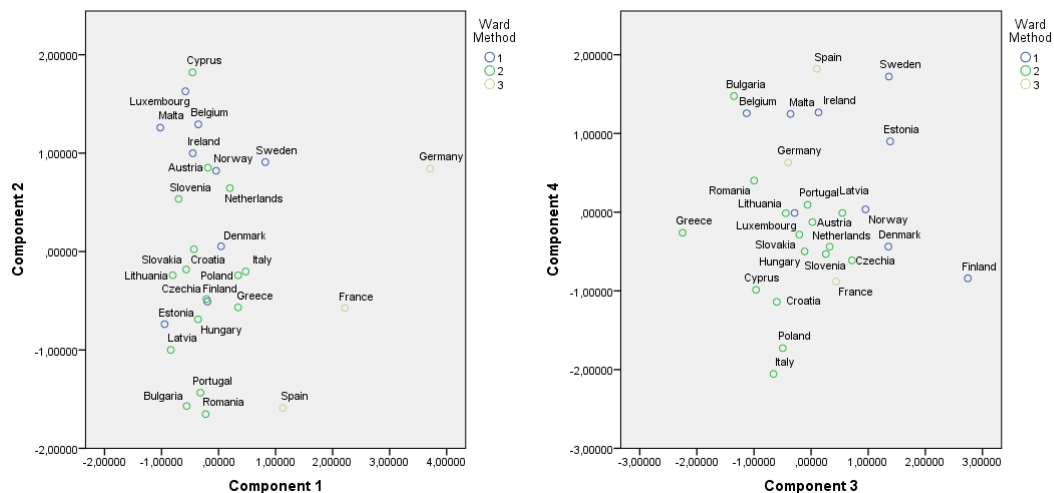
countries have the highest number of trips per tourist and highest level of spending per tourist. The second cluster contains 16 countries (Netherlands, Austria, Slovenia, Hungary, Slovakia, Czech Republic, Latvia, Lithuania and Croatia, Italy, Poland, Bulgaria, Romania, Portugal, Greece) with the other extreme, the lowest number of nights spent on a trips by 15-34 years old segment. The third cluster is made up by the largest countries in Europe, Germany, Spain and France, having by far the highest total expenditure on tourism due to the highest number of tourists on youth segment.

By representing the countries on the first four principal components (fig. no. 2), it could be observed that countries such as Germany, Spain and France have the highest values for first component, *Overall status*. In these countries the number of young tourists is the highest in EU. As long as the determinant of the first axis on the negative side is the proportion of young tourists (15-34 yo) out of total population of tourists (15 yo and over), we could say that these countries have the highest number of young tourists because they have the highest number of population, not because the youngsters travel more in these countries compared to the others.

Countries like Cyprus, Luxembourg, Malta and Belgium have highest values of the *Earning & Spending* axis meaning that they have the highest spending among EU countries and the lowest level of domestic tourism. Countries like Romania, Bulgaria, Spain and Portugal have lowest spending per tourist due to highest domestic tourism percentage.

Considering third component, *Individual interest for tourism*, northern countries Finland, Denmark, Sweden and Estonia are the first ones with more than 8 trips per year for 15-34 years old segment with low levels of Self-perceived health as very good and Housing cost overburden rate. On the other side, the Greece is ranking the last in terms of the number of trips per youngster with 1.6 trips per year per tourist and the tourism is mainly domestic.

In terms of the *Dynamics* of tourism among youngsters Italy, Poland and Croatia are scoring last. They have registered the decreases in terms of youngsters' tourism in 2017 compared to 2012. Spain, Sweden, Bulgaria, Belgium, Malta and Ireland are experiencing strong movements toward youth tourism.



**Fig. no. 2** Projection of countries on the first four principal components

Source: own representation based on Eurostat databases

## Conclusions

In this paper the Principal Component Analysis and clustering techniques were conducted in order to identify the profile of youth tourism participating countries, using determinants of tourism demand and socio-economic indicators in absolute and relative ways. Four main

components were extracted from the initial data set, concentrating almost 70% of the total variability of the data. Some general patterns are identified. High developed countries (like France, Germany and Spain) with high number of populations have the highest number of young tourists. Countries with low levels of earnings and high risk of poverty (Romania, Bulgaria, Spain and Portugal) register the lowest expenditure levels for travels compared to other EU countries. In countries with low levels of housing cost overburden and high levels of personal purposes (Finland, Denmark, Sweden and Estonia) young people are highly interested in tourism, making more than 8 trips per year. Finally, there are observed some countries like Spain, Sweden, Bulgaria, Belgium, Malta and Ireland which are experiencing strong movements toward youth tourism.

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