

DO CULTURAL ACTIVITIES AND HAPPINESS MATTER TO THE TOURISM SECTOR?

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Received 13 March 2024; accepted 7 May 2024

Abstract

Research purpose. The primary goal of this research is to determine the impact of the efficiency of the tourism sector in the European Union (EU).

Design / Methodology / Approach. The analysis involved 25 selected EU countries using Data Envelopment Analysis (DEA) and the Tobit regression modelling. For DEA expenses according to the stays per visit (1 night or over) when going to a foreign country, individuals actively working in the tourism industry and tangible heritage inscribed on the United Nations Educational, Scientific and Cultural Organisation (UNESCO) are used as inputs and inbound tourism as an output. Variables for the Tobit model were as follows: cultural activities, Happiness index and tourist expenditure of Gross Domestic Product (GDP).

Findings. In nations characterised by lower efficiency levels, policymakers ought to enhance their strategies and encourage the advancement of their country's appeal to tourists. Additionally, there should be an increased emphasis on enhancing the well-being and happiness of the local population.

Originality / Value / Practical implications. Theoretical research on the efficiency of the tourism sector in the EU lacks comprehensive studies that systematically examine the factors influencing efficiency across diverse EU member states. Although some research exists on specific aspects of tourism efficiency, such as environmental sustainability or economic impacts, there is a scarcity of holistic investigations that encompass various dimensions of efficiency, including resource utilization, infrastructure development, policy effectiveness, and socio-cultural impacts, within the EU's overarching context. Moreover, there is a limited exploration of potential variations in tourism efficiency among different EU regions and the underlying factors driving these differences. Bridging this research gap could offer valuable insights for policymakers, industry stakeholders, and academics seeking to enhance the overall efficiency and sustainability of the tourism sector in the EU. The study's constraint lies in the exclusion of Denmark and Luxembourg, which is attributed to insufficient statistical data.

Keywords: cultural activities, tourism sector, Happiness Index, data envelopment analysis, efficiency.

JEL codes: L83, C83, D1, H1, Z1.

Introduction

Tourism and a variety of cultural activities are vital to the economic development of many regions of the world and significantly contribute to GDP growth and employment. Examining the tourism industry's varied effects on many aspects of the local economy is crucial, especially in light of its

continued growth. The impact of tourism on efficiency is one critical factor that needs more research. Studies have demonstrated the benefits of tourism and cultural participation for people's pleasure and general well-being, both personally and as a society. Travelling and taking part in cultural activities, like going to museums, seeing plays, or experiencing local customs, can enhance one's sense of contentment and happiness when done well. There are several similar researches that look at the impact of happiness, cultural activities, or tourism on efficiency independently (Ilić & Petrevska, 2018; Lin et al., 2023; Radovanov et al., 2020; Soysal-Kurt, 2017). Tourism plays a crucial role in bolstering the economy of the EU, producing considerable income and job prospects, and fostering economic advancement throughout its member nations. Below are essential highlights concerning the economic ramifications of tourism within the EU. According to recent findings from the World Tourism Organisation (UNWTO), Europe, the world's largest destination region, reached 94% of pre-pandemic levels in January-September 2023, supported by robust intra-regional demand as well as strong demand from the United States. According to the US National Travel and Tourism Office (NTTO), US travel to Europe grew 33% through August (compared to 2022), accounting for 21% of total US overseas travel (World Tourism Organisation, 2023). These findings underscore the significance of tourism to the economies of nations. Understanding the efficiency of the tourism sector is crucial for optimising its economic contributions and ensuring sustainable growth. Moreover, tourism has far-reaching cultural and societal implications. Efficient tourism practices can contribute positively to the preservation of local cultures, heritage, and environments. By studying efficiency, we can develop strategies that balance the economic benefits of tourism with the need for responsible and sustainable practices, ensuring the long-term well-being of communities and their natural resources.

The scientific literature on the effectiveness of the tourism sector in the EU has explored various dimensions and aspects. Numerous studies have investigated the economic contributions of the tourism sector to the EU, including its contribution to GDP, employment generation, foreign exchange earnings, and regional development. Researchers have examined how tourism impacts various sectors of the economy and its role in fostering economic growth and development (Lin et al., 2023; Perić et al., 2021; Soysal-Kurt, 2017). Research has examined the social and cultural impacts of tourism on communities within the EU. This includes studies on cultural heritage preservation, social cohesion, cultural exchange, community empowerment, and the effects of tourism on local lifestyles and traditions (Bosone et al., 2021; Cerisola & Panzera, 2021; Noonan, 2022).

While considerable scientific inquiry has been conducted on the ramifications of the efficiency of the tourism sector, one potential gap in the scientific literature concerning the impact of the efficiency of the tourism sector in the EU is the need for more comprehensive studies that consider the multifaceted nature of efficiency and its implications across different dimensions. While existing research may focus on specific aspects such as economic efficiency or environmental sustainability, there is a lack of holistic analyses that consider the interplay between various factors influencing efficiency within the EU tourism sector. Specifically, this study broadens the scope of research within the tourism sector by examining inbound tourism, household expenses on travelling, employed persons in the tourism sector, and the properties of countries' tangible heritage. This highlights the distinctiveness of this study compared to others. The main objective of this study is to determine the impact of the efficiency of the tourism sector in the EU. In order to achieve this goal, Data Envelopment Analysis and Tobit regression were applied. Limited access to comprehensive and reliable data on various aspects of the tourism sector across EU member states partially limits the depth of analysis. For this reason, the exclusion of Denmark and Luxembourg is attributed to insufficient statistical data. The study may not fully account for contextual differences among EU member states, including diverse socio-economic conditions, cultural norms, and policy environments, which could influence the efficiency of the tourism sector.

Literature Review

In the EU, tourism performs a wide range of purposes, such as fostering regional development, encouraging cross-cultural interchange, and accelerating economic progress. It is essential to the preservation of cultural assets, the creation of jobs, and the general improvement of living standards among EU members. One of the EU's main economic drivers is tourism. It dramatically boosts the GDP of EU member states by creating jobs, assisting small businesses in the area, and promoting economic

expansion. (Balsalobre-Lorente & Leitão, 2020; Haller et al., 2021). Travel attracts people from all over the world, which fosters cross-cultural exchange. Europe becomes more harmonious and interconnected as a result of these interactions with many cultures, which foster understanding, acceptance, and appreciation of diversity (Noonan, 2022). Infrastructure development for cultural assets is closely linked to tourism. A typical combination of tourist attractions is historical sites, museums, and cultural landmarks. The preservation and maintenance of these critical components of Europe's cultural heritage are made possible in part by tourism (Perić et al., 2021). All of these reasons demonstrate the significance of tourism in the EU and how closely it is linked to a range of cultural pursuits. EU cultural activities are crucial for forming the identity of the region, fostering social cohesion, igniting the economy, and influencing global affairs.

These endeavours are vital in moulding Europe's cultural terrain and fostering a feeling of cohesion among its many constituent nations. The EU is renowned for its multifaceted cultural environment, in which every member state has its own unique customs, dialects, and artistic expressions. Cultural pursuits contribute to respecting and preserving this diversity by fostering a sense of unity despite the disparities (Perić et al., 2021). The concept of efficiency typically denotes the capability to complete a work using minimal wasted resources, effort, or time. It gauges the efficiency of a system, process, or individual in generating desired outcomes or outputs compared to the inputs utilised.

Despite its myriad of implications, efficiency is frequently constrained to a specific significance within a given discipline. In the tourism sector, we have observed some studies assessing the efficiency of tourism. Ilić & Petrevska (2018) evaluate the efficiency of tourism in Serbia and neighbouring countries. The efficiency of sustainable tourism is analysed, and what elements of tourism development could be included in order to increase its efficiency. Other topics related to efficiency include cultural efficiency, such as studies that look at how cultural activities contribute to economic development and social welfare (Cerisola & Panzera, 2021). In addition, studies that analyse resource efficiency are important in the context of the green economy, as they help to assess how production processes can be organised in a way that results in less resource consumption and fewer negative environmental impacts (Mikhno et al., 2021). All these efficiency studies show that positive efficiency contributes to economic development, environmental protection, international prestige and competitiveness, and more effective policymaking, so it is a vital topic to analyse.

Selections of Inputs and Output Measures

Statistical information is essential for studying efficiency, which is not always easy to collect due to its lack. Studies of the tourism sector using the DEA method have already been carried out in the research of other authors. Bayrak and Bahar (2017) sought to determine the efficiency of tourism in OECD countries from an economic point of view. Radovanov et al. (2020) assess tourism potential in EU and western Balkan countries through a two-stage DEA model for sustainable development strategy. Pavković et al. (2021) sought to assess the efficiency of the tourism sector in specific European countries and regions, considering established parameters and offering recommendations for enhancement. In the discussed research, the most commonly found variables are the number of employees, tourism expenses, tourist arrivals, tourism receipts, number of nights spent, number of hotels and similar accommodation capacities, and tourism revenues. Based on the literature review (Bednarska, 2017; Bosone et al., 2021; Gozgor et al., 2019; Wakelin-Theron et al., 2018), the current research utilises the following inputs and output measures.

Expenses According to the Stays per Visit (1 Night or over) When Going to a Foreign Country

Examining the determinants influencing tourists' spending choices is a prominent subject in the field of tourism research, considering its implications for destinations and the resulting effects on marketing strategies. Tourist expenditure significantly contributes to economic growth through various channels (García-Sánchez et al., 2013). The expenditure by tourists creates a positive economic impact by fostering job creation, business development, infrastructure improvement, and overall economic diversification. The continuous cycle of spending and reinvestment contributes significantly to the sustained growth of the local and national economy (Wakelin-Theron et al., 2018). This variable measures how many euros were spent per visit or stay.

Individuals Actively Working in the Tourism Industry

Individuals actively working in the tourism industry play a crucial role in various aspects of the sector's functioning and its impact on local, national, and global economies; therefore, this variable was included. Individuals working in the tourism industry contribute significantly to economic development, cultural exchange, destination promotion, and the overall sustainability of the sector (Ilić & Petrevska, 2018; Wakelin-Theron et al., 2018; Yıldırım, 2021). Their function goes beyond rendering services; they also actively mould a destination's perception and experience. They play a critical role in creating jobs because tourism is a significant driver of job growth. Workers from a variety of businesses, including hospitality, dining, travel, and allied fields, make up a sizable portion of the labour force and generate revenue. This is a significant variable for the cultural field. People who work in the tourism sector, such as tour guides and hospitality personnel, deal with visitors directly. These interactions facilitate cultural exchange, fostering mutual understanding and appreciation among people from different backgrounds (Bednarska, 2017; Wakelin-Theron et al., 2018).

Tangible Heritage Inscribed on UNESCO

The primary element in defining the identity and distinctiveness of cities and regions is cultural heritage. Presently, cultural heritage is viewed as having artistic value and is recognised for its positive impact on well-being, job creation, social engagement, and the promotion of tourism. This, in turn, contributes to the economic development of a country. Numerous authors argue that heritage's influence on a country's economy is most pronounced through tourism development, underscoring the importance of proper protection and management (Bosone et al., 2021; Chhabra, 2021; Zhenrao et al., 2021). Hence, cultural heritage emerges as a crucial metric in the realm of cultural economics. Inclusion on the UNESCO World Heritage List often indicates that a site or element has met specific criteria related to its cultural, historical, scientific, or architectural significance. These tangible heritage sites can include iconic landmarks, archaeological sites, historic cities, or cultural practices that have global importance (Jiménez de Madariaga & Seño Asencio, 2019). The number of tangible heritage sites inscribed on UNESCO in this research is recalculated for 100,000 population.

Inbound Tourism

Inbound tourism was chosen as an output for this research. Inbound tourism, which involves visitors coming to a country from other nations, holds significant importance for both the destination country and the global travel industry. In the development of a nation, the significance of inbound tourism is pivotal, contributing not only to economic growth but also facilitating cultural interchange and comprehensive destination promotion (Gozgor et al., 2019). Its influence reaches beyond economic considerations, encompassing social, cultural, and diplomatic dimensions, thereby establishing it as an integral element of a country's broader global engagement strategy (Arain et al., 2020). Inbound tourism is measured in this study per thousand persons. Based on the literature review and available statistical data, the inputs and the output of this research are depicted in Table 1.

Table 1. Inputs and Output Used in DEA (Source: Compiled by the authors)

Input/ Output	Indicator	Type of measurement	Data source
Output	Inbound tourism.	Thousand persons	(Tourism statistics database, 2023)
Input 1	Expenditure by duration, purpose, main destination of the trip and expenditure category: expenditure on transport; expenditure on restaurants/cafés; expenditure on accommodation; other expenditure on tourism trips (including restaurants/cafes if not reported separately); expenditure on package arrangement (1 night or over) (Foreign country).	Euro	(Eurostat database, 2023)
Input 2	Total number of employed persons by total (full-time/part-time) by activity (air transport; accommodation and food service activities; travel	Thousand persons	(Eurostat database, 2023)

	agency, tour operator and other reservation service and related activities).		
Input 3	Properties of countries' tangible heritage inscribed on the UNESCO World Heritage List.	Number for 100,000 population	(UNESCO database, 2023)

As Table 1 shows, there are three inputs: expenses according to the stays per visit (1 night or over) when going to a foreign country, individuals actively working in the tourism industry and tangible heritage inscribed on UNESCO and one output – inbound tourism was selected for the research.

Another method used in the research is the Tobit econometric modelling. The efficiency of the chosen variables is depicted in the research through the utilisation of a Tobit regression analysis. Based on the literature review, the following variables were identified.

Tourist Expenditure of GDP

The inclusion of this variable was motivated by the need to monitor tourist expenditure as a percentage of GDP in order to assess the economic relevance of the tourism industry, guide policy decisions, and promote sustainable economic development. The study uses GDP as a percentage to measure it.

Cultural Activities

Cultural activities are integral to societal well-being, fostering identity, diversity, social cohesion, and economic vitality. They contribute to the enrichment of individuals' lives and play a crucial role in shaping the fabric of communities and nations. Online cultural activities provide a platform for global participation (Kumi-Yeboah, 2018). People from diverse geographical locations can engage in and appreciate cultural events, breaking down geographical barriers and fostering a more interconnected world. Such a cultural activity encourages creativity and innovation. Artistic expression, whether in visual arts, literature, or performing arts, fosters a culture of innovation and contributes to the development of a society's creative potential (Nicolaou, 2021). They are presented in the study by percentage of individuals.

Happiness Index

The Sustainable Development Solutions Network, utilising data from the Gallup World Poll, produces the World Happiness Report (Helliwell et al., 2023). This report signifies a global call for increased emphasis on happiness and well-being in shaping government policies. It assesses the current global happiness landscape, illustrating how the scientific study of happiness elucidates the differences in happiness levels both at an individual and national level. The index employs recorded information on the six factors and evaluations of their connections with life satisfaction to account for the differences among nations. These factors encompass GDP per capita, social support, healthy life expectancy, freedom, generosity, and corruption. (Helliwell et al., 2023). The Happiness Index is a frequently used variable to analyse efficiency. Lin et al. (2023) the authors examine the happiness and sustainable development of the population of Organisation for Economic Cooperation and Development (OECD) member countries.

Variables for the Tobit model: tourist expenditure of GDP, cultural activities, and Happiness index are depicted in Table 2.

Table 2. Variables for Tobit Model (Source: Compiled by the authors).

Variables	Indicator	Type of measurement	Data source
Tourist expenditure of GDP	Expenditure on recreation, tourism, and culture. Percentage of GDP.	%	(Eurostat database, 2023)
Cultural activities	Participation in cultural activities by using Internet activities. Frequency of internet access: daily.	%	(Eurostat database, 2023)
Happiness index	Happiness index.	Score	(https://worldhappiness.report/data/ , 2023)

By examining these factors depicted in Table 2, the study offers a multifaceted perspective on the interplay between economic, cultural, and social aspects within the tourism industry. The findings underscore the importance of monitoring tourist expenditure as a percentage of GDP to gauge the economic relevance of tourism and guide policy decisions for sustainable economic development. The analysis of cultural activities highlights their integral role in fostering societal well-being, promoting diversity, and stimulating innovation, particularly through online platforms. The incorporation of the happiness index provides a nuanced understanding of national well-being levels, offering valuable insights for policymakers in shaping strategies aimed at enhancing overall happiness and quality of life.

Research Methodology

For selected variables, descriptive statistics provide a summary of key features of a dataset, helping researchers and analysts understand its characteristics and make informed decisions. Table 3 presents descriptive statistics for selected variables: mean, standard deviation, minimum and maximum definitions.

Table 3. Descriptive Statistics of the Used Data (Source: authors' calculations).

Variable	Unit measurement	Mean	Std. Dev.	Min	Max
Inbound tourism	Thousand persons	28699,2	38823,8	2057	168346
Expenditure on tourism by duration, purpose	Euro	9726192	19791122	483453,9	96139532
Number of persons working in the field of tourism	Thousand persons	8103,6	10618,9	283,3	42528,6
Tangible heritage inscribed on the UNESCO World Heritage List	Number for 100,000 population	0,1	0,1	0,03	0,6
Tourist expenditure of GDP	%	4,4	0,9	1,4	6,6
Cultural activities	%	84,5	5,5	71,2	94
Happiness index	Score	6,6	0,5	5,5	7,8

As can be seen from Table 3, descriptive statistics provide a summary of the basic features of a dataset. Descriptive statistics include measures such as mean, median, mode, standard deviation, minimum, and maximum. These statistics offer insights into the central tendency, dispersion, and distribution of the data. In the context of research, descriptive statistics reveal the average levels of cultural activities, happiness, and tourism metrics across the 25 selected EU countries, as well as the variability and distribution of these variables within the dataset.

Standard DEA Model

The efficiency of the tourism sector, considering the impact of cultural activities, happiness, and tourist expenditure, was calculated using EU data and applying the DEA. The study encompassed 25 EU countries. However, Denmark and Luxembourg were eliminated, which was attributed to insufficient statistical data. DEA is a numerical technique utilised to assess the relative efficiency of units known as decision-making units (DMUs) (Dobos & Vörösmarty, 2023). Within the framework of DEA, it is crucial to define the inputs and outputs pertinent to the assessment. Inputs denote the resources or elements utilised by the DMUs, while outputs represent the products, services, or results produced by these DMUs. The chosen inputs and output for the study, along with references to the utilised databases, are presented in Table 1. All the statistical information has been sourced from statistical databases, ensuring the reproducibility of the research. Table 3 shows the statistical summary of the data used.

DEA is extensively applied across diverse research domains and industries to evaluate and quantify relative efficiency, and the cultural and tourism sectors are no exception. DEA is used to analyse the efficiency of the cultural sector by evaluating the relative performance of different cultural organisations or entities. Utilising DEA in the cultural sector aids decision-makers, cultural institutions, and stakeholders in making informed choices to enhance resource allocation and boost overall

efficiency in fostering cultural activities and experiences (De Jorge-Moreno & De Jorge-Huertas, 2020). DEA facilitates continuous monitoring, empowering cultural organisations to adjust and improve their operations as needed. Examines the impact of cultural tourism on the economies of countries (Wu & Lin, 2022). DEA is evaluating the efficiency and effectiveness of the tourism sector by assessing factors such as tourism infrastructure, individual destinations, and investments made in tourism (Pavković et al., 2021; Nurmatov et al., 2021). Based on the given information, it can be asserted that there are some research studies analysing cultural and tourism sectors, but there is no study that covers cultural activities, happiness, and the tourism sector. Other researchers have applied the DEA method to examine the culture and tourism sectors; however, the variables they consider as inputs and outputs differ from the ones employed in this particular study.

In order to implement the DEA method, it is essential to choose the inputs and outputs. In this study, the input indicators are expenses according to the stays per visit (1 night or over) when going to a foreign country, individuals actively working in the tourism industry, and tangible heritage inscribed on UNESCO and inbound tourism was selected as an output. The selection of inbound tourism as an output is grounded in its correlation with the inputs under scrutiny in this study, a connection that is supported by existing literature in the scientific field. Xu et al. (2023) claim that tourists are frequently drawn to UNESCO World Heritage Sites, encompassing historical monuments, natural wonders, or cultural landscapes. The designation by UNESCO often serves as a compelling motivation for inbound tourists to visit a destination, seeking to explore and experience the unique and globally recognised attractions listed by UNESCO. Perić et al. (2021) say that inbound tourism to UNESCO sites can have a substantial economic impact on the local and national levels. It generates revenue through entrance fees, accommodations, dining, and various tourism-related services. Ivanunik et al. (2021) state that acknowledgement by UNESCO offers international recognition of the cultural or natural significance of a site. This acknowledgement functions as a promotional instrument, enticing a greater number of tourists interested in discovering destinations renowned for their cultural and heritage importance.

After the DEA application, the Tobit regression modelling was used. It was selected in order to investigate how the calculated efficiency is influenced by tourist expenditure in GDP, cultural activities, and the happiness index.

Results

In order to assess how efficiently the inputs represented by the expenses according to the visit of stay (1 night or over) when going to a foreign country, individuals actively working in the tourism industry and tangible heritage inscribed on UNESCO transforms to the output represented by inbound tourism, DEA was performed, and the results are stated in Table 4.

Table 4. DEA Efficiency Results in EU (Source: Authors' calculations).

DMU name	Efficiency score	Efficiency	DMU name	Efficiency score	Efficiency
Belgium	0,147023	Inefficient	Latvia	0,078768	Inefficient
Bulgaria	0,35934	Inefficient	Lithuania	0,131578	Inefficient
Czechia	0,166255	Inefficient	Hungary	1	Efficient
Germany	1	Efficient	Malta	0,334421	Inefficient
Estonia	0,175293	Inefficient	Netherlands	0,231476	Inefficient
Ireland	0,499729	Inefficient	Austria	0,504937	Inefficient
Greece	0,754754	Inefficient	Poland	1	Efficient
Spain	1	Efficient	Portugal	0,29872	Inefficient
France	1	Efficient	Romania	0,53401	Inefficient
Croatia	1	Efficient	Slovenia	0,136215	Inefficient
Italy	0,949611	Inefficient	Slovakia	0,508645	Inefficient
Cyprus	0,244603	Inefficient	Finland	0,057055	Inefficient
Sweden	0,068714	Inefficient			

As shown in Table 4, Germany, Spain, France, Croatia, Hungary, and Poland are considered the most efficient countries with the highest ratio of outputs to inputs. According to the results, Latvia, Sweden, and Finland are the least efficient. According to the United Nations geoscheme, three European regions can be divided according to results. The most efficient countries in Eastern Europe are Hungary and Poland; in Southern Europe – Croatia and Spain; and in Western Europe – France and Germany. One of the main factors leading to these outcomes might be the population of these countries. Almost all of the EU countries with the highest results are the largest in terms of population in their United Nations geoscheme groups to which they belong. The only exception is Croatia, which has less population than Italy and Greece, but both of these countries are very high (Italy and Greece occupy 7 and 8 places respectively) according to the results in Table 4. Croatia's higher ranking compared to Greece or Italy may be attributed to the number of UNESCO heritage sites recalculated for 100,000 population as indicated by this data, wherein Croatia exceeds both Italy and Greece. According to research findings, the quantity of heritage sites plays a crucial role in attracting inbound tourism (Ivanunik et al., 2021; Perić et al., 2021). Further analysis of the results shows that France and Spain are the most efficient countries. This is not an unexpected result; these countries have well-developed tourism, which is also shown by the data of incoming tourism used in the study, which were the highest compared to other countries that participated in the study. The elevated performance of Germany can also be explained by scrutinising the statistical data, as both expenditures related to the duration of visits and the presence of individuals actively engaged in the tourism sector are the most substantial when compared to other nations. The outcomes for Poland and Hungary might appear unexpected since, in contrast to other EU countries, they are not the foremost tourist destinations.

Nevertheless, the examined statistical data indicates that the nations hold a relatively high position concerning expenses per visit compared to other EU countries and it might have caused this outcome. When comparing the achieved outcomes with those of the happiness index, it is apparent that all proficient nations rank within the top 50 happiest countries globally. Hungary slightly lags behind this benchmark, securing the 51st position. It can be assumed that such results are because nations with elevated happiness indexes typically enjoy superior living standards, encompassing elements such as healthcare accessibility, educational opportunities, safety measures, and overall welfare. These attributes render such countries appealing to tourists in search of gratifying and enriching experiences. Also, countries that rank high on happiness indexes generally prioritise substantial investments in infrastructure, encompassing transportation systems, lodging choices, cultural sites, and recreational amenities. This infrastructure not only elevates the overall tourist experience but also facilitates visitors in exploring and relishing the destination.

A Tobit regression was conducted to evaluate the factors that influenced the performance. As previously stated, the DEA calculation yields truncated discrete distribution values ranging from 0 to 1. Using the OLS method could introduce estimation bias; therefore, the choice for the research was to employ Tobit regression. The summary of the Tobit econometric model is presented in Table 5.

Table 5. Summary of Tobit Regression (Source: Authors' calculations).

Log-likelihood = -0,97682877				LR $\chi^2(2) = 4,29$		
				Prob > $\chi^2 = 0,2318$		
				Pseudo R ² = 0,6871		
Efficiency*	Coefficient	Std. err	t	P > t	[95% conf. interval]	
Tourist expenditure of GDP	-0,0517121	0,0562563	-0,92	0,068	-0,1683806	0,0649564
Cultural activities	0,0010515	0,0131541	0,08	0,037	-0,0262284	0,0283314
Happiness index	-0,2047734	0,1351226	-1,52	0,004	-0,4850005	0,0754537
Const	1,835289	0,9046425	2,03	0,000	-0,040825	3,711402
Var (e.Efficiency)	0,2516124	0,0355833			0,1778171	0,3254078

As indicated in Table 5, there are three independent variables: tourist expenditure of GDP, cultural activities, and Happiness Index. Tourist expenditure of GDP and the Happiness Index both have a negative impact on efficiency. The proportion of GDP allocated to expenditure on recreation, tourism, and culture is a vital indicator with substantial implications for the nation's economic well-being. The

economic ramifications extend beyond these sectors and can also positively influence associated industries like hospitality, transportation, and retail.

However, such results may be due to the fact that not all EU countries are equally developed in the field of tourism. Economic conditions, government policies and other factors can affect the development of tourism (Barišić & Cvetkoska, 2020). The value of the happiness index is also negative, a result that is also partly unexpected, as the happiness index aims to provide insights into the factors that lead to happiness and to encourage policies that prioritise the well-being of citizens. However, the rankings of this index are based on survey data, which is normal for different countries, even on the same continent, to be very different.

Cultural activities are the only one of the three variables that positively affect efficiency. Cultural activities integrated with internet usage in tourism contribute to improved accessibility, convenience, communication, and decision-making processes for both tourists and businesses, establishing it as an essential component of the contemporary travel experience. Internet availability in the EU is fairly even, which may be one of the reasons why this factor has a positive influence effectively. Chianese et al. (2017) state that cultural activity on the Internet is a very important factor in increasing cultural accessibility, which is especially relevant for cultural heritage, stimulating the interest of visitors, and creating new routes, including cultural resources.

Discussion

The main objective of this study is to examine how cultural activities, happiness levels, and the tourism sector affect efficiency within the EU. The research analysed data from 25 chosen EU countries using both Data Envelopment Analysis and the Tobit econometric model. Wu & Lin's (2022) DEA method is applied to analyse the value generated by cultural tourism in multiple Asian nations. In this research, cultural tourism demand and revenue were chosen as output measures, while cultural resources and labour were considered as the input. Tu et al. (2017) explore the efficiency of local Chinese government expenditure on public cultural services and the factors influencing it through a two-stage DEA-Tobit analysis. Public cultural spending serves as the input variable, while the output variables encompass cultural resources capable of directly offering public cultural products. These resources include the number of cultural, and institutional organisations, newly acquired copies of books in public libraries, average performance frequency per art performance troupe in the cultural sector, and practical completed investment in capital construction by cultural undertakings. Huang et al. (2017) authors aimed to evaluate the effectiveness of promoting cultural tourism by examining cultural activities and the dynamics of the cultural tourism sector. The studies presented indicate that the assessment of efficiency in cultural activities and the tourism sector is a well-established practice, both within the EU and globally. In this research, the element of happiness plays a role in cultural activities and the tourism sector, quantified through the Happiness Index, an aspect not addressed in prior studies, underscoring the unique contribution of this study. By identifying the most effective countries, the results provide an opportunity to apply the practices of efficient countries in the cultural and tourism sectors to inefficient countries. As a result, countries with lower efficiency levels have the opportunity to enhance their policies and initiatives. For instance, Latvian authorities have already initiated measures to address the decline in tourist numbers.

The Development Agency of Latvia collaborated with regional tourism associations and local authorities to coordinate numerous domestic promotional campaigns: “Open Days in the Countryside”, “Home Café Days”, “Zoom Latvia Closer”, “Let’s visit Latvian castles and manors!”¹ These initiatives have attracted more than 70,000 visitors and are planned to be repeated. Latvian practice can be an excellent example for other countries seeking to promote tourism in their country. The results can be used by governments and policymakers to create integrated strategies that give priority to the interaction of tourism, culture, and social welfare. This all-encompassing strategy guarantees that the advancement of general happiness and cultural heritage preservation are balanced with economic progress. Our research sheds light on the variables affecting tourist industry efficiency. Strategic planning for tourism

¹<https://www.oecd-ilibrary.org/sites/dd19c30e-en/index.html?itemId=/content/component/dd19c30e-en>

development can benefit greatly from this information, as it enables nations to customise their offerings in accordance with happiness indicators and cultural interests, so drawing in a more contented and involved tourist base. Targeted investments are made possible by the identification of factors influencing efficiency.

To promote a more thriving and sustainable tourism industry, governments and private sector partners can prioritise investments in areas that most significantly contribute to great experiences for visitors and local communities. **Community Empowerment and Engagement:** local communities gain power when they comprehend the connection between cultural pursuits, well-being, and tourist effectiveness. Through community involvement in tourist planning and execution, nations can guarantee a more equitable distribution of economic gains while cultivating a feeling of pride and ownership. **Marketing and Branding Strategies:** The study can help with marketing and branding strategies by emphasising the value of promoting locations that enhance happiness and distinctive cultural experiences. Marketing campaigns can draw in a more discriminating and contented traveller base by being tailored to these variables. **Sustainability Initiatives.** Nations can create sustainability initiatives if they have a better understanding of how tourism affects social cohesion and cultural preservation. The long-term sustainability of destinations and the development of constructive relationships between the tourism sector and host communities are ensured by striking a balance between economic gains and responsible tourism practices. **Advocacy for Policies:** Based on the study, policies that prioritise the comprehensive growth of the tourism industry will be promoted. One aspect of this is pushing for the inclusion of cultural preservation and community welfare in national and local tourist plans.

Conclusions

The economic progress of various global regions depends significantly on tourism and a variety of cultural pursuits, making substantial contributions to both GDP growth and employment. With the continuous expansion of the tourism industry, it becomes essential to examine its varied impacts on various aspects of the local economy. An especially critical aspect that requires in-depth investigation is the influence of tourism on efficiency. To determine the impact of cultural activities, happiness and the tourism sector on EU efficiency, Data Envelopment Analysis was adopted. In this study, the output was inbound tourism, while inputs were expenses according to the stays per visit (1 night or over) when going to a foreign country, individuals actively working in the tourism industry, and tangible heritage inscribed on UNESCO. As per the findings, Germany, Spain, France, Croatia, Hungary, and Poland are identified as the most efficient nations, displaying the highest ratio of outputs to inputs. On the other hand, Latvia, Sweden, and Finland are deemed the least efficient based on the results.

The second stage of this study was Tobit regression, which determined which of the selected factors had a positive effect on efficiency. Three factors are chosen for the Tobit regression: tourist expenditure of GDP, cultural activities, and Happiness Index. The results showed that tourist expenditure of GDP and Happiness Index negatively impact efficiency while cultural activities yield a positive impact.

In nations characterised by lower efficiency levels, policymakers ought to enhance their strategies and encourage the advancement of their country's appeal to tourists. Additionally, there should be an increased emphasis on enhancing the well-being and happiness of the local population. The methodology outlined in the research provides a systematic approach that can be adapted to different contexts. This requires only available statistical data. By replicating this study in other countries or regions, researchers can contribute to a better understanding of the relationships between tourism, culture, and social welfare on a global scale. Comparative studies across different countries can provide valuable insights into best practices and strategies for sustainable tourism development.

Acknowledgement

This work was supported by national funds through FCT/MCTES (PIDDAC): UNIAG, UIDB/04752/2020 (DOI 10.54499/UIDB/04752/2020) and UIDP/04752/2020 (DOI 10.54499/UIDP/04752/2020).

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