Tourism Sector and Sustainable Development in Arab World During Covid-19

Dr. Noha Samir Shawal

Lecturer of Economics and foreign trade - Faculty of commerce - Helwan University
noha_abozeid@hq.helwan.edu.eg

Abstract:

COVID-19 changed the travel and tourism industry in an unexpected way, where the industry has seen a sharp drop in revenues and is one of the most seriously impacted economic sectors by the pandemic. In the Arab world, the economic costs of the pandemic are likely to be high, magnifying the effect of COVID-19 on the Arab region. The pandemic influences the economy on both the demand and supply sides, where the demand side is represented by border closures and restrictions on freedom of travel, also the fear of infection, while the supply side can be represented by the closure of accommodation and leisure facilities that can be used for tourism.

The problem of the study is showing that despite tourism's obvious potential as a motive for positive change and a source for generating revenue, unplanned and rapid tourism growth can have negative consequences, which takes place when there is congestion or over tourism in historical locations, which may lead to degradation of natural resources, historical sites, or public spaces that affect sustainable development.

The study will shed the light on tourism performance, which should be evaluated not only in terms of tourist numbers, but also in terms of its ability to offer net benefits to destination areas. The study will investigate the impact of the pandemic on the tourism sector in Arab countries, more over the study will test if there is a relationship existing between tourism sector and sustainable development.

Key words:

Tourism; COVID-19; Sustainable Development; Tourism Sustainability.

Introduction:

Travelling is the most exciting way to discover new locations and meeting new people, if the road is free of disease, violence, and disasters, at most of the time, threats and risks can be eliminated with the right knowledge. Pandemics is one of the most terrifying news for planners who travel every now and then. In such cases, preventing the disease can be difficult or impossible. Furthermore, not only the passengers, but also the people they meet along the way, are at risk.[1]

Coronavirus has affected consumer behaviour in several industries around the world. Such adjustments would have a significant effect on customer behaviour, as well as marketing mix and promotion spending, that was due to the changes that took place in every single country all over the globe where, flights and train travel from the province's largest cities have been cancelled until further notice, roads have been closed, and masks are still needed.[2] COVID-19 costed the global travel and tourism industry nearly US$4.5 trillion in 2020.[3]

Infrastructure, environment, resources, local communities, and other economic sectors are all being pressured by the tourism industry and sustainable development. Despite tourism's obvious potential as a motive for positive change, it is generally acknowledged that unplanned and rapid tourism growth can have negative consequences, this may take place if there are congestion or over tourism in historical locations, which may lead to degradation of natural resources, historical sites, or public spaces.

The phenomena and expansion of mass tourism has led to a range of challenges, which have become increasingly obvious and extensively reported over recent years. They include environmental, social and cultural deterioration, unequal distribution of financial rewards, the encouragement of paternalistic attitudes, and even the spread of diseases. Many studies such as (Bugnicourt (1977), Harrison (1979), Hong (1985), Krippendorf (1984), Lea (1988), New Internationalist (1988, 1993, 1994), In Focus (various), Equations (various), Cultural Survival Quarterly (1982, 1990a, 1990b)) have stated this, which allowed us to ask the question of whether tourism was one of the main factors that led to the dispersion on COVID-19?

Another factor that we should shed the light on, is that tourism performance should be evaluated not only in terms of tourist numbers, but also in terms of its ability to offer net benefits to destination areas. Furthermore, sustainable tourism should not be viewed as a distinct form of tourism; rather, all types of tourism should aim to be more environmentally friendly and sustainable. This research will respond to questions like is tourism a driver of growth, or a catalyst for achieving long-term development goals? What will be the role of tourism during COVID-19 Era?

This study adds to previous research and gives a comprehensive theoretical framework for identifying and analyzing the problem of linking the tourism sector with the sustainability area and in terms of achieving sustainable development goals. The impact of sustainability and digitization of the tourism sector is being investigated in this study.

Literature Review:

Most papers have focused on tourism and its determinants, Petrevska, B. (2014) examined the determinants of tourism contribution and the most profound factors that have influence on tourism development during the period of 1993-2012 by using OLS method.[4]

Other papers focused on seasonality problem that may urge in the tourism industry, Xie, J. (2020) focused on possible economic determinants that may cause seasonality in the tourism industry through using a model to estimate how economic factors such as tourist's income, the relative costs in a tourist's home country, and destination country affect tourism seasonality by using monthly data from 2015-2018.[5]

While others studied the determinants of tourist arrivals such as Marti, L. & Puertas, R. (2017), where it employs a gravity framework to evaluate the tourism in European Mediterranean countries. The paper analyses the destination competitiveness as a means for tourism attraction.[6]

Other papers used to check the impact of tourism on economic growth, where Selimi, N. and others (2017) empirically analysed the effects of tourism on economic growth in Western Balkan countries during the period 1998-2014 using panel regression econometric model.[7]

In reviewing papers linking sustainability and tourism, it was found that there is a positive economic impact of tourism on the balance of payments, job creation, productivity and gross

income, but it also can have negative consequences, especially for the environment, this takes place when there is overcrowding or what we call tourist pressure, another problem that could be raised is the phenomenon of artificial inflation that takes place by raising prices at the level of tourists destinations.[8] According to the World Commission on Environment and Development, 1987, It defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Sustainable development is concerned with two main ideas, the first one is that development has economic, environment and social dimension, only by striking a good balance between these components, a life support balance is possible to be created, the second one, the second idea is that the present generation owes future generations to leave enough social, environmental, and economic resources to experience standards of well-being comparable to our own.[9]

Concepts like "responsible tourism," "ethical tourism," and "green tourism" were promoted because of the importance of this topic. Regardless of the context or variations in meaning and identification, there is currently a common language of sustainability in general and sustainable tourism, which has been promoted internationally in the "National Code of Ethics for Tourism."[10]

In terms of controlling the tourism industry, governments are currently confronted with two key issues: maximizing the benefits of digital transformation and ensuring the implementation of sustainable tourism policies.[11]

According to the UNWTO, over-tourism has been viewed as a major problem that faces many countries and that may result in hindering the tourism growth of the destination countries, eleven strategies were discussed to help in solving this major problem, such as, encouraging tourists to travel across the city and beyond; Encouraging tourists to disperse over time; Encouraging new tourist attractions; Re-evaluating and adapting the regulatory framework; Improving the segmentation of visitors; Ensuring that tourism benefits local communities; Creating city experiences that favor both residents and visitors; Improving infrastructure and services in the city; Communicating with local stakeholders and engage them; Communicating with tourists and engaging them; and finally to establish monitoring system and response measures, all these strategies are mainly founded to ensure long-term policies that reduce tourism's negative impacts on natural resources, infrastructure, mobility, and congestion, as well as its socio-cultural impact.[12]

To answer the question of how to make tourism more sustainable, then there is a need to know that sustainability is a never-ending process of making the best use of natural resources, respecting destination communities, and ensuring viable, long-term economic operations that support all tourism stakeholders equally.

To provide net benefits to communities, contribute to the SDGs, and fight climate change, tourism success must be rethought, with a greater emphasis on the environmental and socio-cultural pillars of sustainability which will help in achieving SDGs 2030.[13]

The pandemic also has the potential to hinder progress toward the United Nations' Sustainable Development Goals (SDGs). COVID-19's effects on tourism have the potential to increase poverty (SDG 1) and inequality (SDG 10) while also reversing conservation efforts in nature and culture, Since tourism is so intertwined with so many other aspects of society, this crisis also hinders the sector's commitment to other SDGs, such as gender equality (SDG 5) or the

elimination of inequalities within countries (SDG 10).[14] Three priorities specifically mention tourism in SDGs 2030, including SDG 8 "decent job and economic development," SDG 12 "responsible consumption and productivity," and SDG 13 "climate action." [15]

Regarding the role of digitalization in tourism sustainability, working papers reviewed the intersection of destination management, consumer consciousness and technology acceleration will help in finding solutions that have the potential to reshape the way travel and tourism industry will market, manage, and be planned.

Over the pandemic, the rate of digitalization of travel and tourism services has increased dramatically. As customers prefer to avoid face-to-face communication, online channels for services, mobile payments, and online processes have grown in popularity. They have also evolved into the main means of disseminating and receiving health and safety standards, as well as providing relevant information about a certain destination.

During the pandemic, mobile phone data was crucial in monitoring the movement and density of people at destinations. Sharing real-time crowd information or line-monitoring apps, can help promote time-based dispersion process at tourist hotspots, benefiting both travellers and destinations. In airports and other public spaces, digital technologies will be needed to provide more effective and touchless solutions, automation including touchless fingerprint and document scanning, face recognition, and voice controls raised the need for ICT and digitalization.[16]

Tourism is being transformed and reshaped by digitalization, which is allowing tourists to travel in unprecedented numbers and providing tourism businesses with instant access to global markets. The tourism industry is being transformed by the digital economy, which is changing the process of engaging with visitors and selling tourism services, as well as opening new and innovative ways to provide tourism services.

Businesses in the tourism industry that do not invest in digitalization will struggle to survive in the future. Digital native companies that are tech-driven are among the largest and fastest-growing in the tourism industry. Skyscanner, Expedia, Booking.com, and Airbnb are only a few of the well-known examples. Because of their ability to scale up quickly, their multinational activities, and their lack of physical assets, they have a competitive advantage.[17]

The industry is predicted to undergo a digital transition, resulting in a significant increase in the virtuality of the tourism marketing process. In terms of marketing tools, social media and digital marketing will be the most important in the next months.[18]

In terms of digitalization and technology, new value propositions in innovative business models will be the engagement with tourists and technological competitiveness. Tourists will increasingly rely on technology for destination information to make decisions about what to buy, where to go, and what to do. A digital transformation of the sector is expected, with a significant growth in the virtuality of the tourism marketing process, as well as the use of Big Data, AI (artificial intelligence), and algorithm-based processes for better marketing adaption to tourists tastes.[19]

The Effect of COVID-19 on Tourism Sector:

The tourism industry was one of the hardest hit by the global pandemic, 2020 was the worst year on record for international travel, with countries taking immediate steps to protect their people, closing borders and suspending international travel, this resulted in 74% decline in

international visitors arrivals, which is equivalent to more than $1 trillion losses in tourism revenues worldwide and over 62 million people have lost their jobs during this year.[20]

The International Air Transport Association (IATA) announced that global passenger traffic results for 2020, revealing that demand dropped by 65.9% in 2020 compared to the same period in 2019,which is considered as the sharpest decline in aviation history, adding that since late December 2020, forward bookings have been steadily declining. IATA's forecast for 2021 is that there will be improvement by 50.4% that would bring the industry to 50.6% of 2019 levels.[21]

The slowdown of travel & tourism, the one of the fastest growing sectors in 2019, which accounted for one in every four new jobs generated globally over the last five years, the pandemic resulted in job losses in the Arab region measured in lost working hours which is equivalent to 17 million hour, which pushed poverty to reach 14.3 million people in the Arab region[22], the sector accounted for 10.3 percent of global GDP and provided fund and support to 330 million livelihoods, the losses were estimated to reach $152 billion in real GDP for the Arab region as shown in figure 1.[23]
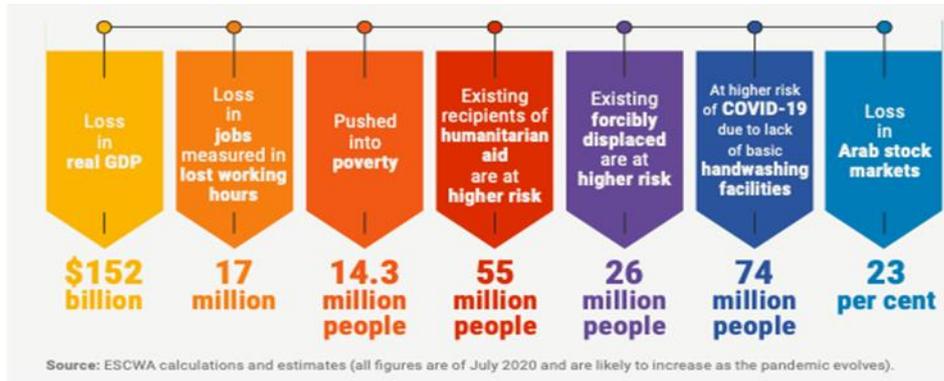

Figure 1: Estimated Impact of the COVID-19 in the Arab Region.
Source: United Nations, (2020), "Policy Brief: The Impact of COVID-19 on the Arab Region", P.3

COVID-19 changed the travel and tourism industry in unexpected ways, causing global events such as the Tokyo Olympics to be delayed, airlines to go bankrupt, and the hospitality industry to collapse in some countries. Most notably, the hajj and umrah, which are the cornerstones of the muslim travel industry, were either cancelled or seriously curtailed, resulting in massive losses as shown in figure 2, which is reflecting that Saudi Arabia was the most affected country by COVID-19, which is reflected by the highest number of confirmed cases, while Egypt is the highest among the Arab countries in reflecting the number of deaths. Despite the bleak outlook, investors remain optimistic about long-term growth, especially in the travel technology sector.[24]
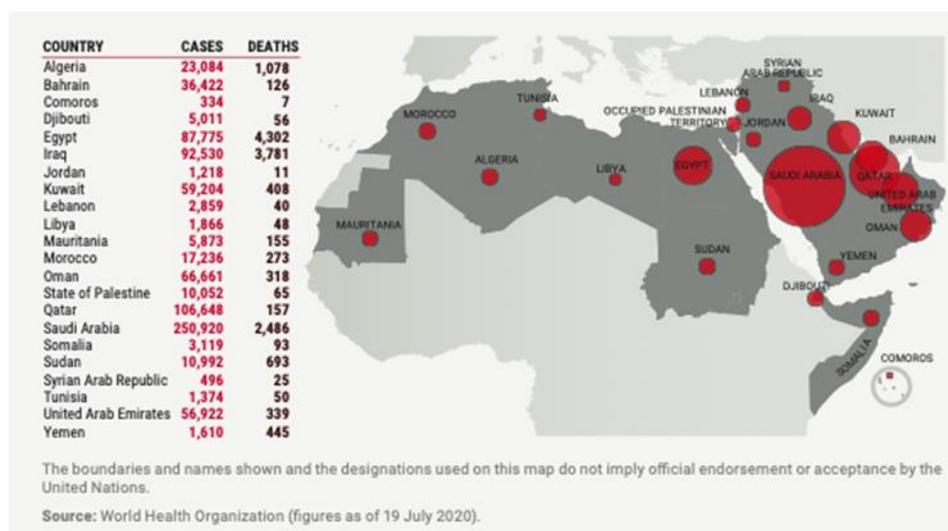
Figure 2: Countries Affected by COVID-19 in the Arab Region.
Source: United Nations, (2020), "Policy Brief: The Impact of COVID-19 on the Arab Region", P.7.

The economic effect of the pandemic can be both direct and indirect, where the direct effect can be represented in the reduction of job hours and the absence of the workers from work due to being sick or from the fear of getting sick, where this reduces the productivity of the workplace, while indirect effects can be represented in changing consumer's behavior, this can be seen when consumers or tourists changes their shopping places or destinations that they were targeting in order to avoid the infection risk.

The economic negative impacts of the outbreak are way more significant, however it's extent and duration are still cannot be estimated because the pandemic is not over yet. No other industry is as reliant on the creation of intangible assets as the tourism industry. Tourism expenditures are determined by availability, short- and long-term plans. This fact shows the tourism industry's sensitivity to adverse events.

The tourism industry in Arab region has seen a sharp drop in revenues and is one of the most seriously impacted economic sectors by the pandemic. The shock has an effect on both the demand and supply sides, where the demand side is represented by border closures and restrictions on freedom of travel, also the fear of infection, while the supply side can be represented by the closure of accommodation and leisure facilities that can be used for tourism.[25]

In the Arab world, the economic costs of the pandemic are likely to be high, as there is high reliance on oil supplies, tourism, and remittances, all of which are negatively impacted by the pandemic, magnifying the effect of COVID-19 on the Arab region.

The tourism market in Egypt is remarkable in terms of the number of tourists coming from various parts of the world, with Europe leading the way, while Russia has the biggest share in number of tourists visiting Egypt since 2000, but the structure of visiting tourists has changed because of the plane crash over the Sinai in 2015. The diversity of the Egyptian product gives it a competitive advantage, as it offers a wide range of tourist services such as cultural tourism, beach tourism and religious tourism. Tourists in Egypt typically spend around $90 for an overnight stay, Figure 3 shows the number of international tourist arrivals to Egypt in comparison with the COVID-19 confirmed cases.[26]
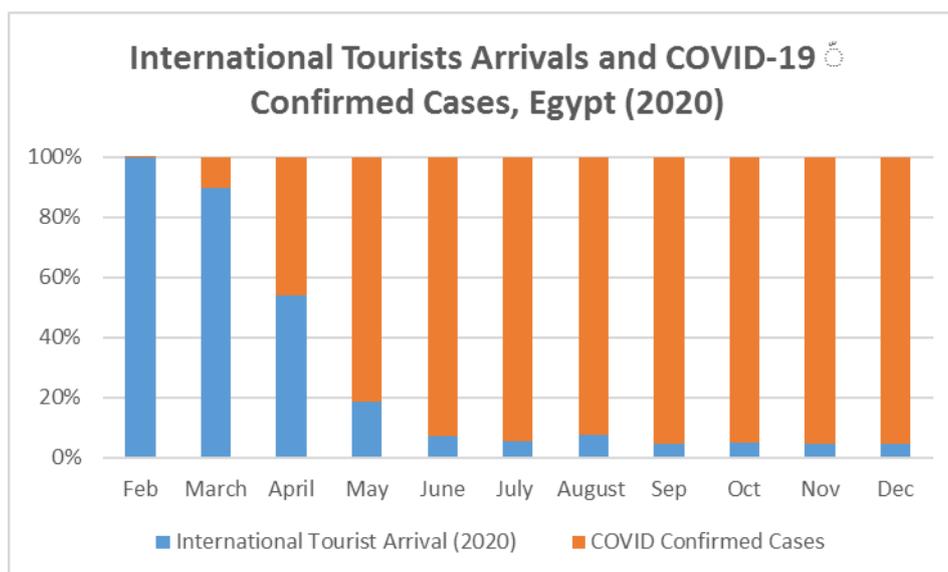
Figure 3: International Tourists Arrivals and COVID-19 Cases in Egypt 2020.
Source: UNWTO Website, 2021. https://www.unwto.org/international-tourism-and-covid-19.

Figure 4 reflects the comparison between tourists arrival in year 2020 and 2019, it reveals that the number of tourists increased at a positive rate at the start of the year in January and February which was a preview of a profitable year ahead for Egypt's tourism sector. However, with the introduction of Covid-19 and its widespread use in Egypt, as in other regions of the world, the number of visitors visiting Egypt has decreased because of the precautionary measures that were taken by the government to suspend travel.

It is worth noting that during the period of mid-march to august 2020, there were an estimated loss of $6 billion and complete stop of the tourist traffic to Egypt which is equivalent to 35% loss of tourism revenues that were expected to be achieved for the stated year, and that was the result of the suspension of flights in Egypt and other countries, also a result of the absence of any new tourist reservation during the stated period, while during the period of September-October the international tourists arrival reached its lowest value as a result of the intensification of the second wave of COVID-19 in many countries especially in European Countries.[27]
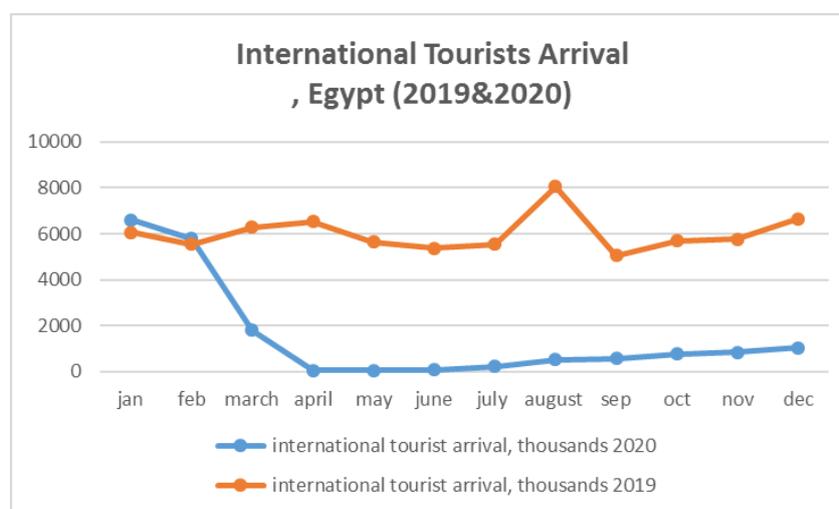
Figure 4: International Tourists Arrival to Egypt, Comparison between 2019 and 2020.
Source: UNWTO Website, 2021. https://www.unwto.org/international-tourism-and-covid-19.

There were some priorities for tourism recovery, that's why UNWTO published "Global guidelines to relaunch Tourism" on May 28, 2020, the document mentioned priorities such as, providing liquidity and protecting jobs for those who are working in the tourism sector as there were around 100-120 million job at risk due to the emerged crisis, this could be contained through supporting companies in the implementation and training of their staff on the new protocols, both in the financing and the training field. [28]Another priority was recovering confidence through safety and security, adding to these two priorities, the public private collaboration for efficient reopening, and the need to open borders with responsibility, harmonize and coordinate protocols, and another priority was the added value jobs through new technologies and that was promoted by the idea of safe, seamless, and touchless travel. Touchless travel could be done through the availability of contactless payment in transportation facilities, using the option of contactless check-in and boarding at pre-located seat, the ability of contactless boarder control when the tourist is leaving his home country and heading to the destination country, one other promotion of technologies in the field of tourism is the possibility of downloading a tracking app at the destination country, if available, another use of technology is the dependency on the e-tickets and e-bookings for visits and entertainment, also encourage the use of emerging technologies like augmented reality or virtual reality to enhance the visitor experience before, during, and after their stay. The last item is the innovation and sustainability as the new normal.[29]

Referring back to UNWTO (2021), and to assess the economic impact of COVID-19 on tourism on some Arab countries, Bahrain has a decrease in number of tourists arrivals on January 2021, to be -92% where it shows the YTD (year to date) change that took place between January of year 2021 to the end of the year, it details the total percentage change from January 1 until a date later in the year. A calendar year change would be from Jan. 1 to December 31 of a given year. YTD change is a measure of the improvement from one period to the next, usually expressed as a percentage, also Oman's faces a decrease in YTD percentage to be 85%. While Qatar has a decrease in its YTD percentage to be 75%, and Saudi Arabia has a decrease of 84%, and Syria and UAE have a decrease of 73% and 69% respectively.

Source: UNWTO Website, 2021. https://www.unwto.org/international-tourism-and-covid-19.
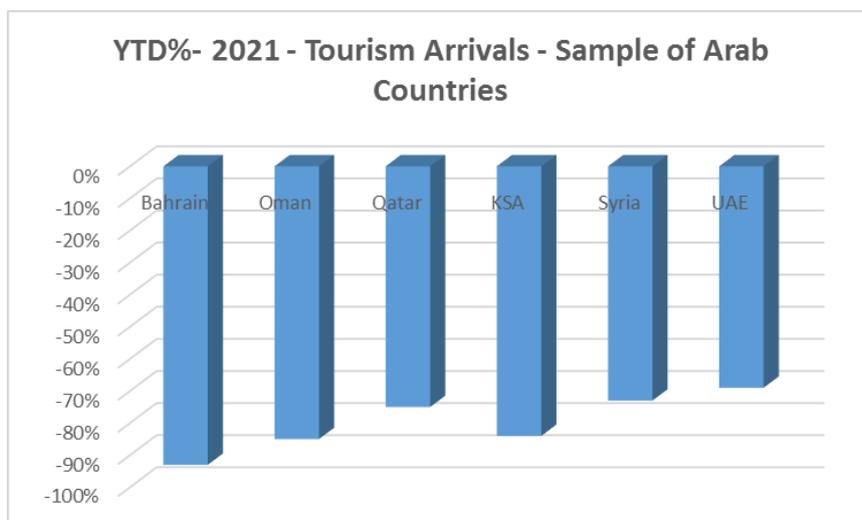
Regarding tourism expenditure, figuring out 2021 overall monthly change in some of Arab countries, where it shows that Qatar recorded the least YTD percentage change when it comes to the tourism expenditures, with a percentage of -2%, followed by Egypt that recorded a decrease in the YTD percentage to be 7%, while the highest country with the percentage change in YTD was both Iraq and Kuwait, and Jordan's YTD percentage change was -43% and KSA YTD percentage change was -27%.

Methodology:

Empirical analysis was used to see whether there is a relationship between sustainable development and tourism. To test the existence of this relationship, the model was generated using the adjusted tourist arrival and tourism revenue data for 9 Arab countries for the period 2005-2019 with total of 135 observation. The data was obtained from the World Bank, World Development Indicator (WDI) data set. Within this framework, panel data analysis was used and normality test, panel unit root, variance inflation test, chow test, Hausman test and Panel Least Square tests were applied. After the econometric model and the variables of the study were introduced, the tests used with panel data analysis were briefly explained.

Econometric Model:

A panel data model is conducted, where it combines time series and cross section data, this analysis is using the least squares technique to estimate the panel data model, the combination of time series with cross-sections enhances the quality and quantity of data that it would be impossible using only one of these two dimensions. 30

The model will be used to investigate the relationship between the stated variables where we will use international tourism, receipts (current US$) as the dependent variable and the SDI (sustainable development index) as one of the independent variables to reflect the sustainable development that needs to be linked with tourism to check the relationship between the two mentioned variables, tourism, and sustainable development.

This index is a tool for evaluating a country's ecological efficiency in delivering human development. It is calculated as the quotient of two figures: the first one is the "development index" based on the Human Development Index, which is calculated as the geometric mean of

life expectancy, education, and a modified income index; and the second one is the "ecological impact index," which is calculated as the extent to which consumption-based CO2 emissions and material footprint exceed per-capita shares of planetary boundaries, and this is more related to the study. SDI was selected in this investigation rather than HDI as HDI Human Development Index as HDI pays no regard to ecology and continues to place a premium on high income, which, given the strong correlations between income and environmental damage, is in violation of sustainability principles, that's why we used the sustainable development index instead of using the HDI.[31]

Set of independent variables that explain our dependent variable such as tourism arrivals, GNI, official exchange rates, life expectancy and co2 emissions.

The Estimation Equation of the model is as follows:

LOG(TOURISMRECCURRENT) = C(1) + C(2)*LOG(GNI) + C(3)*LOG(SDI) + C(4)*LOG(ARRIVALS) + C(5)*LOG(CO2KG2010OFGDP) + C(6)*LOG(LIFE) + C(7)*LOG(OFFICIALEXCH) + C(8)*TOURISMRECCURRENT(-1) + [CX=R]

Where:

Symbol	Used Variable	Source
SDI	Sustainable Development Index	Sustainable Development Index Website
Tourismreccurrent	International tourism, receipts (current US$)	World Development Indicator, World Bank
Arrivals	International tourism, number of arrivals	World Development Indicator, World Bank
Officialexch	Official Exchange Rate.	World Development Indicator, World Bank
GNI	GNI (current US$)	World Development Indicator, World Bank
CO2KG2010OFGDP	CO2 emissions (kg per 2010 US$ of GDP)	World Development Indicator, World Bank
Life	Life Expectancy	World Development Indicator, World Bank

Normality Test:

Normality test was conducted to check whether there is a normal distribution of the used data or not, the results of the test showed that Jarque-Bera probability is 2.100 and 0.3498

respectively which represent a value that is higher than 0.05 and this reflects a normal distribution of the data as shown in the figure below.

Series: Standardized Residuals	
Sample 2005 2019	
Observations 135	
Mean	-8.81e-07
Median	812777.1
Maximum	53712824
Minimum	-53016152
Std. Dev.	29869912
Skewness	-0.021527
Kurtosis	2.390442
Jarque-Bera	2.100459
Probability	0.349857
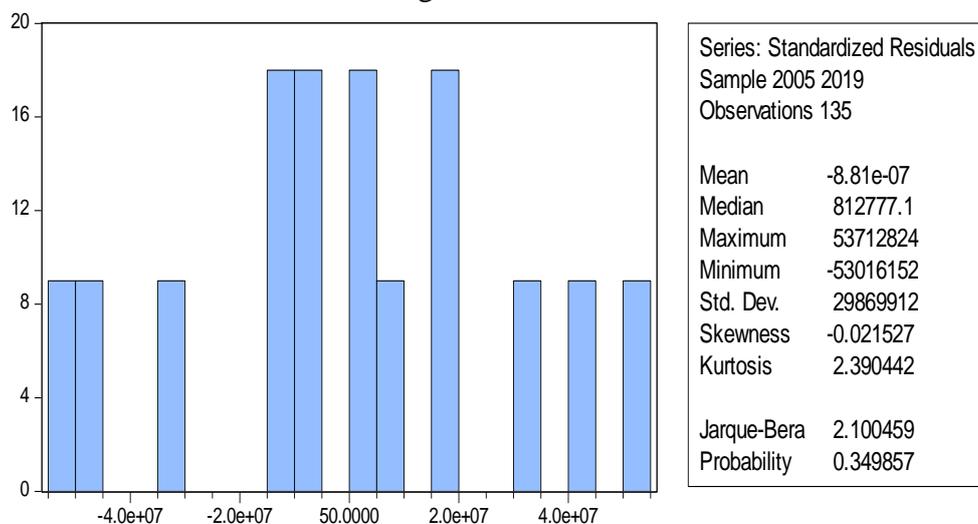
Normality test: conducted by the researcher by using E-views

Unit Root Test:

To account for the time structure of all given variables, panel unit root test has been conducted to check the stationary of data used. Table below shows the unit root test results for the level series. MacKinnon's critical values for testing the null hypothesis for the unit root at 5 and 10 per cent levels. According to Granger & Newbold (1974), the relationship between the variables studied is not reliable when one works with non-stationary data. For this reason, the stability must be checked before the regression analysis. Fisher ADF (Maddala & Wu, 1999), Breitung (1999), Fisher PP (Choi, 2001) Levin, Lin & Chu (LLC, 2002), and Im, Peseran & Shin (IPS, 2003) are the most well- known examples of panel unit root tests. These tests assume that there is no correlation between the units.

Selected research variables implies that mean and variance of variables have been fixed during time and covariance of variables between different years. As a result, the use of these variables in the model does not lead to false regression. For this purpose, tests such as Levin, Lin& Chu test was conducted. Results related to static test of research variables have been presented in table 1 indicated that all the variables are static.

Variable	T-statistics	Probability
Log(Arrivals)	-2.13224	0.0165
Log(Co2kg2010gdp)	-2.95726	0.0016
Log(Life)	-10.5380	0.0000
Log(FDI)	-2.5145§2	0.0060
Log(GNI)	-6.25738	0.0000
Log(SDI)	-3.32415	0.0004
Log(Realexch)	-1.62649	0.0519

Table 1: Levin, Lin & Chu - Unit Root Test conducted by the researcher by using E-views.

Variance Inflation Factor Test:

This test is used to detect if there is multicollinearity in the selected independent variables, A VIF of 1 means that there is no correlation among the predictor and the remaining predictor variables, and hence the variance of the coefficient of the variable is not inflated at all. The general is that if VIFs is exceeding 5, then the selection of this variable needs further investigation, while VIFs exceeding 10 are signs of serious multicollinearity requiring correction. Table 2 shows the VIF results.[32]

Variance Inflation Factors
Date: 08/11/21   Time: 10:06
Sample: 2005 2019
Included observations: 124

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	5.71E+19	2063.302	NA
FDI	0.000825	1.462072	1.361364
GNI	2.63E-06	5.221595	3.089124
SDI	9.68E+17	14.28128	1.583893
CPI2010	4.74E+13	20.87749	1.132822
ARRIVALS	3769.601	10.83022	3.033086
CO2KG2010OFGDP	1.34E+18	29.64289	1.083612
LIFE	9.89E+15	1983.513	1.162640
OFFICIALEXCH	7.29E+13	2.230866	1.843812

Table 2. Variance Inflation Factors Test – Conducted by the researcher by using E-views.

Chow Test:

This test is conducted to determine whether the model will be more appropriate for using the common effect or the fixed effect in estimating the panel data, and to interpret chow test based on the value we must check the cross-section chi- square, if the value is less than 0.05 then we will choose the fixed effect and if the value is greater than 0.05 then we will choose the common effect.

In our analysis we found that the cross-section chi- square value is 0.000 which is less than 0.05 as shown in table 3 and this reflects the inevitability of applying the fixed effect of our analysis.

Redundant Fixed Effects Tests
Equation: EQ01
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	18.358917	(8,99)	0.0000
Cross-section Chi-square	104.614182	8	0.0000

Table 3: Chow test conducted by the researcher by using EViews.

Hausmen Test:

After applying chow test and the results showed that fixed effect should be applied, then the next step here is to conduct a random effect and to make hausmen test to select fixed effect random test. Hausmen test is used to determine the best method between fixed effect or random effect, and then we must check the p-value in the hausmen test, in our analysis the p value is 0.000 which indicates the better use of fixed effect rather than using the random effect as the p value is less than 0.005 as shown in table 4.

Correlated Random Effects - Hausman Test
Equation: EQ01
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	146.813503	7	0.0000

Table 4: Hausmen test conducted by the researcher by using EViews.

Fixed Effect Model:

When using the above variables for estimation, all variables take the natural logarithm, such that the estimated coefficient of the variable can also be regarded as the elastic coefficient. The estimation results affirm that our previous theoretical judgments are supported by the data in general as shown in table 5.

Dependent Variable: LOG(TOURISMRECCURRENT)
Method: Panel Least Squares
Date: 08/11/21   Time: 10:15
Sample (adjusted): 2006 2018
Periods included: 13
Cross-sections included: 9
Total panel (unbalanced) observations: 115

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27.37168	15.44305	1.772427	0.0794
LOG(GNI)	0.371780	0.142686	2.605587	0.0106
LOG(SDI)	-1.304881	0.349020	-3.738704	0.0003
LOG(ARRIVALS)	0.645462	0.126570	5.099649	0.0000
LOG(CO2KG2010OFG DP)	0.233222	0.437592	0.532967	0.5953
LOG(LIFE)	-6.124711	4.353503	-1.406847	0.1626
LOG(OFFICIALEXCH)	0.088574	0.199694	0.443549	0.6583
TOURISMRECCURRE NT(-1)	9.64E-11	1.93E-11	4.993935	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.971567	Mean dependent var	21.67422
Adjusted R-squared	0.967259	S.D. dependent var	1.175253
S.E. of regression	0.212657	Akaike info criterion	-0.129827
Sum squared resid	4.477063	Schwarz criterion	0.252077
Log likelihood	23.46505	Hannan-Quinn criter.	0.025186
F-statistic	225.5230	Durbin-Watson stat	1.883492
Prob(F-statistic)	0.000000		

Table 5: Fixed Panel Least Square conducted by the researcher by using EViews.

Results:

The adjusted R-squared of the model is around 0.967. The estimates are robust to model specifications, as the set of the independent variables in the model explains about 97% of the changes that takes place in the international tourism receipts as the dependent variable; this means that the model is well fitted.

The results showed that there is a negative relationship between SDI and international tourism receipts, and this explains a valid relationship based on the literature review, where countries that have high human development with low ecological impact rise to the top of the SDI with a value approaching to zero, while countries with low human development, and countries with high human development but high ecological impact, fall to the bottom of the SDI, with value that is approaching to 1, where the index itself is ranging between 0 and 1, it is found that developed countries such as Germany and Japan have SDI with value approaching to zero, while developing countries like Sudan and Libya have SDI that is approaching 1, and this illustrates the negative relationship that is found between the tourism receipts as the dependent variable and SDI which is one of the independent variables. It is worth noting that SDI as a variable is statistically significant as probability of error for this variable is 0.0003 which is less than 0.005.

The results also indicate a positive relationship between international tourism receipts and the following independent variables as GNI, arrivals, Co2 emissions, official exchange rates with probabilities of error of 0.0106, 0.0000, 0.5953 and 0.6583 respectively.

Regarding the relationship between GNI and tourism receipts, it is supporting the theoretical background which states a positive relationship between the two variables where GNI is quite possibly a better metric for the overall economic condition of a country whose economy includes foreign investments, this is because the GNI calculates an economy's total income, regardless of whether the income is earned by nationals within the country's borders or derived from investments in foreign business, where this advocates the findings of Boga, S. & Kemal Erkisi, as their research stated that tourism revenues affects economic growth; a 1% increase in tourism revenues raises the economic growth by 0.49 % in long-term, and vice versa. [33]

When it comes to the relationship between international tourism receipts and international tourists' arrivals, it is well known that the greater the volume of international visitors, the greater the GDP generated because of tourism. However, this relationship between visitors and GDP is neither proportional nor constant over time in all countries of the world. The reason is that the international tourism visitors' impact on GDP depends not only on its volume but also on the average expenditure per tourist and on other non-economic factors.

Regarding Co2 emissions as a percentage of GDP, although its value is statistically insignificant, however many studies showed that there is a positive relationship between the two stated variables, the co2 emissions and international tourism receipts, where Jebli et al. (2015) results imply that clean power utiliza- tion leads to increased tourism receipts and arrivals which increases CO2 emissions in the long term. Examining the interlinkages between renewable energy, CO2 emissions, economic growth, and trade[34], while Lee & Brahmasrene (2013) found that tourism was negatively affecting the climate through increased emissions. With increasing tourism receipts value, emissions increase, indicating a positive relationship between our two mentioned variables exactly as our analysis results.[35]

The relationship between exchange rates and tourism receipts is also investigated and showed a positive relationship, however the results showed that this variable is statistically insignificant although many studies such as Samirkas, M. (2015) showed that revenue per tourist and real exchange rates have significant cointegrate relationship in the long-run. They also have a causal relation; real currency exchange rates have an effect upon where visitors arriving in Turkey originate, which matches our results of the analysis.[36]

Conclusion:

The novelty of this research lies in a detailed analysis of the relationship between tourism receipts and sustainable development in the Arab countries, which is explained over time. The implications of this research are reflected in the competent indicators of the position of sustainable development in the Arab countries countries. These contribute to a better understanding of the various aspects of sustainable development in relation with international tourism, which is important during the presence of corona-virus pandemic. Second, there are few existing studies that pay attention to Arab countries , and it is very important to focus on

vibrant tourism industry that provides a huge contribution to growth and development, also it is essential to study this relationship in the presence of the current pandemic.

The research was mainly conducted to answer two main questions, the first one was, what is the impact of COVID-19 on tourism sector in Arab region? The second one is questioning the relationship between tourism and sustainable development?

The first question answered and showed slowdown of travel & tourism, the one of the fastest growing sectors in 2019, which accounted for one in every four new jobs generated globally over the last five years, the pandemic resulted in job losses in the Arab region measured in lost working hours which is equivalent to 17 million hour, which pushed poverty to reach 14.3 million people in the Arab region, the sector accounted for 10.3 percent of global GDP and provided fund and support to 330 million livelihoods, the losses were estimated to reach $152 billion in real GDP.

Hajj and umrah, which are the cornerstones of the muslim travel industry, were either cancelled or seriously curtailed, resulting in massive losses, reflecting that Saudi Arabia was the most affected country by COVID-19, which is reflected by the highest number of confirmed cases among the region, while Egypt is the highest among the Arab countries in reflecting the number of deaths.

In Egypt when a comparison is made between tourists arrival in year 2020 and 2019, it revealed that the number of tourists increased at a positive rate at the start of the year in January and February which was a preview of a profitable year ahead for Egypt's tourism sector. However, with the introduction of Covid-19 and its widespread use in Egypt, as in other regions of the world, the number of visitors visiting Egypt has decreased because of the precautionary measures that were taken by the government to suspend travel.

While the second question which states, is there a statistically significant relations between the sustainable development and tourism? The answer for this question is yes, there is a statistical relationship between the stated variables as shown in the econometric model results, where there is a negative relationship between SDI and international tourism receipts, and results explains a valid relationship based on the literature review, where developed countries have SDI with a value approaching to zero, while developing countries have SDI with value that is approaching to 1, and this illustrates the negative relationship that is found between the tourism receipts as the dependent variable and SDI which is one of the independent variables, where the highest the international tourism receipts, the highest the SDI value with a value that is approaching to zero as shown in the analysis results.

The results also indicate a positive relationship between international tourism receipts and the following independent variables as GNI, arrivals, Co2 emissions, official exchange rates with probabilities of error of 0.0106, 0.0000, 0.5953 and 0.6583 respectively.

Regarding Co2 emissions as a percentage of GDP, there is a positive relationship between the two stated variables, the co2 emissions and international tourism receipts, also the relationship between exchange rates and tourism receipts is also investigated and showed a positive relationship.

Recommendation:

Governments should take the appropriate steps to promote public awareness of the linkages between tourism and long-term economic sustainability plans. Governments also must keep

an eye on the tourism industry in terms of adopting green rules to develop green products for businesses that use digitized services. The tourism business should identify which digital and environmental issues have a substantial impact on the sector's economic growth and start functioning.[37]

The tourism industry is extremely vulnerable to climate change while also contributing to the co2 emission of greenhouse gases (GHG), which is one of the primary causes of global warming. Accelerating climate action in tourism is consequently critical for the sector's long-term viability, so tourism stakeholders are increasingly encouraged to focus on the sector's future resilience which will be determined by its ability to adopt a low-carbon pathway and cut emissions by half by 2030. So, focusing on green transportation methods that tourists use inside the country is one of the main items that will share in the acceleration of decarbonization and the implementation of green transportation strategy.

Another recommendation here is that each country in the Arab region must develop its own sustainable tourism indicators system such as Portugal, to reach the sustainability goal, and then to integrate the findings to be compared to a universal indicator to measure each country's performance. [38]

Also touchless travel could be encouraged by governments and authorities through the availability of contactless payment in transportation facilities, using the option of contactless check-in and boarding at pre-located seat, the ability of contactless boarder control when the tourist is leaving his home country and heading to the destination country can be used in order to decrease the ability of the tourist to touch things which will eventually decrease the probability of getting infected by COVID-19.

Another input that should be included is the engagement of new technologies in the field of tourism such as the possibility of downloading a tracking app at the destination country, the dependency on e-tickets and e-bookings for visits and entertainment, also encourage the use of emerging technologies like augmented reality or virtual reality to enhance the visitor experience before, during, and after their stay, which at the same time will decrease the possibility of getting sick or catch diseases such as COVID-19. Another recommendation should include easing of travel restrictions in an attempt to return to normal life in light of the presence of different vaccines.

List of Tables:

Table 1: International Tourists Arrival to Egypt (2020 and 2019)

	2020		2019
jan	6612	6064	
feb	5799	5553	
march	1790	6277	
april	55	6532	
may	53	5646	
june	83	5369	
july	229	5533	
august	514	8056	
sep	577	5044	

oct	752	5694
nov	836	5766
dec	1023	6649

Source: UNWTO website, 2021.

Table 2: International Tourists Arrival and Confirmed COVID-19 cases in Egypt, 2020.

	International Tourist Arrival (2020)	COVID Confirmed Cases
Feb	5553	1
March	6277	710
April	6532	5537
May	5646	24985
June	5369	68311
July	5533	94078
August	8056	98939
Sep	5044	103198
Oct	5694	107555
Nov	5766	115911
Dec	6649	138062

Source: UNWTO website, 2021.

References:

• Banodi, A., Jianu, E, Et. Al, (2020), " The Relationship between Development of Tourism, Quality of Life and Sustainable Performance in EU Countries, MDPI, Sustainability 2020, 12, 1628; doi:10.3390/su12041628, P.2.

• Boga, S & Kemal, E. (2019), "The relationship between international tourism receipts and Economic growth in Asia Pacific countries: A Panel data analysis", The Academic Elegance, Cilt:6 Sayı:11, PP. 31-46.

• Creaco, S; Querini, G., (2003)," The Role of Tourism in Sustainable Economic Development, 43rd Congress of the European Regional Science Association: "Peripheries, Centres, and Spatial Development in the New Europe", Finland, ERSA.

• Dinar Standard, (2020), "State of the Global Islamic Economy Report: Thriving in Uncertainty", P.3

• Dube, K. (2020), "Tourism and Sustainable Development Goals in the African Context", International Journal of Economics and Finance Studies, Vol.12(1), DOI: 10.34109/ijefs.202012106, P. 89.

• ECES, (2020), "Follow-up on the Effects of COVID-19 on the Egyptian Economy: Tourism Sector", Views on News Issue No.25, PP.9-11.

• El-Gohary, H. (2020), "Coronavirus and Halal Tourism and Hospitality Industry: Is It a Journey to the Unknown?", Sustainability 2020, 12, 9260, MDPI Concept Paper, P.3.

• Filipiak, B.Z., Dylewski, M. & Kalinowski, M. (2020), "Economic development trends in the EU tourism industry. Towards the digitalization process and sustainability". Qual Quant(2020).

- Guajarati, D. (20014), "Basic Econometrics" , fourth Edition, P. 638
- Hickel, J. (2020), "The sustainable development index: Measuring the ecological efficiency of human development in the Anthropocene", Ecological Economics, ELSEVIER, Volume 167.
- Jebli, B.M., Youssef, B.S., Apergis, N., 2014. The Dynamic Linkage Between CO2 Emissions, Economic Growth, Renewable Energy Consumption, Number of Tourist Arrivals and Trade. MPRA Paper No. 57261.
- Lee, J.W., Brahmasrene, T., (2013), "Investigating the influence of tourism on economic growth and carbon emissions: evidence from panel analysis of the European Union". Tourism Manag. 38, 69–76.
- Marti, L., R. Puertas (2017) Determinants of tourist arrivals in European Mediterranean countries: Analysis of competitiveness. European Journal of Tourism Research 15, pp. 131-142.
- OECD, (2020), "Key Findings: OECD Tourism Trends and policies 2020", P.10.
- Petrevska, B. (2014), " Determinants of Tourism Contribution to National Economy", CEA Journal of Economics, Vol.9(1), PP.1-46.
- Samirkas, M & Meryem, S. (2015), " The impact of exchange rate on tourism industry: The case of turkey.", Handbook of research on global hospitality and tourism management.", pp. 107-118.
- Selim, M., Semenova, E. & Aidrous, I. (2020), " INTERNATIONAL TOURISM: PROSPECTS FOR DEVELOPMENT IN THE POST CORONAVIRUS WORLD (EGYPTIAN EXAMPLE)". INTERNATIONAL JOURNAL OF MANAGEMENT. 11. 1145-1155.
- Selimi, Nasir; Sadiku, Luljeta; Sadiku, Murat (2017) : The impact of tourism on economic growth in the Western Balkan countries: An empirical analysis, International Journal of Business and Economic Sciences Applied Research (IJBESAR), ISSN 2408-0101, Eastern Macedonia and Thrace Institute of Technology, Kavala, Vol. 10, Iss. 2, pp. 19-25.
- Toubes,D.R.;AraújoVila, N.; Fraiz Brea, J.A. (2021), "Changes in Consumption Patterns and Tourist Promotion after the COVID-19 Pandemic". J. Theor. Appl. Electron. Commer. Res. 2021, 16, 1332–1352. https://doi.org/10.3390/ jtaer1605007
- Ugur, N., Akbiyik, A. (2020), "Impacts of COVID-19 on Global Tourism Industry: A Cross -Regional Comparison", Elsevier, Tourism Management Perspectives 36 (2020) 100744, P. 2.
- United Nations, (2020), "Policy Brief: COVID-19 and Transforming Tourism", P.3
- United Nations, (2020), "Policy Brief: The Impact of COVID-19 on the Arab Region, An Opportunity to Build Back Better", P.3
- World Travel &Tourism Council Website, (2021)
- World Travel and Tourism Council, (2020), "To Recovery and Beyond: The Future of Travel & Tourism in the Wake of COVID-19", OLIVER WYMAN Publications, P.5
- Xie, J. (2020), "The Economic Determinants of Tourism Seasonality: A Case study of the Norwegian Tourism Industry", Cogent Business & Management, 7:1, 1732111, DOI: 10.1080/23311975.2020.1732111.

[1] Ugur, N., Akbiyik, A. (2020), "Impacts of COVID-19 on Global Tourism Industry: A Cross -Regional Comparison", *Elsevier, Tourism Management Perspectives 36 (2020) 100744,* P. 2.

[2] El-Gohary, H. (2020), "Coronavirus and Halal Tourism and Hospitality Industry: Is It a Journey to the Unknown?", Sustainability 2020, 12, 9260, MDPI Concept Paper, P.3.

[3] World Travel &Tourism Council Website, (2021)

[4] Petrevska, B. (2014), "Determinants of Tourism Contribution to National Economy", CEA Journal of Economics, Vol.9(1), PP.1-46.

[5] Xie, J. (2020), "The Economic Determinants of Tourism Seasonality: A Case study of the Norwegian Tourism Industry", Cogent Business & Management, 7:1, 1732111, DOI: 10.1080/23311975.2020.1732111.

[6] Marti, L., R. Puertas (2017) Determinants of tourist arrivals in European Mediterranean countries: Analysis of competitiveness. European Journal of Tourism Research 15, pp. 131-142

[7] Selimi, Nasir; Sadiku, Luljeta; Sadiku, Murat (2017) : The impact of tourism on economic growth in the Western Balkan countries: An empirical analysis, International Journal of Business and Economic Sciences Applied Research (IJBESAR), ISSN 2408-0101, Eastern Macedonia and Thrace Institute of Technology, Kavala, Vol. 10, Iss. 2, pp. 19-25, http://dx.doi.org/10.25103/ijbesar.102.02

[8] Banodi, A., Jianu, E, Et. Al, (2020), " The Relationship between Development of Tourism, Quality of Life and Sustainable Performance in EU Countries, MDPI, Sustainability 2020, 12, 1628; doi:10.3390/su12041628, P.2.

[9] Creaco, S; Querini, G., (2003)," The Role of Tourism in Sustainable Economic Development, **43rd Congress of the European Regional Science Association: "Peripheries, Centres, and Spatial Development in the New Europe", Finland, ERSA.**

[10] Banodi, A., Jianu, E, Et. Al, (2020), "The Relationship between Development of Tourism, Quality of Life and Sustainable Performance in EU Countries, MDPI, Sustainability 2020, 12, 1628; doi:10.3390/su12041628, P.3.

[11] OECD, (2020), "Key Findings: OECD Tourism Trends and policies 2020", P.10.

[12] UNWTO, (2020), "Overtourism'? – Understanding and Managing Urban Tourism Growth beyond Perceptions, Volume 2: Case Studies. https://www.e-unwto.org/doi/epdf/10.18111/9789284420629

[13] OECD, (2020), "Key Findings: OECD Tourism Trends and policies 2020", P.10.

[14] United Nations, (2020), "Policy Brief: COVID-19 and Transforming Tourism", P.3

[15] Dube, K. (2020), "Tourism and Sustainable Development Goals in the African Context", International Journal of Economics and Finance Studies, Vol.12(1), DOI: 10.34109/ijefs.202012106, P. 89.

[16] World Economic Forum, 2021, https://www.weforum.org/agenda/2020/11/why-we-should-prioritize-sustainability-in-rebuilding-tourism

[17] OECD, (2020), "Key Findings: OECD Tourism Trends and policies 2020", P.3.

[18] Toubes,D.R.;AraújoVila, N.; Fraiz Brea, J.A. (2021), "Changes in Consumption Patterns and Tourist Promotion after the COVID-19 Pandemic". J. Theor. Appl. Electron. Commer. Res. 2021, 16, 1332–1352. https://doi.org/10.3390/ jtaer1605007

19 Toubes,D.R.;AraújoVila, N.; Fraiz Brea, J.A. Changes in Consumption Patterns and Tourist Promotion after the COVID-19 Pandemic. *J. Theor. Appl. Electron. Commer. Res.* **2021**, *16*, 1332–1352. https://doi.org/10.3390/ jtaer16050075, P.1134.

[20] World Economic Forum Website, 2021, https://www.weforum.org/agenda/2021/04/how-global-tourism-can-become-more-sustainable-inclusive-and-resilient/

[21] IATA Website, 2021, https://www.iata.org/en/pressroom/pr/2021-02-03-02/

[22] United Nations, "Policy Brief: The Impact of COVID-19 on the Arab Region, An Opportunity to Build Back Better", July 2020, P.3

[23] World Travel and Tourism Council, (2020), "To Recovery and Beyond: The Future of Travel & Tourism in the Wake of COVID-19", OLIVER WYMAN Publications, P.5

[24] Dinar Standard, (2020), "State of the Global Islamic Economy Report: Thriving in Uncertainty", P.3

[25] OECD website, 2021, https://www.oecd.org/coronavirus/policy-responses/tourism-policy-responses-to-the-coronavirus-covid-19-6466aa20/

[26] Selim, M., Semenova, E. & Aidrous, I. (2020), " INTERNATIONAL TOURISM: PROSPECTS FOR DEVELOPMENT IN THE POST CORONAVIRUS WORLD (EGYPTIAN EXAMPLE)". *INTERNATIONAL JOURNAL OF MANAGEMENT. 11. 1145-1155.*

[27] ECES, (2020), "Follow-up on the Effects of COVID-19 on the Egyptian Economy: Tourism Sector", Views on News Issue No.25, PP.9-11.

[28] Toubes,D.R.;AraújoVila, N.; Fraiz Brea, J.A. (2021), "Changes in Consumption Patterns and Tourist Promotion after the COVID-19 Pandemic". J. Theor. Appl. Electron. Commer. Res. 2021, 16, 1332–1352. https://doi.org/10.3390/ jtaer1605007

[29] UNWTO, (2020), "Global Guidelines to Restart Tourism", P.5.

[30] Guajarati, D. (20014), "Basic Econometrics", fourth Edition, P. 638

[31] Hickel, J. (2020), " The sustainable development index: Measuring the ecological efficiency of human development in the Anthropocene", Ecological Economics, ELSEVIER, Volume 167.

[32] Pennstate Eberly College of Science, Website, 2021. https://online.stat.psu.edu/stat501/lesson/12/12.4

33 Boga, S & Kemal, E. (2019), "The relationship between international tourism receipts and Economic growth in Asia Pacific countries: A Panel data analysis", The Academic Elegance, Cilt:6 Sayı:11, PP. 31-46.

34 Jebli, B.M., Youssef, B.S., Apergis, N., 2014. The Dynamic Linkage Between CO2 Emissions, Economic Growth, Renewable Energy Consumption, Number of Tourist Arrivals and Trade. MPRA Paper No. 57261.

35 Lee, J.W., Brahmasrene, T., 2013. Investigating the influence of tourism on economic growth and carbon emissions: evidence from panel analysis of the European Union. Tourism Manag. 38, 69–76.

[36] Samirkas, M & Meryem, S. (2015), " The impact of exchange rate on tourism industry: The case of turkey.", HAndboo of research on global hospitality and tourism management.", pp. 107-118.

[37] Filipiak, B.Z., Dylewski, M. & Kalinowski, M. Economic development trends in the EU tourism industry. Towards the digitalization process and sustainability. *Qual Quant*(2020). https://doi.org/10.1007/s11135-020-01056-9

[38] https://travelbi.turismodeportugal.pt/en-US/pages/sustentabilidade.aspx