Economic Impact of Tourism – A Review of Literatures on Methodologies and Their Uses: 1969-2011

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1. Introduction

Tourism-based economic growth and development, a recent strategic phenomenon, has been attracted the attention of government, businesses, policy makers and other stakeholders of world economies. Tourism-based development is playing a pivotal role by contributing significantly to the GDP of developed and developing economies. Besides, it also receives a wide-spread recognition because of its ability to eliminate the disparities in the balance of payment (BOP) conditions by contributing positively to the services account of the BOP. The continuous expansion of the tourism sector made it possible to recognize it as the largest and fastest growing industry, considering either in a country specific or an aggregate global perspective. According to Eadington and Redman (1991), tourism industry is one of the largest and fastest expanding sectors of the world economy, and is thus experiencing an expansion faster than any other industry, exposing a post-industrial society. The economic repercussions of tourism are occurring in extensive latitude, within the evolution of the globalization process (Sugiyarto, Blake & Sinclair, 2003) that is, in turn, helping the acceleration of this industry's expansion around the globe.

Tourism industry is experiencing tremendous expansion over the years as results of its inclusion into the national economic plan of develop and developing economies of the world. Developing economies have been enacting policies to expand tourism as a source of reliable foreign exchange earnings when traditional foreign exchange earnings sectors contribution becomes limited in GDP. The previously unexplored developing economies are experiencing higher growth in expanding tourism than develop economies. However, the expansion is occurring due to its ability to generate substantial economic impact into economies of the world. Therefore, the objective of this chapter is to review the literatures

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on estimating economic impact of tourism, the methodologies used, and their uses held at several locations of the world. In order to attain the objective, papers on economic impact of tourism were collected from all renowned databases, such as, web of knowledge, science direct, proquest, emerald, ebsco premier etc. It was found that a variety of methodological approaches have been practiced by researchers to estimate the economic impact of tourism. To a large extent, these methodological approaches have been chosen to explain elaborately the primary objective of the chosen study and the related purposes of the primary objective. A summary of literatures on economic impact of tourism has been depicted throughout the chapter in order to explore the methodologies used and their uses in estimating the economic impact of tourism.

As tourism generates significant economic impact to an economy, the industry is gaining growing importance from all stakeholders of tourism. There are plethoras of studies attempted to address tourism industry's contribution to an economy. While academic literatures concerning the significance of economic impact of tourism are on the rise, tourism's contribution to the economy and impacts upon the local communities is not satisfactorily acknowledged (Vaughan, et al. 2000) maintaining either industrial classification as a single industry (Fletcher, 1989a) or the system of national accounts. Since the industry is not identified as a single industry and its contribution to the development of economies is not precisely derived, there is a need to conduct economic impact analysis of tourism – as tourism activity cannot be regarded as an isolated economic activity. To estimate and analyze the economic impact of tourism, a number of authors employed several methodologies covering input-output model, Keynesian multiplier model, social accounting matrix model, computable general equilibrium modelling, tourism satellite accounting modelling.

This section introduces several reviews about economic impact related literature on tourism economics. With respect to supporting the overall objectives, there is a need to investigate and gather considerable knowledge and information of what previous studies have covered in estimating economic impact of tourism. In doing so, this chapter reviews economic impact analysis of tourism related literature into five distinctive sections. The first section represents empirical evidences of measuring the economic impacts analysis of tourism that employed input-output technique. Empirical evidence of estimating tourism's economic impact using social accounting matrix is depicted in section two. The third and fourth sections represent the related literature on computable general equilibrium model and Keynesian multiplier model consecutively. The last section discusses the economic impact of tourism using tourism satellite accounting model.

2. Empirical evidence on the economic impact analysis of tourism

The available literatures on estimating the economic impact of tourism has been delineated in the following section. A number of methods were employed to estimate the economic impact of tourism, such as, input-output model, general equilibrium model, social accounting matrix model, tourism satellite accounting model etc.

2.1 Input-output model

One of the prominent studies that employed input-output model in estimating the economic impact of tourism was performed by Harmston (1969) using 1963 input-output table of

Missouri state economy. To identify the economic significance of secondary effects (indirect and induced effects) of expenditure made by tourist on the Missouri state economy for the year 1967 was the primary objective of the study. The results showed that the indirect effect of business and industrial activity generated per dollar of tourist expenditure was 23.22 cents, while the induced effect was 76.39 cents. This indicates that the induced effect was over three times the size of the indirect effect. The importance of measuring the induced impact was emphasized by the author as induced impact generated major portion of the secondary impact. Total amount of money generated by the secondary effect of tourist spending amounted to $562,312,000 in which the induced effect accounted for almost 77%.

The particular interest of the next study was to estimate the tourist regional income multiplier conducted by Archer and Owen (1971). In fact, this is the first study attempted to estimate regional tourism multipliers. The input-output model was used in measuring various income multipliers of tourism considering the types of tourism sectors as well as different categories of tourists. Archer and Owen argued that the regional economic benefits accruing from different categories of tourists vary due to differences in leakage components. This model allowed the regional leakages in two ways: (1) when local business purchases goods from outside the region; and (2) when consumers spend money outside the region. This model was applied in the county of Anglesey and Gwynedd in North Wales. The income multipliers were estimated as (1) 0.25 for hotel and guesthouse visitors; (2) 0.14 for caravaners; (3) 0.58 for bed and breakfast and farmhouse visitors; and (4) 0.35 for camping visitors.

The tourist regional multiplier model to examine the economy-wide impact of tourism was first developed by Archer and Owen (1971). Later, it was modified by Liu and Var (1982, 1983), Liu et al. (1984), and Liu (1986), Henry and Deane (1997), Fretchling and Horvath (1999), Yan and Wall (2002). In their studies, the basic input-output model was the foundation of deriving sectoral multipliers. Differential tourist multipliers were estimated using the model to gauge the contribution of tourism industry at state, regional or country level.

Liu and Var (1982) analyzed differential income and employment multipliers of accommodation industries in terms of their organization characteristics, i.e., location, size, scale, affiliation, and ownership in Victoria, BC., Canada in 1977, using the modified input-output model developed by Archer and Owen in 1971. It was hypothesized at the outset that the observed multipliers varies in inverse magnitude with types of industrial organization characteristics mentioned above. In testing whether there are any significant differences between lodging industries and their organizational characteristics or not, ANOVA (One-way analysis of variance) was employed in the study. The tests revealed that the regional income generation effects were statistically significant at the .01 levels by type of ownership. The regional employment generation coefficients and transactions multipliers also appeared to be statistically significant by different type of facilities (e.g., licensed and non-licensed establishment). Liu and Var emphasized that a multiplier analysis should be employed cautiously, taking into account the framework of regional objectives that comply with tourism planning guidelines, as it only explain a part of the total context. They concluded that domestically controlled and possessed lodging establishments ought to be promoted if the objectives were to optimize income. Furthermore, the smaller scale lodging establishments had to be given development priority through some supporting policy implications if the aims were to support more employment.

Liu and Var (1983) used provincial surveys and the modified input-output model to analyze the economic impact of tourism on the Metropolitan Victoria B.C. state of Canadian economy for the year 1977, in terms of output, income, job, import and government revenue. The modified input-output model employed in the previous study was used on the basis of a 13x13 input-output transactions table of the state economy. The multipliers carried out by the study were 1.504 dollar worth of output multiplier, 0.65 cents worth of income multiplier for each dollar of tourist expenditure while the employment multiplier was found to be 0.10 for tourist expenditure per thousand dollars. The estimated government revenue multiplier was 0.21 and the estimated import multiplier was 0.34 per dollar of expenditure made by tourists. Income and employment multipliers were also analyzed for two tourist categories- overnight visitors and day-trippers reflecting that overnight visitors (non-residents) generated a little more household income than the day-trippers did by a slight difference of 1.5% in regard to the income multiplier. However, the former appeared to create less employment than the latter by 12%. It was also found that the overnight non-resident visitors generated $71,225 income and 11,114 jobs, while the day-trippers created $3,183 income and 568 jobs in terms of total tourist expenditure. The income multiplier of the locally-owned hotels and motels was found to be higher than that of outside-owned accommodations. But, the findings indicated that the locally-owned hotel and motels contributed only 26.8% of income generated by total tourist expenditure, while outside-ownership contributed largely by 73.2%.

Liu et al. (1984) measured tourist income multipliers of Turkish economy for the year 1981 generated by different types of tourists. The service sectors were found to be yielding high direct but low indirect multipliers, indicating the high wage-intensive nature but low backward linkages. On the other hand, the manufacturing sectors in general yielded high indirect but low direct multipliers, indicating capital-intensive nature and strong inter-sectoral linkages. The tourist income (value-added) multipliers showed that the domestic excursionists had the largest multiplier (2.03), followed by that of overseas Turkish tourists (2.03) and foreign excursionists (2.02). The income multipliers for the domestic overnight visitors and foreign overnight visitors were found to be 1.97. The results revealed that foreign and domestic excursionists and overseas Turkish tourists generated the high-income multiplier against overnight domestic and international visitors. The study described that this difference in multipliers had occurred due to the expenditure variety of tourists where the earlier tourists had the tendency to make additional spending on purchasing retail goods while these tourists made lower expenditures on hotels and restaurants than the later.

Archer (1985) analyzed economic impact of tourism on the Mauritius economy in 1980. The results showed that the total output multiplier was 0.9639 and the employment multiplier was 49 per 1 million Rs (Rupees). The variation in impacts generated by tourists of each inbound countries indicating that tourists from West Germany, Switzerland, South Africa and the UK made a extensive impact on the economy per visitor. Among the tourists' origin markets, the lower impact was found to be generated by tourists from France. Archer asserted that the high rank in total number of visitors did not necessarily mean the largest economic impact. For instance, visitors from Reunion occupied the largest proportion of total visitors (about 23%), but they generated the lowest income per visitor except Malagasy. Archer concluded that target markets generated reasonably higher economic impact through higher expenditure on tourism related businesses in Mauritius. Therefore, the study

suggested that tourism should be promoted in maximizing income, supporting more employment, and generating significant foreign exchange earnings from international inbound tourism.

Ruiz (1985) employed input-output technique to investigate tourist expenditures economic impact on Puerto Rican economy in 1980. The study used 110X110 transactions matrix developed by Puerto Rico Planning Board in 1972. The results showed that the output multiplier was 2.08 resulted from per dollar tourist expenditure and the employment multiplier was found to be 142 per million dollar of tourist expenditure in 1980. It was noted that the number of employment declined from 88 full-time jobs in 1972 to 59 full-time jobs in 1979 for the hotel industry. Ruiz mentioned that this reduction was due to an increase in worker's productivity or the substitution by a more advanced technology.

Liu (1986) used the modified input-output model to estimate the significant economic contributions made by different groups of tourists in generating multipliers for the Hawaiian economy in 1980. Sector multipliers were obtained by using a 63x63 transactions table for 1983. A survey questionnaire of tourist expenditures was prepared to estimate income multipliers yielded by various groups of tourists. According to the findings of the study, income multiplier generated by tourists for Hawaiian economy in 1980 was 0.80; indicating about 80 cents of local household income were generated per dollar of tourist spending. In addition, about 80 jobs were created per one million dollars of tourist expenditures.

The largest household income multiplier of 0.84 per dollar expenditure of tourists appeared to be generated by Japanese tourists which was 5% more than average income multiplier. The result also showed that the Japanese tourists had the largest income multiplier which was contrary to common belief that the Japanese tourists were likely to generate the least income multiplier for households from per dollar of expenditure. The ground of that belief was due to leakages resulting from purchases of imported luxury goods and businesses controlled by Japanese owners. Japanese tourists made proportionately higher expenditure on retail goods and lower on hotels and restaurants as most of the Japanese tourists were visiting friend and relative (VFR) type of tourists. The findings of the study indicated that Japanese tourists were responsible for the highest direct and induced income multipliers. The employment multiplier was found to be 0.08 indicating that about 80 jobs were created per one million dollar of tourist expenditure. The Japanese visitors and VFR type of tourists appeared to be generating higher employment multiplier than the average by 7% and 12%, respectively. The break-down of the visitor expenditure showed that the Japanese visitors spent about three times as much as did other visitors per day, but less per visit due to the shortest length of stay. Although the Japanese and Canadian tourists contributed largely to the economy in terms of average tourist expenditure, the greatest impact and contributions were made by domestic tourism (mainland USA), accounting for 62% of receipts, and 59% of income and employment.

Fletcher (1989) attempted to improve some limitations over a conventional input-output model. It was argued that imports should be categorized into competitive and non-competitive imports. This is because competitive imports are considered as substitutes to the domestic production. Fletcher made an adjustment on the basic input-output model by deducting imports content column from the final demand. The modification was

accomplished in order to exhibit the real output of each sector. However, the elastic supply assumption of the input-output model revealed that the supply should be elastic for all economic sectors under study. Fletcher argued that when there were capacity constraints, this assumption might overestimate the true impact of tourism if there was any change in final demand. Fletcher asserted that when some sectors were unable to comply with a certain increase in final demand, an increase in imports of goods and services would result to meet up that increase in final demand. Fletcher further modified the input-output model to avoid this problem. A matrix of capacity constraints was developed and used to the respective processing sectors.

Fletcher claimed that any attempt to modify a basic input-output model might require increases in data requirement. Therefore, he recommended the construction of "hybrid" models which enable researcher to only disaggregate tourism sectors and aggregate the rest of the sectors of the economy into a single processing sector. The model should be utilized when the lack of reliable data prevented the researchers from building a full input-output model though it might decreased the accuracy of the results. Therefore, the author concluded that these models might be suitable only for a small-scale economy.

Fesenmaier, Jones, Um and Ozuna (1989) estimated the economic impacts of outdoor recreation activity on local economies as they were related to freshwater inflows into each of the six estuaries (Sabine-Neches, Trinity-San Jacinto, Lavaca-Tres Palacios, Guadalupe, Nueces and Mission-Aransas, Laguna Madre) which covered the Texas Gulf Coast region. The direction of the study was to analyze the economic impacts of sport fishing, hunting, picnicking, swimming, camping, pleasure boating and sightseeing on the economies of the Texas Gulf Coast region and the state of Texas in the generation of output, employment, income, and state local tax revenue. The state-wide Texas Gulf Coast economic impacts were estimated by using the state-wide expenditure data collected form the entire Texas Gulf Coast and a 1986 input-output model of Texas was developed for this study.

Data were collected following a two-step-strategy which incorporated both telephone and mail surveys. The focus of data collection was based on typical or average tourists' visit(s) to the Texas Gulf Coast during 1986 on each particular place along each estuary. The total expenditure of a typical tourist was grouped into six categories of goods and services (overnight lodging, transportation, grocery store purchases, restaurants and other eating establishments, rental of recreation equipment, and fees for entrance, participation, and guided tours). Their study postulated that tourists' expenditure generated positive impact and the expenditure were found to be varied according to income, occupation, age, date of visitation, and tax revenue over the gulf coast region. Total visitation and resulting expenditures were estimated and processed through input-output analysis. The results showed that the total output impact in 1986 amounted to $1.19 billion for the Texas Gulf Coast and $1.91 billion for the state. Also, the results showed that 59% of these impacts resulted from fishing-related travel to this area.

Heng and Low (1990) conducted an input-output study to estimate tourism's economic impacts in Singapore emphasizing on exhibiting the differences between Leontief and Leontief-Keynes multipliers. Differential sectoral multipliers were estimated based on tourists' countries of origin and their purpose of the trip. The 176 input-output sectors were aggregated into 46 sectors with regard to the availability of reliable data, such as

expenditure patterns of foreign visitors, sectoral employment etc. The total output and income multipliers of tourism industry were estimated to be 1.96 and 0.98 per Singapore dollar of tourist expenditure. Trade (shopping) sector retained the highest income multiplier, while transport sector retained the lowest multiplier for each of the tourism related sector. Heng and Low compared the relative economic contribution of tourism industry against manufacturing and export substitute industries. When comparing the income multipliers of different industries, it was found that the income multiplier of tourism industry exhibited the highest income multiplier of 0.98 against 0.57 and 0.40 per Singaporean dollar for the manufacturing and export substitute industries respectively. The employment multiplier was found to be 0.033, implying that tourism supported 33 jobs per million dollars of tourist spending, which was more than doubled and tripled of what the export and manufacturing industries supported. The tourism import leakage appeared to be the lowest with 0.27 compared to the export and manufacturing industries. The results also revealed that tourism promotions should not ignore tourists from low-income countries because there were no significant differences between tourists from developing and underdeveloped countries. Overall, they found that tourism contributed significantly to the economy and tourist earnings were more potent than manufacturing and other export sectors.

Khan, Chou and Wong (1990) also utilized input-output analysis using 1983 input-output transactions table in an attempt to measure the impact of tourism on Singapore economy. Khan et al. argued that treating shopping items equally would be misleading since high value items, such as jewellery, cost several times as much as low value items like books. Therefore, the shopping items were categorized into most expensive, moderately-expensive, and the least expensive in nature according to the expenditure pattern of tourists. The study revealed that the contribution of tourism to GDP was 12.5%. The tourism income multiplier appeared to be 0.94, which was lower than the multiplier obtained by Heng and Low (1990) but higher than Bahamas, Fiji, and Cayman Islands. The estimated tourism employment and output multipliers were 33 jobs per million of Singaporean dollars and 1.96 per Singaporean dollar respectively which appeared to be similar to the findings of previous study of Heng and Low. The import multiplier was estimated to be 0.38 per Singaporean dollar.

Rashid et al. (1993) conducted an inter-sectoral analysis on Malaysian economy concerning tourism impact analysis in which static input-output analysis was the basis of analysis. The study used 1983 input-output table to estimate the impact of tourism on Malaysian economy for the year 1991. Tourist and non-tourist components were categorized from private consumption expenditure column and export column of the final demand sectors of 1983 input-output table. The direct and indirect impacts on sectoral output, employment, commodity taxes, and non-competitive imports were estimated resulting from tourist expenditures which were generated following questionnaire method in 1991. Tourist expenditures were categorized into domestic, Singaporean, and other foreign tourists. It was found that all sectors of the economy were receiving benefit from tourism directly and indirectly. The contribution of tourist expenditure in influencing output, employment, and commodity taxes was found to be varied but still small. The contribution of tourism on the generation of value-added, employment, and commodity taxes was found to be less than 5% of the total but steadily expanding. The Wholesale and retail trade, Hotels and restaurants, Land transportation, Air transportation, and Business and personal services sectors were benefiting largely from tourism. The study concluded that other sectors did have strong technological linkages with other domestic supply sectors; therefore, it required to give

simultaneous emphasis to the development of these strategic and non-strategic tourism sectors when designing tourism policy.

Archer (1995) used input-output model to translate the importance of tourism for the Bermudan economy. A summary of visitor arrivals and expenditures illustrated that Barmuda's tourism receipts were declining in the early 1980s until 1992 due to worldwide recession. Input-output models were developed for 1985, 1987 and 1992 where impacts on import, income, employment, and government revenue were measured for specific tourist sectors for overnight and cruise passengers. The study findings revealed that tourism became the principal source of employment although this sector was no longer the main source of foreign exchange and income for the Bermudian economy. The tourism income multiplier rose from 1.095 in 1985 to 1.257 in 1992 and supported 11,500 employments. Archer concluded that Bermudian government should give emphasis on strategic measures to improve the tourism product.

Archer and Fletcher (1996) analyzed the impact of tourists' expenditure's contribution on the generation of income, government revenue, and supporting employment and the balance of payments using input-output model to the Seychelles island economy. The input-output transaction table was disaggregated into 18 sectors. While analyzing the economic impact of tourism by different country of origin tourists, they found that impact varies by visitors' origin. Visitors from Germany, Italy, Switzerland, Ireland, the UK and other European countries were the highest spenders and contributed significantly in generating income and employment.

Andrew (1997) conducted a study in the UK periphery, Cornwall to examine the relationship between the economic development of Cornwall and tourism. The study pointed out that tourism is particularly suitable in places where there was an existence of high unemployment in association with relatively lower wages. Cornwall tourism industry was found to be significantly accommodation-centred and UK tourists account for about 3 millions of tourists annually. A linear programming framework was employed where Leontief coefficients were estimated from an adjusted 1984 input-output table of Cornwall economy. The study's empirical results suggested that if the target was to develop the peripheral economy, and then tourism expansion might not be the right strategy where tourism was led by accommodation-based tourism. The study revealed that in implementing such tourism attitude might affect indigenous industries negatively. The author suggested increasing tourism while simultaneously supporting indigenous industries would be the right choice to favour tourism. The study showed a relationship between the generations of positive external balances and economic development where tourism was contributing significantly to the generation of these external balances. The study asserted that Cornwall's portfolio industries should be given priority when preparing strategic policies for the regional development.

Stynes, Nelson and Lynch (1998) used IMPLAN input-output model in assessing the economic impact of snowmobiling to the state and regional economies in Michigan. They found that the direct income impact of snowmobilers was $48 million and employment impact was about 2,500. The secondary income impact was $93 million and 3,800 employments. The study also categorized the expenditure pattern of snowmobilers according to region. The findings of the study showed that Out-of-State snowmobilers generated about one-third of the total impact.

Huse, Gustavsen and Almedal (1998) analysed the economic impact of tourism among nine Norwegian small municipalities in terms of sales and employment effects by estimating multipliers of four small municipalities and the results obtained in previous studies for other five small regions. The direct industry, direct spine-off, and secondary effects were estimated to show comparison of multiplier effects on local and regional levels. The secondary effects of tourism were found smaller than direct effects as the study was held for the core municipalities only. The authors found that the magnitude of multipliers were varied resulting different types of impacts depending on the stage of development of the local tourism industry, leading types of tourist attractions, types of tourism product attributes, and nature of investments in tourism industry.

Mistills and Dwyer (1999) assessed the value-added and employment impact of MICE (meetings, incentives, conventions and exhibition) industry between Australian tourism gateways and non-gateways using input-output analysis. Their study revealed that economic impact of MICE tourism was expected to be larger in gateways than in non-gateways of Australia.

Frechtling and Horvath (1999) conducted a study on Washington D.C. economy, assessing the economic impact of tourism by employing regional Input-output Modelling System (RIMS II). The estimated implicit final demand output, earnings, and employment multipliers were found to be 1.1841, 0.3478, and 18.0 (jobs generated by per $1 million of output delivered to final demand) respectively. A total visitor expenditure of $2,396.4 million generated a total output, earnings, and employment impact of $2,837.7 million, $748.6 million, and 38,685. The ratio (or direct-effect) and normal multipliers (or final demand) multipliers were measured to compare the relative contribution of tourism with other sectors of the economy. The normal earnings and employment multipliers were found to be higher than other local industry aggregations. The authors concluded that the use of ratio multipliers was more precise than normal multipliers in observing the inter-industrial linkages with tourism sector. Based on the study, it was found that tourism sector employees tend to spend more of their income on local goods and services or a mixer of both. The magnitude of ratio and normal multipliers of tourism sector represented that linkages of this sector with local suppliers were higher than the average industry.

Tohamy and Swinscoe (2000) assessed economic impact of tourism in Egypt using input-output model to estimate how tourists' expenditure flowed in different economic sectors using input-output tables of 1991/92.. The study revealed that tourism revenue only included earnings from hotel and restaurant services. Therefore, the study unable to provide a complete figure of economic impact of tourism as it did not take into account the expenditures of tourists on other goods and services that tourists purchased during their trip. The estimated primary and secondary impact of expenditure made by international tourists was US$ 9.6 billion in 1999 which was 11.6 percent of GDP. Total value-added contribution of tourists' expenditure was about 7.5 percent of GDP. In 1999, the direct and secondary employment supported by international tourists' expenditure was 1.2 million and 2.7 million of employment respectively which was representing 7 and 15 percent of total employment respectively. The direct and secondary income effect of inbound tourists' expenditure was US$670 million and US$1.4 billion respectively. And, inbound tourism generated LE 3.6 billion of sales and income tax revenue in 1998/99 contributing 5.1 percent of total direct and indirect taxes of that year. Finally, the study translated out that the

amount of foreign exchange earnings from inbound tourism could be compared to alternative export competing products of Egypt. The study pointed out that inbound tourism in Egypt was still below potential level, and coordination and effort should be given by both public and private parties to raise international tourism to its potential level.

Kweka, Morrissey and Blake (2001) conducted a study in Tanzania using input-output analysis to identify whether tourism was the key sector for the Tanzanian economy. Direct and indirect impacts of tourism on income, output, employment, and tax revenue were examined. Kweka et al. argued that the growth of tourism industry did not only depend on the productivity level of this industry alone but also on the level of productivity level generated by other industries or sectors. The study emphasized that sectors that benefited from tourism expansion should be identified for policy purpose, as they were likely to enhance the growth impact of tourism. In assessing the interdependence of tourism with other sectors in Tanzanian economy, the study first used static multiplier analysis. Then, the analysis of intra-sector and inter-sector linkages of tourism was carried out through linkage analysis. Finally, the study used a Multi-criteria approach to identify whether tourism can be identified as a key sector.

In addition, the findings of the study revealed that tourism was more import-intensive than other sectors. The study elicited that tourism benefited little from other service sectors compared to linkages with agriculture and manufacturing. This was further evident from its significant output impact. The direct output effect of tourism expenditure amounted TZS (Tanzanian Currency) 21,930 million in 1992 which was 1.7% of total GDP. Total output impact (direct and indirect) was TZS (Tanzanian Currency) 74,012 million which contributed 5.8% on GDP. Intra and inter sectoral impacts resulted from almost zero to 3.2% and from 1.7% to 2.6% of GDP respectively. The results showed that there was an increased output impact of tourism if indirect effects were added. Intra-sector effects were significant when considering indirect effect.

The above study revealed that the employment impact of tourism was insignificant. The differential income multipliers were estimated to represent that tourism had insignificant impact in terms generating income. Tourist spending generated TZS9471.2 millions of direct labour income in 1992 accounted for 0.7% of GDP. The total (direct and indirect) impact created TZS16, 247 millions of labour income which was 1.3% of GDP. The study suspected that lower income resulted from lower wages prevailed in tourism sector. Indirect tax revenue generated by tourism was found to be the second most important sector. Tourist expenditure generated TZS2, 126.5 millions of direct government tax revenue (2.7% of net indirect tax).

The amount of tax revenue reached 3,149.3 million which was 4.1 percent of total net indirect taxes when indirect effects were taken into consideration. The direct and total impact on import was TZS6, 291 million representing 1.6% of total import and 8,410.2 million representing 2.1% of total import. The net foreign exchange earning was 79 cents per tourist at the direct and indirect level as 21 cents went out from the economy through import leakage. At the direct level, 85 cents was generated as the net foreign exchange earnings as 16 cents leaked out of the economy through import leakage. In nominal terms, US$ 120 million of tourism receipts generated the direct tourism net foreign exchange earnings of US$102 and the amount increased when indirect effect was to be taken into consideration. The study's overall results implied that the tourism contributed significantly to the Tanzanian economy not only as a foreign currency earner but also acted as an avenue

through which important structural changes made possible. The study was unable to precisely measure the economic impact of tourism since only hotel and restaurant sector was considered. The estimation of total economic impact of tourism was not represented as the household sector was not included into the model being an endogenous sector.

Yan and Wall (2002) studied the prospects of domestic and international tourism using a traditional type I input-output model of Chinese economy for the year 1992. The authors excluded the impacts on domestic consumption expenditure from the employed input-output model. Multipliers were derived to represent the impact of tourism in the generation of output, income, employment, value-added, and import. The size and diversity of the Chinese economy were the causes of why tourism had an insignificant impact on its economy. This study estimated the impact of tourism on other sectors of the economy and revealed that tourism had insignificant impact on the results of primary sectors as a consequence of weaker linkages of tourism with the primary sectors of Chinese economy. Finally the study concluded that the availability of secondary commodities created constraints on tourism development in China.

Chhabra, Sills and Cubbage (2003) used input-output model to estimate the impact of Scottish highland games in the economy of North Carolina to represent the significance of festivals to rural economies. Multiplier effects on output, value-added, and labour income were estimated by incorporating tourist survey data to an input-output model for two Scottish festivals held in rural North Carolina. Type I and SAM multipliers were calculated to capture the interdependencies of sectors and the effects of household expenditure induced by changes in labour income. It was found that although increased tourist expenditure generated significant benefits for direct festival related businesses, the total economic impact was found to be insignificant when comparing the festival related activity to total economic activities in two regions. The authors indicated that lack of information and admission fees and leakages out of the region limited the study to estimate the output impact accurately.

Kim, Chon and Chung (2003) used input-output analysis to measure the economic impact of convention tourism in South Korea on the generation of output, employment, income, value-added and import. The authors found that the amount of about $66 million and $73 million were born by the total expenditure made by international convention participants and by the providers of conventions respectively. The estimated output, income, employment, tax, and import multipliers were estimated to identify the convention industry's economic contribution against other major export substitute products. Estimated economic impact of convention industry was found to be very significant.

Sun and Stynes (2004) conducted a study on estimating the economic impacts of visitor expenditure at Pictured Rocks National Lakeshore, Michigan for the year 2001. Input-output analysis was carried out to measure visitor expenditure impacts on personal income, employment, and value-added. The authors found that park visitors spend $14.8 million in the park which generated $5.6 million in total as personal income, $9.2 million as value-added and generated 470 employments. The estimation biasness and errors, resulting from inconsistent responses and unrepresentative sample data, were elucidated in their study.

Rashid and Bashir (2004) used partial inter-industrial analysis or an open input-output model on measuring impacts of changing tourist profile on Malaysian economy. The basic

purpose of their research was devoted to explain the importance of West Asian tourists' economic contribution to tourism industry resulted from the change in the geography of tourist arrivals and their expenditure patterns. The study revealed that the economic impact on changing tourist profile had an impact on domestically produced goods. Through primary impact, tourism activities benefited the businesses and industries that served tourists directly but all sectors of the economy were experiencing benefit from secondary impact. The inbound tourists' expenditure patterns of all types of regional tourists were found to be very similar - spending the biggest proportion of their expenditure on two items namely: (i) hotel and restaurants and (ii) wholesale and retail trade. Tourism expenditure impact on output, import, tax revenue and value-added were measured for Malaysian economy through deriving partial multipliers. The results revealed that there was no direct effect on output of some sectors, and service sectors benefited largely from tourism activities. But the products and manufacturing sectors were getting indirect benefit from tourism activities. In terms of expenditure component, hotel and restaurants as well as wholesale and retail trade were the dominant component. When considering output multipliers, hotel and restaurants sector generated the largest multiplier. According to Rashid and Bashir, strategic planning needed to be adopted in improving the multiplier of hotel and restaurant through inter-industrial linkages so that this sector could be able to meet its requirements from within the domestic economy.

Wiersma, Morris and Robertson (2004) analysed the variation of tourism multipliers using input-output analysis to New Hampshire economy. The authors found that multipliers of tourism vary from region to region. The regions of the state with larger population generated higher output multipliers whereas the regions with lower population generated higher employment multipliers. The output multiplier of tourism at state level was 1.5 and employment multiplier was about 30.07 per million dollars. They concluded that state-level tourism multipliers should not be applied to sub-state level since they vary from region to region. Finally, they suggested paying attention to the misuse of tourism multipliers that might lead to an inefficient distribution of state resources.

Martin (2004) analyzed the role of imports and tourism consumption effects on GDP on the Canary Island economy, Spain. Keynesian Multiplier model and input-output analyses were employed to estimate direct, indirect and induced multipliers impacts of tourists' spending on generation of imports. The study revealed that import leakages from the circular flow system had impacted the economy negatively. The author claimed that his study was unable to determine the inter-sectoral relation of the economy due to the limitations of Keynesian multiplier model. This inability made it impossible to detect the indirect import impact tourism consumption on imports. The study used more efficient input-output model to represent the import impact of tourists' consumption as a replacement for Keynesian method to overcome the main disadvantage of this method. In doing so, input-output model multipliers were determined to represent inter-sectoral relations existed explicitly within the framework of economic system. In Canary Island, tourism consumption was 615 billion Pesetas in 1992. A total of 755 billion Pesetas of output and 484 billion Pesetas of value-added were generated from tourism consumption which was about 22.8% of GDP. 21.4% GDP of this economy was attributed by the tourist spending. Per unit of expenditure made by tourists generated 1.23 Pesetas of output and 0.79 Pesetas of value-added in the year 1992. Of the total value-added, direct value-added multiplier contributed 0.56 while indirect

value-added contributed 0.22. The estimated multipliers were medium-lower than multipliers found in other regions.

It was translated that the demand for intermediate input was found lower because of the weak inter-sectoral linkages between tourism and other sectors of the Canary Island economy which resulted in lower indirect multiplier impact. There were other features that were identified as the reason for lower indirect multiplier impact. Firstly, lack of structural strength, and secondly, tourists spent more on service sectors. The total import multiplier was found to be 0.430 where the direct, indirect, and induced impacts were 0.104, 0.109, and 0.216 respectively. The household consumption direct import multiplier was 0.265 which was two times greater than consumption of non-residents. The study suggested that enhancing the output and income multiplier impact would reduce the leakages generated from import of goods and services that was used to satisfy tourist demand.

Daniels (2004) developed occupation-based input-output modelling to assess the effects of tourist spending in the sporting events of Girls Fastpitch World Series, to the income of different job categories, in Mecklenburg County, North Carolina, USA. Input-output model was applied to estimate employment impact. The estimated employment represented the amount of needed new labour over a year due to a change in final demand. The estimated input-output employment was modified through occupation based modelling to rationally reproduce how much human hours and corresponding wages were generated from occupation because of short-term demand for tourism. The author also identified the occupations that were likely to be affected by a change in the final demand and concluded that full time equivalent salaries of $15,000-$40,000 of jobs were most likely affected by the event.

Albqami (2004) estimated output, employment, and income multipliers of the Saudi Arabian economy from the economic impact analysis of tourists' expenditure using input-output model. The input-output transaction table of 1997 was disaggregated into nine sectors where tourism sector was included as one of the sectors. The impacts of tourist expenditure on output, income, and employment were measured at direct and indirect level. The share of output, income, and employment was found to be 5% of gross output, a total SR8690 million of income and the service sector received 33% of income from tourism receipts, and the total employment generated from tourism expenditure was 507,114 which was about 12% of total employment. The study concluded that service sector received highest income and employment impact although output impact was relatively lower compared to transportation sector.

Lee and Taylor (2005) conducted a study on the economic impact of 2002 FIFA World Cup in South Korea using input-output model. The output, income, and value-added impact of tourists' expenditure were determined excluding non-event related tourists. The output, income, and value-added impacts of FIFA World Cup in South Korea were $1.35 billion, $307 million, and $713 million respectively. They found that international tourists who visited World Cup in South Korea contributed more to the economy than those who visited for other purposes. The event related tourist expenditure was estimated to be 1.8 times. The authors also concluded that inclusion of non-event inbound tourists' expenditure would result significant overestimation of economic impact of an event.

Bashir and Ahmad (2005) investigated the impacts of West Asian tourists' expenditure and analyze the profile of tourists using static closed input-output model. The study found that hotel and restaurants, entertainment, wholesale and retail trade and business services

sectors received greater economic gains from tourism. The objective of this study was to examine the impact of inbound tourists' compositional shift from the contiguous countries to West Asian economies tourists. In order to attain the objective 300 survey questionnaires were distributed to tourist's in the Klang Valley region. The response rate was found to be 71 percent. The results from the statistical analysis also revealed that accommodation, shopping, and food and beverages were the three sectors where West Asian tourists made larger expenditure. Based on the findings the study suggested that West Asian tourists would revisit Malaysia if they had the opportunity to explore the emotional and experiential aspect of tourism. Cultural and heritage background, i.e. Batik, should be the unique brand characteristics for Malaysian tourism to expand as well as education tourism. The study also suggested conducting research in identifying the major short and long-haul inbound markets for the betterment of Malaysian tourism industry.

Contini, Scarpellini and Plidori (2009) analyzed the economic impact of agricultural based tourism on the progress of a community, Low-Valdelsa, Italy. Input-output analysis was employed to estimate the income and employment effects of agriculture-based tourism. The authors applied an appropriately modified regional accounting matrix to obtain the objective of the study. The prevailing constraints of agriculture-based tourism's economic impact in obtaining socio-economic development were pointed out and argued. Data were obtained from direct investigation. The authors concluded that the absence of product suppliers' coordination with the service providers was weakening the local product visibility. The authors suggested extending and strengthening particular activity actions along with lifting up the product quality to realize amicable benefit. As a result, agro-tourism would have higher impact on the economic development of Low-Valdelsa, Italy.

Schubert and Brida (2009) employed input-output analysis to examine the macroeconomic effects of an increase in the demand for tourism as a result of exogenous inflow of visitors' income and marketing promotion activities of tourism products in a small destination. In addition, a dynamic general equilibrium model was utilized to represent the effects. It was found that there would be a rise in the domestic production and price of services provided to tourists if there was an increase in demand for tourism. The economy would be experiencing a higher stock of capital along with a decline in net foreign possessions since dynamic change takes into account the current account deficit and accumulated capital. Increase in visitors' income would be leading to an increase in wellbeing effect of locals while uncertain changes were appeared to be occurring on the wellbeing and consumption of locals. In addition, the study also concluded that a short-term increase in tourism demand would generate strong changes in real foreign benefit status and agents' consumption.

2.2 Social accounting matrix (SAM)

Several research fields have used social accounting matrix (SAM) in quantifying the economic impact, such as ecological economics, agricultural economics, economic modelling, development economics, and tourism.

West (1993) used a combination of social accounting matrix with econometric analysis in measuring the significance of tourism in Queensland State economy of Australia. The study results showed that there were sizable economic impacts of tourism on both gross state product and employment. Tourism in Queensland was estimated to generate $2.1 billion of the gross state product, in addition to $3 billion initial expenditure made by tourists. It was

estimated that 80, 000 jobs were directly or indirectly related to tourism in 1990-1991 period. The author simulated 15% increase of international tourists and 2.5% increase of domestic tourists with the potential to increase the Gross State Product (GSP) to $5.6 billion and 235,000 employments in 2000-2001. Recreation sector, followed by trade, manufacturing, and transport sectors were identified as the major employment providers. The study concluded that more investment in improving the infrastructure would provide additional stimuli in the economy.

Wagner (1997) estimated the economic impact of tourism in Guaraquecaba, north-eastern State of Parana, Brazil using SAM. The finding of the study concluded that the economic impact of tourist expenditure was small due to high import leakages since businesses imported most of their inputs to satisfy tourist demands. Average expenditure of a tourist was $15.12 per day. The study asserted that a formal employee effort to obtain one minimum salary required 214 tourist-per-days.   Approximately 7,500(±2,500) visitor arrivals were estimated to generate $244,575 value of additional output, 32 fulltime jobs, and a total wage of $19,425.

Daniels, Normans and Henry (2004) utilized social accounting matrix (SAM) to estimate household personal income and three other variations of occupation-based model to estimate the effects of a sports tourism event on individual wage in Charleston, South Carolina, USA. The authors argued that social accounting matrix was inappropriate in assessing personal income effects for different households during sports tourism events because of its limitations to weight income by sector. Personal income coefficients were found favouring high income households. Since social accounting matrix did not allow for any particular occupations, wage variations by job category were unable to be measured. Therefore, their study used average full-time equivalent wages which were most precise for sports tourism. The most impacted full time equivalent wage occupations ranged from $15,000 to $40,000.

Oosterhaven and Fan (2006) employed social accounting matrix along with input-output technique in estimating the international tourism impact on Chinese economy. The study developed an extended input-output model and related this with Tourism Satellite Account (TSA) and finally aggregated SAM data. The objective of using Type II input-output analysis was to determine direct, indirect, and induced impact of foreign tourist expenditure. The study combined the economy into 17 sectors from input-output table where employment statistics of 9 sectors were adjusted. The findings of the study showed that foreign tourism contributed a small percentage (1.64%) of GDP to the economy. The income and employment impacts were found to be 1.40% and 1.01% respectively which constituted a smaller percentage than GDP of Chinese economy. The authors concluded that foreign tourist expenditure contribution to the economy was insignificant though there was high value-added impact indicating future potential of international tourism.

2.3 Computable general equilibrium (CGE) model

Researchers have used computable general equilibrium (CGE) models in tourism impact studies based on availability of data from different countries, such as Hawaii, USA, Spain, Australia and some other countries.

Adams and Parmenter (1995) analysed the economic impact of tourism in Australia by simulating a 10% growth of tourism using computable general equilibrium model for 117-sectors of Australian economy. The results of the study showed that a 10% increase in

tourism would result in exchange rate appreciation, increase in import and decrease in the traditional export sectors production, and declining balance on trade. The authors stated that expansion of tourism in Queensland State would result in negative impact from international tourism. Furthermore, the study suggested that the Queensland State economy should be depended on traditional export sector which was experiencing a declining trend because of an expansion of international tourism.

A study by Zhou, Yanagida, Chakravorty and Leung (1997) estimated visitor expenditure impact on the economy of Hawaii from a 10% reduction of tourist expenditure. The study compared the results generated from computable general equilibrium and input-output model. They stressed that the distribution of a sector's product would be traced through input-output modelling framework using a system of linear equations, whereas computable general equilibrium (CGE) model represented sectoral complex interdependencies unrestricted by the constraint of linearity, which allowed for resource allocation. Social accounting matrices (SAMs) were employed as the primary data requirements for constructing computable general equilibrium model. The authors referred that the findings which were based on input-output model were similar in magnitude to that of the results of computable general equilibrium, however, generally higher for a hypothetical 10% decrease in tourist spending. Their study found that the sectors directly related to tourism represented statistically the largest effects in terms of economic loss. Output reductions in the input-output model were found to be larger than computable general equilibrium model because latter model allowed reallocation of resources. The study illustrated that computable general equilibrium model would represent price effect and variation in output which had a positive relationship with domestic and composite prices.

Blake (2000) estimated the effect of 10% expansion of tourism in Spain using CGE model. The author estimated that a 10% increase in tourism would result in a 0.05% increase in GDP, 0.61% increase in real exchange rate, and a slight increase household consumption, investment and domestic tourism.. The author found that the benefit received from a 10% tourism expansion would offset an increase in imports and decrease in the value of other exports.

Dwyer, Forsyth and Spurr (2005) assessed a special event's economic impact generated from the Qantas Australian Grand Prix in Australia for the year 2000. They employed computable general equilibrium model and compared the result with input-output model. They found out that input-output model represented a greater impact on real output ($120.1 million) as compared to computable general equilibrium model ($24.46 million). They also found that the value-added multiplier and employment multipliers were different in undertaking two models which was 0.844 from input-output analysis and 0.267 from CGE model for value-added. On the other hand, employment multipliers were 11.548 using input-output analysis and 2.5 using CGE model. The study concluded that funding agencies could benefit from such study as the approach would allow them to decide the economic benefits that would outweigh costs and proper utilization of limited funds under the prevailing alternative opportunities.

2.4 Keynesian multiplier model

Keynesian model was used by several studies although the version of multipliers derived by this model did not consider any leakages from the economy. The studies that employed Keynesian model were limited in numbers compared to input-output analysis.

Eriksen and Ahmt (1999) employed Keynesian income multiplier model under an input-output framework to assess the regional tourism effects for each of 16 Danish counties. Different tourism policies were evaluated in terms of employment, GDP and expenditure pattern of tourists. The measurement of tourism impact was conducted by tourist expenditure surveys. The authors found that foreign tourist generated approximately over 47,000 employments which were one half of the employment derived from one-day tourism. The study also estimated the economic impact of domestic tourism by considering foreign and domestic tourism in terms of substitutes of each other and non-substitutes of each other. When foreign and domestic tourism were assumed to be substitutes, the economic impact of tourists generated 61,652 employments where foreign tourists generated 47,271 jobs and domestic tourists 14,381 jobs.

Vaughan et al. (2000) analysed the economic impact of "agro" and "non-agro" tourism in Exmoor National Park, UK, by employing proportional multiplier analysis which was a combination of input-output and traditional Keynesian model. Three surveys had been conducted to collect the data on operational characteristics of businesses, visitors' expenditure and residents' expenditure in the study area. Tourism impacts on the generation of output, income, employment and their distribution among different sectors of the economy were assessed. The study found that Agro-tourist had an impact of £1.7 million in income, £5 million in output, and 230 employments.

2.5 Tourism satellite account (TSA)

In recent years, several researchers used tourism satellite accounting (TSA) model in estimating the economic impact of tourism. Of these studies, Blake et al. (2001), Kuhback and Herauf (2005), Dwyer, Forsyth and Spurr (2007), Smeral (2006), and Ahlert (2007a and 2007b) addressed the issues related to the TSA model that was considered as an extension of input-output model. The latest literature on economic impact on tourism using TSA has been discussed in this section.

Ahlert (2008) employed the results of TSA to analyze the significance of increased inbound tourism on the German economy on GDP, employment, and tax revenue generation. The study asserted that the options for estimating the economic impact were offered within model-based macroeconomic analysis where structural information could be obtained from tourism satellite accounting framework. TSAs had the ability to show maximum linkages to input-output models as well as to represent results originated from product-specific records. The study emphasized on formulating and using dynamic macroeconomic structural models along with trouble-free input-output approach. Some simulation results were obtained by using INFORGE model in determining the total effects of inbound tourism in generating GDP/income, employment, and tax revenue.

Studies that assessed the contribution of tourism through economic impact analysis are increasing over the years which started in 1960's. The literature is evolving as a consequence of government's stressing the importance to develop the economy by means of developing the tourism industry as tourism injects foreign exchange earnings, helps eliminate balance of payment disparity, generates income for the households, and supports employment generation. The studies that were devoted to estimate impact of tourism on different macroeconomic variables held in different locations around the world have been summarized in table 1.

Studies	Year/ Study Area	Nature of Analysis	Output	Income	Employment	Value added	Import	Govt. Revenue	Link Ana
Harmston	1969 (Missouri)	Static I-O	x						
Bryden	1973 (Caribbean)	Static I-O	x	x					
Archer et al.	1974 (Gwynedd)	Static I-O	x	x					
Armstrong	1974 (Barbados)	Static I-O	x						
Diamond	1976 Turkey	Static I-O	x						
Liu & Var	1982 (Victoria, BC.)	Static I-O, ANOVA		x	x				
Liu & Var	1983 (Victoria, BC.)	Static I-O	x	x	x			x	x
Liu et al.	1984 (Turkey)	Static I-O		x					
Archer	1985 (Mauritius)	Static I-O	x		x				
Ruiz	1985 (Puerto Rico)	Static I-O	x		x				
Liu	1986 (Hawaii)	Static I-O		x	x				
Fletcher	1989a	Static I-O							
Fasen-maier, et al.	1989 (Texas)	Static I-O	x	x	x			x	
Heng & Low	1990 (Singapore)	Static I-O & Keynesian Multiplier	x	x	x		x		
Khan et al.	1990 (Singapore)	Static I-O	x	x	x		x		
West	1993 (Queensland)	SAM	x		x				
Rashid et al.	1993 (Malaysia)	Static I-O	x		x		x	x	
Adams & Parmenter	1995 (Australia)	CGE							

Studies	Year/Study Area	Nature of Analysis	Output	Income	Employment	Value added	Import	Govt. Revenue	Linl Ana
Archer	1995 (Bermuda)	Static I-O		x	x		x	x	
Archer, & Fletcher	1996 (Seychelles)	Static I-O		x	x			x	
Andrew	1997 (Cornwall)	Static I-O & LP		x					
Wagner	1997 (Parana, Brazil)	SAM	x	x	x				
Zhou et al.	1997 (Hawaii)	Static CGE & I-O	x						
Stynes, Nelson & Lynch	1998 (Michigan)	Static I-O		x	x				
Huse et al.	1998 (Norway)	Static I-O	x		x				
Mistilis, & Dwyer	1999 (Australia)	Static I-O			x	x			
Frechtling & Hovath	1999 (Washington, DC.)	Static I-O (RIMS II)	x	x	x				
Eriksen & Ahmt	1999 (Denmark)	Keynesian Multiplier	x		x				
Tohamy & Swinscoe	2000 (Egypt)	Static I-O	x	x	x			x	
Blake	2000 (Spain)	CGE	x						
Vaughan et al.	2000 (UK)	Keynesian & static I-O	x	x	x				
Kweka et al.	2001 (Tanzania)	Static I-O	x	x	x		x	x	
Yan & Wall	2002 (China)	Type I Static I-O	x	x	x	x	x		
Chabra, Sills & Cubbage	2003 (North Carolina)	Type I Static I-O & SAM	x						
Kim et al.	2003 (South Korea)	Static I-O	x	x	x		x	x	
Sun, & Stynes	2004 (Michigan)	Static I-O	x	x	x				

Table 1. List of Literatures on Assessing the Economic Impact of Tourism

Studies	Year/ Study Area	Nature of Analysis	Output	Income	Employment	Value added	Import	Govt. Revenue	Li A
Rashid, & Bashir	2004 (Malaysia)	Static Open I-O	x			x	x	x	
Martin	2004 (Spain)	Keynesian & Static I-O	x			x	x		
Daniels et al.	2004 (South Carolina)	SAM		x					
Wiersma et al.	2004 (New Hampshire)	Static I-O	x		x				
Daniels	2004 (North Carolina)	SAM		x	x				
Albqami	2004 (Saudi Arabia)	Static I-O	x	x	x				
Lee and Taylor	2005 (South Korea)	Static I-O	x	x	x				
Bashir & Ahmad	2005 (Malaysia)	Static I-O	x	x	x				
Dwyer et al.	2005 (Australia)	Static CGE/I-O	x		x	x			
Oosterha-ven & Fan	2006 (China)	Static I-O/SAM	x	x	x				
Gerd Ahlert	2008 (Germany)	TSA	x		x			x	
Contini et al.	2009 (Italy)	Static I-O		x	x				
Schubert & Brida	2009 (Small Destination)	Static I-O & Simple Dynamic CGE							

3. Critical assessment of economic impact literatures of tourism

The above literature survey translated that most of the studies employed input-output framework in assessing the economic impact of tourism whereas only few studies utilized SAM, CGE, and Keynesian model. The construction base of these models heavily relied on input-output table that also acted as the main requirement of Leontief input-output analysis. Assessing the magnitude of tourism impacts on employment, income, and output was the primary concern of most of the past studies (Tyrrell & Johnston, 2006). Although the determination of multipliers on a wide range of macroeconomic variables could be accomplished through economic impact analysis, most tourism studies focused on estimating output, total value-added, employment, and income multipliers (Kim, Scott, Thigpen & Kim, 1998; Burgan & Mules, 1992; Var & Quayson, 1985; Crompton 1999). Besides, several studies evaluated the contribution of tourism in the balance of payment account of economies while some of the studies were devoted to measure the contribution made by types of tourists. The economic impacts on different sectors of the tourism industry were the subject matter of a number of tourism studies, although not many, whereas only few studies, such as the study of Wiersma et al. (2004), Huse et al. (1998) discussed a comparative tourism economic impacts on several locations. It is also evident from the literature survey that input-output model is an ever-present model in conducting economic impact analysis in different regions of the world.

The methods, such as input-output model, computable general equilibrium model, social accounting matrix model, Keynesian multiplier model, TSAs etc., were employed in analyzing economic impacts of tourism, in some way each of the methods needed to utilize input-output table as a foundation in estimating the economic impacts of tourism. It is noticeable from the available tourism literature that input-output model is one of the most widely used methods. The summary of literature in table 1 also reveals that past studies were only able to represent the economic impacts of tourism from a static view point where the derivation of dynamic multipliers of several sectors of tourism industry was particularly excluded. Even the most recent method, TSA model which was considered to be the extension of input-output framework, was unable to estimate the indirect effects and intermediate consumption without making adjustments (Smeral, 2005). Therefore, it only provided the effects generated by the direct economic relationship between guest and producer (Smeral, 2006). Underlying the limitation of TSA, World Tourism Organisation (1999) commented that TSA model essentially provided a kind of static analysis that described the interdependence of tourism sector with the rest of the economy. Input-output model was defined as complementary model that could represent complete information about contribution made by tourism to macroeconomic performance (Smeral, 2005 & 2006). In this context, Ahlert (2008) argued that input-output was the only incomparable method which allowed synchronized documentation of all direct and indirect effects of value-added.

By addressing the limitations of the past studies (static analysis) that derive multipliers of the tourism industry using input-output model, Dwyer et al. (2004) developed and approached an alternative technique known as the CGE technique to achieve the best practice for evaluating economic effects of tourism. Nevertheless, the CGE model can also be considered as static model due to its incapability to illustrate the dynamic impact of tourism. In addition, there is an existence of a gap of economic impact of tourism literatures that employ both static and dynamic economic impact analysis of tourism together in order to study the comparative aspects of these two analyses. Forecasting based on static input-

output analysis has been considered a kind of significantly misleading method in impact studies that should be avoided. Therefore, past studies were unable to provide information in directing policies precisely.

In this context, to overcome the considerable limitation of forecasting reflected in previous studies, it is essential to employ dynamic input-output analysis to estimate dynamic multipliers of tourism industry along with the utilization of static input-output analysis. There is existence of studies that estimated dynamic multipliers using Leontief dynamic input-output analysis. Such as, Liew (1977) estimated the dynamic multipliers for Oklahoma regional economy, USA to demonstrate a comparative study of different sectors dynamic multipliers. The support for using the dynamic input-output analysis to estimate dynamic multipliers is well documented in literature except tourism economics. In this respect, Liew (2000) asserted that dynamic multipliers can be treated as an efficient method to illustrate the consequences of a change in final demand (for example, the expenditure effects by state or federal government). Therefore, policymakers of governments, businesses, and consumers can be benefited from the estimated dynamic multipliers.

Richardson (1972) pointed out that economic policy makers are more attracted to the utilization of dynamic input-output model as it is useful when dimension of forecasting period increase in length. The use of Leontief dynamic input-output model bears significance on the view point of both theoretical and empirical aspects (Liew, 2000). Specifically, the existing literature suggested that there is a lack of studies that has been taken into consideration the economic impact of tourism on a wide range of macroeconomic variables into three distinct directions (direct, indirect, and induced effects) while there is prevailing a clear deficiency of dynamic input-output analysis.

4. Conclusion

By acknowledging the above literature, it can be admitted that economists and planners have applied different models and techniques for measuring the economic impacts of tourism on regional, local and national economies. The model or technique that is to be used in a particular situation depends upon the objectives of the analysis, the types of problems found in the subject region, data availability, and conditions assumed in the study. It is evident from the literature cited above that input-output model is predominant among the models that are being used to estimate multipliers. Input-output model has become more popular and widely adopted because it is cost effective and simple in comparison with CGE models (Kasimati, 2003). Input-output method has been considered as a useful technique for estimating the complete performance of tourism in terms of direct, indirect, and induced impacts of tourism on generating output, income, employment, value-added, import, and tax revenue. However, this method is considered to be limited to inter-sectoral transactions (Pyatt & Round 1985). Acknowledging the limitations of the method, whether it is exploratory or hypothetical, Babcock (1993) asserted that it will sustain and gain persistent popularity because of its narrative ability and usage adaptability. Although the method has limitations, like other methods, it also has some advantages in measuring the direct, indirect and induced impacts of tourism in terms of its usage flexibility. The method will continue to be a practical tool for conducting economic impact analysis if employed cautiously (Daniels, 2004). Daniels also asserted that the benefits of input-output analysis could be utilized to make strategic policy formulation and useful for community planners, coordinators,

respective authorities dealing with diversifying tourist attractions. Therefore, using such a method to conduct economic impact analysis can provide valuable information to policy-makers about the economic benefit as a result of an increasing economic activity (e. g. tourism) or changes in economic policy.

Therefore, the analysis in viewing the contributions of tourism should be concerned with estimating the economic impacts of tourism. For this reason, there is a need to conduct economic impact analysis of tourism in order to identify tourism's performance in the growth and development process of the economy and its contribution in generating output, income, employment, value-added, import, and tax revenue at three different levels (direct, indirect and induced). There are several advantages of input-output analysis as pointed out by Fletcher (1989b) and Daniels (2004). They include: 1) it operates under a general equilibrium framework; 2) it provides a comprehensive view of a given economy; 3) it pays attention on sectoral interdependencies; 4) the structure of this analysis is flexible that allows researchers in making decisions such as aggregation choices; 5) it consider uniform treatment of each sector to reduce subjectivity; 6) it enhances data availability; and 7) it allows impacts of tourism to be viewed at direct, indirect, and induced levels. Therefore, economic impacts studies of tourism should utilize static and dynamic input-output model to derive macroeconomic multipliers for tourism industry.

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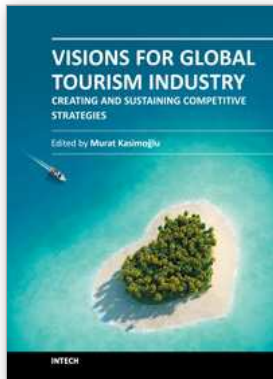
Visions for Global Tourism Industry - Creating and Sustaining Competitive Strategies

Edited by Dr. Murat Kasimoglu

We have been witnessing huge competition among the organisations in the business world. Companies, NGO's and governments are looking for innovative ways to compete in the global tourism market. In the classical literature of business the main purpose is to make a profit. However, if purpose only focus on the profit it will not to be easy for them to achieve. Nowadays, it is more important for organisations to discover how to create a strong strategy in order to be more competitive in the marketplace. Increasingly, organisations have been using innovative approaches to strengthen their position. Innovative working enables organisations to make their position much more competitive and being much more value-orientated in the global tourism industry. In this book, we are pleased to present many papers from all over the world that discuss the impact of tourism business strategies from innovative perspectives. This book also will help practitioners and academician to extend their vision in the light of scientific approaches.

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