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An Analysis of the Global Ranking of American Countries in the Travel and Tourism Competitiveness Index

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ABSTRACT

This study examines the relationship of the Global Ranking of the American countries in their Travel and Tourism Competitiveness Index. The explained variable is Global Rank. The explanatory variables are Safety and Security, Human Resources and Labour Market, Business Environment, ICT Readiness, and Health and Hygiene. An inverse relationship is found between Global Rank and the factors such as Safety and Security, Health and Hygiene, Human Resources and Labour Market, and ICT Readiness. The most influencing factor is Human Resources and Labour Market. A direct relationship is found between Global Rank and Business Environment. The American economies and their policy makers should be aware of the factor which is increasing their Global Ranking position in the travel and tourism arena.

Keywords: Global Ranking, TTCI, American Countries, Business Environment, Human Resource

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1. Introduction

The Travel and Tourism Competitiveness Index is known as the most inclusive and exclusive device considered confining the compound criterion of Travel and Tourism competitiveness in the global context. By studying the factors of obstacles and success to Travel and Tourism competitiveness in all the countries all over the world, the Travel and Tourism Competitiveness Index (TTCI) can be utilized by the economies so as to identify the strengths of individual countries along with challenges that hinder the enhancement and improvement of the tourism industry. This index paves the ways to direct the economies on the indicators of interest designed and fitted in this Index to regulate their development and progressive steps over period of time.

The Travel and Tourism Competiveness Index deal with "the set of factors and policies that enable the sustainable development of the Travel & Tourism (T&T) sector, which in turn, contributes to the development and competitiveness of a country" (World Economic Forum, 2017). It covers up of 04 sub-indices, 14 pillars, and 90 individual indicators which are distributed to and shared with the various pillars. It is displayed in Figure 01.Each sub-indexes composed of a number of selected pillars that delineates the dominant components in studying the Travel and Tourism Competitiveness Index (TTCI).

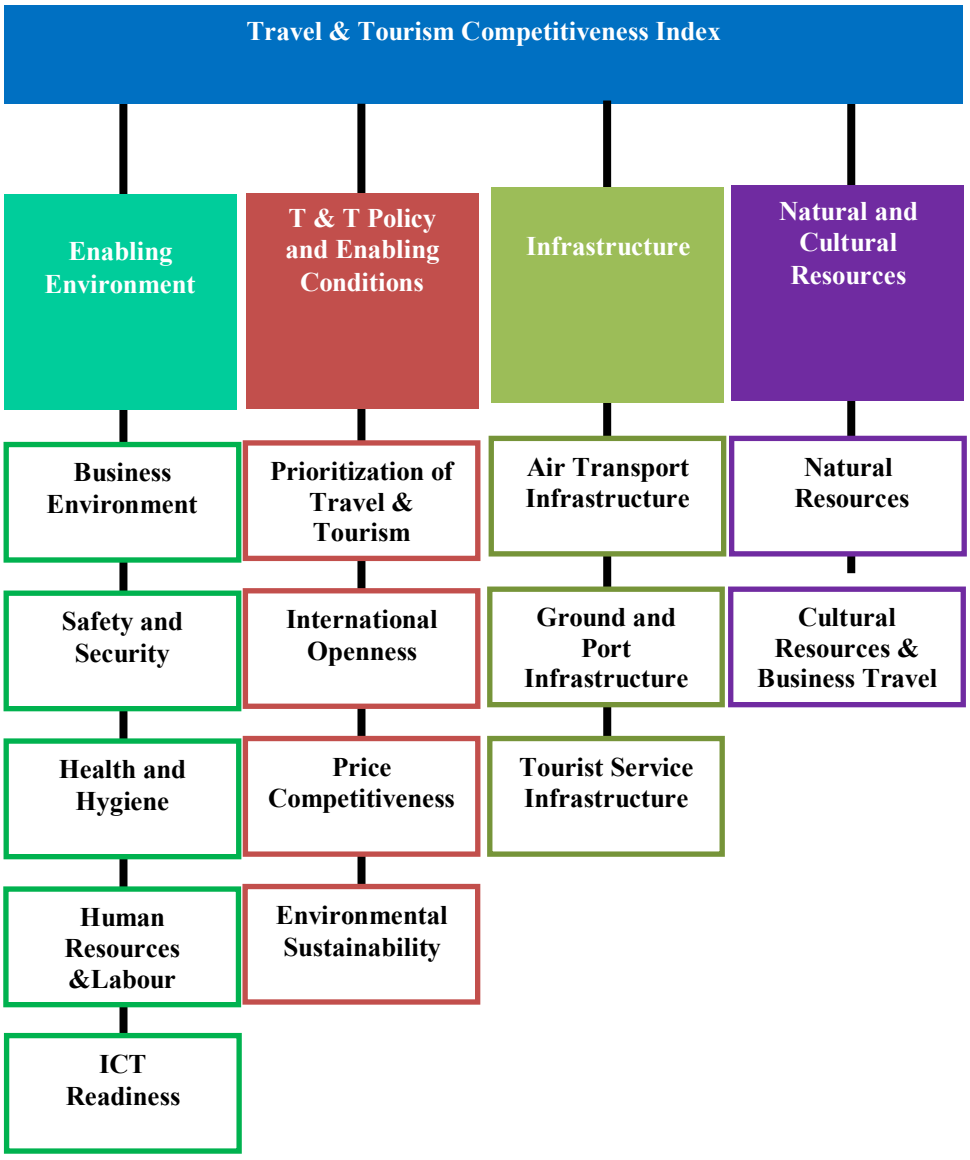
The pillars are listed as Human Resources and Labour Market, Business Environment, Health and Hygiene, Safety and Security represented by the sub-index categorized as Enabling Environment, Price Competitiveness, International Openness, Prioritization of Travel and Tourism, and Environmental Sustainability categorized by the sub-index known as Travel and also Ground and Port Infrastructure, Air Transport Infrastructure, Tourism Policy and Enabling Conditions represented by another one of the sub-indices categorized as Infrastructure. Business Travel, Natural Resources, and Cultural Resources represented by the last sub-index known as Natural and Cultural Resources (WEF, 2017).

All these pillars of TTCI are enacted with a number of individual 90 indicators which can be used as variables as well in studies. The data set collected and used to roughly estimate such pillars are the type of time series data from the annual surveys being implemented by the World Economic Forum. Accordingly, they are the quantitative time series data in nature being gathered from the international organizations and institutions, the available sources, and experts in tourism industry (Mihai, 2011). Table 03 lists the pillars of one of the sub-indices identified as 'Enabling Environment' of which Business Environment, Safety and Security, Health & Hygiene, Safety and Security, Human Resources and Labour Market, and ICT Readiness are listed as the individual pillars taken into consideration in this study. Each of the individual indicators included in each of the pillars is seen and listed in Figure 01.

Therefore, Health & Hygiene, ICT Readiness, Human Resources & Labour Market, Business Environment, and Safety & Security are composed of 06, 08, 09, 12, and 05 individual indicators correspondingly. The Travel and Tourism Competitiveness Index has been modified and formulated in the perception of the World Economic Forum's Industrial Programme in quest of Travel & Tourism, and Aviation, and in close partnership with the data partners of the World Economic Forum such as the International Air Transport Association (IATA), the International Union for Conservation of Nature (IUCN), Deloitte-STR Global, the

World Tourism Organization (UNWTO) and the World Travel & Tourism Council (WTTC), and Bloom Consulting (WEF, 2017).

The Travel and Tourism Competitiveness Index is essential for the discussion of multi-stakeholders at the individual country level with intension of regulating appropriate policies and practices. TTCI directs properly to a global movement through the study of extensive trends of tourism industrial sector and the global leaders of the unique perspectives from government, international organizations, and industry are guided on the critical issues being raised and circulated to ensure the long-term travel & tourism competitiveness.



Source: The Travel and Tourism Competitiveness Report 2017, World Economic Forum, 2017.

Figure 01: The Travel and Tourism Competitiveness Index Framework - 2017

The Americas is the macro-region with the 02nd most improved Travel & Tourism Competitiveness Index achievement at the cumulative level, just after Asia-Pacific economies. The arrivals of international tourist have increased improving from 170 mn in year 2013 to over 201 mn in year 2015. Of the arrivals, North and Central America entertain around 80% of these arrivals of visitors and Latin America entertains the rest of20%. The dependence of the countries is mostly on the natural resources rich in the region and the good hospitality management so as to attract the arrivals of tourists, and they are apt to be internationally open and liberal.

Most of the governments in this region recognize the major role that tourism industry plays for employability and development and as a result, help the tourism sector practically. However, some of the distributed difficulties still prevail. The ground and port infrastructure are rather underdeveloped, and the cultural resources and business travel known as one of the pillars of TTCI are not as significant as they can be. These are the distinguishing factors between North American countries and their counterparts of Southern America.

America performs lower than the average of North and Central America on these indicators. While North and Central American countries are better than South American countries on infrastructure, they are backward in cultural resources. A large number of South American countries are utilizing the richness of their heritages to prepare a valued proposition of tourism composed of entertainment, natural resorts, and culture. Central American and Caribbean nations keep on persisting more greatly on the natural resources of the nations and they have not achieved much of improvement in the development of other tourism sectors or complementation of their beach with other activities. These sorts of trends are ensured by the complete changes in the performances of the nations across this region.

North and South American countries are upgrading their domestic cultural and natural resources and the readiness in ICT. The efficiency and quality of ground transportation have also turned down across most of the continent of America, suggesting that there is little come-up in progressive steps. In the same way, improvement in environmental policy has been varied. Most of the economies are still backward in respect of lowering the degradation of nature. The United States is the most Travel and Tourism competitive economy in the Americas, with the rank of 06 in the global context. This rank is two places lesser than the earlier in the previous record. This economy supplies qualified human resources (13th), a business-friendly environment (16th), along with strong ICT readiness (19th). The wide global connectivity of the country via air routes (2nd) and the infrastructure of outstanding tourist service (3rd) facilitate the outbound and inbound tourists to be accessible the vast natural (10th) and cultural (13th) resources of the country, and also they enhance the business travel of tourists.

Objective of the Study

To examine the relationship between the Global Ranking of the Travel and Tourism Competitiveness Index and its sub-Indices in American economies.

2. Literature Review

Literature Review of the Study

Robertico Croes (2013) investigated about how the consideration on the inputs as measurement of tourism competitiveness boosted an inclusive understanding of the competing position of a country of destination - Costa Rica in the context of Central American region. He aimed at assessing the effects of tourism competitiveness in this study country by applying inductive and descriptive statistics. He found that the focus of inputs was contradictory with competitiveness after having measured on the performance of a destination targeting at enhancement of the quality of life. He concluded that this contradiction might astonish a rational practice of decision making at the destination level. He suggested two applicable algorithms to streamline a rational practice appropriate for the managers of destination in Costa Rica. Thus, the two algorithms for the process of decision making were first to implement the process of assessment by studying at the strength of competition and second to evaluate the effects of the collection of tourism revenues per capita and value added of tourism revenues on quality of life.

Diana Balan, et al. (2009) aimed to assess the competitiveness of the travel and tourism sector in the top 25 (Austria, Canada, China, Croatia, Egypt, France, Germany, Greece, Hong Kong (China), Hungary, Italy, Malaysia, Mexico, Netherlands, Poland, Portugal, Russian Federation, Saudi Arabia, South Africa, Spain, Thailand, Turkey, Ukraine, United States and United Kingdom) tourist destinations of the world on the basis of the correlation and the relevant results found in the Travel and Tourism Competitiveness Report. They took into consideration of the most respective performance indicators of this industrial sector such as the arrivals of international tourists and the receipts of international tourists collected from the World Tourism Organization (WTO). They found that there were significant differences among these countries of the related values of the Travel and Tourism Competitive Index (TTCI) and there was a strong relationship between the overall competitiveness of these countries and the business environment and infrastructure (r = 0.97), the strong relationship between the overall competitiveness and the regulatory framework (r = 0.86), as well as the human, cultural and natural resources (r = 0.83). They concluded that though these countries were the world's top tourist destinations, their travel and tourism competitiveness should be upgraded and improved.

Zsofia Papp and Agnes Raffay (2011) aimed to consider on the factors that had affected on the tourism competitiveness of Poland, Hungary, Romania and Bulgaria (former socialist countries) by applying descriptive analysis with the use of secondary data sources. They found that tourism in these countries could be best distinguished as a journey or experience of extreme and rapid changes since the change of

regime during 1989-1990. Due to the changes, the countries could not attract the tourists from western nations and also the arrivals of a large number of visitors from the communist countries. The policy of social tourism being in force in these countries was discarded. The consent of European Union supported to revitalize the tourism industrial sector and the introduction of airlines with the lower cost paved the way for marketing tourism sector for the former socialist countries. Finally they found that the introduction of the Euro currency affected on the tourism sector of some of these countries because they become cheaper or more expensive than other countries. They suggested that it was possible to relocate the tourism industrial sector in these countries without losing the uniqueness of the past but it could be reframed as the destinations of attraction for the future tourists from the every nook and corner of the world.

Shenol Chavus et al (2012) aimed to evaluate the tourism competitiveness indices of the Central Asian Turkish Republics and build up recommendations in quest of the improvement of competitiveness indices by applying the descriptive analysis using the secondary sources of data collection. They found that the countries concerned were progressive on the range of tourism regulations, but as per human, natural and cultural resources criteria and business environment and infrastructure, the condition of tourism sector was not good enough to promote tourism in these countries. Thus, finally they recommended that to achieve the expected outcomes in the tourism industrial sector, the increase and speeding up of competitiveness studies must be necessitated and results of this research could be utilized to convey important guidance for organizations and institutions regulating the market of tourism in those countries.

3. Methodology

The data have been collected from the Travel and Tourism Competitiveness Report 2017 of the World Economic Forum. The cross-sectional data of 22 countries from American countries have been collected to achieve the objective of the study. ***GR*** (Global Rank of the Travel and Tourism Competitiveness Index) is defined as the dependent variable. ***BE*** -Business Environment, ***SS*** - Safety and Security, ***HH*** - Health and Hygiene, ***HL*** - Human Resource and Labour Market, and ***IT -*** ICT Readiness are the independent variables used in this study. The tools used in this study to achieve the objective are identified as regression and correlation by using SPSS v.20.0 (Statistical Package for Social Science).

Accordingly, the construction of following model is used in this study to achieve the objective of the study:

$$GR = f(BE, SS, HH, HL, IT) \quad (1)$$

$$GR = \alpha_0 + \alpha_1 BE + \alpha_2 SS + \alpha_3 HH + \alpha_4 HL + \alpha_5 IT + \varepsilon \quad (2)$$

Where:

GR: Global Rank of the Travel and Tourism Competitiveness Index

BE: Business Environment

SS: Safely and Security

HH: Health and Hygiene

***HL**:* Human Resource and Labour Market

***IT**:* ICT Readiness

$\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$*: Coefficients and*

ε*: Error term.*

4. Results and Discussion

Data Presentation and Analysis

The results of Multiple Regression Analysis, Analysis of Variance, Testing for Multi-co-linearity, Residual Analysis are presented and analyzed in this part.

Multiple Regression Analysis (Model Summary)

The model summary of the multiple regression is shown in Table 01, R (*r*) is 0.803; R square (r^2) is 0.645. It represents the percent of shared variance of all the independent variables such as ***IT*** - ICT Readiness, ***SS*** - Safely and Security, ***BE*** -Business Environment, ***HH*** -Health and Hygiene, ***HH*** -Health and Hygiene, ***HL*** - Human Resource and Labour Market. Thus, the percentage of the shared variance of all the independent variables is 64.5 percent. Thus, *GR* is influenced at 35.5 percent by the external factors other than the factors used in this model.

Table 01: Multiple Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Durbin-Watson
				df1	df2	Sig. F Change	
.803	.645	.541	20.79268	5	17	.002	1.557

a. Predictors: (Constant), IT, SS, BE, HH, HL

b. Dependent Variable: GR

Source: Survey data – 2017

The Durbin-Watson statistic is an indicator of the general extent of multi co-linearity between the variables. If the value of DW is less than 1.0, there may be a problem of multi-co-linearity. Thus, it is good above that value at 1.557; therefore, it is on safe grounds. And also the value of Durbin-Watson statistics is higher than the value of R square (r^2) or Adjusted R Square (r^2 = 0.645/0.541). All these are the good signs of this model. Because of these good signs, this multiple regression model does not suffer from any problem of singularity or multi-co-linearity. The value of *F*-statistic is 6.176 which is higher than the corresponding probability value which is 0.00 (less than 5%).Therefore, all the variables used in this model are

instrumental to explain the model and relationship. It means all the independent variables can jointly influence the dependent variable. It is another one of the very good signs of this model.

Regression Model– ANOVA (Analysis of Variance)

The ANOVA test for the multiple liner regression model is used to determine whether the findings of the study through the model have likely risen from a sampling error (Ciaran, et. al, 2009). Table 02 explains the results of the test for the multiple linear regression model in which 05 explanatory variables such as IT, SS, BE, HH, and HL are used in this study are very significant. Accordingly, the ANOVA test for the parameters used in the multiple regression used in this study is highly significant because the value of any of the parameter of the model is not equal to zero. Any of the value of coefficient of the explanatory variables in the regression model is not equal to zero and therefore is significantly different from the value of zero. As a result, the *F* and *Sig*. columns are studied. The *F* value is 6.176 and the value of confidence is equal to 0.002.

Table 02: Regression Model– ANOVA (Analysis of Variance)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	13350.209	5	2670.042	6.176	.002[b]
Residual	7349.704	17	432.336		
Total	20699.913	22			

a. Dependent Variable: Regional Rank of Tourism Competitiveness Index

b. Predictors: (Constant), IT, SS, BE, HH,HL

Source: Data Survey – 2017

Therefore, it is highly significant as the value of probability is less than 0.05 (p= 0.002). The result of the multiple regression model has not risen due to sampling error. That is, as the values of the coefficients of the independent variable regression are consistent with the hypothesis (H_0: "there is no significant relationship between the dependent variable the independent variable" is rejected).

Multiple Regression Analysis (Coefficients)

Table 03 explains the values of coefficients of all the explanatory variables used in this study. The coefficient measures the influences of the explanatory variables on the dependent variable (Ajai, 2008). ***GR*** **-** Global Rank of the Travel and Tourism Competitiveness Index is the dependent variables. ***BE*** **-** Business Environment, ***SS*** **-** Safety and Security, ***HH*** **–** Health and Hygiene, ***HL*** – Human Resource and Labour Market, and ***IT*** – ICT Readiness are defined as the explanatory variables in this study.

Table 03: The Coefficients of Multiple Regression Model

Coefficients[a]					
Model	**Un-standardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	309.787	80.141		3.866	.001
BE	3.709	9.607	.088	.386	.704
SS	-3.221	5.701	-.098	-.565	.579
HH	-.234	14.481	-.004	-.016	.987
HL	-47.832	23.314	-.653	-2.052	.056
IT	-7.123	15.391	-.176	-.463	.649
a. Dependent Variable: GR					

Source: Data Survey – 2017

As per the results exposed in Table 04, the following model of the regression is defined:

$$GR = 309.787 + 3.709BE - 3.221SS - 0.234HH - 47.832HL - 7.123IT$$

Accordingly, four explanatory variables such as SS – Safety and Security, HH – Health and Hygiene, HL – Human Resource and Labour Market are inversely related with the explained variable such as GR – Global Rank of Travel and Tourism Competitiveness. BE – Business Environment is directly related with the explained variable. The explanatory variable such as *HL* - Human Resources and Labour Market is the most striking variable which is the highest influence on the Global Rank. The HL affects the Global Rank inversely.

That is, one unit of increase in Human Resources and Labour Market leads to decrease 47.8 units of Global Rank. The explanatory variable such as BE – Business Environment is directly related with the Global Rank. That is, one unit of increase in Business Environment causes to increase 3.7 units of Global Rank. The explanatory variables such as HH, HL, and IT are inversely connected with GR and also one unit of increase in HH, HL, and IT causes to decrease GR by 3.2 units, 0.23 units, and 7.1 units respectively. The impacts of Human Resources and Labour Market on GR is significant at 5 percent level (*sig* = 0.056).

Testing for Multi-co-linearity

The criterion used to test the problem of multi-co-linearity in the multiple regression model is VIF (Variance Inflation Factor). Accordingly, as the value of VIF is less than 10, the multiple regression model is free from the problem of multi-co-linearity (Ciaran, et. al, 2009).

Table 04: Testing for Multi-co-linearity

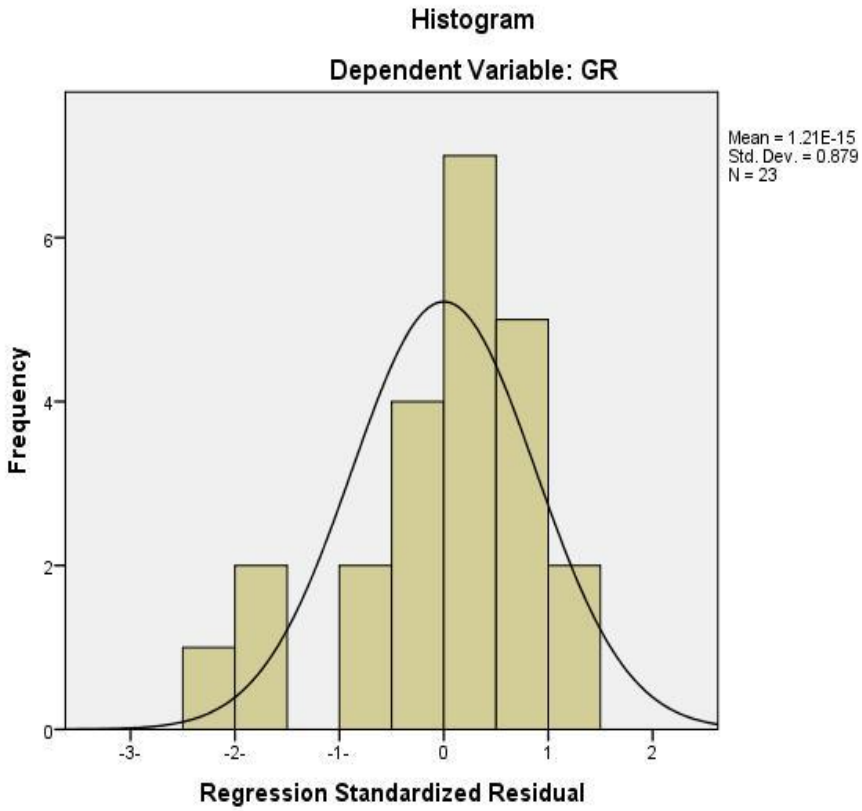
Coefficients	
Model	Co-linearity Statistics
	VIF
BE	2.469
SS	1.440
HH	2.696
HL	4.853
IT	6.896
a. Dependent Variable: GR	

Source: Data Survey – 2017

Table 04 exposes the results of the test of the multi-co-linearity between the individual explanatory variables used in the multiple regression model in this study. According to Table 04, the values of VIF of all the explanatory variables are less than the value of 10. Accordingly, these variables are free from the problem of overlapping.

Residual Analysis

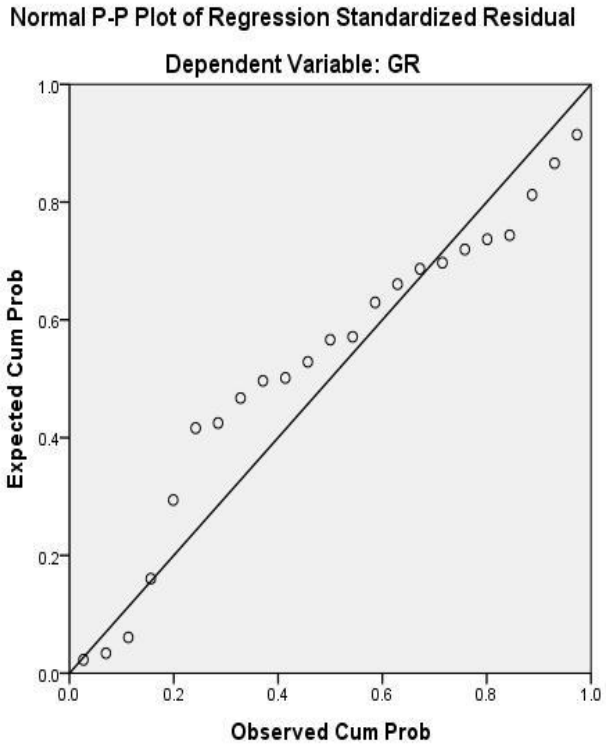
In this analysis, the residual differences (it means that the difference between the actual values and the predicted values of the explained variable) are studied. The actual and the predicted values of the explained variable for the combination of values of the explanatory variables are tested in the multiple regression model used in this study. The predicted values of the explained variable are produced by the regression model. These values are known as 'fit' to the data produced by the regression. The actual values of the explained variable are the observed values used in the regression and also known as 'residual' which is not 'fit' to the data produced by the regression model.



Source: Survey data – 2017

Figure 02: Histogram of Residuals

Figure 02 shows the histogram of the residual differences produced by the regression model. A good 'fit' between the observed values and the predicted values of the dependent variable represents a situation of homoscedasticity. In a good 'fit', the regression standardized residuals reflect a normal distribution. This pattern of normal distribution like 'bell shaped' is represented by Figure 01. Accordingly, the plots of residual differences are normally distributed around the central point of zero.



Source: Survey data – 2017

Figure 03: Normal P-P Plot of Regression Standardized

Figure 03 vividly depicts the scatter plots of the residual differences between the observed values and the estimated values of the dependent variable of the regression model. In Figure 03, these plots are located around the central point of zero along the linear line. Accordingly, the outliers which are far from the central points are less around the linear line. As this distribution of plots is homoscedastic and normal, the residual differences of the explained variable are very less. Therefore, it is good 'fit' to the data being used in the regression model of this study.

5. Findings and Conclusion

On one hand, an inverse relationship is found between GR – Global Rank of American countries and the factors such as SS – Safety and Security, HH – Health and Hygiene, HL – Human Resources and Labour Market, and IT – ICT Readiness. Of this inverse relationship, the most influencing factor is HL – Human Resources and Labour Market. That is, one unit of increase in the HL causes to lower the Global Rank of these countries by around 48 units. The IT is the second factor which is influencing on lowering the Global Rank of these countries. As the ICT readiness is raised by one unit, the Global Rank in the travel and tourism competitiveness index can be lowered by around 7 units.

And also, other inversely related factors such as SS and HH are having the effects to a certain extent on the Global Rank of these countries. On the other hand, a direct relationship is found between the Global Rank and the factor such as BE – Business Environment. That is, one unit of increase in BE – Business Environment leads to increase the Global Rank by around 4 units in the travel and tourism competitiveness index.

Thus, it is concluded that the factor HL – Human Resource and Labour Market is the most influencing and contributing these countries to decrease the Global Raking position connected with the travel and tourism competitiveness index. The only one factor which is directly related with the Global Rank of these countries is BE – Business Environment which is increasing the Global Ranking position of the countries in the travel and tourism competitiveness index.

Recommendation

The American economies and their policy makers are herewith attracted by the findings of this study in order top up their economies in the value of Global Ranking position in the travel and tourism competitiveness index. By utilizing the findings of this study, the prime factors which can be promoted by these economies to lower down their Global Ranking position should identified by the respective agents of these countries. And also, they should be aware of the factor which is increasing their Global Ranking position in the travel and tourism arena.

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