

## Tourism-Led Growth: Empirical Insights from Nepal's Economy

**Sibtain Mushtaq**

*Air School of Management, Air University Islamabad*

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### Abstract

This study empirically investigates the long-term and short-term effects of tourism on economic growth and financial development in Nepal. The study employs data set of Nepal from 2000-2017. The econometric models used to ascertain short- and long-term relationship are regression equation, ARDL technique, ADF and error correction model. Fisher statistic has been used to measure long-run association. All variables are stationary at first difference I (1), consequently ARDL model is applied to analyze co-integration among endogenous and exogenous variables. The results of econometric test, developed by Bayer and Hank joint confirm that tourism, economic growth and financial development are co-integrated. Suffice to that, empirical results suggest that there is a long-term one-way Granger causality from tourism to economic growth. This means that inbound tourism revenues are ahead of GDP growth in Nepal. The results of the error correction factor indicate that pace of adjustment rate from short-term to long term is 35% which is encouraging. Based on the findings, the study recommends promotion of international tourism in Nepal as it is providing impetus to the economy. Similarly, the policy makers should also chalk out the policies that augment the inbound tourism in the country to promote economic development.

**Keywords:** Assessment; Tourism; Economic growth; Financial Development; GDP; ARDL model.

### Introduction

The tourism especially the international tourism has become the significant source of economic growth in the on-going decade, while in certain situations it has been a country's most essential factor of income. In a fast-emerging world, tourism is not considered as luxury phenomena, but as an investment. Moreover, in the time of the global activity, tourism has faced several international variations, like technological, political, social and demographic. These variations can adversely affect the improvement of both the tourism sector at country and international level as well as the cumulative social-economy of that country (Pouder et al. 2018). In a global economy, the travelers are continuously informed about their terminus point before visiting a country along with the events such as financial crisis and political instability that can affect the consumption behaviors of travelers. Nepal is considered a well-known and favorite destination for rock climbers, hikers, white water surfers, and people who love to see natural adventures. The weather conditions, Hindu and Buddhist inheritance of Nepal are also source of attraction (Dwyer 2013). Nepal contains the source of various natural attractiveness which have been found from the regions of Far-East Mechi to Far-West Mahakali, from south Terai to the snow-capped Himalayas in the north part of the country. Nepal has eight out of ten highest peak places, the birth place of Gautam Buddha- Lumbini,, biodiversity and huge topographical distinctions makes Nepal one of the tourist attractive place of this world (Alejziak 2014).

Cable News Network (CNN) has conscripted the region of Mount Everest of Nepal as number one destination from overall the world (Xiao Rong & Min, 2015). Nepal is increasingly gaining distinct position for its glamorous places, natural beauty, distinctive adventure, generosity and hospitality travelling (Li et al. 2013). Nepal tourism sector is considered one of the important sectors for many decades in generating foreign exchange and employment in the country. It is also considered a growing sector by huge potential for investment and tourism development (Kay 2013).

Currently the tourism is accepted as a growing business throughout the world (E. M. Ekanayake 2012). Furthermore, the tourism has stimulated economic growth of the glob and social and traditional characteristics of

societies. Incidentally the world inheritances and unconquerable combination of natural beauty promote and increases the tourism (Organisation for Economic Co-operation and Development and Committee 1995). The noticeable consequence and meaning of the study contain that Nepal's is being rich in tourism sources but yet the extension in tourism industry is not taken as a cure-all. Tourism ensures several influences on the native businesses and generate employment opportunities in the country and also improve the lifestyle of its people (Tang and Tan 2015). This study envisages Nepal as one of the unique potential economy having the valleys of lakes, land of culture, glories, temple that can welcome the cumulative travelers along with acceptable peaceful pleasures to the visitors. The optimal use of these conditions can improve Nepal's economic situation as a whole (Min et al. 2016).

The development of tourism segment play key role to rise employment, revenue and help to improve the country's balance of payment. It is significant from the point of view of earning foreign exchange but it also enhances scope for various industrial branches, like hotels and other types of lodging, cafeterias and other food services, enjoyment and other activities, gift shops and large numbers of other enterprises such as fruit production and processing (Kibara et al. 2012). Nepal's economy having few opportunities of exporting factory-made goods, thus tourism's is important for balance of payments circumstances, divergence of the economy, increase of revenues and opportunities of job directly and indirectly. Hence, tourism is the key in Nepal's economy as well as in the process of regional development of an economically backward region (Ylli 2016). So, it is important to promote the tourism industry for the landlocked, mountainous and poorly resource base economy like Nepal. So the government of Nepal should give top priority to attract the tourist from the foreign land. As travelers increase, sales, incomes, jobs, tax revenues, the financial assistance's and cost reach to essentially everybody. The potential impact of tourism is growth promotion, job creation and revenue (Paramati et al. 2017).

## **Literature Review**

### **Role of Tourism in Global Economy**

Conversely, Sokhanvar et al. (2018) determined that the size of the country does not affect the association between economic growth and traveling. The impact of economic development in a country depend on changing aspects of travel growth and it is not compulsory to improve in less developing states (Venghaus and Hake, 2018; Venghaus and Hake (2018), but it could improve the economic growth in more advanced countries (Barrett et al. 2010). There are few studies which examine the association between tourism and monetary growth. Ivanov and Achikgezyan (2017) assessed the effect of 2007's financial crisis on traveling in Asia through auto-regressive distributed lag model. The study shows that financial crisis had a negative effect on both inbound and outbound traveling in the Asia. Empirical study of R. R. Kumar (2014) examined the cycles of money supply in Canada, UK, and the United States exaggerated the demand of traveling demand for Aruba and Barbados by using co-integration and causality testing. The study concluded that the cycle of money supply might affect the cyclical travels of tourism demand while the effects were unequal, depending on the stage of growth of the cycles.

### **Tourism and Economic Growth**

The multi-faceted influence of tourism on growth is discussed hereunder :

#### **The employment sector**

The capability of the traveling segment to stimulate financial development and employment at a faster rate than other economic sectors has prompted the Nepalese government to restructuring its tourism visa policy, progress substructure and rationalize luxury tax rates into best international practices. In addition, Government of Nepal recently developed the National Tourism Policy to promote the country as a honeymoon paradise (Khanal 2017). Consequently, tourism development has positively influenced employment, income generation and the balance of payment of the country (Reference).

#### **The business sector**

The expenditure and acquisition of supplies by tourists can influence many segments such as the tour machinist, restaurant and memento merchant, and magnetism. As a result, sightseeing be supposed to have a collision on the commonly used the quantitative gauge of financial expansion, vulgar household manufactured goods. although, determine the monetary collision of visiting the attractions necessitate a wider sight on the psychiatry of the dealings surrounded by visiting the attractions and GDP (Rout et al. 2016) and (Reddy and Qadeer 2010). From a macroeconomic perspective, international tourism contributes to the export income of a destination (World Travel & Tourism Council 2016). It is vital as the investment in export-led development is main portion of the expansion objectives of most economies that see it as the most secure means of attaining longstanding financial development and

living (Cukier 2002). Tourism industry contributes significantly in the foreign exchange reserves of Nepal. Natives are deriving handsome amounts by entertaining the international tourists (Janta et al. 2011). Outcomes demonstrated that hazard increment in poor nations prompts a decrease in global sightseers, however it appears that profits stay unaffected. Teresa and Martin (2007) elucidated the travel industry interest for the Balearic Islands. The findings of the study highlight that the fear monger assaults of September 11 changed the whole deal goals into short-pull ones and vehicle travel was favored over air travel.

### **The income and cultural sector**

Nepal is one of the fastest growing Asian economies (Dhakal 2017), which means its tourism industry is expected to grow faster in the next few years. Another notable feature of Nepal is its double-digit growth in international tourism revenue, with a compound annual growth rate of 11.23% from 2000 to 2016 (Paudyal and Prasad 2017). Nepal is enthusiastic to encourage tourism globally, and it offers huge compensations for those looking for vibrant destinations. It is clear that travelling is a bridge between tourism and economic growth in Nepal and it enables policy makers to develop effective tourism policies (Demir et al., 2017; Maimani et al., 2016 & Council, 2017).

### **Attractiveness of Tourism in Nepal**

In recent decades tourism especially the international tourism has developed a significant channel of financial development of the country's at national and international level (Beirman et al. 2018). The impact of capacity of tourism's influence to economic evolution has been widely researched. The growing changes in culture and demographic scenarios due to terrorists and other fundamentalist activities can severely affect the development of both the tourism sector of a as well as the aggregate social-economy of the country (Pouder et al., 2018). First, visiting the attractions is a noteworthy foreign switch earner; allow paying for introduction funds goods or essential input second-hand in the construction practice. Second, visiting the attraction plays an imperative role in stimulate reserves in new transportation and antagonism flanked by local firm and firm in other vacationer countries. Third, visiting the attractions encourage other financial industries by shortest, circuitous and persuade property. Fourth, visiting the attractions make a imbursement to engender service and to increase revenue. Fifth, visiting the attractions can cause the positive maneuver of financial system of range in nationwide compact (Reddy and Qadeer 2010). Nepal is taken as the hot spot destination for mountaineers, white water surfers, rock climbers and people seeking adventures (Batala et al. 2017).

### **Contribution of Tourism Industry**

Tourism industry contributes significantly in the national economy of Nepal by creating various direct and indirect jobs and helps to increase the national revenue as well as the foreign currency reserves. Nepal is gradually gaining distinct importance for its nature beauty, exotic places, unique adventure, hospitality and pleasure travelling (Robinson, 1992). It is a growing sector with huge potential for investment and development (Pant, 2013). Ecotourism is situated as a head section of the travel industry by utilizing biodiversity resources through broad security and protection, upheld by focused marking and advancement exercises. Ecotourism items will be created along the worth chain of high return the travel industry by drawing in respect

table financial specialists who are able in the protection and conservation of nature and untamed life (McLennan et al., 2012). In this way a firm will be keen to work and benefit, while a legislature will be keen to see the effect on benefit and work in the economy as whole. This order concerns who is influenced by extra travel industry. Out of the 1 million traveler entries into Nepal in 2017, more than 70% originated from short-pull showcases particularly from neighboring nations. In territorial scale, the nation is positioned first with respect to the anticipated development of the division's immediate commitment to business (4.9%) in 2016, more than twofold the Mideast and worldwide normal (both at 2.1%). Local travel spending created 79.8% of direct Travel and Tourism GDP in 2016 contrasted and 20.2% for guest trades. Relaxation travel spending (inbound and local) created 92.3% of the business' immediate commitment to GDP, contrasted and 7.7% for business travel spending. Outside guest use made up 20.2% of the segment's immediate commitment to GDP. This shows the vast majority of the worldwide travelers are among the most minimal pay level. They are searching for the most minimal spending goal and look for neighborhood home remain and spending motel rather than five star lodgings.

### **Table 1. Tourism Enterprises**

Sources: Nepal tourism Statistics Report 2017

<b>Tourism Related Enterprises</b>	<b>2016</b>	<b>2017</b>	<b>% Change</b>
Hotel (star)	120	125	4.2
Hotel ( Non-star)	942	977	3.7
Beds (total)	38242	39833	4.2
Travel Agencies	3444	3824	11
Trekking Agencies	2367	2637	4.3
Tourist Guide	3717	3876	4.3
Trekking Guide	13049	13831	6

Table 1 shows the Tourism Enterprises of Nepal in 2016 and in 2017 that highlights the highest number of beds utilized was 38242 in 2016 while the same was 39833 in 2017.

### **Research gap**

The research is intended to measure the impact of international tourism on national growth of Nepal. The present study fills the literature gaps by analyzing the less explored links between incoming international tourism and economic growth in Nepal. In recent times, the importance of tourism in the economic development of many countries is well documented. Contrary to that, the literature on Nepal's economy is scanty. The main purpose of this study is to investigate the influence of international tourism on economic growth in Nepal. Moreover, the relationship between international tourism, economic growth, and financial development is also examined.

### **System of Variables**

Contrary to the available plethora of literature a comprehensive set of variables is used in the study.

### **Exchange Rate**

The exchange rate is determined independent of the economic growth rate. The exchange rate will affect financial growth (Ming Cheng et al. 2013) and similarly the economic growth rate will affect the exchange rate. A robust exchange rate is frequently measured as a symbol of financial growth and development. The countries having low inflation, increased competitiveness and strong economic performance tend to have strong (appreciation) exchange rates in the long run (Ramdhani, 2018; Ming, 2017 & Meurer 2010).

### **Tourism Earning**

Traveling has become one of the main players in global business and characterizes the leading causes of revenue for many developing and developed countries as well. The diversification and competition between growth and destination are increasingly tightly integrated (Organisation for Economic Co-operation and Development and Committee 1995). Tourism is considered as the major businesses at global level having a direct or indirect economic involvement to the worldwide economy over \$7.6 trillion in 2016. The traveling industry's direct economic effect shows lodging, transport, entertaining and attractions and estimated to be \$2.3 trillion that year. Numerous nations (for example the United States and the France) have always been general traveler destinations, but other lesser-known nations are also speedily developing to gain economic benefits from the industry. As the United Nations agency dedicated to tourism, the United Nations World Tourism Organization has stated that emerging economies in particular areas will gain advantage from maintainable tourism and are committed to attaining this goal (Kibara et al. 2012).

### **GDP and GDP Per Capita**

Thus, tourism industry should have an impact on the quantitative measure of the economic development, gross domestic product (GDP) and other economic indicators (Wang 2014). As a result, a specific literature should need to be developed in order to measure the impact of tourism upon GDP to deal with measuring how tourism contributes to economic growth so that the policy makers and government representatives should design the policies to facilitate the tourist from all over the world (Muntean et al., 2013 & Brakke, 2005). However, the problem of measuring the

economic impacts of tourism requires a broader view on the analysis of the interaction between tourism and GDP (Ozturk & Acaravci 2009). Traveling is the fourth global main export business in Nepal followed by petroleum, substances and food industry. Due to the expansion of the tourism market, the effect of incoming tourists on the state economy has become gradually significant (Pervan 2006). However, the issue of assessing the financial impact of traveling necessitates a wider analysis of the relationship between GDP and the tourism revenue, for instance the rise in tourism's portion of GDP may be the outcome of stagnant industries and/or tourism substitution/expulsion of tourism.

### Financial Development and Money Supply

Tourism and financial development are positively correlated and statistically important in relation to economic growth. The growth of the international tourism revenue has a long-term and significant impact on Nepal's economic growth (Tahir 2013). Conversely, the development of tourism only follows polite behavior, tends to be linear, balanced and simple attitude. In the late 1990s, academia's began to realize that traveling was not an unreachable occurrence, it was influenced through a various internal and external influences (Akroush et al., 2015). Better economic conditions tend to lead a higher consumer spending as well as higher living standards. Tourism is a way for consumers to choose to spend extra money. As incomes increases, more consumers are willing to guide them to travel services (Loos 2006).

### Data and Methodology

The data is collected from official sites namely World Bank, Ministry of Tourism, Central bureau of statistics and tourism survey ministry of culture of Nepal. The stationarity of the data is examined using ADF unit root test. The econometric techniques are selected based on the objectives of the study and include, regression analysis, ARDL, hybrid error correction method and co integration.

### Regression Analysis

The co-integration relationship among economic growth and tourism is examined by applying the joint co-integration test. This test provides uniform and reliable co-integration results by integrating the findings of four co-integration approaches which are expressed by EG, JOH, BO and BDM respectively (Ohlan 2017). This formula is presented as follows in equation (1).

$$EG = JOH = BO = BDM = -2[\text{Ln}(PEG) + \text{Ln}(PJOH) + \text{Ln}(PBO) + \text{Ln}(PBDM)] \quad (1)$$

Where, PEG, PJOH, PBO and PBDM represent the probability values of EG, JOH, BO and BDM tests respectively. To conclude whether long-run association is present or not among the series, the Fisher statistic is applied. Moreover, equation (2) shows the estimation of regression analysis

$$GDP_t = \beta_0 + \beta_1 GDPPC + \beta_2 ER + \beta_3 TE + \beta_4 TEPC + \beta_5 MS + \beta_6 TER + \beta_7 FD + e_t \quad (2)$$

Where GDPPC shows GDP per ca pita, ER shows earning revenues, TE shows tourism earning, TEPC shows tourism earning per ca pita, MS shows money supply whereas FD shows financial development of the country which can be used to measure as a proxy of capital.

### ARDL Analysis

In addition, the results of this test were confirmed by applying an auto-regressive distributed lag (ARDL) model. The ARDL co-integration model has certain econometric advantages, for example the model does not need to have a single integral I(1). Moreover, the estimates of long-term and short-term relationships can be obtained simultaneously. The relationship among tourism and financial development can be expressed as in equation (3).

$$\Delta \ln GDP_t = \beta_0 + \sum_{i=1}^m b_i \Delta \ln GDPPC_{t-i} + \sum_{i=0}^n c_i \Delta \ln ER_{t-i} + \sum_{i=0}^0 d_i \Delta \ln TE_{t-i} + \phi_1 \Delta \ln TEPC_{t-i} + \phi_1 \Delta \ln MS_{t-i} + \phi_2 \Delta \ln TER_{t-i} + \phi_3 \Delta \ln FD_{t-i} + U_t \quad (3)$$

Where,  $\phi_1, \phi_2$  and  $\phi_3$  denotes the long-run dynamic relationship,

$\Delta$  indicates the first difference operator

$\beta_0$  Represents the constant, t shows time

$b_i, c_i$  and  $d_i, d_i$  are the coefficients of short-run dynamics

While,  $U_t$  denotes the error term.

This test is based on the joint significance of F-statistic and the  $\chi^2$  statistic of the Wald test. Where we used log of GDP per capita log  $GDP$  as a dependent variable and log of international tourism earning per capita log  $TE$  and log of financial development log  $FD$  are assumed as the explanatory variables. The null of no co-integration hypothesis is evaluated through testing the joint significance of the F statistic of  $\phi_1, \phi_2, \phi_3$ . If the series are co-integrated, an error correction mechanism (ECM) can be developed as in Equation (4) which shows the short-run influence of tourism and financial development on Nepal's economic growth.

$$\Delta \ln GDP_t = \gamma_0 + \sum_{i=1}^m c_i \Delta \ln GDP_{t-i} + \sum_{i=0}^n d_i \Delta \ln ER_{t-i} + \sum_{i=0}^0 e_i \Delta \ln TE_{t-i} + \sum_{i=0}^0 e_i \Delta \ln TEPC_{t-i} + \sum_{i=0}^0 e_i \Delta \ln MS_{t-i} + \sum_{i=0}^0 e_i \Delta \ln FD_{t-i} \psi_1 ECM_{t-i} + v_t \quad (4)$$

Where, ECM represents the error term correction, and  $\psi$  indicates the error term correction coefficient which shows the speed of adjustment of the variables to equilibrium in the long-run for every year. The results of the (Ghimire 2016) models further validate the application of the ARDL model based on the Schwarz Bayesian criterion (SBC).

#### Hybrid Error Correction Model (Working)

Error Correction Model (ECM) can be used to measure the system of co-integrated in order to separate long-run and short-run underlying variables (Johansen et al. 2000). Error Correction Model might be showed as a error correction of first differences exclusive which is as follows,

$$\Delta Y_t = Y_t - Y_{t-1} \quad (10)$$

Error Correction Model can be used for quantitative computation and it is necessary to point out that it is the base of Auto Regressive Distributive Lag Model (ARDL). If we deducted the mentioned term from both sides of ARDL through deducting and adding the right-hand side from the mathematical equation. In order to satisfy Error Correction Model the resulting equation is necessarily that that the measurement must be alike to the deducted coefficient. Then in this way the novel model can be designed. We have used the Error Correction Model with the condition that, if the ARDL sum coefficient is equal to 1, by decreasing the constant terms. Various scholars for example (Chang et al. 2001) and (Dumitrescu and Hurlin 2012), the short-term Error Correction Model designate through  $\tau$ . Consequently, coefficient of error correction term long-run association can be attained if and only if the transformation at term grows at a constant rate, N. Hence the coefficient mathematical model Error Correction Model can be presented as,

$$Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 Z_t + \beta_3 Z_{t-1} + \vartheta_t \quad (11)$$

The proposed term  $Y_{t-1}$  is deducted from the ARDL both sides

$$Y_t - Y_{t-1} = \beta_0 + \beta_1 Y_{t-1} + \beta_2 Z_t + \beta_3 Z_{t-1} - Y_{t-1} + \vartheta_t \quad (12)$$

$$\Delta Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 Z_t + \beta_3 Z_{t-1} - Y_{t-1} + \vartheta_t$$

Th h addition and deducting  $\beta_2 Z_{t-1}$  the right-hand side from the mathematical model. The new equation is as follows,

$$\Delta Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 Z_t - \beta_2 Z_{t-1} + \beta_3 Z_{t-1} - Y_{t-1} + \beta_2 Z_{t-1} + \vartheta_t \quad (13)$$

or

$$\Delta Y_t = \beta_0 + (\beta_1 - 1) Y_{t-1} + \beta_2 Z_t + (\beta_2 + \beta_3) Z_{t-1} + \vartheta_t \quad (14)$$

So as to fulfill l the condition of Error Correction Model its coefficient  $Z_{t-1}$  must be analogous to the deducted coefficient  $Y_{t-1}$ . So the newly construed mathematical model is as follows,

$$\beta_1 - 1 = -(\beta_2 - \beta_3) \quad (15)$$

$$\beta_1 + \beta_2 + \beta_3 = 1$$

Consequently the term of error correction constant is considered as,

$$\Delta Y_t = \beta_0 + \beta_2 Z_t - \tau(Y_{t-1} - Z_{t-1}) + \mu_t \quad (16)$$

$$\tau = -(\beta_1 - 1) = (\beta_2 + \beta_3)$$

If the variation in constant term grow at a continuous rate N and the association of Long run phenomena is as follows,

$$N = \beta_0 + \beta_2 N - \tau(y^* - Z^*) \quad (17)$$

$$\tau(y^* - Z^*) = \beta_0 + (\beta_2 - 1)N$$



$$y^* = \beta_0 + \frac{(\beta_2 - 1)N}{\tau} + Z^* \quad (18)$$

Then the original order having and without having the value of log is considered as,

$$y_t^* = KZ_t^* \quad (19)$$

If we take the log from both side then it will be as,

$$\text{Log}y_t^* = \text{Log}K + \text{log}Z_t^* \quad (20)$$

Through using the anti-log of new model, the long-run will be considered as

$$y^* = \exp \left[ \frac{\beta_0 + (\beta_2 - 1)B}{\tau} \right] \quad (21)$$

Where K represent association of among the variable Y and Z. Error Correction Model is being used to measure the long-run relationship and the Error Correction Model characterizes the previous imbalance in existing factor. It can be

$$\Delta N_t = \sum_{i=1}^N \tau_1 \Delta N_{t-1} + \tau_2 \Delta N_{t-1} \beta_2 N + YZ_t + \mu_t \quad (22)$$

#### Data source

The data used in the study is annual data for the period 2000-2017, including an endogenous GDP per ca pita and two exogenous variables financial development and per ca pita international tourism income. In this study the selected variables are based on the new theory of economic growth which discusses that export expansion can encourage economic growth because it endorses specialization by increasing competition and increasing factor productivity and creating positive externalities by promoting the dissemination of professional information and capabilities.

Finally the miscellaneous data has been taken from the following sources (World Tourism Organization 2018), (World Bank 2018) and various reports of Nepal Government and tourism industry of Nepal. The data used in this study are as follows:

**Table 2. Data for Nepal tourism economy**

Ye ars	ER	TE	TEPC	GDP PC	GDP	MS	FD
20 00	73.6 5	162.5 13	6.84527	17745. 6	4.21297E+1 1	1.94816E+1 1	0.4 624
20 01	76.7 3	101.6 28	4.20615	18273. 41	4.41518E+1 1	2.27497E+1 1	0.5 153
20 02	77.2 4	134.2 45	5.46459	17994. 09	4.42049E+1 1	2.33546E+1 1	0.5 283
20 03	73.3 6	168.1 63	6.73983	18415. 89	4.59488E+1 1	2.57409E+1 1	0.5 602
20 04	71.7 6	164.6 44	6.50524	19004. 92	4.81004E+1 1	2.91091E+1 1	0.6 052
20 05	72.0 3	162.0 86	6.32154	19412. 38	4.97739E+1 1	3.19454E+1 1	0.6 418
20 06	70.1 9	180.1 65	6.94529	19833. 22	5.14486E+1 1	3.73713E+1 1	0.7 264
20 07	64.7 2	314.2 75	11.9884	20295. 29	5.32038E+1 1	4.42957E+1 1	0.8 326
20 08	76.5 8	365.1 06	13.7901	21321. 95	5.64517E+1 1	6.15007E+1 1	1.0 894
20 09	74.2 4	379.0 22	14.1738	22067. 41	5.90107E+1 1	7.97171E+1 1	1.3 509

20 10	72.0 7	341.4 85	12.6368	22888. 87	6.18529E+1 1	8.73613E+1 1	1.4 124
20 11	80.7 2	380.3 74	13.9193	23408. 74	6.39694E+1 1	1.03672E+1 2	1.6 206
20 12	87.6 6	390.2 64	14.1145	24241. 62	6.70279E+1 1	1.19074E+1 2	1.7 765
20 13	98.3	471.7 69	16.8577	24940. 01	6.97954E+1 1	1.44863E+1 2	2.0 755
20 14	98.2	544.1 01	19.2104	26118. 28	7.39754E+1 1	1.68244E+1 2	2.2 743
20 15	102. 36	392.7 01	13.7038	26672. 54	7.64336E+1 1	2.09355E+1 2	2.7 39
20 16	106. 21	551.0 01	19.0113	26480. 96	7.67492E+1 1	2.45706E+1 2	3.2 014
20 17	102. 96	327.8 01	11.1858	28153. 86	8.25049E+1 1	2.75112E+1 2	3.3 345

Source: World Bank, Nepal Tourism Ministry, Nepal Tourism Board, UNWTO

Here, ER stand for earning revenue, TE shows the tourism earning, TEPC is tourism earning per ca pita, GDP PC is gross domestic product per ca pita, GDP is gross domestic product, MS shows money supply and FD stand for financial development.

### Descriptive Statistics

Table 3 shows descriptive statistical summary of the selected variables. Earning revenue(ER) mean value is 82.16556, whereas the lowest average value was 1.430372 of financial development(FD), the highest value of standard deviations is 815990384790.067 for money supply (MS) while the lowest standard deviation is 4.740131 about the tourism earning(TE) per ca pita. Money supply (MS) was seen lowest value of Kurtoses which is -0.0179 whereas the highest value is 1.29191 for GDP per ca pita. Similarly, all the descriptive values scan be seen from the table.

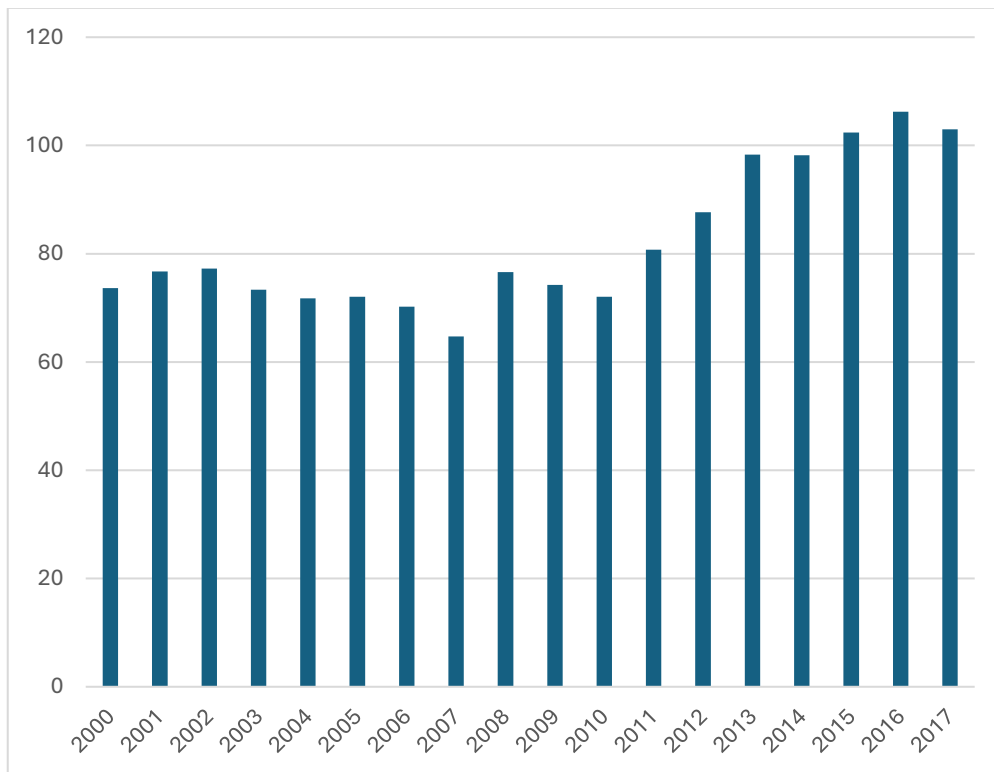
**Table 3. Descriptive Statistics**

Variab les	Mean	Media n	Std.dv	Maxim um	Minim um	Skewn ess	Kurt osis
ER	82.165 56	76.655	13.343 03	106.21	64.72	0.7559 79	1.005 46
TE	307.29 68	334.64 3	141.90 44	551.001	101.62 8	0.1567 26	1.092 14
TEPC	11.312 21	12.312 6	4.7401 31	19.2104	4.2061 5	0.0945 23	1.176 45
GDPPC	22070. 5	21694. 68	3410.2 58	28153.8 6	17745. 6	0.3245 65	1.291 91
GDP	5.93E+ 11	5.77E+ 11	1.28E+ 11	8.25E+1 1	4.21E+ 11	0.3338 77	1.191 71
MS	9.6E+1 1	7.06E+ 11	8.16E+ 11	2.75E+1 2	1.95E+ 11	1.0393 05	- 0.0179
FD	1.4303 72	1.2201 5	0.9512 52	3.3345	0.4624	0.8377 39	0.473 33

Source: Author's own calculation by using E-Views 5.

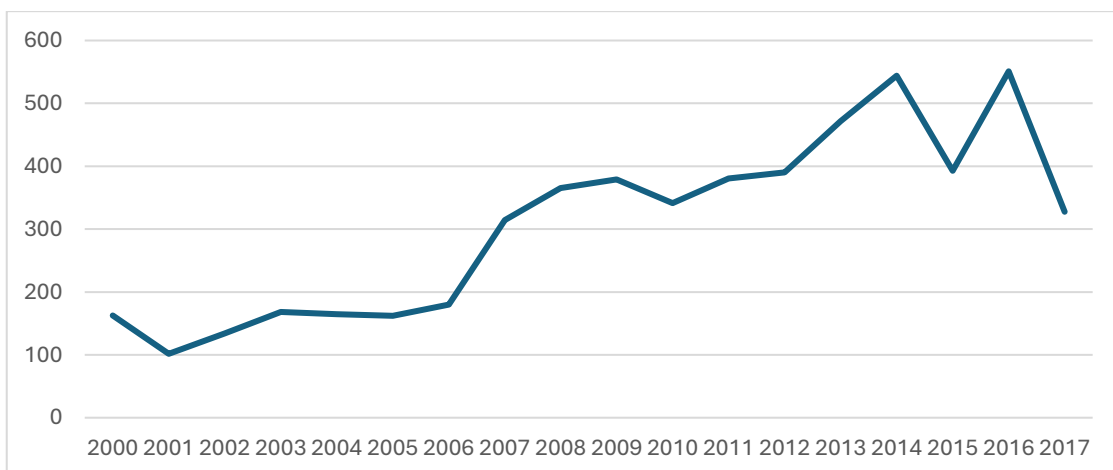


Figure 1 shows the exchange rate of Nepal from 2000-2017. it demonstrates that with few fluctuations, trend of exchange rate is always increasing for the case of Nepal.



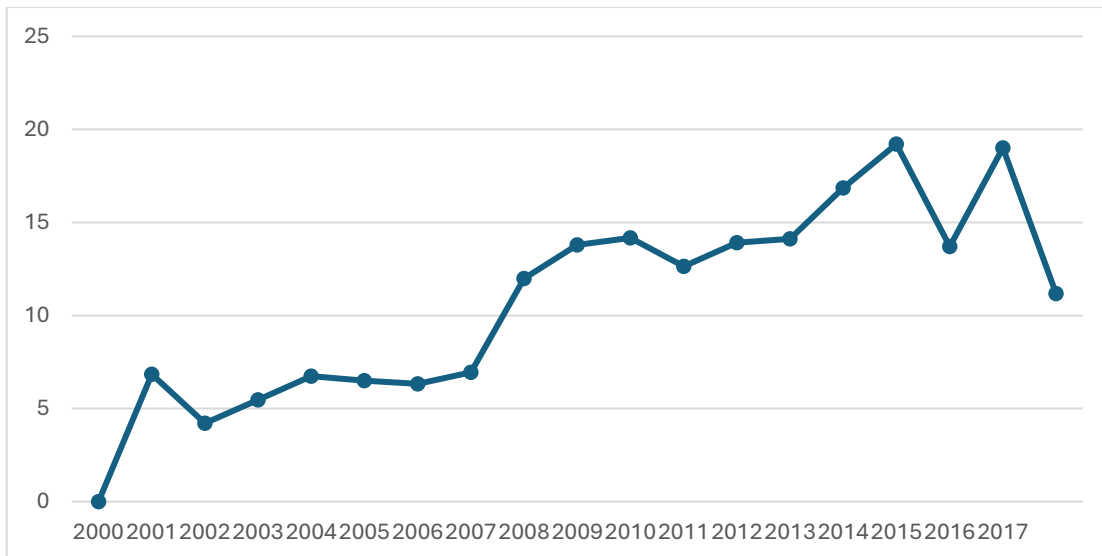
**Figure 1 Nepal Exchange rate**

Here figure 2 shows the tourism earning of Nepal during 2000-2017. During 2000 to 2017, it has increasing trend but it faced unstable conditions due to unknown circumstances after that.



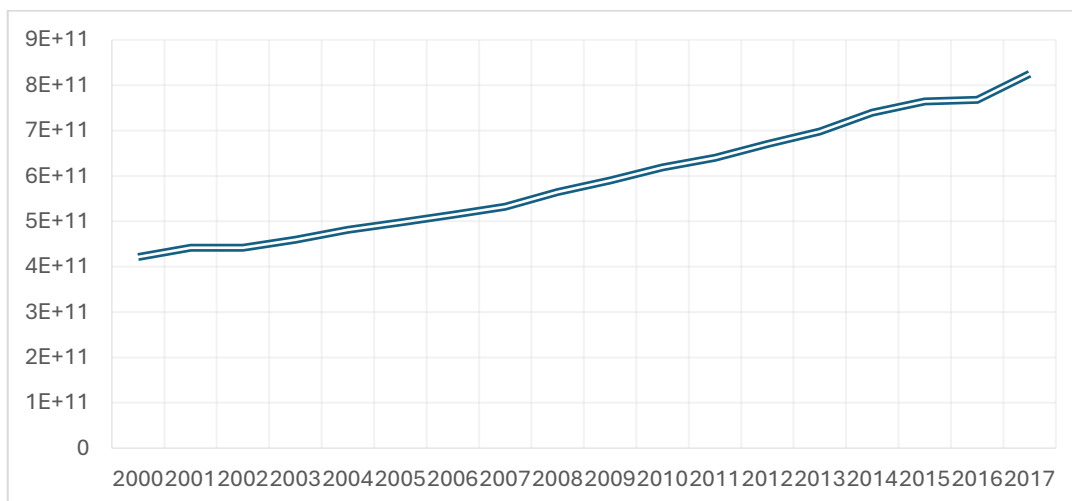
**Figure 2 Nepal Tourism Earnings**

Figure 3 represents tourism earning (per Ca pita) of Nepal to see the broader vision of its economy. Here again same trend like figure 2 depicted during 2000-2017.



**Figure 3 Nepal Tourism Earnings Per Ca pita**

In figure 4, we try to see the broader vision of Nepal's economy, by adding its GDP growth rate during 2000-2017. It also shows the smooth increasing trend.



**Figure 4 Nepal GDP**

## 5.2 Empirical Results

This research empirically investigates the long-term and short term effects of incoming tourism on economic growth of Nepal. To achieve this, the smoothness of the variables was tested by applying a unit root test, for co-integration the study used the ARDL modelling approach , Augmented Dickey- Fuller Test for Unit Root and Error Correction method .

### ADF Test

Table 4 shows the results of ADF test. The values in the table highlight that data is not stationary at level. Consequently, the same is again checked at first difference and values of ADF test show that data is stationary.

**Table 1: Unit root test**

Variable	Trends	Intercept
ER	Level	...
	1st diff	-9.1***

<b>TE</b>	Level	...
	1st diff	-10.8***
<b>TEPC</b>	Level	...
	1st diff	-4.3***
<b>GDP</b>	Level	...
	1st diff	-10.3***
<b>GDPPC</b>	Level	...
	1st diff	-6.7***
<b>MS</b>	Level	...
	1st diff	-4.9***
<b>FD</b>	Level	...
	1st diff	-12.1***

(\*\*\*) indicates statistical level of significance at 1% level.

(\*\*) indicates statistical level of significance at 5% level.

(\*) indicates statistical level of significance at 10% level.

Source: Author's own calculation by using E-Views 10. ER stand for earning revenue, TE shows the tourism earning, TEPC is tourism earning per ca pita, GDP PC is gross domestic product per ca pita, GDP is gross domestic product, MS shows money supply and FD stand for financial development. The stationarity of any time series data can be tested in many ways, categorized as formal and informal ones. The Table 1 illustrates the p-value along with the null hypothesis for non-stationarity.

The ADF test analyze the null hypothesis  $H_0$  that  $\alpha = 0$  (the alternative hypothesis  $H_1$  being that  $\alpha < 0$ ) by computing the Ordinary Least Squares (OLS) estimate of  $\alpha$  in the previous equation and its  $t$ -statistics  $t^{\hat{\alpha}}$ ; then, the statistics of the test is the  $t$ -statistics  $t^{\hat{\alpha}}$  of coefficient  $\alpha$ , which follows under  $H_0$  a known law (studied by Fuller and here denoted  $Ful$ ). The test computes the  $p$ -value  $p$ , which is the probability of  $Ful \leq t^{\hat{\alpha}}$  under  $H_0$ . If  $p < 0.05$ ,  $H_0$  can be safely rejected and  $H_1$  accepted: we conclude that the series ' $x_t$ ' has no unit root' However, by applying the ADF test for the selected variables it can be seen that these given variables are stationary at the first differences. Overall it can be concluded that all these variables became stationary and they do not contain unit root in the first difference.

### Co-integration Test Analysis

Tourism and financial development are positively correlated with economic growth and are statistically significant. In other words, in the long run, the increase in tourism and financial development will lead to economic growth. Firstly, the growth in international tourism revenue has long-term and significant impact on Nepal's economy. Specifically, a 1% increase in per ca pita tourism income led to a 1.9% increase in per ca pita GDP.

Table 8 shows that when LnGDP is used as the dependent variable, the estimate of the F statistic is above the upper limit. Therefore, we reject the equation for the null hypothesis  $H_0: \varphi_1 = \varphi_2 = \varphi_3 = 0$ .

**Table 8. CO-Integration Test Results Of Bayer And Hank**

Variable	BOEG-JOH-BDM	critical value at 5%	Implications
F(lnGDP, lnER, lnTEPC, lnTEPC, lnGDPPC, lnFD, lnMS,)	25.380*	21.106	Co-integration

Note: At 5 per cent level of significance \* shows rejection of the null hypothesis.

As a result, we can conclude that LnGDP, LnER and LnFD are significantly co-integrated during the study period. After determining the co-integration relationship among st variables. This table clearly shows that the estimate of the Fisher statistic for the JOH-BDM-BOEG- test is larger than the table value of 5%. Therefore, we reject the inefficiency of the co-integration hypothesis and conclude that tourism, financial development and economic growth are co-integrated.

In terms of policy, result of this study shows that tourism will become an important catalyst for Nepal's economic growth. This is an important fact because the tourism industry in Nepal has never appeared.

### Error Correction Test

In order to obtain an estimate of the short-term impact of tourism on Nepal's economic growth, error correction method is adopted. This empirical evidence is consistent with the findings of Upadhayaya (2016), a group of South Asian countries. The results of the short-term analysis are given in Table 5. The estimated ECMt-1is found to be statistically significant at the 1% level and had a negative sign.

**Table** Results of Error Correction Model

Error Correction:	Ln(GDP)
ER(-1)	-1.233***
TE(-1)	-1.746***
TEPC(-1)	-1.167***
GDP(-1)	-1.728***
GDPPC(-1)	-0.189
MS(-1)	-0.457
FD(-1)	0
C	0.71***
ECT-1	-0.175
<b>R-squared</b>	0.917
<b>F-statistic</b>	18.416

(\*\*\*) indicates statistical level of significance at 1% level.

(\*\*) indicates statistical level of significance at 5% level

Ln(GDP) are negatively integrated from first lagged values of ER, TE, TEPC,GDP,GDPPC,MS,ECT-1. FD doesn't make any long run impact on Ln(GDP) The Adjusted R square value is moderate and significant in Ln(GDP). It is 0.917 which means all these variables make 91.7 percent on Ln(GDP).

**Source: E-Views 10 Note: \* denotes a 10% significance level, \*\* denotes 5% and \*\*\*denotes 1% significance level.**

Table 5 Shows ECT-1 coefficient demonstrate the adjustment rate from short run to long-run. This adjustment rate (12%) implies that 12% imbalance is corrected per year. The numerical coefficient of significance ensures the long-run causality among independent variables and dependent variables.

### ARDL Analysis

It is expected that financial development is positively correlated with economic growth. Rather, a 1% increase in financial development may be linked to a 2.7% increase in long-term economic growth with all other factors remaining unchanged.

### Long Run Test

This result supports the early co-integration of tourism and economic growth and demonstrates the rate of transition from a short- to long-term equilibrium direction. Tourism has a statistically important positive effect on economic development, according to the findings. We chose the ARDL (1, 0,1) model based on the model's minimal SBC value theorem, and the long-term effect prediction as shown in Table 9. Clearly, our model suits the data's statistically valid independent claims very well.

**Table 9. Long Run Estimates from ARDL Model**

Variable	Coefficient	Standard Error	T-Ratio
ER	0.1976*	0.0417	4.7444[0.000]
TE	0.2700*	0.0277	7.1272 [0.000]
TEPC	0.2172*	0.1722	2.2427[0.000]
GDP	0.2400	0.0427	4.474 [0.000]
GDPPC	0.0444*	0.2244	2.7221[0.000]
MS	0.2922*	0.0229	6.2216 [0.000]
FD	0.1011	0.0271	2.6616 [0.000]
Constant	2.7977*	0.0727	44.2227 [0.000]

Source: Author's own calculation by using E-Views 4

Note. \* indicates significant at the 1 per cent level.

According to the ARDL report, the short-term differential in long-term economic growth equilibrium is changed by 24% annually. In the near term, tourism can be shown to be a source of economic development. Foreign tourism revenue has risen by 4% per ca pita, while GDP has increased by 0.24 percent per ca pita and other factors have stayed unchanged. The financial growth coefficient may be overlooked in the short term (Gautam 2007). International tourism is known to have a positive impact on long-term economic development through a variety of channels (Definition 2016).

#### Short-Term Test

Table 10 compares the long-term and short-term elasticity coefficients, revealing that economic development has a long-term rather than a short-term response to tourism. This shows that as Nepal's foreign tourism revenue grows, the country's economic development can become more active.

**Table 10. Short Run Estimates from ARDL Model**

Variable	Coefficient	Standard Error	T-Ratio
ER	0.2122*	0.0417	2.2272 [0.002]
TE	0.2610*	0.0277	-1.4606 [0.140]
TEPC	0.1972	0.1722	-4.6296 [0.000]
GDP	0.2977	0.0244	4.4264 [0.101]
GDPPC	0.2200	0.0427	1.7424[0.010]
MS	0.0666*	0.2244	4.4424 [0.100]
FD	0.222122*	0.0229	1.7276 [0.000]
Diagnostic tests	R2 = 0.2424; F-Stat. F(2,40) ¼ 7.4427* [0.000]; DW-statistic = 1.6702		

Source: Author's own calculation by using E-Views 4.

The long- and short-term impact of these factors on economic development were investigated. At the 1% significance mark, the estimated values of the F statistics in the last row of Table 10 are statistically important. This indicates that the model's overall adaptability is strong. The Durbin-Watson statistic for this model is less than 2, indicating that there is no auto correlation issue. Furthermore, the R<sup>2</sup> value is 0.24, indicating that these autonomous individuals will extend 24 percent of economic growth transition knowledge in a brief amount of time, with other variables accounting for 66 percent. Furthermore, Nepal's macroeconomic series could have experienced systemic breakthroughs as a result of structural changes in the region. This result backs up a previous study's findings (Ohlan 2017).

### **Discussion**

From an approach suggestion perspective, various proposals can be produced using this exploration. Right off the bat, informal exchange is additionally a solid factor impacting the travel industry interest for Nepal. As needs approach producers should place in need the solace of voyagers during their stay in Nepal. Also, the providers of the travel industry items and administrations ought to improve their administration quality and update their brand's picture. Furthermore, value aggressiveness is likewise a solid factor that can be controlled in the Nepalese economy; it impacts the travel industry interest for Nepal. Therefore, arrangement producers and providers should intently screen all travel industry specialist co-ops, for example, inns, eateries, vacationer administrators, and transportation organizations, for example, airplane terminal taxicabs and visitor transports to guarantee that they don't charge 'outlandish' costs for their administrations. Global visitors are touchy to occasions of political flimsiness in their vacation goals. Thus, respects to the expansion of political steadiness give some significant ramifications to strategy producers, governments in multi-social nations like Nepal, should mean to limit wrongdoing and keep up equity among different ethnic gatherings. Then presenting training programs, which support resistance and comprehension among individuals from various ethnic foundations and making occupations for natives, might be helpful for controlling political unsteadiness in a nation. The travel industry organizations and travel offices should concentrate on the political security of a nation that gives high true serenity of voyagers by bringing down dangers and expanding opportunity.

As a result, the national travel industry requires a robust political, legal, and monetary system under which to operate, providing the travel industry with legitimacy (Korstanje and Tarlow 2012). Since they do not have a home in the country they visit, international travellers become more concerned for their safety and well-being whilst on holiday. According to a CNN worldwide investigation in 2013, 67 percent of respondents are more concerned with a goal's well-being and welfare than the cost and reputation. A cataclysmic occurrence triggers a decrease in vacationer landings in the affected region, giving the visitor a bad impression and driving them away from the target (Massé 2016). In the travel sector, political unrest is a major factor. There have been several studies that show the damaging impact of fear mongering on the travel industry (Hitchcock and Wesner 2008 find that political instability has a major impact on travel industry demand in both developed and developing countries). Specifically, (Munanura et al. 2016) used GMM to investigate the effect of country risk on travel industry demand. The findings revealed that the travel industry in countries with less risk inconstancy is unaffected by the risk. However, while chance has an effect on all poor and rich countries, it has a greater impact on rich countries' returns (Lewis et al. 2013).

### **Conclusion**

Catastrophic event and emergency cause the declination of traveler landings in affected zone and made the negative picture to the guest. For the battling cataclysmic event hazard, Nepal ought to make catastrophic event subsidize and urge visitors to purchase travel protection that have more positive effect on the monetary development. The crisis the board may better plan nations to manage sudden occasions when they happen. During the emergency time frame itself, the quick need is to show extraordinary emergency the executive's abilities to limit misfortunes, guarantee voyagers' security and point of confinement unreasonably negative media discernment's. Governments should restrain negative media attention about the goal when it is misrepresented. The travel industry makes positive effects on the financial development in the goal nation. The positive commitments that travel industry can makes stream of remote money into the economy of a goal nation which may improve a hole in outside trade and fund imports of capital products, increments in salary, makes business, and higher assessment incomes (Easton and Wise 2015). Along these lines, financial development should build the welfare of the neighborhood populace, albeit certain segments will profit more than expenses. A basic portrayal of monetary development is that it is the development of GDP in consistent costs. The hindrance of such a straightforward definition and estimation approach is that it overlooks the development of populace size and the welfare impacts of monetary development. In a perfect world, monetary development should expand the welfare of neighborhood populace so as to be viewed as a financial advantage. In such manner, utilize the

development of genuine GDP per capita as a proportion of financial development in accordance with different distributions in the field.

### **Policy Recommendations**

On the policy front, our findings provide a justification for the Nepalese government's goal of financing in tourism as a means of long-term economic growth. Tourism can rely on stimulating Nepal's economic prosperity, so policy makers should seriously consider encouraging inbound tourism. It is recommended in the present study that policies that fascinate more international visitors should be promoted. The significance of staying at tourist places requires the policy establishment towards the improvement of airfield, hotels, get-together centers, an artery and the arrangements of, Buddhist place of worship. It drew substantial tourist attention in the middle of visiting the attractions and additional stakeholders in Nepal and Nepal take for approved significance peaceful Geo-political area due to well-planned policy making. Nepal established the political-financial association between national populations through worldwide community which can parallel to geopolitical standpoint of well developed countries and it is considered as the important factor.

Commencing the policy implication viewpoint, a various endorsement can be made from the findings of the current study. Firstly, word-of-mouth is also a major feature swaying the demand of tourism in Nepal. Therefore, policy maker's priorities the ease and luxuries for travelers throughout their stay in Nepal. Additionally, supplier and contractors of tourism goods should increase the quality of their service and advancement its image of the brand. The second point is the price attractiveness which is correspondingly considered as the major factor which requires to be maintained and monitored in the Nepal economy in order to increase the tourism. The factor of price control effects tourism growth and demand in the Nepal.

Consequently, the suppliers and decisions makers need carefully to observe and monitor all the tourism goods and service suppliers for example tourist operators, restaurants, hotels, and transportation corporations including buses and airport taxis to ensure in order to stop the charge of 'unreasonable' prices for offered services. International travelers are sensitive regarding the holiday destinations and occasions and happenings of political instability in the target country where they have had a plan to tour. Therefore, there is a dire need to increase of political stability by using certain significant suggestions from policy makers.

In order to achieve the objectives of tourism economy it requires the flow of income circulates in the economy, encouraging other economic activities to occur, triggering multiple rounds of income. There is need to encourages income and tourism employment in the country. There is need to measure the tourism impacts such as social, economic, environmental and cultural impacts on tourist destinations, and its impact can be measured with magnitude and the directions such as negative and positive.

Nepal is multicultural diverse country and it requires that government of Nepal should decrease the crime and control the religious, national justice and security among numerous ethnic groups. Then presenting training programs at social media, which reduce the resistance and comprehension among individuals from various ethnic foundations and making occupations for natives, might be helpful for controlling political unsteadiness in a nation. There programs should be introduced in the universities and public places to maintain the harmony.

Furthermore, there is need to bring together the education programmers and public awareness, that inspire tolerance and sympathetic consideration among st the people having different ethnic, religions, educations and generating jobs intended for local residents. It might be useful for supervising and maintaining the political instability and religious harmony in the country. In addition, the travel agencies and tourism companies should emphasis on the political stability in the state that ensure high peace of mind among the tourists through stopping the threats and providing the freedom.

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