

Tourism Value Chain in Egyptian National Economy: Input-Output Analysis

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ARTICLE INFO ABSTRACT

Keywords:

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Tourism value chain (TVC) is a sequence of multiple and complex activities and relationships among all actors involved in deliver add a value along the tourism industry. To analyze TVC in depth, a national economic data with complex economic relationships and information on supply and demand across sectors is needed. So, a pioneer study was made in this field. An input-output table was used to analyze the Egyptian tourism sector in the national economy, in order to suggest tourism value chain map in the Egyptian economy at the end. To achieve the aim of the research, a technique was used for data collection based on input- output methodology covering forward and backward linkage effects, by using the 2017 input-output table, which is the latest one released by the Ministry of Planning and Central Agency for Public Mobilization and Statistics in Egypt. The outcome shows that the travel industry area in Egypt has solid in reverse linkages with assembling area followed by Agriculture, Wholesale and Retail exchange exercises, Mining and quarrying, Transportation and Administrative and other business support exercises. Also, there are frail in reverse linkages with Financial and protection exercises, power area and logical and specialized exercises. The study thus recommended that Attention to the reasons for the weak backward linkages between the tourism sector with Financial and protection exercises, power area and logical and specialized exercises and try to strengthen it.

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1. Introduction

The travel industry item is a composite one that contains a bunch of interrelated exercises that add esteem (Morales-Zamorano et al., 2020) with its creation, circulation, and promoting being designed along a value chain including numerous linkages which are upward, on a level plane and coordinated in shifting degrees (Weiermair ,2006). The tourism value chain (TVC) is a set of tourist firms involved in various functions starting from the provision of various elements of tourism

products/services to the involvement of a diverse number of actors of both the commercial and governmental sectors (Zhang et al., 2009). These linkage among exercises is a fundamental component of the current turn of events, and that the heading and level of such linkage demonstrate every area's expected ability to animate other sectors (Cai et al., 2006). Subsequently, it is important to explain the linkages both forward and in reverse in this area. A technique for examining the information yield tables to find and gauge the degree of linkages is utilized as logical apparatuses.

Information yield is the suitable procedure to catch the absolute effect of the travel industry (Mazumder, et.al, 2011). The information yield table is planned to give a basic and efficient association of all financial movement inside an economy. It shows intersectoral streams in money related terms for a specific year, where the streams reflect mediator items and administrations (Atan, and Arslanturk, 2012).

Information Output examination is particularly appropriate to evaluating the impact of the travel industry area on the economy as far as in reverse and forward linkages impact (Khoshkhoo et al., 2017). The examination recognizes an economy's association among creation and utilization. It portrays the relationship of a few areas that purchase items and administrations from different areas and create labor and products that are offered to different areas (Surugiu, 2009). In addition, Information on an industry's linkages with the remainder of the economy assists us with drawing the value chain (Cai et al., 2006).

Thus, one might say that, portrayal of the travel industry Value Chain results, fill in as an instrument for the travel industry specialist organization, non-the travel industry suppliers, and different entertainers through the chain to comprehend the vital activities that will guarantee improving this basic area, and give better comprehend to the construction of the economy.

Research Problem

The study is concerned with analyzing the value chain in the Egyptian tourism sector to explore the inter-sector linkages (forward and in reverse) within the tourism sector, In order to suggest tourism value chain map in the Egyptian economy and make a comprehensive description for it. And dependent on the abovementioned, the subject of the research raises the following questions:

1. What are the sectors to which the Egyptian tourism sector is linked by forward linkages?
2. What are the sectors to which the Egyptian tourism sector is linked by backward linkages?
3. What is the composition of the Egyptian tourism value chain map?

Research Aim

The tourism industry is a complicated one, with several forward and in reverse relationships to many other economic sectors. Based on this, the research intends to examine and disclose the linkages in the Egyptian tourism industry, finding the linkages between the tourism and non-tourism sectors throughout the tourism value chain and the influence of one on the other. In addition, design and recommend an Egyptian tourism value chain map.

2. Literature review

Tourism Value chain concept

The value chain framework basically is a technique to see how the world functions (Mitchell et al., 2012). The idea 'esteem chain' can be laid out as a related organization of exercises (Hamilton-Hart and Stringer, 2016) which help to recognize methods of separating more worth, or to benefit (Beran, 2018). In everyday terms, the worth chain is utilized as a focal idea to clarify how items and administrations are incorporated, and how worth ascents in route to acquaint benefits with organizations (Webber and Labaste, 2009). Yet, it's not simply organizations that gain benefits by esteem chain demonstrating, as the scope of the value chain model has been extended to cover administrations exercises as well (Sharma and Gaur, 2017).

The travel industry value chain is never the same as the manufacturing value chain (Donovan, 2008). Poon (1993) was the first to apply Porter's value-chain idea for the tourist sector, although he did not include all actors or value-chain management. The value chain model for the travel industry studies portrayed by a different cluster of enterprises (Christian, 2010). It's essentially a cycle shows the immediate and roundabout exercises and administrations which connect together to frame the travel industry exercises in the destination. Tourism Value chain can be partitioned into various exercises, which are interrelated and supplement each other (Vignati and Laumans, 2010).

Furthermore, the travel industry Value Chain Mapping is a way for creating a visual representation of the value chain's core structure; the map highlights the range of activities that occur within the value chain (Martinović and Milenković, 2021). since it allows for a clear knowledge of the sequence of operations, as well as the important actors and connections engaged in the value chain (UNIDO, 2009).

The tourism sector is consisting of a large number of different highly-integrated and extremely interdependent activities (Meté and Acuner, 2014). United Nations World Tourism Organization has suggested a framework of the travel industry value chain_ Figure (1) _ that demonstrates the intricacy typical tourism value chain (UNWTO and DEVCO, 2013). The tourism sector is consisting of a large number of different highly-integrated and extremely interdependent activities (Meté and Acuner, 2014).

To explain the commonplace the travel industry esteem chain model Figure (1), it tends to be separated into three sections: The initial segment is the half base. It addresses exercises that connected straightforwardly to the travel industry area, that incorporate the travel industry direct exercises answerable for conveying the travel industry experience (Miličević, 2021). The subsequent part is the high half part, it addresses exercises from different businesses that by implication connected to the travel industry exercises (Jansen, 2013). While the third part contain the distinctive help foundations such service of the travel industry, service of transportations, and so forth that screen and direct the collaborations for every movement in the chain (Krutwaysho and Bramwell, 2010).

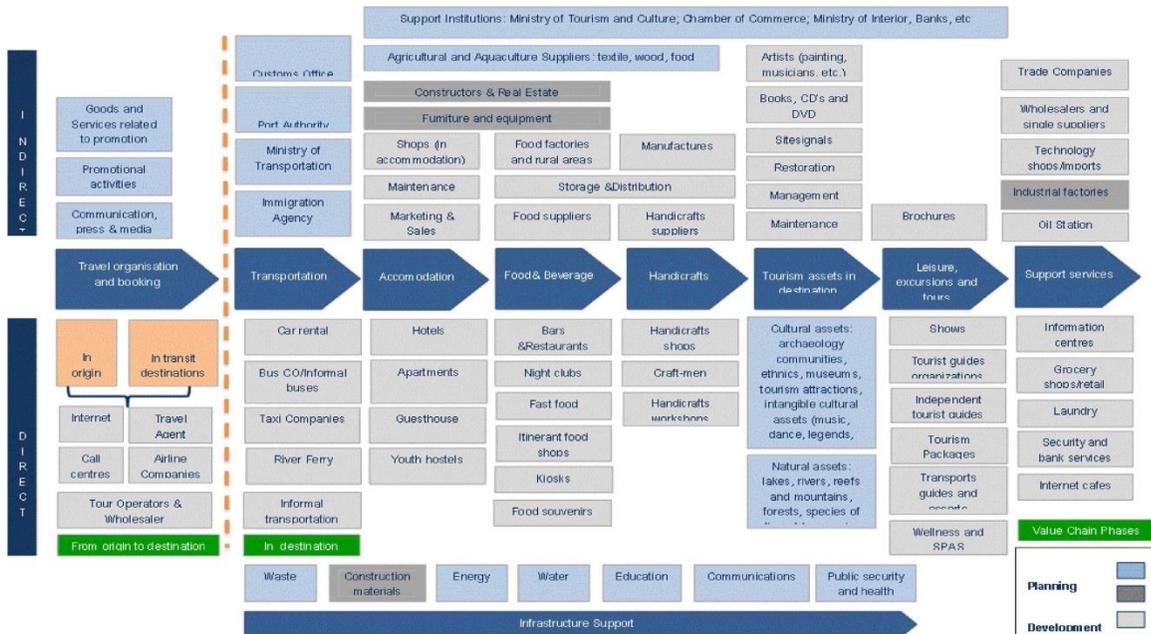


Fig.1. Typical Tourism Value Chain
 Source: (UNWTO & DEVCO, 2013).

Linkages in tourism value chain

Linkages in tourism value chain are a network of inter-sector supply linkages between the tourism economy activities and the rest of the productive sectors of the domestic economy (Lejárraga and Walkenhorst, 2010). It is a catch-all term for the various ways in which well-established sector activities might develop economic linkages with operations from other sectors of the local economy (Mitchell et al, 2006).

The starting point in understanding tourism linkage analysis is determining the types of linkages (Anter, 2016). As, there are two sorts of intersectoral linkages in the info yield model; Intersectoral forward linkage (FL) which shows the impacts brought about by one unit of conclusive interest of an area to the all-out deals yield of all areas of an economy (Mirza et al., 2015). while Intersectoral in backward linkage (BL) give the data about the extent of moderate info provided by different areas per a unit of that area's complete yield (Suseno et al., 2019). Subsequently, when solid linkages exist between the travel industry economy and the neighborhood organizations and exercises of various areas inside the economy, it demonstrates the strength of the travel industry area and that it is a significant area in the chain of the economy overall (Cai and Leung, 2004). Using Travel industry esteem chain analysis, which considers tourism as an entire system, it is possible to see how the linkages and dynamic flow of economic and organizational activities leads to the identification of opportunities for communities to provide the items they require (Sofield and li, 2011).

There seem to be five techniques for analyzing intersectoral linkages in travel industry value chains: Multiplier analysis, social accounting matrix, Computable general Equilibrium (CGE), Tourism satellite account (TSA), and Input –output Analysis (I-O). The researchers in this study will focus on Input –output methods to identify the forward and backward linkages of the Egyptian tourism sector.

3. Research Methodology

The researchers will focus on Input-Output methods to identify the forward and backward linkages of the Egyptian tourism industry and to build an esteem chain map for the Egyptian tourism industry

The present study primarily uses Input Output table of Egyptian economy for the year 2016-2017 as it is the latest input-output table prepared by the Ministry of Planning and Central Agency for Public Mobilization and Statistics of the Government of Egypt and published in 2021. The next I-O table for the year 2018-2019 would be made available by CAPMAS in 2024.

The table originally provided input output flow for 90 Egyptian economic activities, however in order to measure inter-linkages, this 90 x 90 input output table was condensed into a 21 x 21 input output table. (Appendix 1)

The study used Leontief (1936) model and Rasmussen indexes. First, used row (column) sums of the Leontief inverse matrix $(I-A)^{-1}$, to quantify inter-sector linkages since it considers both direct and indirect impacts caused by inter linkages(Appendix 2). These indicators are total (direct and indirect) reverse and forward linkage indicators. Next, used Rasmussen (1956) indexes (power of dispersion & degree of sensitivity) to measure the strength of linkages, then coefficient of variation indices to reinforce index linkages.

3.1 Research methods

Input-Output tables are the core of Input-Output analysis methods (Nguyen, 2017). It depicts the movement of commodities and services throughout all sectors of an economy over a certain time period (Geršak and Muha, 2016) by using The International Standard Industrial Classification (ISIC) of All Economic Activities (Elsadi and Morsy, 2020). Since the framework of each sector's production activity is expressed by suitable technical coefficients that quantitatively define the linkages between both the inputs consumes, and the output generates (Ten Raa, 2017).

Leontief (1936) model

Trade transaction data was taken from the input-output table. From this data, an analysis of the Input-Output is conducted, which begins by calculating the direct technical coefficient matrix. Next, the identity matrix is subtracted from the direct technical coefficient matrix, and the resultant matrix is inverted to yield the Leontief inverse matrix as follow (Cai et al., 2006):

$$Y = (I - A) X$$

$$Y = (I - A) X$$

Where:

$(i - A)^{-1}$: Leontief inverse

Y: Final demand

I: Unit matrix

A: Technical coefficient Matrix

X: Total output

The elements of an inverse matrix represent the total linkages between two sectors (CAPMAS, 2018), which are a basis for estimate the linkages strength in a sector in an economy (Al-Ali and Sabbagh, 2014). As, the resultant rows reflect each sector's output (FL), while the columns represent each sector's input (BL) (CAPMAS, 2020).

Rasmussen indexes

Rasmussen (1956) has been presented the index "power of dispersion and degree of sensitivity" to measure this strength of linkages .The index "sensitivity of dispersion" used to describe the extent to which the system of industries draws upon a given industry. It quantifies the growth in production of industry i which is driven by a unit rise in the system's ultimate demand for all industries (Suseno et al., 2019).

The "power of dispersion" indicator measures the extent to which the increase in final demand for a specific product is distributed across the whole system of industries (Siswahto and Muryani, 2020). Moreover, it expresses the influence of a single unit increase in final demand in a sector on the all economy. A value greater than unity of power of dispersion indicates that the industry has high backward linkages in comparison to the average backward linkages of all sectors in the economy (Amir, 2013).

Rasmussen has been criticized as the method of index linkages may be influenced by some extreme factors which affects the accuracy of the results. He argued that "sensitivity of dispersion" and "power of dispersion" are sensitive to extreme values (Drejer, 2002). So, he calculated the coefficient of variation indices to reinforce index linkages and account the extreme values. As the coefficient of variation is the extent to which a sector gets its inputs evenly across all industries (Esam & Ehab, 2015).

According to Ashwani and Vashist. (2012) the value coefficient of variation normally ranges from 2.09 to 5.98 .The high value coefficient of variation for (total backward linkages) means that a sector is largely reliant on a limited number of other sectors. While the low value indicating that the sector draws its inputs from number of sectors in the economy (Yasmin et al., 2019).

3.2 Data collection

In this study, the most up-dated Inputs/Outputs tables for years 2016/2017 published by the Ministry of Planning and Central Agency for Public Mobilization and Statistics are used. Input output table was condensed into a 21 x 21 input output table.

The "tourism sector" cannot be found explicitly in national accounts but, articulated by activities and products that specialize and conjunction with travel (TSA: RMF, 2008) therefore, the data of this paper is Using of:

- Accommodation & food and beverage services sector
- Activities of Travel agency, tour operator, reservation and related activities (By separating Division 79 from administrative activities). (Appendix 3)

4. Results and Discussion

4. 1 Forward linkages Index

Table 1

forward linkages indicators of tourism industry

Indices	Tourism activity	Accommodation& Food and beverage	Travel agency
Total forward linkages		1.14	1.31
Average		1.42	
sensitivity of dispersion		0.805107	0.92378

Source: Researchers' calculation by Excel based on the I/O tables for 2016/2017 published by Ministry of Planning and Central Agency for Public Mobilization (Appendix3)

Table (1) shows that the Total forward linkages of tourism industry rank fairly low in comparing to the average of total forward linkages for all sectors in the economy (1.42) This finding is in accordance with the sensitivity of dispersion result; as the sector with a sensitivity of dispersion index lower than (one) means it has lower total forward linkages than the average of all industries (Cai et al., 2006), As a result, it offers its output to a limited number of sectors and has a smaller impact on the economy as a supplier than the average of all sectors. The tourism sector has a dispersion sensitivity less than one <1 ; which means, that provides almost of its outputs to one industry or a small range of industries as shown in table (2).

Also, from the previous table, the total forward linkages are lower than the backward linkages (refer table 4), that indicates tourism industry demand their inputs from many sectors while supply its production for a limited number of sectors, it indicates the weak economic push effect of the activities of tourism industry sector in Egypt's economy.

Table

the sector output linkage indicators for the Tourism Sector

Sector	Tourism industry	Accommodation and food activities	Travel agency and related activities
Agriculture		0.001	0.009
Mining & quarrying		0.001	0.004
Manufacturing		0.008	0.081
Electricity, gas and supply		0.002	0.020
Water supply; sewerage, waste management activities		0.003	0.019
Construction activities		0.002	0.018
Wholesale and retail trade activities		0.001	0.007
Transportation and storage		0.002	0.017
Accommodation and food activities		1.002	0.17
Information and communication		0.000	0.005
Financial activities		0.000	0.0010
Real estate activities		0.000	0.004
Scientific and Professional activities		0.00	0.021
Travel agency, tour operator, reservation and related activities		0.07	1.022
Administrative & support service activities		0.029	0.008
Public administration and defense		0.000	0.003
Education		0.000	0.003
Human health and social work activities		0.002	0.017

Continued

Arts, entertainment and recreation	0.001	0.012
Other service activities	0.002	0.014
Activities of households	0.000	0.000

Source: Researchers' calculation by Excel 2017 based on the I/O tables 2016/2017 published by the Ministry of Planning and Central Agency for Public Mobilization and Statistics.

Table (2) shows output linkages for accommodation activities, food and beverages, and travel agency activities with other sectors in the economy.

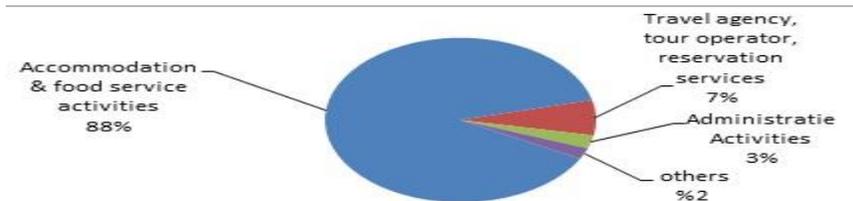


Fig.2. the forward linkages of Accommodation & food service activities

Figure (2) shows that there are high output linkages between the accommodation & food service and itself, followed by output linkage with travel agency activities, Administrative and support service activities (in low percentage).

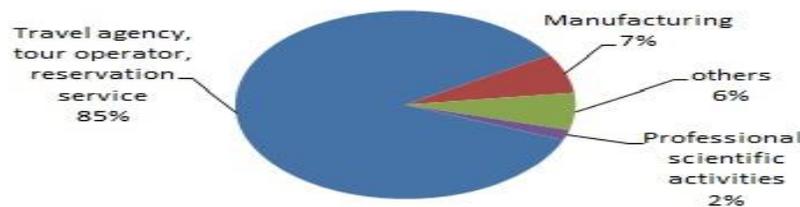


Fig.3. Travel agency and related activities.

The same is true with travel agency & related activities, as have high output linkages with itself, followed by output linkages with manufacturing, professional activities.

Table 3

Percentage of the using from total outputs of tourism sector

Indicator	Tourism industry	Accommodation & food activities	Travel agency and related activity
Total outputs for the intermediate demand		4.3	11.4
Total outputs for the final demand		95.7	88.3
Total outputs		100	100

Source: I/O tables 2016/2017 published by the Ministry of Planning and Central Agency for Public Mobilization and Statistics.

It is clear from the previous explanation that, most outputs of forward linkages for tourism sector have high indicator with itself. Moreover, most outputs of the accommodation & food service activities (about 95.7) and travel agency & related activities (about 88.3) supplies final demand, while a less percentage as an intermediate demand (refer table 3). It makes sense, because the tourism sector is

directly linked (forward linkages) with activities which sold their services directly to tourists to fulfill the final demand. For example, a hotel may sell all of its rooms to meet final demand to visitors, but some rooms may also be offered as intermediate products. If a travel agency buys a block of rooms to resell them as part of a package tour to individual people, the rooms sold to the travel agency are intermediate goods.

4.2 Backward linkages Indices:

Table 4

backward linkages indicators of tourism industry

Indicator \ Tourism industry	Accommodation& Food and beverage	Travel agency
Total backward linkages	1.5979	1.7469
Average	1.42	
Power of Dispersion	1.1247	1.2296
Coefficient of variation	2.814379	2.64557

Source: Source: Researchers' calculations by Excel 2017 based on the I/O 2016/2017 Published by the Ministry of Planning and Central Agency for Public Mobilization and Statistics.

Table (4) shows that, activities of tourism industry have high value of total backward linkages in the economy, as, its Total backward linkages have high value comparing to the average of total backward linkages for all sectors (1.42). Mattioli and Lamonica (2013) emphasized, that mean it pull a large number of purchases from other sectors in the economy as its inputs.

The tourism industry showing power of dispersion greater than one (1), which confirmed the previous result that tourism has high value of backward linkages higher than the average backward linkages of total economy.

Likewise, the coefficient of variation reinforces the previous result. Tourism activities showed a low coefficient of variation for their reverse linkages, suggesting that they require inputs from a wide range of other sectors in the economy (refer Table (5)).

Table 5

the sector input linkage indicators for the tourism sector

Other sectors \ Tourism activities	Accommodation and food activities	Travel agency and related activities
Agriculture	0.1452978	0.0736800
Mining & quarrying	0.0502744	0.0580720
Manufacturing	0.2205090	0.3042265
Electricity, gas and supply activities	0.0105300	0.0071849
Water supply; sewerage activities	0.0005536	0.0003838
Construction activities	0.0037866	0.0006947
Wholesale and retail trade activities	0.0805645	0.0723128
Transportation and storage	0.0145816	0.0554612
Accommodation and food activities	1.0022800	0.0784509
Information and communication	0.0029186	0.005

Continued

Financial activities	0.0081792	0.0105363
Real estate activities	0.0011579	0.0007525
Scientific and Professional activities	0.0074501	0.0062767
Travel agency, tour operator, reservation and related activities	0.0173716	1.0220949
Administrative & support service activities	0.0273392	0.0413258
Public administration and defense	0.0000600	0.0000983
Education	0.0003378	0.0002898
Human health and social work activities	0.0000804	0.0001429
Arts, entertainment and recreation	0.0000279	0.0001554
Other service activities	0.0045693	0.0094116
Activities of households	0.00000	0.0000

Source: Source: Source: Researchers' calculations by Excel 2017 based on the I/O 2016/2017 Published by the Ministry of Planning and Central Agency for Public Mobilization and Statistics.

Table (5) depicts the character of tourism industry as being assemble various items acquired purchased from many manufacturers and services, and indicates the high economic pull effect of the tourism sector in Egypt’s economy. This can be used to move the production wheel of other sectors in Egyptian economy by increasing investment in the tourism sector.

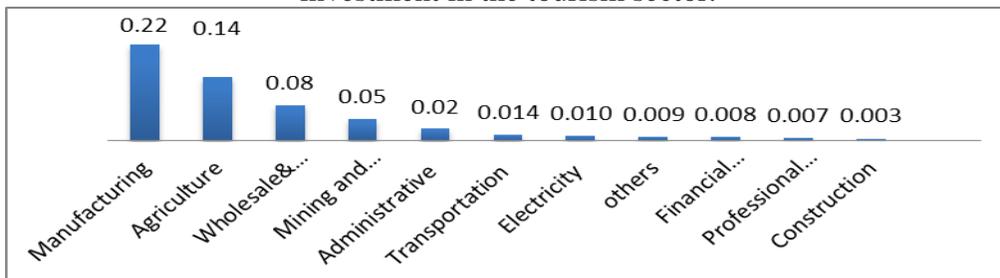


Fig.4. the backward linkages of Accommodation & food service activities

Figure (4) highlights the indications of sector input linkage to the Accommodation & food and beverage Sector in 2016/2017. Manufacturing sector has the strong input linkage (0.2205), followed by Agriculture (0.1452). Also, there is weak input linkages with financial activities (0.0081), Professional & scientific activities (0.0074), Construction (0.0037).

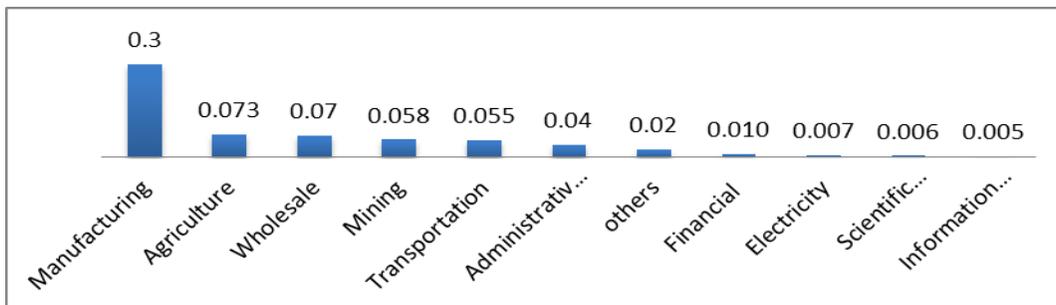


Fig.5. Travel agency, tour operator, reservation service and related activities

Figure (5) highlights the indications of sector input linkage to the Travel agency, tour operator, reservation service and related activities Sector. The sector which has the strong input linkage is manufacturing sector (0.3042), followed by Agriculture (0.0736). But there are weak input linkages with Information & communication activities (0.0053).

From the previous show, it is vital to highlight that, The Backward linkages are very important as the force of attraction of demand is greater than the force of attraction of supply in the economy. The backward linkage stimulates growth through the mechanism of derived demand since the other sectors would suffer losses in the absence of purchases of the tourism sector. As a result, Egypt's tourism industry exerts a tremendous economic pull on the country's other industries.

4.3 The overall Egyptian Tourism value chain suggestion

According to the upon I-O analyze, and based on structure of the typical value chains model, the researchers can draw the Egyptian Tourism value chain

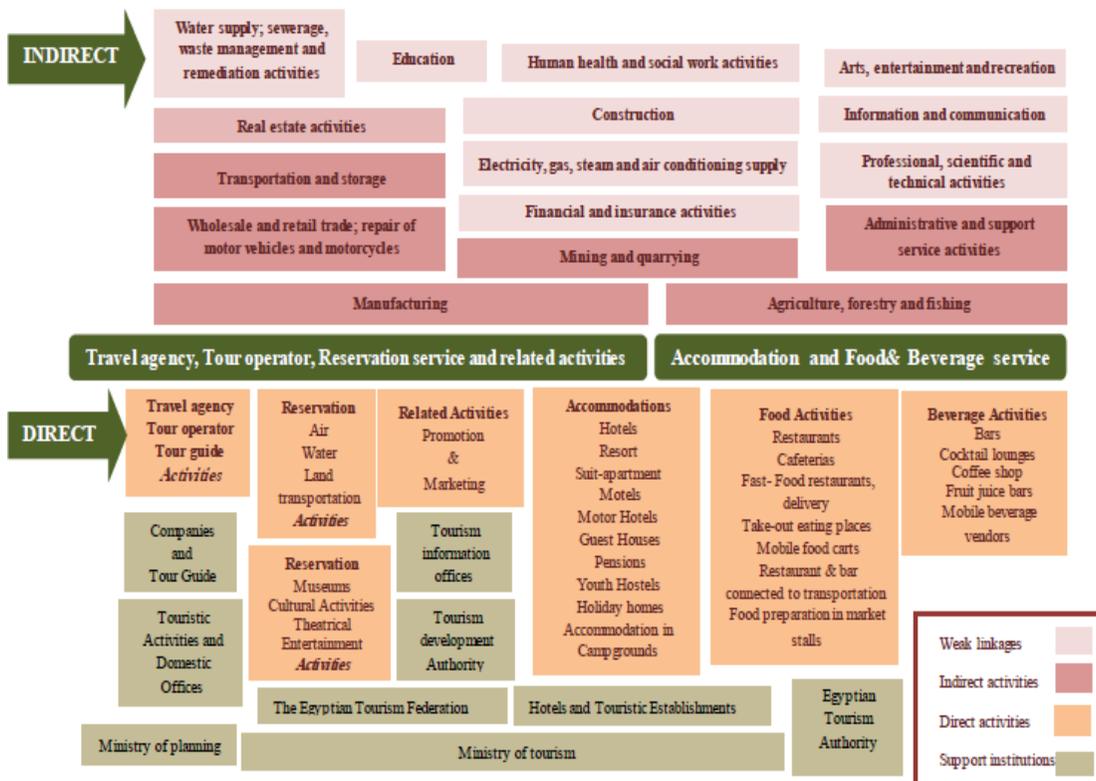


Fig.6. the Egyptian tourism value chain suggested

The Egyptian Tourism Value Chain suggested is constituted of:

A. Special activities for the tourism industry (Direct)

- Tour operator & Travel agency activities: Tour operator makes the necessary arrangements of the tourist Also; travel agents help tourists arrange their travel plans.
- Activities of local tourist guides
- Reservation service activities: all types of transportation (land- water-air) used by tourists and ticket sales activities

- Other tourism services: includes Tourism promotion and marketing activities.
- Accommodation activities: according To the Egyptian classification for economic activities there is a great diversity of accommodations and its facilities in the value chain.
- Food & Beverage service activities: it includes food and beverage serving activities providing complete meals or Drinks as restaurants, cafeterias, fast-food restaurants.... etc.

B. Non-tourism sectors (indirect)

- Manufacturing: which an important supplier of inputs to tourism special activities; this is an accepted matter as the Assembly of the component parts of any product or activity is considered manufacturing.
- Agricultural sector: Agriculture provides food consumption for the tourism industry such as different animal production, vegetables, fruits, fishing, crops etc., moreover provision of Plants for hotel gardens decoration.
- Wholesale and retail trade activities: the linkages between tourism activities and wholesale, retail sales activities are clear as any tourism activity needs to demand any type of inputs from the wholesaler of it. For example, it provides wholesale of agricultural raw materials to food& beverage activities, and provides wholesale of fuels, equipment for aspects of tourism industry.
- Mining and quarrying: The relationship between the mining sector and tourism industry activities is evident through the dependence of the second on the products and derivatives of the mining sector, such as petroleum and natural gas operating the machinery and equipment used in hotels and restaurants, etc.
- Transportation: This is important link of the chain; it includes all types of transportation, Support activities for transportation.
- Administrative & other business support activities: This linkage covers a number of activities that assist tourism industry business, such as recreational equipment rental.
- Financial and insurance activities: the tourism activities industry has clear linkages with financial services, in relying on banks to provide credit for its activities.
- Electricity sector: it needed at tourism destinations in the operation of accommodation facilities.
- Scientific and technical activities: It involves the provision of professional scientific and technological services to museums, in particular.
- Other services: include Construction, Information & communication activities, Education and Real estate activities.

C. Support institutions

- Ministry of tourism: it answerable for the travel industry strategy and for building up a lawful structure for the travel industry.
- Egyptian Tourism Authority: it responsible for promoting inbound and domestic tourism.

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- Tourism development Authority: The TDA is the administrative substance that works basically on setting guidelines for the travel industry undertakings and speculations.
 - The Egyptian Tourism Federation is made up of five tourism business associations: the Chamber of Tourist Establishments, The Egyptian Hotels Association, the Travel agents Association, the Egyptian Chamber of Diving and Water sports, and the Egyptian Chamber of Tourist Commodities.
 - Touristic Activities and Domestic Offices: specialize in licensing diving centers and marine activities.
 - Companies and Tour Guide: concerned with granting licenses for tourism companies and guides.
 - Hotels and Touristic Establishments: concerned with inspecting hotels, villages and tourist shops.
 - Other Associations: there are lots of local associations in Egypt tourism sector which contribute in the tourism value chain such:
 - Tourism information offices and Ministry of planning.

5. Conclusion

This paper tries to analyze Tourism Value Chain of the Egyptian Tourism Sector by using input-output tables. in order to suggest tourism value chain map in the Egyptian economy and make a comprehensive description for it.

it's vital to understand that, Input-output analysis offers the tools required to analyze sectors, including their interactions with the rest of the economy(Tariyal, 2017) as helps base on knowledge of all the linkages in a particular industry to the rest of other industries (Al-Ali & Sabbagh, 2014).So, it can use input/output analysis in exploring the linkages between tourism and other sectors, therefore draw the value chain to identify principles activities which lead to enhance the national economy and guiding investments and incentives to them. Also, there are some conclusions can be drawn as follows:

The total forward linkages for tourism sector are lower than the backward linkages, that indicates tourism industry demand their inputs from many sectors in the national economy while supply its production for a limited number of sectors. Moreover, the majority of output linkages of tourism activities mainly with itself. Also, most outputs of tourism sector are being supplied as final demand, while a less percentage as an intermediate demand. The outputs of accommodations& food and beverage activities are being sold extensively to final demand. The Expansion of final demand for tourism make the sector serves to promote larger number of inter-industry transactions.

Findings indicate that the tourism sector in Egypt has strong backward linkages with manufacturing sector followed by Agriculture; Wholesale & Retail trade activities, mining and quarrying, Transportation and Administrative & other business support activities. Moreover, there are weak backward linkages with Financial & insurance activities, electricity sector and scientific & technical activities.

Furthermore, the tourism sector pulls a large number of purchases from other sectors in the economy as its inputs, which indicate the high economic pull.

Finally, linkage analysis may be useful tool to assess the effectiveness of development strategies aimed at strengthening linkages among tourism sector activities and other industries.

6. Limitations

In spite of the fact that input-output method is able to clarify the direct and indirect activities in Egyptian tourism value chain and give indicators for linkages between tourism special activities with other sectors in the Egyptian economy, however, the resulting indicators can be considered almost real. This is because the Egyptian Economic Activity Index, which the input and output tables are designed based on, needs to be restructured into the sub-classifications of tourism sector service activities, as:

In accommodation activities

- The classification confuses the activities of the traveler with the activities of the visitor, but the traveler is not considered a tourist, and this confusion is misleading in counting the statistics.
- The Central Agency for Public Mobilization and Statistics relies on tourism surveys for determining the inputs-outputs of the accommodations activities; this is inaccurate because the accommodations activities which listed according to the Egyptian Economic Activity guide include some activities not classified in tourism sector such as: elderly homes, student residences, workers hostels, shelters, and school dormitories.
- The input-output tables do not provide detailed linkages of each sub-activity from the accommodation activities.

Food& beverage activities:

- Also, include activities not related to tourism such catering activities for special occasions.

Travel agency & reservation services:

- Input-output tables do not provide detailed information on the inputs/outputs for each activity separately of the activities provided by the travel agency & reservation activities such transportation services, entertainment or sports services... etc.

It should be emphasized that the study's main limitation is that it only covers the year 2016-17, as the most recent input-output table for that year was published in 2021. Input-output tables are published at five-year intervals. To derive more accurate findings, more current data should be added into the analysis.

7. Recommendations

Under the light of the findings, there are many recommendations that responsible authorities should tack in consider for enhancing i-o analysis outputs, as follows:

Recommendations Directed to Government authorities and supporting tourism institutions:

- Attention to maintaining the strength of relations between the tourism sector and the sectors manufacturing, agriculture, wholesale and retail trade activities, and trying to achieve the maximum benefit from them and raising awareness of the importance of investing in the tourism sector to enhance the movement of production in those sectors.
- Looking at the reasons for the weak background relations between the tourism sector and the construction and electricity sectors and other sectors which have weak linkages with tourism industry and try to strengthen it.

Recommendations to Central Agency for Public Mobilization and Statistics & General administration of samples, classifications and evidence:

For develop the tourism statistical system:

- Designing adequate data surveys and data collection methods for subcategories activities relevant in i-o tables. Addition, proper coordination among various agencies involved in collecting and disseminating tourism statistics; to ensure adequate and continuous data reporting by both tourist establishments and related activities.

Egyptian Economic Activity Guide

- The periodic review of the structure and definition of its categories, to better reflect changed structures and new analytical requirements.
- Develop accurate definition s for traveller activities and tourist activities.
- Separating the activities of elderly homes, student residences, workers hostels, shelters, and school dormitories from the activities of tourist accommodations.
- Separating the activities of catering activities for special occasions from tourism food & beverage activities.
- Designing adequate data structure contains more detailed data for relevant subcategories.

8. Areas for future research

Future studies could examine the weak linkages in the tourism value chain, its causes and ways to enhance it. Also, studying the impact of tourism support institutions on the value chain in creating an enabling environment for tourism industry.

References

- Al-Ali, H., and Sabbagh, O. (2014). The Construction of the Jordanian Input-Output Tables for the year 2010 and their Applications and Uses. Presented at Paper Submitted and Presented at EcoMod Conference, Bali, 16-18.
- Amir, M. (2013). Determining the leading sectors in the Egyptian economy according to the criteria of sectoral linkages. *Scientific journal of economics and commerce*, 3, 282-307.
- Anter, M. (2016). Measuring Financial Leakage and Linkage of Tourism in Egyptian Economy using TSA approach. *Minia Journal of Tourism and Hospitality Research*,

1(1), 130-140.

Ashwani, M. and Vashist, D. C. (2012). Structural analysis of Indian economy through forward and backward linkages. Central University of Haryana, available at: <http://iegingdia.org/wshop2526july/paper8.pdf>, Accessed on(18/2/2021).

Atan, S., and Arslanturk, Y. (2012). Tourism and economic growth nexus: an input output analysis in Turkey. *Procedia-Social and Behavioral Sciences*, 62, 952-956.

Beran, K. (2018). Value Chain Improvements in Small-scale Fisheries: Case Studies from West Africa. PhD thesis, Department of Marine Affairs, University of Rhode Island, USA.

Cai, J., and Leung, P. (2004). Linkage measures: a revisit and a suggested alternative. *Technology Analysis & Strategic Management*, 16(1), 63-83.

Cai, J., Leung, P., and Mak, J. (2006). Tourism's forward and backward linkages. *Journal of Travel Research*, 45(1), 36-52.

Central Agency for Public Mobilization and Statistics CAPMAS. (2020). Input-Output tables 2016/2017 Within the Framework of National Accounts System, No 71-22402.

Central Agency for Public Mobilization and Statistics CAPMAS. (2018). Input-Output tables 2014/2015 Within the Framework of National Accounts System. No. 71.

DEVCO, and UNWTO. (2013). Sustainable Tourism for Development: Enhancing capacities for Sustainable Tourism for development in developing countries. forthcoming, Madrid, Spain, 13.

Drejer, I. (2002). Input-Output based measures of interindustry linkages revisited-A Survey and Discussion. Presented at 14th International Conference on Input-Output Techniques, Montreal, Canada.

Donovan, T. (2008), "Applying the Value Chain Approach to Tourism Development on Road NO 9 in Lao PDR and Viet Nam". *Lao PDR and Viet Nam*, UNWTO.

Elsadi, Z., and Morsy, s. (2019). Sustainable Cultural Heritage Tourism (Applied to Historical Cairo), INP, Cairo.

Esam, M., and Ehab, M. (2015). Construction Supply Chain, Inter-sectoral Linkages and Contribution to Economic Growth: The Case of Egypt, The Egyptian Center for Economic Studies.

Geršak, U., and Muhaj, D. (2016). Inter-sectoral production linkages in Slovenia: an input-output analysis, Banka Slovenije.

Hamilton-Hart, N., and Stringer, C. (2016). Upgrading and exploitation in the fishing industry: Contributions of value chain analysis. *Marine Policy*, 63, 166-171.

Jansen, M. (2013). Aid For Trade and Value Chains in Tourism. World Trade Organization for Economic Co-operation and Development, United Nations World Tourism organization, Available at: http://www.wto.org/english/tratop_e/devel_e/a4t_e/global_review13prog_e/tourism_28june.Pdf, Accessed on (3/1/2021).

Khoshkhou, M., Alizadeh, V., and Pratt, S. (2017). The economic contribution of tourism in Iran: An input-output approach. *Tourism analysis*, 22(3), 435-441 available at: <https://sci-hub.mkxa.top/10.3727/108354217X14955605216168>, Accessed on (25/12/2020).

- Krutwaysho, O., and Bramwell, B. (2010). Tourism policy implementation and society. *Annals of Tourism Research*, 37(3), 670-691.
- Lejárraga, I., and Walkenhorst, P. (2010). On linkages and leakages: measuring the secondary effects of tourism. *Applied Economics Letters*, 17(5), 417-421.
- Martinović, S., and Milenković, G. (2021). Tourism value chain diagnosis: cross border area Elin Pelin Bulgaria and Leskovac Serbia. the Centre for the Development of Jablanica and Pcinja.
- Mattioli, E., and Lamonica, G. R. (2013). "The ICT role in the world economy: An input-output analysis. *Journal of World Economic Research*, 2(2), 20-25.
- Mazumder, M. N. H., Ahmed, E. M., and Raquib, M. A. (2011). Estimating Total Contribution of Tourism to Malaysian Economy. *International Journal of Business Management and Social Sciences*, 2(3), 29-34.
- Metz, B., and Acuner, E. (2014). A Value Chain Analysis of Turkish Tourism Sector. *International Journal of Business and Management Studies*, 3(2), 499-506.
- Miličević, K. (2021). Tourism value chain and sustainability certification. Integration of sustainability labels into Mediterranean tourism policies, available at https://sustainablelabels.eu/wp-content/uploads/2021/07/2_Value-chain_K.Milicevic.pdf, Accessed on (10/12/2020).
- Mirza, M., Marwa, T., and Mukhlis, M. (2015). Linkage analysis of cement industry in the Indonesian economy: Input-output analysis. *Eurasian Journal of Economics and Finance*, 3(4), 48-55.
- Morales-Zamorano, L. A., Camacho-García, A. L., Bustamante-Valenzuela, A. C., Cuevas-Merecías, I., and Suarez-Hernández, Á. M. (2020). Value chain for agritourism products. *Open Agriculture*, 5(1), 768-777.
- Nguyen, V. T., and Shimizu, T. (2017). Input-Output Table for Transportation and Tourism Analysis: Construction and Applications. *Journal of the Eastern Asia Society for Transportation Studies*, 12, 2117-2132.
- Rasmussen, P. N. (1956). *Studies in inter-sectoral relations: North-Holland*.
- Sharma, A., and Gaur, J. (2017). Importance of tourism value chain and tourism development in Mad. *Research Journal of Management*, 6(1), 6-8.
- Siswahto, E., and Muryani, M. (2020). the impact of tourism on economic in north sulawesi: input-output analysis perspective. *Journal of Developing Economies*, 5(1), 41-56.
- Surugiu, C. (2009). The Economic Impact of Tourism. An Input-Output Analysis. *Revista Romana de Economie*, 28, 2.
- Suseno, T., Suciyaniti, M., and Madiutomo, N. (2019). Analysis of metals mining sector linkage on national economic. *Indonesian Mining Journal*, 22(2), 129-143.
- Tariyal, P. (2017). A study on intersectoral linkages in Indian economy. *Arthshastra Indian Journal of Economics & Research*, 6(1), 23-34.
- Ten Raa, T. (2017). *Handbook of input-output analysis: Edward Elgar Publishing*.
- United Nations Industrial Development Organization UNIDO. (2009). Agro-value chain analysis and development: The UNIDO approach, A staff working paper, Vienna, Austria. Available at: https://www.unido.org/sites/default/files/2010-02/Agro_value_chain_analysis_and_development_0.pdf, Accessed on (19/7/2020).
- Vignati, F., and Laumans, Q. (2010) Value chain analysis as a kick off for tourism

destination development in Maputo City. Presented at 2nd International Conference on Sustainable Tourism in Developing Countries, Tanzania.

Webber, C. M., and Labaste, P. (2009). Building competitiveness in Africa's agriculture: a guide to value chain concepts and applications: The World Bank.

Weiermair, K. (2006). Prospects for innovation in tourism: Analyzing the innovation potential throughout the tourism value chain. *Journal of Quality Assurance in Hospitality & Tourism*, 6(3-4), 59-72.

Yasmin, T., El Refae, G. A., and Eletter, S. (2019). Sectoral productivity in Hungarian economy: an input-output linkages approach. *Journal of Eastern European and Central Asian Research (JEECAR)*, 6(2), 344-355.

Zhang, X., Song, H., and Huang, G. Q. (2009). Tourism supply chain management: A new research agenda. *Tourism management*, 30(3), 345-358.

Appendix 1

Inputs	N79																				Outputs	Code of ISIC.4
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T		
الزراعة واستغلال الغابات ولقح الأسماك	التعدين واستغلال المناجم والوقود الأحفوري	التصنيع	الكهرباء والغاز والبخار والتدفئة والتبريد والتكييف	توريد المياه	تجارة الجملة والتجزئة والمطاعم والكافيات	النقل والتخزين	خدمات الإقامة والتأجير السكني	المعلومات والاتصالات	البنوك والمؤسسات المالية	العقارات والتأمين	الأنشطة المهنية والعلمية والفنية	الأنشطة الترفيهية والثقافية	السياحة وترفيه	الإدارة العامة والقطاع العام	التعليم	الصحة	الترفيه والثقافة	الخدمات الاجتماعية	الخدمات الأخرى	الأنشطة المنزلية		
Agriculture	Mining and quarrying	Manufacturing	Electricity	Water supply activities	Construction	Wholesale and retail trade	Transportation	Accommodation and food service activities	Information and communication	Financial activities	Real estate activities	Professional and scientific activities	Travel agency, tour operator, reservation service	Administrative and support service activities	Public administration	Education	Human health	Arts, entertainment and recreation	Other service activities	Activities of households as employers		
0.17771	0.02590	0.10872	0.00000	0.00043	0.01457	0.00035	0.00248	0.09319	0.00159	0.02278	0.00160	0.00047	0.01761	0.00653	0.00066	0.00012	0.00047	0.00029	0.00053	0.00000	Agriculture	A
0.05291	0.03754	0.14855	0.22102	0.00785	0.00477	0.00631	0.01416	0.00452	0.00031	0.03266	0.00052	0.00101	0.00316	0.00006	0.00020	0.00031	0.00257	0.00095	0.00234	0.00000	Mining and quarrying	B
0.08486	0.01769	0.20681	0.22511	0.18910	0.20365	0.07635	0.15947	0.14371	0.02223	0.00337	0.03565	0.11689	0.19876	0.03480	0.02922	0.04158	0.15677	0.03662	0.10705	0.00000	Manufacturing	C
0.00009	0.00037	0.00722	0.01564	0.08145	0.00221	0.00345	0.00157	0.00818	0.01545	0.00135	0.00041	0.00135	0.00352	0.00015	0.01904	0.00373	0.01063	0.03360	0.01242	0.00000	Electricity	D
0.00001	0.00008	0.00104	0.00105	0.01202	0.00189	0.00011	0.00005	0.00028	0.00002	0.00025	0.00029	0.00000	0.00001	0.00000	0.00562	0.00133	0.00195	0.01184	0.00036	0.00000	Water supply activities	E
0.00001	0.00027	0.00007	0.00000	0.00048	0.00007	0.00041	0.00139	0.00366	0.00000	0.00004	0.01869	0.00018	0.00022	0.00005	0.00145	0.00005	0.00093	0.00008	0.00143	0.00000	Construction	F
0.03606	0.00421	0.08801	0.01091	0.02768	0.05702	0.00912	0.02250	0.05925	0.05647	0.00496	0.01570	0.01840	0.04293	0.00977	0.02349	0.00972	0.06351	0.01270	0.03169	0.00000	Wholesale and retail trade	G
0.00928	0.00183	0.00836	0.00423	0.00534	0.00824	0.00586	0.00836	0.00917	0.01102	0.00385	0.00183	0.00550	0.04853	0.01657	0.00778	0.01099	0.01397	0.01264	0.00600	0.00000	Transportation and storage	H
0.00000	0.00104	0.00016	0.00000	0.00034	0.00000	0.00039	0.00034	0.00007	0.00002	0.00000	0.00000	0.00056	0.07545	0.02824	0.00000	0.00003	0.00027	0.00019	0.00040	0.00000	Accommodation and food service activities	I
0.00000	0.00084	0.00056	0.00002	0.00117	0.00153	0.00356	0.00132	0.00224	0.01297	0.00064	0.00096	0.00307	0.00436	0.00021	0.00106	0.00055	0.00320	0.00087	0.00094	0.00000	Information and communication	J
0.00100	0.01253	0.00900	0.07341	0.00263	0.01869	0.01161	0.01041	0.01301	0.08682	0.01080	0.00250	0.00219	0.00405	0.00025	0.12713	0.00022	0.00131	0.00231	0.00484	0.00000	Financial and insurance activities	K
0.00000	0.00005	0.00003	0.00000	0.00185	0.00000	0.00137	0.00013	0.00098	0.00399	0.00000	0.00026	0.00088	0.00047	0.00039	0.00227	0.00042	0.00122	0.00094	0.00367	0.00000	Real estate activities	L
0.00000	0.00045	0.00169	0.00010	0.00210	0.00111	0.00761	0.00133	0.00592	0.07814	0.00167	0.06510	0.00768	0.00395	0.00042	0.00357	0.00081	0.00449	0.00109	0.00616	0.00000	Professional, scientific activities	M
0.00044	0.00280	0.06047	0.00011	0.00091	0.00000	0.00062	0.00337	0.00345	0.00000	0.00000	0.00003	0.01081	0.00263	0.00465	0.00000	0.00004	0.00362	0.00801	0.00505	0.00000	Travel agency, tour operator, reservation service and	N79
0.00002	0.00168	0.05790	0.00002	0.02113	0.00454	0.00455	0.00351	0.01337	0.00442	0.00046	0.00347	0.00034	0.02114	0.00807	0.00121	0.00050	0.00419	0.00280	0.00516	0.00000	Administrative and support service activities	N
0.00000	0.00003	0.00002	0.00000	0.00187	0.00003	0.00000	0.00024	0.00000	0.00827	0.00108	0.00001	0.00000	0.00000	0.00041	0.00057	0.00023	0.00060	0.00569	0.00006	0.00000	Public administration	O
0.00000	0.00059	0.00013	0.00000	0.00003	0.00000	0.00009	0.00076	0.00023	0.00446	0.00100	0.00001	0.00006	0.00011	0.00002	0.00022	0.00021	0.00147	0.00005	0.00030	0.00000	Education	P
0.00000	0.00006	0.00004	0.00000	0.00002	0.00000	0.00000	0.00071	0.00000	0.00066	0.00664	0.00000	0.00000	0.00001	0.00000	0.00002	0.00011	0.00624	0.00025	0.00020	0.00000	Human health activities	Q
0.00000	0.00000	0.00000	0.00000	0.00017	0.00000	0.00000	0.00049	0.00000	0.00546	0.00000	0.00000	0.00004	0.00009	0.00002	0.00017	0.00086	0.00002	0.00181	0.00041	0.00000	Arts, entertainment and recreation	R
0.00018	0.00058	0.00112	0.00009	0.02185	0.03264	0.00076	0.00832	0.00359	0.02792	0.00585	0.00117	0.00111	0.00767	0.00177	0.01318	0.00386	0.01208	0.02011	0.00571	0.00000	Other service activities	S
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	Activities of households	T

Appendix (3) Leontief inverse matrix

نوع النشاط Sector	القطاعات الاقتصادية Economic Sectors																	Inputs	Outputs	Code of ISIC.4			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N79	N	O	P				Q	R	S
النشاط Activity	الزراعة Agriculture	التعدين واستغلال المناجم وقطع الرخام والتعدين المتاحجر واليخنة والصخر Mining and quarrying	الصناعات التعدينية Manufacturing	الطاقة Electricity	توريد المياه Water supply activities	البناء Construction	التجارة Wholesale and retail trade	النقل والتخزين Transportation	الخدمات الغذائية Accommodation and food service activities	المعلومات والتواصل Information and communication	الخدمات المالية Financial activities	العقارات Real estate activities	الأنشطة المهنية والعلمية والتقنية Professional and scientific activities	السياحة السياحة Travel agency, tour operator, reservation service and	الخدمات الدعمية Administrative and support service activities	التعليم Education	الصحة الإنسانية والصحة البيئية Human health	الترفيه والإبداع والفنون Arts, entertainment and recreation	الخدمات الأخرى Other service activities	النشاطات المنزلية Activities of households			
Agriculture	1.2390	0.0378	0.1866	0.0539	0.0432	0.0591	0.0163	0.0352	0.1453	0.0141	0.0312	0.0120	0.0242	0.0737	0.0200	0.0127	0.0089	0.0333	0.0116	0.0233	0.0000	Agriculture	A
Mining and quarrying	0.0919	1.0467	0.2196	0.2887	0.0768	0.0556	0.0259	0.0527	0.0503	0.0191	0.0388	0.0125	0.0290	0.0581	0.0114	0.0192	0.0117	0.0440	0.0221	0.0320	0.0000	Mining and quarrying	B
Manufacturing	0.1466	0.0312	1.3286	0.3144	0.2920	0.2880	0.1076	0.2212	0.2205	0.0642	0.0138	0.0671	0.1642	0.3042	0.0605	0.0560	0.0613	0.2284	0.0736	0.1562	0.0000	Manufacturing	C
Electricity	0.0015	0.0008	0.0108	1.0188	0.0867	0.0055	0.0046	0.0037	0.0105	0.0177	0.0018	0.0014	0.0029	0.0072	0.0010	0.0208	0.0046	0.0134	0.0363	0.0143	0.0000	Electricity	D
Water supply activities	0.0002	0.0001	0.0015	0.0015	1.0126	0.0023	0.0002	0.0003	0.0006	0.0003	0.0003	0.0004	0.0002	0.0004	0.0001	0.0058	0.0014	0.0023	0.0122	0.0006	0.0000	Water supply activities	E
Construction	0.0001	0.0003	0.0003	0.0002	0.0051	1.0002	0.0005	0.0015	0.0038	0.0002	0.0001	0.0187	0.0003	0.0007	0.0002	0.0016	0.0001	0.0011	0.0003	0.0016	0.0000	Construction	F
Wholesale and retail trade	0.0551	0.0083	0.0914	0.0349	0.0513	0.0798	1.0175	0.0392	0.0806	0.0664	0.0081	0.0237	0.0311	0.0723	0.0170	0.0299	0.0146	0.0819	0.0205	0.0444	0.0000	Wholesale and retail trade	G
Transportation and storage	0.0140	0.0030	0.0195	0.0099	0.0111	0.0135	0.0079	1.0123	0.0146	0.0141	0.0047	0.0038	0.0088	0.0555	0.0185	0.0097	0.0122	0.0185	0.0149	0.0092	0.0000	Transportation and storage	H
Accommodation and food service	0.0012	0.0016	0.0089	0.0024	0.0031	0.0022	0.0013	0.0022	1.0023	0.0008	0.0002	0.0007	0.0025	0.0785	0.0293	0.0005	0.0005	0.0023	0.0014	0.0020	0.0000	Accommodation and food service activities	I
Information and communication	0.0004	0.0010	0.0017	0.0008	0.0019	0.0024	0.0039	0.0018	0.0029	1.0141	0.0008	0.0102	0.0035	0.0054	0.0005	0.0015	0.0007	0.0040	0.0013	0.0075	0.0000	Information and communication	J
Financial and insurance activities	0.0048	0.0139	0.0177	0.0829	0.0143	0.0243	0.0141	0.0145	0.0082	0.0936	1.0121	0.0052	0.0052	0.0105	0.0017	0.1317	0.0017	0.0068	0.0075	0.0093	0.0000	Financial and insurance activities	K
Real estate activities	0.0001	0.0001	0.0003	0.0001	0.0021	0.0003	0.0014	0.0003	0.0012	0.0044	0.0001	1.0004	0.0010	0.0008	0.0005	0.0024	0.0005	0.0015	0.0011	0.0038	0.0000	Real estate activities	L
Professional, scientific activities	0.0008	0.0007	0.0037	0.0014	0.0037	0.0028	0.0085	0.0024	0.0075	0.0812	0.0020	0.0668	1.0087	0.0063	0.0010	0.0046	0.0012	0.0062	0.0018	0.0078	0.0000	Professional, scientific activities	M
Travel agency, tour operator, reservation service and	0.0098	0.0049	0.0818	0.0202	0.0193	0.0181	0.0074	0.0172	0.0174	0.0052	0.0011	0.0049	0.0211	1.0221	0.0086	0.0037	0.0039	0.0180	0.0128	0.0149	0.0000	Travel agency, tour operator, reservation service and	N79
Administrative and support service	0.0093	0.0038	0.0803	0.0196	0.0396	0.0226	0.0112	0.0172	0.0273	0.0091	0.0015	0.0078	0.0107	0.0413	1.0124	0.0051	0.0044	0.0187	0.0080	0.0151	0.0000	Administrative and support service activities	N
Public administration	0.0000	0.0001	0.0001	0.0001	0.0020	0.0001	0.0001	0.0003	0.0001	0.0085	0.0011	0.0001	0.0001	0.0001	0.0004	1.0007	0.0002	0.0007	0.0058	0.0001	0.0000	Public administration	O
Education	0.0001	0.0006	0.0004	0.0003	0.0002	0.0001	0.0002	0.0009	0.0003	0.0047	0.0011	0.0001	0.0001	0.0003	0.0001	0.0004	1.0002	0.0016	0.0001	0.0004	0.0000	Education	P
Human health activities	0.0001	0.0002	0.0002	0.0006	0.0001	0.0002	0.0001	0.0008	0.0001	0.0013	0.0068	0.0000	0.0001	0.0001	0.0000	0.0009	0.0001	1.0064	0.0003	0.0003	0.0000	Human health activities	Q
Arts, entertainment and recreation	0.0000	0.0000	0.0000	0.0000	0.0002	0.0000	0.0000	0.0005	0.0000	0.0056	0.0000	0.0001	0.0001	0.0002	0.0000	0.0002	0.0009	0.0001	1.0018	0.0005	0.0000	Arts, entertainment and recreation	R
Other service activities	0.0008	0.0009	0.0029	0.0015	0.0234	0.0338	0.0013	0.0092	0.0046	0.0297	0.0062	0.0024	0.0018	0.0094	0.0023	0.0145	0.0042	0.0132	0.0211	1.0066	0.0000	Other service activities	S
Activities of households	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	Activities of households	T

Appendix 3

Section N - division 79

Section N

Administrative and support service activities

Division	Group	Class	Description
Division 77			Rental and leasing activities
	771	7710	Renting and leasing of motor vehicles
	772		Renting and leasing of personal and household goods
		7721	Renting and leasing of recreational and sports goods
		7722	Renting of video tapes and disks
		7729	Renting and leasing of other personal and household goods
	773	7730	Renting and leasing of other machinery, equipment and tangible goods
	774	7740	Leasing of intellectual property and similar products, except copyrighted works
Division 78			Employment activities
	781	7810	Activities of employment placement agencies
	782	7820	Temporary employment agency activities
	783	7830	Other human resources provision
Division 79			Travel agency, tour operator, reservation service and related activities
	791		Travel agency and tour operator activities
		7911	Travel agency activities
		7912	Tour operator activities
	799	7990	Other reservation service and related activities

سلسلة القيمة السياحية في الاقتصاد القومي المصري: تحليل المدخلات والمخرجات

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المخلص

سلسلة القيمة السياحية (TVC) هي سلسلة من الأنشطة والعلاقات المتعددة بين جميع الجهات الفاعلة المشاركة في تقديم قيمة مضافة على طول صناعة السياحة. لتحليل TVC بعمق، هناك حاجة إلى بيانات اقتصادية وطنية مع العلاقات الاقتصادية ومعلومات عن العرض والطلب عبر القطاعات. لذلك، تم إجراء دراسة رائدة في هذا المجال. تم استخدام جدول المدخلات والمخرجات لتحليل قطاع السياحة المصري في الاقتصاد القومي، من أجل اقتراح خريطة سلسلة القيمة السياحية في الاقتصاد المصري. لتحقيق الهدف من البحث، تم استخدام تقنية لجمع البيانات بناءً على منهجية المدخلات والمخرجات التي تغطي تأثيرات الارتباط الأمامي والخلفي، وأظهرت النتائج أن قطاع السياحة المصري يتمتع بالعديد من الروابط الخلفية القوية مع انشطته التصنيع تليها الزراعة وانشطته تجارة الجملة والتجزئة وانشطته التعدين وانشطته النقل وغيرها. كما أن هناك ضعف في الروابط الخلفية مع انشطته الوساطة المالية وأنشطة وانشطته قطاع الكهرباء والأنشطة العلمية والتقنية. وعليه أوصت الدراسة بالاهتمام بأسباب ضعف تلك الروابط بين قطاع السياحة والقطاعات الأخرى ومحاولة تقويتها.

معلومات المقالة

الكلمات المفتاحية

سلسلة القيمة السياحية؛
الروابط الأمامية والخلفية؛
الاقتصاد الوطني.

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