National Brand, Tourism and Human Development: Analysis of the Relationship and Distribution

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Abstract

Purpose: This paper aims to determine features of the relationship between human development, tourism and national brand. **Research design, data and methodology:** ranking indicators, cluster analysis, K means method, correlation analysis. **Results:** The analysis covers data for 95 countries for 2019. The number of countries is justified by the availability of comparable data for calculations. A direct relationship between the indicators for the entire sample has been revealed in the result of the correlation analysis. However, this relationship has not been confirmed for the groups of countries that were formed through the cluster analysis. Spearman Rank Order and Kendall Tau Correlations have been calculated for the five obtained clusters. In two of the five clusters, the relationship between the indicators has not been found. A strong negative link between all the indicators has been detected in the cluster with average index values. A strong positive link between TTCI and BSI has been revealed in the group of countries with the best index values. A strong positive link between TTCI and HDI has been found in the group of countries with the worst index values. **Conclusions:** The analysis demonstrates that there is a relationship between BSI, TTCI and HDI, and while this link is observed for the sample as a whole, it is not homogeneous for groups of countries.

Keywords : National Tourist Brand, Human Resources Development, Brand Strength Index (BSI), Travel & Tourism Competitiveness Index (TTCI), Human Development Index (HDI), Relationship And Distribution Between Indicators.

JEL Classification Code: M31, O15, Z32, C38

1. Introduction

The wish and desire to visit a definite country and, consequently, the number of tourist arrivals, in a certain way depend on the country image that has been formed in the potential visitors' minds. None of the states that have promoted their national brand has lost in the fierce competition in the global tourism market. The state's urgent task is to support the national brand because individual tourist companies, even quite large ones, often do not have sufficient financial resources and appropriate opportunities to implement the brand strategy at the national level.

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A strong national brand does not only stimulate the flow of tourists to the country, thereby creating distributional effects in the economy and society, but also encourages intercultural communication, develops cultural exchange, promotes tolerance and patience in the religious, racial, national aspects. Along with the tourist flow increase and the corresponding growth of revenues from tourism, which contributes to the country's economic growth, a well-established national brand activates employment in tourism as well as in related sectors of the economy.

The development of tourism also positively impacts other areas promoting intercultural exchange, increasing the level of subject knowledge and communication skills in society. In addition, the expansion of tourist flows, initiating the creation of jobs, intensifies distribution of work places and competition in the labor market, thereby motivating the personnel employed in the tourist sector to improve their educational level and qualifications. Thus, the famous national brand stimulates economic as well as human development creating the basis for the realization of opportunities. In this way tourism indirectly affects the improvement of human development in the host destination.

2. Literature Review

2.1. Branding, national brand and tourism brand

Advantages of branding in terms of countries are undeniable and have been thoroughly studied by many scholars (Durmaz & Yaşar, 2016; Hassan & Mahrous, 2019; Kotler & Gertner, 2002; Mariutti, & Tench, 2015; Pop, Baba, Anysz, & Tohanean, 2020; Szondi, 2006). At the same time destination branding, place branding, nation branding are different names of the relatively new concept which has evolved from conventional marketing, has acquired special significance for tourism and hospitality and is now under detailed study (Almeyda-Ibáñez & George, 2017).

As far as tourism is undergoing radical changes nowadays, the creation of the profound national brand of a country as a tourist destination is of paramount importance. The national tourist brand is considered from different perspectives – as a multifaceted phenomenon representing symbolic and emotional value for a consumer and having a lasting long-term effect in the tourism highly competitive market (Moilanen & Rainisto, 2009), as an area that has to be "thematised" according to the specifics of the territory (history, culture, sustainability, etc.) and becoming in this way a brand equity (Chan & Marafa, 2018), as the authenticity of the local life-style which includes intangible elements like language and music along with cultural heritage and "made in" (Youssef, Friel, & Giaccardi, 2018), as a source of multisensory experiences provided by creative

marketing and destination attractions (Bell, 2005; Rodrigues, 2018) or just as a single event that represents the whole territory and creates positive publicity (Borges, Vieira, & Rodrigues, 2018), as an investment opportunity that provides business opportunities in tourism in terms of human capital development, information and communication technologies implementation, supporting sustainability and competitiveness on a world-wide basis (Isdarmanto, Dwiatmadja, Sunarto, & Abdi, 2020). Besides, this phenomenon also includes "political awareness" as a part of national perception audit (Dinnie, 2008).

2.2. National brand, tourism and human development

Some researchers, having analyzed the good-practice models of nation brand implementation in various countries, propose definite steps to develop and promote national brands that can positively influence almost all spheres of a country including tourism as well (Pop et al., 2020). Of special interest is representation of the tourist destination brand image development with the stages of consumer consumption thus clearly defining tourists' demands and the tourism stakeholders' tasks and objectives to meet those demands (Manhas & Manrai, 2016). Although countries understand the importance of creation of the memorable national brand, the process produces lots of challenges and difficulties (Szondi, 2006), sometimes leads to misunderstanding among the policy makers and lack of good will (Andrei, 2017).

The necessity to develop human resources in tourism and in different countries of the world, namely in Asia and Pacific (Soh, 2008), Africa (Nana, 2017), India (Rekha & Reddy, 2013; Sharma, Mohapatra, & Giri, 2020), Korea (Kim, 2012), South American countries (Croes, Ridderstaat, & Shapoval, 2020), Ecuador (Rivera, 2017) has been repeatedly discussed by numerous scholars. It has been pointed out that advances in tourism positively influence human development in the long-term perspective through widening the international contacts, knowledge and technology distribution (Katunian, 2019; Tan, Gan, Hussin, & Ramli, 2019;). Some aspects of such interdependence, namely, the progress in tourism, affected by the digitalization process, and changes in the human capital strategies also come to the fore (Stryzhak, Akhmedova, Leonenko, Lopatchenko, & Hrabar, 2021). The influence of tourism on the country's welfare and personnel efficiency in this sphere demonstrate ambiguous results as it highly depends on the state's activity, namely subsidizing, public infrastructure investments, taxes and so on (Stauvermann, & Kumar, 2017). The beneficial and significant relationship between tourism and human capital development is unquestionable but its level and extent depends on various

factors such as country's economic growth in general, social and political situation, local residents' life quality, as well as personal capabilities of an individual (Biagi, Ladu, & Royuela, 2016; Fahimi, Akadiri, Seraj, & Akadiri, 2018; Khan, Bibi, Lorenzo, Lyu, & Babar, 2020).

The specific non-linear dependence between tourism and human development was traced by Chattopadhyay, Kumar, Ali, and Mitra (2021). The authors prove that there is not any single factor concerning tourism that positively influences human development, it rather depends on the general economic development of a country and the way the government distributes the income among social spheres that further lead to the human development in different fields.

The importance of distributional effects in economy, foreign policy and public regulation, which may either aggregate or fraction consequences, has become a topical discussion (Eswar S. Prasad, 2014; Meckling, 2015; Pistor & Cafaggi, 2013), thus influencing all spheres of social life and providing certain challenges for governments.

The effects of distribution in tourism are also of great interest. They can help either to intensify the general positive effects or reduce the adverse ones (Sugiyarto, Sinclair, & Blake, 2014). Their impact on different spheres of economic activity, namely environment, livelihoods, income and even gender, are considered in detail by Lemma (2014) demonstrating direct, indirect or induced impacts on society.

However, despite the fact that the issues of branding as applied to the tourism industry are rather well developed, some problems of national brand influence on tourism and human development have not been sufficiently covered in the contemporary literature. It can be assumed that there is relationship between the degree of the national brand awareness, the tourism industry progress and the level of human development in the country.

To confirm this, it is useful to test this relationship using indicators for evaluating tourism, national brand and human development.

The paper objective is to assess the degree of relationship between the national brand, the tourism and the human development.

2.3. The formulation of the hypothesis

Research hypothesis 1 is as follows: the national brand, the tourism and the human development are interrelated.

Research hypothesis 2 is as follows: the relationship between the national brand, tourism and the human development is not the same for different countries.

Research hypothesis 3 is as follows: to demonstrate the differences in the distribution of indicator means in groups of countries.

3. Research Methods and Materials

3.1. The sense of brand

In the broad sense, a brand is a certain image of a product or service in the consumer's mind. The American Marketing Association (AMA) gives the following definition of a brand: it is "name, term, sign, symbol, or design, or a combination of them, intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competition". In other words, the moment a marketer designs a new name, logo, or symbol for new goods or services, he/she designs a brand which means much more than just a product and acquires special essence, connotations and significance for a consumer which can be defined as brand's tangible and intangible assets (Kotler & Keller, 2016).

Aaker associates brand with a box in a person's head where information about brands is stored along with their characteristics - positive, negative or neutral and which become a key factor when deciding whether to buy a product or not. At the same time a brand can be represented as a ship where its ship crew is like a brand management team performing all actions necessary for ship's successful functioning. Besides, the author also considers all multifaceted aspects of a brand including brand image, identity, value, equity, personality, positioning; brand quality, awareness, loyalty, associations; corporate and product brands (Aaker, 1996). Later on (Aaker, 2004) he delves into brand assets of a corporate brand, threats and challenges that may occur. The scholar proposes a brand equity model where explains how these assets create values for customers. The issues of brand equity in regards to strategic brand management were also thoroughly studies by Keller, Parameswaran, and Jacob (2015).

Anholt (2007) argues that "a brand is a product or service or organization, considered in combination with its name, its identity and its reputation" and in this way making no distinction between a brand and a product. At the same time the scientist provides an interesting research on the "country of origin effect" and consumers' behaviors connected with this phenomenon (Anholt, 2007). Aitken and Campelo (2011) prove that the brand forms "a sense of a place", becomes a root of influence, responsibility and relationships possible only in co-ownership.

3.2. The tourist brand

Tourist brand is understood as an image of a destination in the understanding of a potential visitor. The national brand exists independently of someone's likes or dislikes, wishes or aspirations because each nation is associated in a certain way at the international level be these associations

positive, negative or neutral. The national tourist brand is essential for the country attendance as the individual's decision to choose a particular tourist destination is based primarily on the information available. Thus, the informative function of the tourist brand serves as a reference point for any trip planning. Widely advertised, well-established tourist destinations have no shortage of those wishing to visit them even in periods of the decrease in tourist demand. Tourist brand, in addition to its informative function, is a reflection of the image of a destination, territory, country. Positive image that has been formed over a long period favorably distinguishes travel service provider among competitors and with increasing competition in the tourism market the value of the tourist brand will improve.

The development of territories, destinations and the country as a whole is impossible without a proper policy of national branding. Various components of a country's image constitute its national brand. Ukrainian national brand is often associated with such concepts as vyshyvanka, varenyky, borsch, salo, Maidan, Chernobyl, Serdiuchka, etc. Thus, the brand includes both components of cultural and historical heritage and national identity as well as specific features of the new reality inherent in the country. However, in addition to traditional components national brands may reflect the latest trends in culture, art, music, etc. For example, phenomena such as Gangman style, Pokemons, anime, or locations such as Dracula's castle, hobbit village, etc. last year's encourage people to visit certain places. And what is more, the attendance of these destinations is often higher than the places of traditional cultural tourism. The formation of a national tourist brand is also facilitated by various events both national and global such as the Olympics, world championships and other sports competitions, song contests such as Eurovision, film festivals (Cannes, Venice, etc.), award ceremonies (Oscar, Nobel Prize, etc.).

3.3. The tourist brand and human resources

The impact of the tourist brand on human resources is carried out indirectly. Well-known tourist brand stimulates the tourist flow to the host destination, thereby performing the advertising function. The increase in the number of tourists correspondingly increases tourist demand for basic and related tourist goods and services stimulating the growth of employment and income in the tourism industry and related sectors of the economy. In addition, long-term tourist demand encourages the staff to acquire certain knowledge and skills necessary for work in the service sector. Accordingly, the demand for educational, consulting, legal, insurance, logistics and other services in tourism and hospitality drives up that ultimately leads to an increase in the general educational level of the population and also leads

to intensification of competition in the labor market and intensifies labor migration. Increased competition in employment has a favorable effect on the tourism industry because competitive processes ultimately contribute to improving the quality of services.

3.4. Data analysis

There are several approaches that are used to assess the national brand. The best known approaches are as follows.

1. The Anholt Ipsos Nation Brands Index (NBI) (Anholt, 2007). According to the approach proposed by the company, the brand rating is based on the perception of the six main vectors of development: tourism, people, investment and immigration, export, politics, culture and heritage. On the basis of the assessment of these six components a national brand rating is compiled. However, the national brand rating obtained with the help of this methodology has no monetary value and is subjective in nature as it represents a generalization of the survey data about the country brand components submitted by citizens. The company annually compiles a rating of both national brands and industry brands. The methodology is not publicly available, which complicates its application and the possibility of practical use for brands' self-assessment.

2. The approach developed by Brand Finance is integral and involves brand assessment based on the calculation of three components:

1) brand strength is determined taking into account 26 indicators on a 100-point scale. Depending on the results of the assessment each country is given an appropriate rating similar to a credit rating;

2) country royalty estimate is calculated on the basis of average royalty rates for the leading industries and includes a five-year forecast of goods and services sales in each country (International Monetary Fund (IMF) data is used for the calculation);

3) projected profit is calculated on the basis of the average value of brand sources accounting for the discount rate and adjusting for the local income tax rate.

As a result, the Brand Strength Index (BSI) is formed by 100 indicators in three areas and each country is given a specific ranking in this general index.

This approach is rather popular among different companies and helps not only analyze a brand but measure brand financial value, receive comprehensive insight into its strengths and weaknesses, forecast directions of the brand development as a unique and valuable asset.

3. Futurebrand methodology focuses primarily on the brand image perception and is essentially a modification of the approach proposed by Anholt. The brand is evaluated by respondents by answering a questionnaire concerning the brand attributes of the country and its perception in the world. This brand assessment is based on the brand equity

approach and is subjective in nature because brand value is defined by consumers. At the same time, it is of great value for the country brand management because it makes possible to evaluate the country's competitive advantages, regional peculiarities, cities ranking, resistance points and resilience margin.

4. Bloom Consulting Country Brand Ranking is calculated in order to assess a country's brand reputation from the perspective of the global community. The ranking is based on the five components presented on the branding wheel, namely: Attraction of Investment, Tourism and Talent, Strengthening Prominence and Export. The ranking determination, according to this approach, also involves surveys and interviews, as well as data of online demand. Separately, the Bloom Consulting Country Brand Ranking © Tourism Edition is compiled using tourism-related searches.

5. The Marc Fetscherin Country Brand Strength Index (CBSI) (Fetscherin, 2010). This approach takes into account exports, tourism, foreign direct investment, immigrants and government environment. The components' values are presented in an equation the results of which are more objective in nature than those of the previous indices. This data is considered as a benchmark for deeper and more profound studies of the country's position as compared to other nations. It is in place here to notice that to understand where the country stands at the moment it is reasonable to consider the indices in progress throughout several years because the country may have a relatively low global performance but have rather high tourism value (a case of Portugal, Schoeppen, 2017).

6. The Rojaz-Méndez Nation Brand Molecule – NBM (Rojaz-Méndez, 2013) includes seven dimensions with their distinctive features: economy, tourism, geography and nature, culture and heritage, society, science and technology, and government. Only this approach considers such an important factor for the 21st century as science and technology. The aim of the study was to formulate a nation brand molecule on the basis of the respondents' answers concerning associations and ideas they had about the stated countries. The author states that a country / nation brand managers have to use a holistic approach to creating a specific country image where all elements both negative and positive are interconnected and may serve as a starting point for uniqueness.

Travel & Tourism Competitiveness Index (TTCI) is used to compare the degree of tourism development in different countries. To some extent, this indicator can be considered as an indicator of the quality of the national tourist brand because it reflects the level of tourism development in the country.

This report defines the competitiveness of 140 countries in the sphere of the Travel & Tourism (T&T), namely, analyses those aspects and approaches that favor the continuous development of the tourism sector, which, naturally, further influences the whole economy of a country (World Economic Forum, 2019). TTCI is presented once in two years and provides a working arrangement for industries that are directly or indirectly related to the travel and tourism sector providing valid comparison of various economies, indicating directions for investment, specifying points of growing and risky areas, representing an exclusive vision of the situation of each analyzed country and thus stimulating them to implement adequate programs and take appropriate actions.

Human Development Index (HDI) was proposed by Mahbub ul-Haq as a means to measure human progress in all spheres and it represented the development of Amartya Sen's concept. The main idea of the HDI is that income is not the only indicator of human development, although it is certainly important. However, for comprehensive development it is also important to have the ability to exercise rights and freedoms, including political rights, the right to freedom of thought and expression, the right to receive education, etc., gender equality, access to resources, reducing inequality in society are also important.

As the most recent report notes (United Nations Development Programme, 2020), human development is about expanding human freedoms and giving people more choices in determining their own development paths in accordance with their diverse values as opposed to one or a few prescribed specific paths. Human development is about empowering people to determine and follow their own ideas about trajectory in pursuit of a fulfilling life which is based on the expansion of their freedoms.

The Human Development Report 2020 covers 189 countries and assesses the level of human development including planetary burden.

The sample for the analysis includes data for 95 countries within 2019. The available data for three indicators analyzed determine the choice and number of countries. Brand Strength Index (BSI), which is calculated by Brand Finance, was chosen to measure the national brand, as this ranking is the most representative in terms of the world coverage the data available (Brand Finance, 2019). The TTCI and HDI indices were also used. To make the data comparable for analysis, each country was assigned an ordinal number depending on the index value to reflect its ranking position ("1" represents the first place in the ranking and the best indicator value, respectively, "95" represents the last and the worst indicator value).

At the initial stage of the analysis it was determined whether there was a correlation between the indicators in question. To this end, a correlation analysis was carried out, the results of which are presented in Table 1. Descriptive statistics for the sample is presented in Table 2.

Table 1: Results of Correlation Analysis for the Sample

Variable	Means	Std.Dev.	BSI	TTCI	HDI
BSI	48,0000	27,5681	1,00000	0,74922	0,51466
TTCI	48,0000	27,5681	0,74927	1,00000	0,80703
HDI	48,0000	27,5681	0,51466	0,80703	1,00000

Note: Marked correlations are significant at $p < ,05000$; N=95
(Casewise deletion of missing data)

Table 2: Descriptive Statistics for the Sample

Variable	Valid N	Mean	Min.	Max.	Std.Dev.
BSI	95	48,0000	1,00000	95,0000	27,5681
TTCI	95	48,0000	1,00000	95,0000	27,5681
HDI	95	48,0000	1,00000	95,0000	27,5681

Table 1 demonstrates that there is a relationship between the analyzed indicators whose strength varies from medium between HDI and BSI to strong between HDI and TTCI. Based upon the data, it can be concluded that the indicators are interrelated.

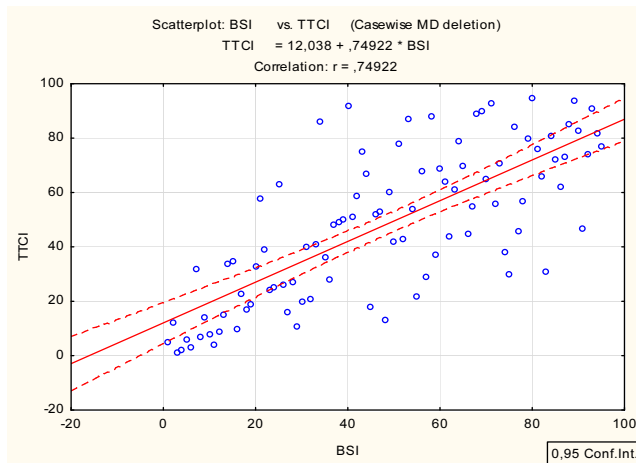The distribution of the indicator values is demonstrated in Figures 1–3.

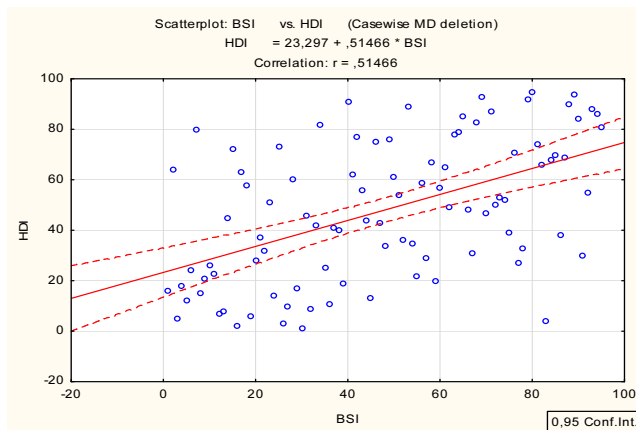**Figure 1:** The relationship between TTCI and BSI

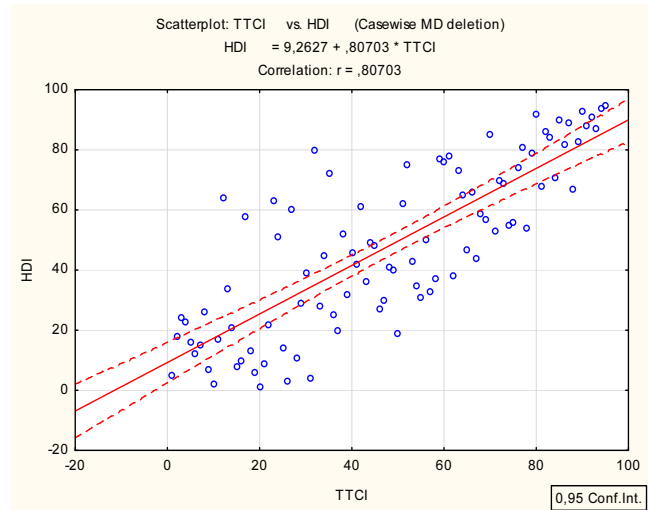**Figure 2:** The relationship between HDI and BSI

Figure 3: The relationship between TTCI and HDI

For further analysis, it was determined whether this strength of association is homogeneous for the whole sample or whether it varies across groups. With this aim in view, it was necessary to find out whether the countries in the sample form the groups. When carrying out the cluster analysis procedure, the Complete Linkage method was chosen as a measure of link, and Euclidean Distance was chosen as a measure of proximity. The results of the cluster analysis are presented in Fig. 4.
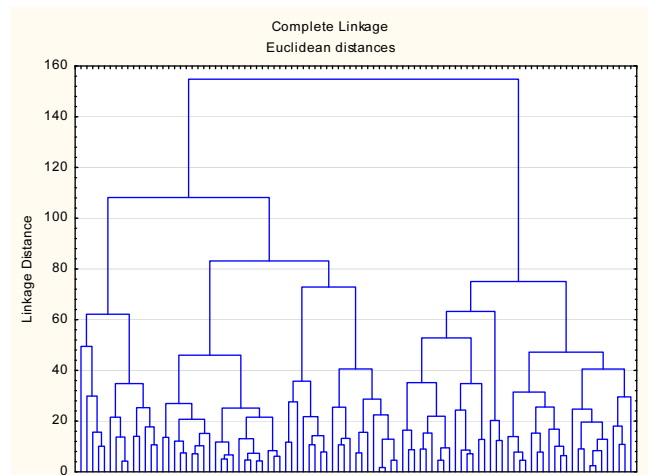

Figure 4: Distribution of countries in the sample by clusters

Figure 4 demonstrates that countries in this sample form five distinct clusters. The average cluster means are presented in Table 3. The Euclidean distance between clusters is presented in Table 4.

Table 3: Cluster Means

Variable	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
BSI	19,5417	66,5263	21,8571	49,3889	81,6000
TTCI	14,5833	45,4737	34,2143	68,5000	81,7000
HDI	14,5000	34,3158	52,2143	67,7222	80,5000

Table 4: Euclidean Distances between Clusters

Cluster number	№ 1	№ 2	№ 3	№ 4	№ 5
№ 1	0,0000	1184,81	604,368	2210,16	4237,29
№ 2	34,4211	0,000	814,155	646,631	1224,18
№ 3	24,5839	28,533	0,0000	724,668	2208,06

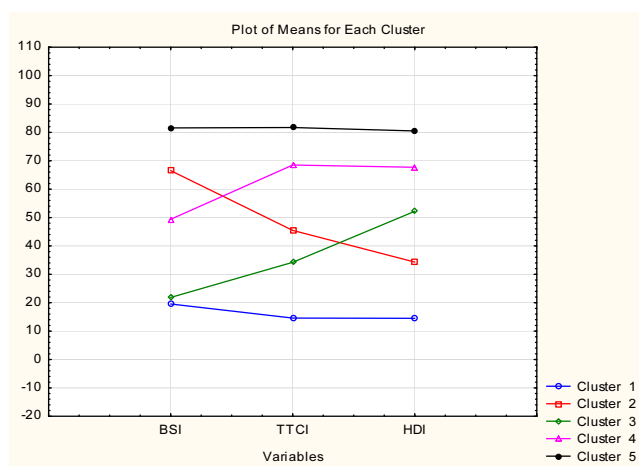The indicator means in each cluster are given in Figure 5.

Figure 5: Indicator means in clusters

Descriptive statistics for each cluster is presented in Table 5. The value of the Euclidean distance between clusters demonstrates that there are significant differences between the groups, this can be also confirmed by the visual representation of the analyzed cluster indicators presented in Figure 5.

Table 5: Descriptive Statistics for Clusters

Variable	Mean	Std.Dev.	Variance
Cluster 1 (24 cases) – Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, South Korea, Spain Sweden, Switzerland, United Arab Emirates, United Kingdom, United States			
BSI	19,54167	13,53572	183,2156
TTCI	14,58333	9,87714	97,5580
HDI	14,50000	8,92968	79,7391
Cluster 2 (19 cases) – Bahrain, Bulgaria, Costa Rica, Croatia, Cyprus, Estonia, Greece, Hungary, Iceland, Israel, Latvia, Lithuania, Luxembourg, Oman, Panama, Romania, Slovakia, Slovenia, Uruguay			
BSI	66,52631	13,88192	192,7076
TTCI	45,47368	11,89943	141,5965
HDI	34,31579	12,60535	158,8947
Cluster 3 (14 cases) – Argentina, Brazil, Chile, China, India,			

Indonesia, Malaysia, Mexico, Poland, Qatar, Russia, Saudi Arabia, Thailand, Turkey

BSI	21,85714	10,74070	115,3626
TTCI	34,21429	12,87322	165,7198
HDI	52,21429	14,20822	201,8736
Cluster 4 (18 cases) – Algeria, Bangladesh, Colombia, Dominican Republic, Egypt, Iran, Kazakhstan, Kuwait, Morocco, Nigeria, Pakistan, Peru, Philippines, Serbia, South Africa, Sri Lanka, Ukraine, Vietnam			
BSI	49,38889	11,50519	132,3693
TTCI	68,50000	13,87444	192,5000
HDI	67,72222	13,10952	171,8595
Cluster 5 (20 cases) – Angola, Azerbaijan, Bolivia, Cambodia, Cameroon, Democratic Republic of the Congo, Ethiopia, Ghana, Guatemala, Honduras, Jordan, Kenya, Lebanon, Nepal, Paraguay, Tanzania, Trinidad & Tobago, Tunisia, Uganda, Yemen			
BSI	81,60000	9,91225	98,2526
TTCI	81,70000	8,46106	71,5895
HDI	80,50000	11,08104	122,7895

To determine the strength of the link between the indicators under consideration, the Spearman rank order and Kendall tau correlations for each cluster was calculated. The results of the calculations are given in Table 6.

To interpret the values obtained, it is necessary: 1) in the case of the Spearman rank order correlation, to compare the obtained result with the generally accepted value of the indicator; 2) in the case of the Kendall tau correlation, to determine for each cluster and compare it with the obtained values.

Table 6: Spearman rank order and Kendall tau correlations for Clusters

Vari-able	BSI		TTCI	
	Spearman Rank Order Correlations	Kendall Tau Cor-relations	Spearman Rank Order Correlations	Kendall Tau Cor-relations
	Cluster 1			
TTCI	0,780000	0,608696	1,000000	1,000000
HDI	-0,044348	-0,007246	-0,115652	-0,094203
	Cluster 2			
TTCI	0,185965	0,181287	1,000000	1,000000
HDI	0,061404	0,029240	0,315789	0,216374
	Cluster 3			
TTCI	0,621978	0,516484	1,000000	1,000000
HDI	-0,630769	-0,516484	-0,718681	-0,560440
	Cluster 4			
TTCI	0,081527	0,058824	1,000000	1,000000
HDI	-0,302374	-0,215686	0,087719	0,045752
	Cluster 5			
TTCI	-0,027068	-0,010526	1,000000	1,000000
HDI	-0,088722	-0,073684	0,739850	0,557895

Note: Marked correlations are significant at p < ,05000 (Casewise deletion of missing data)

When interpreting the Spearman rank order correlation, the link strength between variables is determined by the modular value and is considered moderate when $\rho > 0.5$ and strong when $\rho > 0.75$.

The interpretation of the Kendall tau correlation coefficient implies the calculation of the critical point according to the following formula:

$$T_{cr} = z_{cr}\sqrt{\frac{2(2n+5)}{9n(n-1)}}$$

where: n – is a sample volume;

z_{cr} – is the critical point of the bilateral critical region which is found using the Laplace function table.

According to the Laplace table $z_{cr} = 1.96$. The value of the critical point for each cluster was calculated in order to determine the degree of the link strength:

$$T_{cr1} = 1.96\sqrt{\frac{2(2\times24+5)}{9\times24(24-1)}} = 0.29 \; ;$$

$$T_{cr2} = 1.96\sqrt{\frac{2(2\times19+5)}{9\times19(19-1)}} = 0.33 \; ;$$

$$T_{cr3} = 1.96\sqrt{\frac{2(2\times14+5)}{9\times14(14-1)}} = 0.39 \; ;$$

$$T_{cr4} = 1.96\sqrt{\frac{2(2\times18+5)}{9\times18(18-1)}} = 0.34 \; ;$$

$$T_{cr5} = 1.96\sqrt{\frac{2(2\times20+5)}{9\times20(20-1)}} = 0.32 \; \cdot$$

When $\tau < T_{cr}$ the rank order correlation is considered as insignificant, when $\tau > T_{cr}$ the link is considered as significant. Thus, the results of the calculated Kendall tau correlation have to be compared with $T_{cr.}$

In Table 6 significant correlations is highlighted in red. It should be noted that there are some differences between the values of Spearman and Kendall correlation coefficients which is explained by the respective peculiarities of their calculation methodology.

Table 6 demonstrates that the strongest link is between the TTCI and HDI for the first cluster, which contains the countries with the best index values. This correlation is strong for both Spearman rank order correlation and Kendall tau correlation.

There has not been found any link between the indices in the clusters 2 and 4.

There is a strongly negative link between all indices for countries with average values of the analyzed indicators (cluster 3). This can be explained by the fact that tourism revenues are not directed towards stimulating human development and promoting the national brand.

There is a strong positive link between TTCI and HDI in cluster 5 (countries with the worst index values). This means that in these countries, despite the lack of impact of the national brand on tourism and human development, tourism itself has an impact on human development, which is justified by the jobs creation and increased employment as a result of tourism advancement.

For further analysis of the groups of countries the distribution of indicator means in each cluster was determined. For this purpose, the application program Statistica was used to construct three-dimensional diagrams. The construction of such scatterograms allows visualizing the distribution of indicator means in the groups of countries obtained in the result of the cluster analysis.
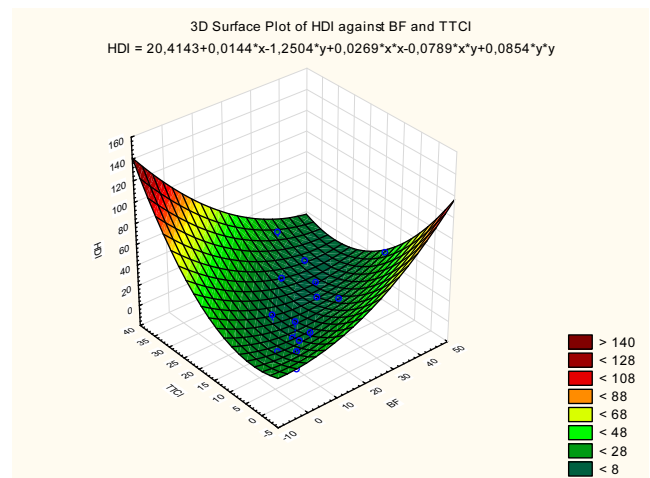

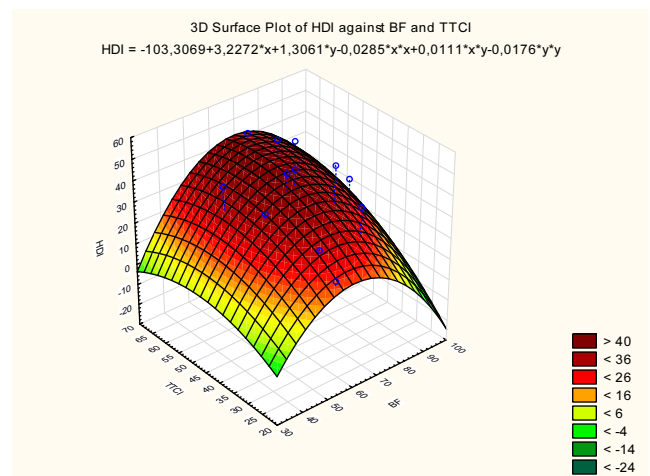**Figure 6:** Distribution of indicator means in cluster 1
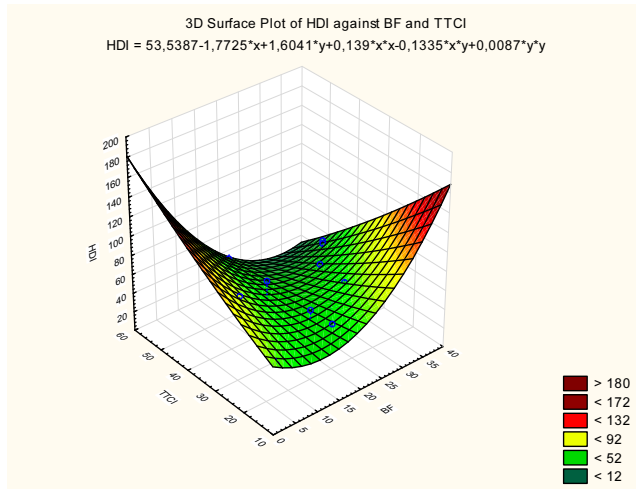

Figure 7: Distribution of indicator means in cluster 2

3D Surface Plot of HDI against BF and TTCI
HDI = 53,5387-1,7725*x+1,6041*y+0,139*x*x-0,1335*x*y+0,0087*y*y

Figure 8: Distribution of indicator means in cluster 3

3D Surface Plot of HDI against BF and TTCI
HDI = 113,4912+0,5366*x-1,8891*y+0,0071*x*x-0,0214*x*y+0,0229*y*y
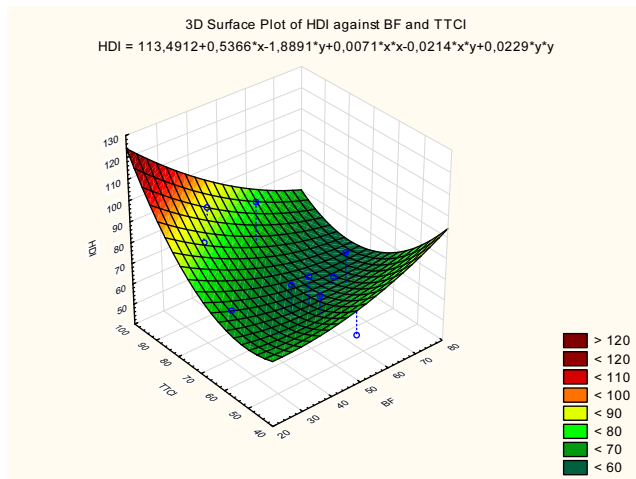
Figure 9: Distribution of indicator means in cluster 4

3D Surface Plot of HDI against BF and TTCI
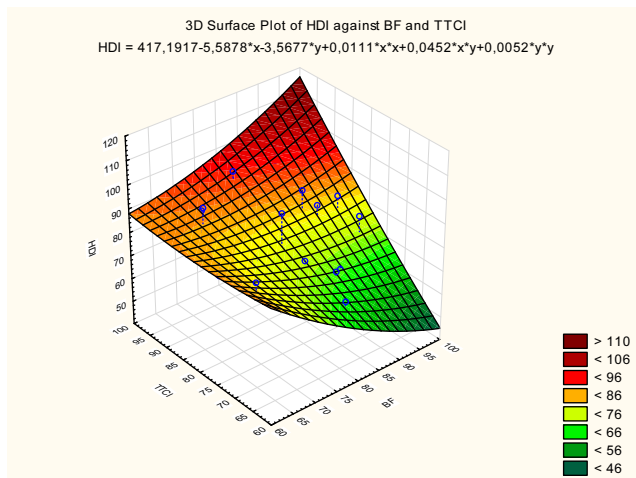HDI = 417,1917-5,5878*x-3,5677*y+0,0111*x*x+0,0452*x*y+0,0052*y*y

Figure 10: Distribution of indicator means in cluster 5

Figures 6-10 demonstrate that the distribution of the analyzed indicator means differs significantly from cluster to cluster. This confirms the relevance of the cluster analysis for the distribution of sample countries into groups and indicates that the degree of dependence between the analyzed variables is heterogeneous for countries across the world.

4. Conclusions

The impact of tourism on the economy is considerable. At the same time tourism contributes not only to the economic growth but, to a certain extent, determines the directions of society's socio-economic development that was also proved in the previous studies (Chattopadhyay et el, 2021; Tan et el., 2019; Biagi, et el., 2016). First of all, it is accounted for the fact that tourism triggers both economic and social development as the increase of destination tourist flows performs the role of a stimulant for jobs creation, employment increase and growth of incomes. In addition, tourism development enhances motivation to obtain education and new knowledge connected both to tourism directly and to related sectors of economy such as hotel and restaurant business, transport, communications, tour guiding, translation, marketing and advertising services, services of animators, etc.

However, what makes this study different is the confirmation that the impact of tourism varies: in some countries, tourism is associated with a strong national brand and human development, while in other countries there is no relationship of this type. The distribution of the analyzed indicator means in the obtained clusters also varies.

On the basis of the analysis, the conclusion has been made that tourism is quite well developed in countries that pay much attention to the strong national brand formation (this is confirmed by the results of correlation analysis), but between tourism and human development has not been found any significant relationship. This may be conditioned by the low share of the tourism sector in these economies. There has not been observed any link between the indicators in two groups (with above and below average index values). This may be induced by a stronger influence of other sectors on the countries' socio-economic development. A strong negative link has been identified between the level of human development and tourism development indicators in the cluster with average values of the analyzed indicators. This result may be accounted for insignificant tourism contribution into economy and that tourism revenues are not channeled to social development, therefore, human development is influenced by other factors. A strong positive link has been found between tourism and human development in the group of countries with the worst

indicators. In these countries it may imply a high share of the tourism sector in GDP and a high level of employment in this sphere.

Thus, the findings of the study are ambiguous. On the one hand, there is a relationship between the BSI, TTCI and HDI indices for this sample. On the other hand, the correlation varies from country to country and ranges from no link at all to the strong one, both positive and negative for different groups of countries. Moreover, it is not only the strength of the relationship that differs, but also the distribution of indicator means in the groups of countries.

5. Discussion

Tourism impacts both the economy and society. However, a quantitative assessment of this impact is complicated by the large number of factors that determine the level of economic well-being and human development. The analysis carried out in this paper has revealed the heterogeneity of the relationship between the level of tourism development, the national brand and the level of human development. Nonetheless, the confirmation of the existence of such relationship, as well as the identification of its strength as the result of the correlation analysis, has not reflected its direction. Revealing the correlation direction and determining the mutual influence of BSI, TTCI and HDI represent the prospects for further scientific research in this field. Besides, the heterogeneity in the distribution of indicator means across groups of countries raises the question for further, more detailed analysis of the interdependencies between the indicators within each group of countries.

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