

Analytical Review of Tourism Demand Studies from 1960 to 2014

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Abstract: This paper evaluates and analyzes tourism demand during the 1960-2014 periods by comparing different variables and methods in several countries and regions using various types of data. **Objectives:** The purpose of this review is four fold. First, it aims to show the variables that continue to have an important influence on the tourism demand over time. Second, this review intends to identify a list of new approaches that could best explain the use of the tourism demand function for an area. Third, it is to show the main changes happening in the tourism objective with each passing day. Fourth, to explain and analyze why and how changes happen in the variables, techniques and objectives over time. **Approach:** To accomplish these objectives this study reviewed and analyzed 400 journal articles published during the period from 1960 to 2014. **Results:** The empirical result shows that despite the problems of applying the OLS technique and new methods that have recently emerged, it is still the OLS that provides the fundamentals in estimating and analyzing tourism demand in the literature. **Findings:** This study found that despite the increasing significance of the role of exchange rates and traveling costs in tourism demand studies, the tourist income and tourism price remain the major determinants of tourism demand. **Contribution:** This study is the first study on the subject of tourism demand to cover a significantly long period (1960 - 2014). It involved extensive reviews, analyses and data comparisons of variables and major findings from a sizeable sample of 400 published academic papers, which provided a comprehensive overview of tourism demand activities in the world during the past five decades.

Keywords: Tourism Demand, Review Tourism Studies, Method, Variable, Objective, Economic Analysis

1. Introduction

During the second half of the 20th century, tourism developed into one of the largest and most rapidly growing sectors in the world. It is now larger than any other single socio-economic activity. Tourism characterizes aspects of the “post-industrial society” and presents insights into future major trends. The recognition of tourism as an “industry” and as a topic worthy of study by economists has been slowed down by the fact that the tourism sector is mainly a collection of service-based activities under the umbrella of “Tourism”.

Tourism demand is a crucially important issue to study. Many researchers and destination managers are interested in the economic evaluation of tourism demand for many states in developing regions. During the past five decades, this topic has been analyzed using different variables and methods.

Multiple determinants are available for tourist demand. Identifying the internal and external factors affecting tourist demand is necessary to create competitive advantages for the tourism industry, as well as to determine the amount of investment needed for infrastructure and other resources to meet the tourism demand (Wang, 2009). Bukart and Medlik (1981) categorized the influences of tourism demand into two components, namely, determinants and motivations. Determinants are the exogenous or external factors that shape the general demand for tourism within a society or a specific population. Such factors tend to be common to all world regions. However, the emphasis given to such factors varies in every country. For example, the economy in a country may have a greater or lesser effect on inbound and outbound tourism. Meanwhile, motivations refer to personal factors that directly affect the individual and are expressed as tourism desire and choices. Motivations can be influenced

by internal factors (e.g., perceptions and personality) and external factors (e.g., culture, age, and gender).

Given that international tourism is generally regarded as a luxury product, income and price factors are likely to play a significant role in determining the demand for international tourism. Published academic studies on tourism demand have used the exchange rates and traveling costs between tourists’ receiving country and their country of origin, which significantly influence tourism demand. Additionally, government policies on currency movements and freedom of access between the receiving and host countries are also crucial (Pauline, 1993; Cooper et al., 1998; Bull, 1995).

The demand for tourism and the choice of tourist destinations may be subject to significant shifts for numerous reasons, including variations in income, price, exchange rates, travel cost, population, and unexpected events (e.g., major economic and political changes). These studies reviews and analyze the tourism demand studies from 1960 to 2014. To achieve this goal, the present study reviewed 70 journal articles and compared them with previous reviews from Lim (1997); Norlida (2007); Song and Li (2008). In addition the current study recognized the previous reviews with the present review to achieve the study goals, as reported in table below:

Table 1: Number and Recognition of tourism demand publications for the period 1960 to 2014

Studies	Review of tourism demand studies	Time period	Recognize
Lim (1997)	100	1960-1994	1960-1994
Norlida (2007)	109	1961-2006	1995-2000
Song and Li (2008)	121	2000-2007	2001-2007
Present study(2014)	70	1973-2014	2008-2014
Summarize of studies	400	Five decades	1960-2014

Models and Methodologies implemented in the previous studies

During the past five decades, research on tourism demand has been analyzed using different methods. Several research methodologies can be applied to analyze tourism demand. The empirical model of tourism demand borrows heavily from consumer theory, which predicts that the optimal consumption level depends on the consumer's income, the price of goods in equation, the prices of related goods (i.e., substitutes and complements), and other factors. A typical tourist's choice to consume tourism (i.e., either international or domestic) and other goods is in accordance with his or her preferences and is constrained by his or her income.

This section reviews the different methods and approaches that have been applied in the tourism demand literature. Table 2 shows more than 60 different methods that have been extensively applied in studies on tourism demand.

Table 2: Review of Tourism Demand Approaches

Time Period	OLS	VECM	ARDL	VAR	GMM	Other	Total Studies
1960-1970	23	-	-	-	-	28	51
1971-1980	46	-	-	-	-	28	74
1981-1990	51	-	-	-	-	29	80
1991-2000	26	2	-	-	-	29	57
2001-2014	35	26	27	14	7	29	138
Total Studies	181	28	27	14	7	143	400
Percentage	45%	7%	7%	3.5%	1.75%	35.75%	100%

Table 2 shows that among the 400 tourism studies during the period from 1960 to 2014, approximately 45% (N=181), 7% and 7% used OLS, VECM and ARDL approaches to estimate tourism demand, respectively. Thus, nearly 59% of the reviewed tourism demand studies applied OLS, VECM, and ARDL approaches.

A particular issue from the table however introduces new methods but still the Ordinary Least Square (OLS*) is important and is fundamental for other methods while most of other methods depend on OLS assumption, especially on autocorrelation and heteroscedasticity. For example, between 1990-2000 the application of OLS was reduced but since 2000 it had increased again but not alone while new methods introduced in 2000 such as VECM**, ARDL***

* The OLS approach to multiple linear regressions was introduced by Gauss in 1794. The OLS technique is the simplest type of estimation procedure used in statistical analyses (Burke, 2010). Different levels of aggregation are used to investigate the price and income elasticity of international tourism demand as well as to explain tourism expenditures, arrivals, or departures. Moreover, OLS regression is one of the major techniques used to analyze data. It serves as the basis of many other techniques, such as VEC and ARDL approaches.

** The VEC approach was introduced by King et al. (1991). VEC is a useful approach for estimating both the short- and long-term effects of one time series on another time series. Moreover, VECM is one of the most frequently used approaches that can be applied to analyze data; meanwhile, the basis of many other models, such as can be derived from ARDL through simple linear transformation (Galbraith & Hendry, 1993; Salleh et al., 2008; Kulendran & King, 1997; Risso et al., 2010; Mishra et al., 2011). Thus, it is one of the

,VAR* and GMM** while the OLS was used with these new methods. The reason for the widely-used new methods is to overcome the regression problem associated with OLS and other methods such as Engle-Granger (1987) and Johansen-Juselius (1990) methods. The new methods can use the lagged variable in tourism demand model, as it is a very important issue in tourism demand studies to capture the effect of past time.

Tourism variables in previous studies

The econometric model identifies functional relationships between tourism demand and its determinants using multiple regression analysis. The model includes dependent and independent variables, lagged dependent variables, and dummy variables for specific events. However, each of these variables must be estimated; therefore, the accuracy of the estimation depends on the reality and precision of each data sample (Witt & Witt, 1995).

Dependent variables of tourism demand

The literature has presented at least three classes of tourism models, namely, those explaining the tourist expenditure, tourist arrivals and length of stay. The most accepted measure of tourism demand is tourism expenditure (Latham & Chris, 2003); nevertheless, when tourism expenditure is unavailable, the number of tourist arrivals and length of stay are the most common variables used to measure tourism demand (Habibi & Rahim, 2009; Al-Slmawi, 2012; Ishii, 2012). Table 3 shows the categories of dependent variables used in previous tourism demand studies from 1960 to 2014.

Table 3: Categories of dependent variables in previous studies

Time Period	Number of tourist Arrivals/departures	Tourist expenditures	Length of stay	Others	Total studies
1960-1970	17	16	3	20	56
1971-1980	35	31	7	20	93
1981-1990	45	27	5	21	98
1991-2000	30	21	3	21	75

most extensively used methods in the analyses of estimating long- and short-run co-integration between tourism demand and its determinates.

*** The ARDL is a dynamic econometric modeling technique that was first proposed by Hendry (1986) and was developed later by Pesaran and Shin (1999) based on OLS estimation and the inversion of the ECM. The ARDL approach can overcome the limitations associated with the OLS and VEC approaches and involves a general fact that contains both the current and lagged values of the variables. Thus, it is enables the identification of change in tourism demand over time, particularly the structural change in the short-run and long- run. (Pesaran et al., 1997, 1999, 2001; Mervar, 2007; Salleh & Hanim, 2009; Bashagi & Muchapondwa, 2009; Habibi & Rahim, 2009; Li, 2011).

* The Vector autoregression (VAR) was made popular by Smith (1980) and is an econometric model used to capture the linear interdependencies among multiple time series. VAR models generalize the Univariate Autoregression (AR) models by allowing for more than one evolving variable.

** The Generalization Model at the Moment (GMM) introduced by Anderson and Hsiao 1981 was developed later on by Arellano and. Bond 1991. And GMM uses in to estimate tourism demand models.

2001-2014	45	8	4	21	78
Total studies	172	103	22	103	400
Percentage	43%	26%	5 %	%26	100%

Table 3 shows that among the 400 tourism demand studies reviewed by this paper, 43% employed the number of visitor arrivals whereas 26% used tourist expenditure, 5% used length of stay, and 26% used other variables as the measure of tourism demand. The majority of these studies used tourist arrivals/departures and expenditures as dependent variables.

From our reviews we found that the perennially popular dependent variable is tourist arrivals, but the other variables such as tourism expenditure and length of stay are also important although it is difficult to get real data of tourism expenditure and length of stay, so most of the literature used the number of tourists as a measure of tourism demand.

Independent variables of tourism demand

Demand theory suggests that the demand for a product or service has three main determinant variables, namely, income, price, and population, among other factors. Additionally, published academic studies on tourism demand have used the exchange rates between tourists' country of origin and their destination country while travel costs are considered the major independent variable as they significantly influence tourism demand. The explanatory variables consist of the primary economic determinants, namely, tourist income*, tourism price**, exchange rate***, travel cost**** and population***** of each tourist generating country. Table 4 reports the number and percentage of tourism demand determinants as below:

* **Tourist income:** is a significant explanatory variable. The influences of income may be reflected in several ways. The level of income exerts a direct effect on an individual's decision whether to engage in tourism activities (Al-Khalidy, 2006 ; Salleh & Othman, 2008 ; Habibi & Rahim, 2009 ; Assaker, 2011 ; Ishii, 2012).

** **Tourism price:** traditionally, economic theory assumes that several types of prices appear in the tourism demand specification. The first type is the own price of tourism products, which is usually approximated by comparing the CPI in the destination market with that in the country of origin (Chu, 1998; Icoz et al., 1998; Garín Muñoz, 2007 ; Song & Li, 2008 ; Wu, 2010).

*** **Exchange rate:** is the number of units of domestic currency per unit of foreign currency and is commonly referred to as the terms of trade. Changes in the currency exchange rates can considerably affect inflows into a country. More particularly, visitor inflows are directly affected by movements in exchange rate (Lea, 1993; Webber, 2001; Dwyer & Kim, 2003).

**** **Traveling Cost:** is considered the vital role of transfer in tourism activities. Traveling cost is of different types. However, the difficulty is in obtaining real data on all of these types. Notably, the majority of previous studies have used international crude oil price (Salleh et al., 2008 ; Habibi & Abdul Rahim, 2009).

***** **Population:** is the major independent variable of tourism demand. However, most previous studies have ignored population as a factor that affects tourism demand because they claim that including income in the tourism demand model is already sufficient; nonetheless, several studies, especially at the local level, have employed population as a determinant of tourism demand (Var et al., 1990 ; Witt & Witt, 1995).

Table 4: Category of independent variables in previous studies

Time Period	Tourist income	Tourism price	Exchange rate	Traveling cost	population	Total studies
1960-1970	25	17	8	17	1	68
1971-1980	48	35	13	32	7	135
1981-1990	31	58	35	40	9	173
1991-2000	31	33	17	17	3	101
2001-2014	56	63	33	38	4	194
Total studies	191	206	106	144	24	671
Percentage	28%	31%	16%	21%	4%	100%

From Table 4 it can be seen that 28% out of the 400 studies reviewed used tourist income as an independent variable in tourism demand and nearly 31% used Tourism price, while of the remaining 16%, 21%, and 4% employed exchange rates, traveling cost, and population as the independent variables, respectively.

This study concludes that recently, despite increase in the role of exchange rates and travel costs, the tourism income and tourism price still remain the major determinant of tourism demand over time. Possibly, one of the reasons is the fluctuation of exchange rates as a result of a financial crisis and fluctuation of travel costs, a result of the instability of the oil price, which is a major factor in travel costs. Also it should be noted that the tourist income and tourism price are under tourism destination controlling.

Several other variables can be used as independent variables that affect tourism demand in different ways and at different levels. These variables include leisure time, distance, accommodation capacity, room price, desire and habits, cost of living, education, marketing expenditure, business activities, and level of satisfaction, type of tourism, tourism promotional expenditure, tourism activities, and season. (Apostolakis & Clark, 2011; Mishra et al., 2011; Crouch et al., 1992; Ong, 1995; Peach, 1995).

Dummy variables of tourism demand

In the recent years, the global tourism industry has experienced many crises and disasters, including terrorist attacks, political instability, disease, economic recession, biosecurity threats, and natural disasters (Faulkner, 2001).

Estimation of the effects of specific events on tourism demand modeling is very important. Several tourism studies have employed dummy variables (e.g., Currie et al., 2004; Abed Aun, 2007; Salleh et al., 2008; Cheng, 2009; Brida & Zapata, 2010). Increased efforts have been made to quantify the effects of these internal and external events on tourism demand using various techniques. The number of studies that used dummies of tourism demand is reported in the table below.

Table 5: Categories of previous studies using dummy variables

Time Period	Number of studies	Number of dummy variable
1960-1970*	2	3
1971-1980**	7	11
1981-1990***	14	25
1991-2000****	7	14
2001-2014*****	36	80
Total studies / Dummy variable	66	133
Percentage	17%	33%

Table 5 shows that among the 400 studies on tourism demand, 66 (17%) used (U) dummy variables. The table also reveals that the recent increase in the use of dummy variables is due to globalization and the emergence of environmental changes. Despite the increase in crises, including terrorist attacks, political instability and financial crisis and their consequent effect on reducing the number of tourists in the world, the tourism demand has been relatively less affected than other activities and tourism demand activities continue to grow. The World Tourism Organization (WTO) predicts that tourism demand will continue to increase globally.

In addition, most of the dummy variables consist of war, terrorist acts, political instability, oil crisis, disease, and financial crises. Several other dummy variables also influence tourism demand, such as economic openness, economic freedom, membership in the OECD, and new visa policies of some countries (Li et al., 2011; Cheng, 2009 ; Becken, 2011). However, due to limitation of space, these variables are not discussed in detail in this paper.

Type of Data

Several types of data can be used in tourism demand models; each of them including several items (e.g., Annually, Quarterly, Monthly, Daily, and Survey) and with different measures and different units of measurement. Thus, this paper has used mostly data available as reported in Table 6.

Table 6: Categories of data type in previous studies

Time Period	(A) Annually	(Q) Quarterly	(M) Monthly	(D) Daily	(S) Survey	Others	Total Studies
1960-1970	13	5	1	-	6	2	26
1971-1980	40	4	3	-	1	3	51
1981-1990	74	7	2	-	-	3	86
1991-2000	29	6	4	-	1	4	45
2001-2014	98	44	36	1	9	4	192
Total Studies	254	66	46	1	17	16	400

* One of the most important events between 1961 and 1970 was the changing environment.

** One of the most important events between 1971 and 1980 was the Oil crisis in 1974.

*** One of the most important events between 1981 and 1990, was the Iraqi-Iranian war.

**** Two of the most important events between 1991 and 2000, was the in Gulf war 1991 and Asian financial crisis in 1997.

***** Three of the most important events between 2001 and 2013 included the Iraq war in 2003, Bird Flu in 2004 and the Asian financial crisis in 2008.

percentage	64%	16%	11.5%	1.25%	4.25%	4%	100%
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In the beginning, the secondary data were limited because government and tourism organizations did not pay enough attention to collecting the necessary data related to tourism activities, however nowadays mostly general secondary data and specific annual are available.

Table 6 shows that most of studies used secondary data (e.g., Annually, Quarterly, Monthly, Daily), because of the difficulty to acquiring primary data, as the collection of primary data needs more time and are also costly, (e.g., Survey data), but since 2000, survey data have also been used, especially with some government and tourism organizations encouraged to collect data from original sources (real life). For instance, during the time period of the study (1960-2014) around 64% of total previous studies used annual data, with Quarterly, Monthly and Daily data being used minimally. Also, only 4% of previous studies used surveys to collect data.

2. Main Objective and Main Findings

In the early times of human history, tourism activities were only related to satisfying social aspects of life, but now tourism has become more vital with each passing day as tourism today is related to most aspects of the modern lifestyle and this is very clear from the increasing number of tourists in the world. For instance, the number of tourist arrivals in the world reached 25 million in 1950 and 1035 million in 2012, and the number of tourists is one of the indicators of tourism development (WTO, 2013). This is briefly shown in Table 7, which presents the main objectives and findings of previous studies, and how they have changed over time.

Table 7: Categories of Main objectives and main findings in previous studies

Time Period	Main objective	Main finding	Conclusion
1960-1970	Identifying and Analyzing the determinants of tourism demand.	Tourist income, tourism prices and exchange rates are the main determinants of tourism demand.	Only increasing number of tourists is important in tourism demand.
1971-1980	Determining the factors affecting tourism demand.	Most tourists sensitive to changes in income, prices and exchange rates.	Not only is the number of tourists important in tourism demand, but the duration of their stay and the amount of expenditure also have great importance.
1981-1990	* Studying long-run and short-run changes in the factors affecting tourism demand. *Formulating a new model for	Tourist income, tourism prices, exchange rates, traveling costs and population are main determinants of tourism demand.	Not only number of tourists, but duration of their stay and the amount of expenditure have great importance, while tourism

	tourism demand.		sustainability is also important.
1991-2000	<p>*Measuring and analyzing the tourism demand and its determinants.</p> <p>*Studying and evaluating the effect and impact of international tourism demand on economic growth and economic development.</p>	<p>*Tourist income, tourism prices, exchange rates, traveling costs and population are main determinants.</p> <p>*Internal and External special events also take place such as financial crisis, political instability and environment change.</p>	<p>Not only is number of tourists, duration of their stay and the amount of expenditure also have importance, while tourism sustainability with tourism revenue is also important.</p> <p>*The tourism revenue has great importance in international tourism and economic growth.</p>
2001-2014	<p>*Measuring and analyzing the tourism demand and its determinants.</p> <p>*Studying and evaluating the causality between international tourism demand and economic growth.</p>	<p>*Internal and external special events also taken place such as financial crisis, political instability and environmental change.</p> <p>*Effect of tourism growth on economic growth and impact of economic growth on tourism growth.</p>	<p>Tourism sustainability leads to economic sustainability and economic sustainability leads to tourism sustainability.</p>

From table 7 it can be seen how the studies of tourism demand pay attention to extending tourism activity to all aspects of life and to all other activates. The table shows that changes happened in major tourism goals between 1960 and 2014 from attracting tourists and increasing the number of tourists only to economic growth. Moreover, from our analysis it appears that we cannot look at tourism as mere economic activities, but also from the social, political and environment dimensions.

The table also shows that selecting factors affecting tourism demand is very important to increase tourism and economic growth. Moreover, most of the studies especially after 2000 tried to establish the relation between tourism growth and economic growth as each is both cause and effect for achieving economic sustainability over the word. Finally, despite the availability of tourism resource between countries, all countries agree and try to use tourism as the best resource to solve most economic and environmental issues.

3. Gap in the Literature

In conclusion, several gaps in the literature exist as follows:

- 1) Most previous studies have focused on the analysis of international tourism, whereas minimal attention is given to domestic tourism demand.
- 2) Most studies have examined economic variables of tourism demand, whereas minimal attention is given to social variables.

- 3) Most of the literature focused on secondary data, but analysis for primary data is still scarce.
- 4) Although most studies have analyzed tourism demand in a positive way or only looked to benefits, whereas minimal attention has been given to negative effects or cost of increasing tourism demand.

4. Summary

Tourism is a critically important sector to study because for many states in developing regions, the economic evaluation of tourism demand and its effect on the total economy in general is a topic of interest to many researchers and destination managers. During the past five decades, researchers have analyzed tourism demand using different variables, different data and different methods. This paper presented a different tourism demand model with its explanatory determinants. The most extensively used variables and approaches in the tourism literature were also reviewed. The main objective of this study was to show the variables and approach that would best explain the use of the tourism demand function for an area over the past five decades and to show the main changes in the tourism objective over time. The empirical result shows that change happened in major tourism goals between 1960 and 2014 from attracting tourists and increasing number of tourists only to economic growth. The results also show significant changes happening in the use of approaches from general to specific approach. In conclusion, this paper shows the tourist income and tourism price are still the major determinants of tourism demand, although recently travelling costs and exchange rates take place with important effects and also special events have played important roles in analyzing tourism demand.

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