Best Practices in Implementing Tourism Satellite Account (TSA) and Its Ad Hoc Extensions: A Comparative Study in Selected Countries
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Abstract
The Tourism Satellite Account (TSA) is an integrated statistical tool for measuring the economic importance of tourism in countries or regions. It allows measuring the relative weight of the tourism sector within a national and sub-national economy in a reliable and systematic approach as well as leading the process of developing a national system of tourism statistics which is considered as a challenging practice so far.

This study aims to investigate the international experiences in implementing the TSA and in developing TSA's ad hoc extensions for the sake of suggesting guidelines to be adopted by countries as best practices in this area of tourism analysis. To achieve this study objectives, 6 countries' experiences in implementing TSA and its ad hoc extensions have been selected as the study's multiple cases; three developed countries (Canada- Australia- Denmark) and three developing countries (South Africa- Saudi Arabia - Egypt). The study concludes that, there is a clear disparity in the implementation level of TSA in the countries in question. Considering the study findings, a phased multi-stage process for research and development of the TSA and its ad hoc extensions is recommended.

Key Words: Tourism Satellite Account (TSA), TSA's ad hoc extensions, Tourism Statistics.

Introduction
Tourism plays an increasing role as a socioeconomic driver for development in many countries. However, in some cases, it does not receive a level of public concern commensurate with its real contribution to national economies. Undoubtedly, one of the reasons for this is statistical. Within most current statistical systems, it is very hard to adequately report the characteristics of the tourism sector in general and specifically the real economic impacts of visitors' activities in a country at both national and sub-national levels. Dwyer, Forsyth, and Spurr (2004) argued that the old and most widely-used techniques for measuring the economic impact of tourism (e.g. multiplier, input-output analysis) have momentous shortcomings and are based on extremely unrealistic assumptions giving misleading results that makes them inadequate approaches in the area of economic analyses tourism. The latest development of statistical tools which support the economic contribution analysis of tourism is the emergence of Tourism Satellite Accounts (TSA) (Song, Dwyer, Li, and CAO, 2012).

The TSA is a means of measuring the size or contribution of the tourism sector in an economy in a manner that is consistent with the system of National accounts (SNA). Jones (2009: 3) mentioned that "the TSA is defined and developed as a refinement of a system of national accounts (effectively input-output in form) which reveals the scale and nature of tourism economic activity that has formerly been hidden in wider sectoral or activity definitions". In this sense, the TSA can be defined as an integrated framework consisting of concepts, classifications, definitions and tables linked to the central framework of the SNA, based on the general balance between tourism demand for goods and services and their supply. In 2000, the United Nations approved the methodological framework for the TSA as a recommended macroeconomic tool for measuring the economic significance of tourism in national economies as well as a base for international comparisons (UNWTO, 2001; 2010a). The TSA consists of a set of ten standard accounts, each of which is in the form of a special table as illustrated in table (1).
Table 1: The Ten Standard TSA-tables

<table>
<thead>
<tr>
<th>No. TSA-table</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inbound tourism expenditure (final expenditure in cash)</td>
</tr>
<tr>
<td>2</td>
<td>Domestic tourism expenditure (final expenditure in cash)</td>
</tr>
<tr>
<td>3</td>
<td>Outbound tourism expenditure (final expenditure in cash)</td>
</tr>
<tr>
<td>4</td>
<td>Internal tourism consumption (combination of TSA-tables 1 &amp; 2) (Tourism Demand)</td>
</tr>
<tr>
<td>5</td>
<td>Production accounts of tourism industries and other industries (Supply)</td>
</tr>
<tr>
<td>6</td>
<td>Domestic supply and internal tourism consumption (combination of tables 4 and 5) (The Core TSA table)</td>
</tr>
<tr>
<td>7</td>
<td>Employment in the tourism industries</td>
</tr>
<tr>
<td>8</td>
<td>Tourism gross fixed capital formation of tourism industries and other industries (Tourism Investment)</td>
</tr>
<tr>
<td>9</td>
<td>Tourism collective consumption</td>
</tr>
<tr>
<td>10</td>
<td>Non-monetary indicators</td>
</tr>
</tbody>
</table>


The compilation process of the aforementioned ten TSA-tables provides two main measures showing the significance of tourism in destinations; tourism share and tourism ratio. It is recommended to establish the "tourism share" of output (in value) for each industry as the sum of the tourism share corresponding to each product component of its output. Then, for each industry, a "tourism ratio" (ratio between the total value of tourism share and total value of output of the industry expressed in percentage form) is applied to the components of intermediate consumption (and thus to value added) (UNWTO, 2010a; 2010b). To calculate these two measures, a sequence of steps has to be done as follows (Stats SA, 2008; UNWTO, 2010a; 2010b):

- Identify which products in the economy are purchased by visitors;
- Derive an estimate of tourism consumption for each tourism product;
- Remove products taxes and subsidies, margins and imports from tourism consumption of each product at purchaser’s prices to derive tourism consumption at basic prices;
- Determine what proportion of the domestic output of each product is consumed by visitors by dividing tourism consumption at basic prices into the total supply of each product at basic prices;
- Identify the industries which supply each of the tourism products to visitors;
- Apply the tourism product ratio to the output of each product by each industry to derive the tourism output of each industry;
- Estimate the intermediate consumption required to produce each industry’s output of tourism products using relationships in the SU-tables;
- Calculate tourism gross value added at basic prices for each industry as tourism output less the intermediate consumption required to produce the tourism output, and sum for all industries in the economy; and
- Tourism GDP is derived by adding net taxes on tourism products to tourism gross value added at basic prices. Tourism GDP is directly comparable to GDP.
However the notion of designing and building satellite accounts for tourism is not old, but it gained international interest of many developed as well as developing countries. Canada is the leading country in proposing the idea of formulating tourism accounts in the period (1984 - 1986) as well as in applying these accounts in July 1994. In 2000, the UNWTO considered the TSA as its strategic project working intensively to encourage its member states to implement these accounts. A manual of international guidelines, known as the "Tourism Satellite Accounts: Recommended Methodological Framework" was first published in 2001 and was updated in 2008. Since then, the implementation of the TSA has received global momentum; more than 70 countries or territories around the world by the end of 2011 have a TSA (UNWTO, 2011).

Although there are international recommendations for tourism statistics and single recommended framework for the TSA, there is no an ideal TSA. This is supported by Steeg (2009) who stated that the TSA data requirements of a country, and therefore the ideal TSA, depend on the country and its interest in tourism. He proceed saying that the TSA framework has to be adjusted to the statistical needs of the policy and decision makers and other stakeholders in the country, and the data possibilities offered, for example, a need for extensive statistics may not be compatible with a limited budget and a small statistical base in a country. As a consequent, the level of TSA's implementation in countries is disparate; some countries have fully fledged accounts while others have pilot projects for TSA. For instance, 13 countries in Europe have implemented the TSA and provide regularly updated fully fledged national TSA figures, 8 countries have implemented the TSA once within a comprehensible fully fledged national TSA pilot study, and 6 others have started the TSA implementation (EUROSTAT, 2009). In the Arab region, only 4 countries (Saudi Arabia, Morocco, Egypt, and Jordan) have a regular final TSA while another one (Oman) has an experimental TSA so far (Ragab, 2013).

Moreover, some countries have developed ad hoc extensions for the TSA. These extensions are formulated in order to provide further understandings of the various other aspects of tourism in destinations as well as to analyze tourism performance beyond its regional or national economic importance. Examples of these extensions are: Human Resources Module of the TSA (OECD, 2000; Martin, 2013; Meis, 2014); Government Revenue Attributable to Tourism in Canada (Morisette, 2013); Linking TSA with Computable General Equilibrium (CGE) Models (measuring indirect and induced impacts of tourism) (Dwyer, Forsyth, and Spurr, 2007; Rossouw and Saayman, 2011); Forecasting Models (Blake et al., 2001); Linking government strategies and the TSA (Statistics South Africa, 2007); and Environmental impacts of Tourism (Jackson, Kotsovos, and Morisette, 2008).

Given that discrepancy of the TSA's implementation in countries or rather the degree of the TSA development, the central argument of this paper is to investigate the international experiences in implementing the TSA and in developing TSA's ad hoc extensions for the sake of suggesting guidelines to be adopted by countries as best practices in this area of tourism analysis.

**Study Method**

This paper depends on the case study as its research approach. The case study is an approach in which the researcher explores in depth a program, an event, an activity, a process, or one or more individuals (Creswell, 2003). For the purpose of this study, the design of the case study consists of multiple cases which have multiple units of analysis to examine for understanding the similarities and differences among those cases, and against the international standards. This type of the case study design is labeled as an embedded multiple-case study which treats each case as a separate study, studies various units within identifiable cases, and involves looking for
common patterns, processes, or results (Baxter and Jack, 2008; Smith, 2010; Kallinikos, 2010; Yin 2012).

Six countries' experiences in implementing TSA and its ad hoc extensions have been selected as the multiple cases for this study. The selection process of these multiple cases takes into consideration the geographical distribution, the relative importance of tourism in each country, the strength of the general statistical system, and the extent of interest in developing a national system for tourism statistics. Three developed countries (Canada- Australia- Denmark) and three developing countries (South Africa- Saudi Arabia- Egypt) has been chosen. The units of analysis within chosen cases cover two main areas namely; the main characteristics of implementing the TSA and its extensions, and the lessons should be learnt from each experience. The case study's data collection involves several sources including empirical and subjective ones, as well as primary and secondary sources including: the TSA documentation in each country and in the concerned international organizations (e.g. UNWTO, OECD, EUROSTAT), Participant-observation (the author is currently one of the TSA research team in Egypt), interviews (open-ended conversations with key TSA's specialists in Canada and Saudi Arabia).

Discussions and Results
This section illustrates separately the investigation of the TSA development in each of the six selected countries according to the aforementioned units of analysis.

i. Canada
The tourism sector makes an important contribution to Canada's economy in every region of the country. In 2012, tourism accounted for approximately 2% ($32.0 billion) of Canada's GDP, and generated $81.7 billion in revenues (The Tourism Industry Association of Canada, 2013). In 1994, results of the first Canadian TSA for the reference year 1988 were released after years of research work dating back to 1984 (Meis, 2001). Later, in 2001, the Canadian Tourism Commission (CTC) and Statistics Canada released a new version of the Canadian TSA, updated for the reference year 1992 (Meis, Lapierre and Joisce, 2004). This version includes some modifications that begin to bring it into harmony with the international TSA: RMF approved one year previously (Meis, 2006).

Data Sources
Statistics Canada is the responsible agency for compiling the Canadian TSA using different data sources: 3 demand surveys as well as 13 supply surveys (Meis, personal communication, March 15, 2014).
Characteristics of the accounts
Notwithstanding that the Canadian TSA is actually predated, but it is still generally consistent with the TSA: RMF approved in April 2000 and first published in May 2001 (Meis, personal communication, March 15, 2014). Examples of dissimilarities between the Canadian TSA and the TSA: RMF are: (Kemp and Nijhowne, 2004; Statistics Canada, 2007; 2009)

- Classifications: Statistics Canada does not use the International Standard Industrial Classification of All Economic Activities (ISIC Rev. 4) recommended in the TSA: RMF. It relies on the North American Industry Classification System (NAICS) which differs slightly from the ISIC.
- Tabular presentation: the Canadian TSA consists of only 2 tables; the first table shows the tourism demand aggregates while the second brings out the economic aggregates (tourism GDP).
- Coverage: there are some points that are not covered in the Canadian TSA as follows:
  - Tourism consumption in kind;
  - Second homes for tourism purposes;
  - Tourism collective consumption; and
  - Tourism gross fixed capital formation of tourism industries.

Lessons to be learnt
Undoubtedly, one of the benefits of the TSA for Canada is the timing of the TSA release that coincided with the idea of creating a national tourism marketing organization. Also, one of the key lessons learned from the development and application of the Canadian TSA has been the importance of developing and maintaining a long-term cooperative technical partnership among the various stakeholders. Statistics Canada provides an independent, professionally credible and continuing organizational home for the account. The CTC, on the other hand,

1 The tabular presentation does not affect the TSA aggregates. However, it may cause some difficulties in setting up the international comparisons.
provides the other key organizational prerequisites for the Canadian TSA: a single industry voice, a client user committee and a source of development funds to update, enrich and extend the account (Meis, personal communication, March 15, 2014).

**Ad hoc extensions of the Canadian TSA**

Canada is not only the pioneer in building a national TSA, but also in developing several ad hoc extensions building its tourism information system. These extensions cover various tourism issues as follows:

- Provincial/territorial TSA: measuring tourism economic activity in terms of tourism supply, tourism demand, tourism GDP and tourism employment for 10 provinces and 3 regions (Meis, Jackson, and Deslisle, 2006).
- National Tourism Indicators: showing the status of tourism and how it is evolving on a quarterly basis (Delisle and Venne, 2001).
- Module on Government Revenue Attributable to Tourism: providing information on how much revenue tourism generates for government by source of revenue and by level of government (Morissette, 2013).
- Human Resource Module of the TSA: providing detailed information on tourism employment which serving as a strategic tool for training and planning for employment in the tourism sector (Jackson, 2013).
- Linkage of TSA with Statistics Canada environment satellite accounts: developing environmental indicators (e.g. CO$_2$ emissions) for two pilot tourism industries, air transportation and food and beverage services (Jackson, Kotsovos, and Morissette, 2008).
- A Meetings Extension for the TSA: reporting on the economic significance of meetings, specifically business events, held in Canada (Meetings Professionals International Foundation Canada, 2008).

**Australia**

Tourism is an important sector in the Australian economy, contributing about AUD 34.6 billion in 2010/2011 to the GDP (2.5%); an increase of 2.5% compared to the previous fiscal year (Tourism Research Australia, 2012). The Australian Bureau of Statistics (ABS) is the responsible agency for preparing and publishing the TSA in Australia while the department of tourism, energy and resources of the Australian Government is the funding body. The ABS compiles the TSA regularly every three years started from 2000 (ABS, 2011).

**Data Sources**

The ABS relies on a number of sources, which cover both tourism demand and supply sides, to collect the required data for compiling the TSA tables.

![Table 2: TSA Data Sources in Australia](image)
<table>
<thead>
<tr>
<th>Economic activity taxes survey</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service industries survey</td>
<td></td>
</tr>
<tr>
<td>Labour Force Survey</td>
<td>Monthly</td>
</tr>
<tr>
<td>Accommodation establishments survey</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>


**Characteristics of the accounts**

The ABS depends on the recommended TSA: RMF's methodology to calculate the TSA aggregates for tourism in the Australian economy. Although the TSA in Australia is compatible to a large extent with the UNWTO TSA: RMF, there are some areas of dissimilarity which are (Pham, Kookana, 2013; Quinn, 2012a):

- **Classifications**: Australia relies on the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 edition which differs slightly from the ISIC. For example, cultural services do not appear as a separate category in the ANZSIC leading to the integration of cultural services within the recreation and entertainment services.
- **Tabular presentation**: The TSA in Australia includes 15 tables and their structure is different from what is recommended in the TSA: RMF. Furthermore, some of the Australian TSA-tables are presented in an aggregated form without breakdowns.
- **Coverage**: There are some points that are not covered in the TSA in Australia, perhaps because they do not constitute a significant weight for the tourism sector in Australia, or they need special treatments that are not available so far. Examples of these uncovered points are: international same-day visitors, tourism consumption in kind, outbound tourism expenditure by products, tourism collective consumption, and tourism gross fixed capital formation of tourism industries.

**Lessons to be learnt**

Australia is adopting a certain number of foundations and principles that cast to the TSA outcomes more accuracy. Examples from these principles are (Fleetwood, 2004; ABS, 2011; Quinn, 2012a):

- "Usual Environment" definition: The usual environment criteria in Australia involve two dimensions; frequency and distance. Places that are visited on a routine basis (at least once a week) are considered part of a person's usual environment, even if the place visited is located at a considerable distance from their place of residence. Further, locations up to 40 kilometers from home for overnight trips and up to 50 kilometers from home (round trip) for day trips are included in a visitor's usual environment in the Australian TSA.
- The Australian TSA covers some of the other components of tourism consumption: services associated with vacation accommodation on own account and tourism social transfers in kind
- The Australian tourism consumption expenditure is divided into household and business/government consumption expenditure.
• In the Australian TSA, for a product/industry to be a country-specific tourism characteristic product/industry, at least 25% of the total output of the product/industry must be consumed by visitors.

Ad hoc extensions of the Australian TSA
• Regional TSA: the ABS is depending on the regionalization approach of the national TSA to produce annual multiregional estimates for tourism for all states and territories in Australia (Tourism Research Australia, 2011; UNWTO, 2013);
• Other further developments of the TSA in Australia: the ABS in collaborations with the Tourism Research Australia works on further areas of TSA research including: additional employment data, benchmark investigations, tourism investment, and investigate Census compositional data (Quinn, 2012a).

iii. Denmark
In 2010, the tourism contribution to the gross value added in Denmark reached to 2.1% directly and to 3.3% both directly and indirectly (OECD, 2012). VisitDenmark—the official tourism office—cooperating with Statistics Denmark compiled the first experimental TSA for Denmark in 2003, which included the first seven TSA-tables with exception of TSA-table 3 (outbound tourism expenditure). One year later, Denmark built its full-fledged national TSA for the reference year 2000. Since 2006, the Centre for Regional and Tourism Research (CRT) has become responsible for compiling and publishing TSA in Denmark (EUROSTAT, 2009).

Data Sources
The CRT relies on a number of sources that cover both tourism demand and supply sides to collect the required data for compiling the TSA tables (Table 3). The data provided by tourism demand surveys in Denmark are not sufficient for fully construction of the TSA-tables; hence the CRT depends on supplementary data from the supply and use tables. Additional bridge tables are constructed in order to confront corresponding data from different sources (Zhang, 2005).

Table 3: TSA Data Sources in Denmark

<table>
<thead>
<tr>
<th>Source</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound Tourism Survey</td>
<td>Annually</td>
</tr>
<tr>
<td>Domestic Tourism Survey</td>
<td>Annually</td>
</tr>
<tr>
<td>Same-day Visitors Survey</td>
<td>Every five years</td>
</tr>
<tr>
<td>Supply and use tables</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Labour Force Survey</td>
<td>Monthly</td>
</tr>
<tr>
<td>Statistical Register of Employment</td>
<td>Annually</td>
</tr>
<tr>
<td>Other statistical data and census produced by Statistics Denmark</td>
<td></td>
</tr>
</tbody>
</table>

Source: Zhang J. (2005). Documentation on Regional Tourism Satellite Accounts in Denmark, Centre for Regional and Tourism Research, Copenhagen.

Characteristics of the accounts
The CRT is adopting the recommended TSA: RMF's concepts, classifications, and methodology to calculate the TSA aggregates for tourism in the Danish economy. Although the TSA in Denmark is compatible to a large extent with the UNWTO TSA: RMF, there are some areas of difference which are (EUROSTAT, 2009; Zhang and Hedetoft, 2011):
• Tabular presentation: The structure of the compiled TSA-tables in Denmark is slightly different from the TSA: RMF. Furthermore, the non-monetary indicators are not presented in the Danish TSA tables.

• Coverage: Outbound tourism consumption is missing in the Danish TSA. Additionally, domestic tourism expenditure of resident visitors travelling abroad is not recorded. Moreover, transfers in kind (e.g. government’s subsidies on cultural and recreational services), tourism expenditure by non-profit institutions for households, tourism collective consumption, and tourism gross fixed capital formation of tourism industries are not covered in the Danish TSA.

**Lessons to be learnt**

However the limited number of data sources that Denmark depends on to compile the TSA, here are some strengths of the Danish TSA (Zhang, 2005; EUROSTAT, 2009):

• The usual environment criteria have three dimensions: the minimum distance, frequency of travel and minimum change between localities or administrative territories.

• Spending on non-specific tourism products which are broken into six categories, some of them petroleum, food, drinks and tobacco, clothes and footwear, consumer electronics etc.

• Expenditure on tourism single purpose and multipurpose consumer durables goods are included into tourism expenditure data (e.g. audio-visual, photo and data equipment jewellery, watches, toys textile and clothing industry etc).

**Ad hoc extensions of the Danish TSA**

• Regional TSA: the CRT is depending on the regionalization approach of the national TSA to produce annual multiregional or municipal tourism estimates for 98 cities in Denmark (Zhang, 2008; UNWTO, 2013).

• Meetings module for the TSA: VisitDenmark (2012) released in May 2012 the study results on the economic contribution of Meetings to the Danish economy. This study is considered as an extension for the Danish TSA providing insights into the number of meetings held in Denmark and their significance to the regional as well as the national economy during the year 2010.

• Linking the regional TSA and the regional environmental accounts within the Danish regional model framework to calculate the GHG emissions related to tourism intermediate consumption as well as tourism private consumption (Zhang and Brandt, 2010).

• Other further developments of the TSA in Denmark (EUROSTAT, 2009):
  - Merging the TSA accounting part with the modelling part, and both of them are built based on the national accounts.
  - Forecasting the TSA tables to the present year.
  - Measuring the return of investment for marketing campaigns.

iv. **South Africa**

The tourism industry in South Africa has a substantial impact on the economy. Tourism directly contributed 3.0% of GDP in 2010 and 4.3% of total employment (South African Tourism, 2011). In 2003, the National Accounts division of the statistics office of South Africa (Stats SA)
initiated the TSA project for South Africa (Stats SA, 2005). For the compilation of the South African TSA, an inter-institutional committee for the TSA was established including several departments.

Figure 2: TSA Inter-institutional Platform in South Africa

![TSA Inter-institutional Platform in South Africa](image)


Data Sources

In order to compile the 2005 experimental TSA for South Africa, the Stats SA used several data sources for constructing the first six monetary TSA-tables as well as non-monetary TSA-tables 7 and 10 (Stats SA, 2005).

Characteristics of the accounts

The Stats SA follows the TSA: RMF's methodology to produce the TSA aggregates measuring tourism impacts on the national economy. South Africa has a well-developed general statistical system which allows building a robust TSA that is highly consistent with the UNWTO TSA: RMF. However, there are points that are not covered which are: differentiation the same-day visitors from the tourists (overnight visitors) for inbound and domestic tourism, estimation tourism expenditure on second homes, tourism consumption in kind, outbound tourism expenditure by products, tourism collective consumption, tourism gross fixed capital formation of tourism industries (Grobler, 2008).

Table 4: TSA Data Sources in South Africa

<table>
<thead>
<tr>
<th>Source</th>
<th>Frequency</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrivals and departures statistics</td>
<td>Monthly</td>
<td>Movement control system</td>
</tr>
<tr>
<td>General Household Survey</td>
<td>Annually</td>
<td>32,566 households sampled</td>
</tr>
<tr>
<td>Income and Expenditure Survey</td>
<td>Every 5 years</td>
<td>30,000 households sampled</td>
</tr>
<tr>
<td>Tourism specific household survey</td>
<td>Biannually</td>
<td>35,000 households sampled</td>
</tr>
<tr>
<td>Supply and use tables</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td>Financial statistics of consolidated general government</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td>Survey of enterprises with branches: Accommodation</td>
<td>Periodically</td>
<td></td>
</tr>
</tbody>
</table>
Tourist accommodation survey  Monthly  900 enterprises sampled
Survey of food and beverages  Monthly  900 enterprises sampled
Large sample survey (LSS) on accommodation  Every 3 years  2,531 enterprises sampled
LSS on personal services  Every 3 years  5,514 enterprises sampled
LSS on the transport industry  Every 3 years  2,500 enterprises sampled
LSS on real estate and business services  Every 3 years  8,000 enterprises sampled
LSS on wholesale and retail trade  Every 3 years  1,800 wholesale enterprises sampled, 2,900 retail enterprises sampled
Annual Financial Statistics  Annually  17,000 enterprises sampled


**Lessons to be learnt**

The South African TSA has many characteristics which are considered as best practices in this area. Examples of these characteristics are (Stats SA, 2005; 2007; 2011):

- "Usual Environment" definition: To be outside the 'usual environment', the person should travel more than 40 kilometers from his/her place of residence (one way) and the place should not be visited more than once a week. This includes place of work and place of study. Leisure and recreational trips are included irrespective of frequency;
- Determining a list of tourism connected products and activities;
- Using existing administrative information collected by other institutions

**Ad hoc extensions of the South African TSA**

- Regional TSA for 9 provinces (Grobler, Geddes 2009).
- Linking Government Strategies and the TSA: the Stats SA examines government tourism strategies in the context of the information that the TSA can provide in order to monitor the impact and the progress of tourism policies (Stats SA, 2008).

**v. Saudi Arabia**

Tourism in Saudi Arabia has witnessed a remarkable growth contributing with 3.1% to the GDP in 2011. If we consider only the non-oil GDP, tourism contribution to the GDP rose to 7.2% (MAS, 2012). In 2004, the Saudi Commission for Tourism and Antiquities (SCTA) initiated the TSA pilot project. The Tourism Information and Research Centre (MAS), a dependant center to the SCTA, is the responsible agency for compiling and publishing the TSA results in Saudi Arabia (MAS, 2005).

**Data Sources**

The Saudi TSA was applied in 2004 based on four basic surveys conducted annually by MAS (Table 5). The first five monetary TSA-tables as well as non-monetary TSA-tables 7 and 10 are compiled regularly in Saudi Arabia since 2005. In 2010, TSA-table 8 has been compiled which is considered as a pioneering step for Saudi Arabia in the TSA research (MAS, 2012).
**Characteristics of the accounts**

The MAS follows the TSA: RMF's recommendations in the TSA implementation in Saudi Arabia, especially for definitions and classifications. Yet, Saudi Arabia did not compiled the TSA-table (6), the TSA's core table, which shows the relationship between visitors' consumption and corresponding supply of goods and services. Furthermore, Saudi Arabia still has some challenges for developing a full-fledged TSA. These challenges are as follows:

- A discrepancy between demand and supply data; number of overnights resulted from demand surveys does not match with what is resulted from supply surveys;
- Data shortages on the accommodation used by the Hajj visitors including tents and furnished units that are licensed temporarily by the Ministry of Hajj to host the pilgrims;
- Accounting period: some establishments record their data based on the Gregorian calendar, others on the Hijri calendar.
- Household surveys in Saudi Arabia are difficult to be conducted.

<table>
<thead>
<tr>
<th>Source</th>
<th>Frequency</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Visitor Survey</td>
<td>Monthly</td>
<td>1,850 persons sampled per month</td>
</tr>
<tr>
<td>Domestic &amp; Outbound Tourism</td>
<td>Monthly</td>
<td>1,850 households sampled per month</td>
</tr>
<tr>
<td>Survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism Establishments Survey</td>
<td>Every 5 years</td>
<td>30,000 households sampled</td>
</tr>
<tr>
<td>Tourism specific household survey</td>
<td>Annually</td>
<td>1,000 enterprises sampled</td>
</tr>
<tr>
<td>Hotel Statistics Survey</td>
<td>Annually</td>
<td>270 enterprises sampled</td>
</tr>
</tbody>
</table>


**Lessons to be learnt**

The Saudi TSA has many characteristics which are considered as best practices in this area. Examples from these characteristics are:

- "Usual Environment" definition: a radius of 80 kilometers around a person’s home, and also places that are visited more than four times a month.
- Extracting the economic indicators of supply side of tourism, which include: value added, income, wages, intermediate consumption, operating surplus and mixed income, and number of employees for each region;
- Estimating the private tourism investment;
- Involvement of national governmental agencies and all concerned stakeholders;
- Pursuing constantly recent UNWTO's recommendations on tourism statistics.

**Ad hoc extensions of the Saudi TSA**

Currently, Saudi Arabia has no explicit TSA's extensions. However the MAS center planned some TSA's advancements in its future agenda as follows (Al-Ansari, personal communication, May 28, 2013):

- Developing a travel, transport and tourism price index (TTPI);
- Building business intelligence and decision support systems for tourism;
- Linking TSA with the social accounting and environmental accounting.

vi. **Egypt**
Inbound tourism to Egypt increased from almost a million tourists in 1982 to 5.5 million in 2000, then jumped to about 14.7 million in 2010, with an average annual growth rate during the last five years of 14.2%. Tourism revenues achieved nearly US$ 12.5 billion accounting for 49.2% of services exports and about 20% of foreign exchange generated in the Egyptian economy during 2010 (MOT-Egypt, 2012). The compilation of the TSA in Egypt was initiated in 2008 by establishing a special unit (TSA-unit Egypt) in the Egyptian Ministry of Tourism as well as inter-institutional committees (Figure 3) (Ragab, 2010).

**Figure 4: Egypt-TSA Institutional Platform**


**Data sources**

With the accomplishment of Egypt TSA project in 2010, Egypt now compiles the core TSA-tables 1-7 and 10. Primary and secondary data sources have been utilized to compile those TSA tables in Egypt.

**Table 6: TSA Data Sources in Egypt**

<table>
<thead>
<tr>
<th>Source</th>
<th>Frequency</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passport and Immigration Authority statistics</td>
<td>Monthly</td>
<td>Movement control system</td>
</tr>
<tr>
<td>Inbound tourism survey</td>
<td>Quarterly</td>
<td>121,000 persons sampled</td>
</tr>
<tr>
<td>Domestic tourism survey</td>
<td>conducted once in 2009 in quarterly basis</td>
<td>36,000 households sampled</td>
</tr>
<tr>
<td>Inbound same-day visitors survey</td>
<td>conducted once in 2009</td>
<td>3,400 persons sampled</td>
</tr>
<tr>
<td>Non-resident Egyptian arrivals survey</td>
<td>Quarterly</td>
<td>12,000 persons sampled</td>
</tr>
<tr>
<td>Outbound tourism survey</td>
<td>Annually</td>
<td>4,000 persons sampled</td>
</tr>
<tr>
<td>supply and use tables</td>
<td>Quarterly</td>
<td></td>
</tr>
<tr>
<td>Informal sector survey</td>
<td>conducted once in 2009</td>
<td>3,409 enterprises sampled</td>
</tr>
<tr>
<td>Labour force survey</td>
<td>Quarterly</td>
<td>50,436 households sampled</td>
</tr>
</tbody>
</table>

Characteristics of the accounts

Egypt has a full-fledged TSA publishing results on a regular annual basis starting with the base year 2009 (Ragab, 2013). The TSA in Egypt is fully consistent with the TSA: RMF's methodology, however, tourism collective consumption and tourism gross fixed capital formation of tourism industries are not covered so far.

Lessons to be learnt

The Egyptian TSA has many characteristics which are considered as best practices in this area. Examples of these characteristics are:

- "Usual Environment" definition: Egypt used the familiarity concept to define the "usual environment" which means that the activity can be repetitive but in different geographical locations and not bounded to time limits (TSA-unit Egypt, 2011);
- Making the most use of available census and different surveys results conducted by the Central Agency for Public Mobilization and Statistics;
- Covering the informal sector production activities in Egypt;
- Working closely with the international organization (e.g. UNWTO, OECD) as well as the national agencies (e.g. central bank of Egypt, Information and Decision Support Center).

Ad hoc extensions of the Egyptian TSA

At present, there are no published extensions for the TSA in Egypt but the future plans for the TSA-unit Egypt states that building a regional TSA as well as Meetings Satellite Accounts are targeted in the near future.

Table 7: Summary of the TSA's Aggregates in the Study's Selected Countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Reference Year</th>
<th>Inbound Tourism Expenditure ($ Billion)</th>
<th>Domestic Tourism Expenditure ($ Billion)</th>
<th>Outbound Tourism Expenditure ($ Billion)</th>
<th>Tourism Gross Value Added (TDGVA) ($ billion)</th>
<th>Direct Value Added (TDGVA) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>2004</td>
<td>17.5</td>
<td>41.1</td>
<td>23.8</td>
<td>23.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Australia</td>
<td>2010/11</td>
<td>23.7</td>
<td>72</td>
<td>30.9</td>
<td>31.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>2010</td>
<td>5.14</td>
<td>7.8</td>
<td>-</td>
<td>5.4</td>
<td>1.9</td>
</tr>
<tr>
<td>South Africa</td>
<td>2010</td>
<td>9.6</td>
<td>13.6</td>
<td>-</td>
<td>10.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>2010</td>
<td>6.8</td>
<td>8.3</td>
<td>14.8</td>
<td>16.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Egypt</td>
<td>2009</td>
<td>12.5</td>
<td>2.8</td>
<td>2.5</td>
<td>9.6</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Source: Adopted by the Author.

Study Conclusions

As stated above the implementation of a TSA differs from one country to another, depending on the data availability as well as the concepts, definitions, and classifications adopted in each country. It has been proven through the analysis of this study that the TSA aims to enable destinations to understand properly and to assess accurately the significance of the tourism sector in their economies. This sector is described in the TSA by a range of economic indicators, which
can be obtained from tracing the impact of tourism expenditure unit (visitors) on the production units (tourism industries and other industries). Accordingly, the implementation of a TSA in a country is of complex operations that necessarily need enormous resources and efforts as well. Considering the best practices founded through this study analysis, a phased multi-stage process for research and development of the TSA and its ad hoc extensions is recommended as follows: (Figure 5)

**TSA Orientation:** Giving rise and originating support to the TSA project of the various stakeholders that linked directly or indirectly to the tourism sector in a country. For this purpose, it is proposed to organize a few introductory workshops inviting all concerned stakeholders. This step involves data needs assessment for tourism statistics end-users/stakeholders.

**TSA Inter-institutional Platform:** Throughout the TSA development process, it is important to keep in mind that compiling TSA tables is a complex compound process involving a synthesis of information from many different data sources and reference points. Hence, forming an inter-institutional committee for the TSA is a key step and priority. The inter-institutional in that context means an inter-sectoral cooperation. It has been proven throughout this study that the experiences of Egypt and South Africa are the best practices in creating a TSA’s the inter-institutional platform. Accordingly, this platform/committee should be consisting from three main bodies: 1) Bodies that generate and supply general statistics and basic tourism information: National Statistics Office, National Tourism Administration, Central Bank, associations of tourism enterprises; 2) Bodies providing information on specific aspects of tourism: border control authorities, local authorities; and 3) Potential users of information on tourism (NTA (policy), universities (research), private sector (planning, marketing, promotion).

**TSA data inventory and feasibility study:** Before operational steps are taken to develop the first TSA in a country, a TSA feasibility study should be conducted. This includes a description of the System of Tourism Statistics (STS) and a diagnosis of the main characteristics of the tourism sector in the country in question. Additionally, a detailed and focused in-depth inventory and assessment review of the existence and features of available data sources in terms of their potential contribution to the TSA project is a target for this feasibility study. By completing this step, it would be possible to confirm the status of readiness for compiling a TSA. Resources and alternatives have to be allocated. Saudi Arabia has the best practices in conducting a TSA feasibility study as shown in the previous section.

**Closing key gaps:** Based on the results of the previous step, decisions should be taken by the technical team to fill the data gaps, particularly the full range of potential demand side and supply side data sources, for compiling TSA tables.

**The Experimental TSA:** This step is to examine the decisions and procedures taken in the previous steps. This involves constructing the standard TSA tables for a reference year depending on the different demand and supply data sources. It is an experimental TSA as it might cover the whole TSA or only parts of it.

**TSA capacity building:** In order to proceed to further estimations of the experimental TSA, it is very essential for the TSA technical team to participate actively in the UNWTO Statistics Capacity Building Programs, the Technical workshops and the Regional seminar, in
order to share of knowledge and other experiences. Also, multi-level training programs have to be designed for the country's TSA team.

**Final Full TSA and TSA updates:** Once the aforementioned steps have been carried out, the final full TSA should be released and presented to the public. The TSA updates and the dissemination plans are fundamentals as well.

**TSA extensions and applications:** The standard TSA aggregates cannot tell us everything related to tourism policy and analysis areas. Ad hoc extensions for a standard TSA have to be developed according to the user needs. Undoubtedly, Canada has the best practices in that area of TSA research and applications as shown previously.

**TSA/STS revisions and policy:** Revisions are an essential part of data compilation. They occur as a consequence of the trade-off between the timeliness of published data and their reliability, accuracy and comprehensiveness (UNWTO, 2010b). For the soundness of the TSA/STS, a well-designed revision policy has to be developed. Indeed, compiling TSA updates and producing tourism statistics on a regular basis, as well as revising the process as a whole (data collections, data processing, assumptions, etc.) according to a stated revisions policy is indispensable for the sustainability of the TSA and STS and a feature of the United Nations fundamental principles of official statistics as well.

Over and above, countries should not consider the TSA and its potential ad hoc analytical extensions as one-shot process or the ultimate goal; conversely, it is an ongoing process and the initial foundation for building a robust and comprehensive a national system for tourism statistics.

**Figure 5: A Proposed TSA Development Trajectory**

![TSA Development Trajectory Diagram](Source: Designed by the Author)
References


VisitDenmark (2012) The Economic Contribution of Meeting Activity in Denmark, VisitDenmark: Copenhagen.


Zhang J. (2005) Documentation on Regional Tourism Satellite Accounts in Denmark, Centre for Regional and Tourism Research, Copenhagen.

