Tourism Expenditure Survey
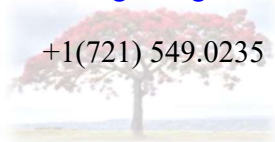
Methodology 2013 / 2014

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1. Background

1.1.   Introduction

Tourism has become the main economic driver of St. Maarten and its respective industries. Thus, it is imperative that recent and reliable data is compiled from both public and private sectors in order to assess tourism's impact on them. To improve the product and implementation of new marketing strategies it is vital for the policy makers to determine the characteristics and behaviours of visitors. These characteristics usually consist of demographical, satisfaction, economical and travel purpose driven statistics of visitor to St. Maarten.

Today global economies have become increasingly aware of the economic impacts of the role that tourism plays and can play both directly, indirectly or through induced effects in the economy in terms of generation of value added, employment, personal income, governmental income, etc (WTO, 2008). In addition, the demand and supply aspects of tourism directly affects national consumer price index (CPI), and therefore impacts on the national accounts system.

The Tourism Expenditure Survey (TES) is used to collect income, expenditure, satisfaction, and demographic statistics from visitors. These statistics are used for the variety of purposes namely to provide policy makers with reliable information to use in developing, supporting, and implementing policies and/or new marketing strategies that improve the St. Maarten tourism product. Tourism in St. Maarten is primarily divided into two industries, stay-over and cruises. This report focuses on stay-over tourists and from hereon be referred to as Stay-over Tourism Survey (STS).

Structure of the report

This report is organized in eight chapters as follows:

- Chapter 1 gives the background to, and justification for and Legal Authority to conduct the Stay-over Tourism Survey (STS)

- Chapter 2 discusses a conceptual framework and operational definition for Household, Income and Expenditure. Identifying the components to be included in the operational definition, those that should be excluded.

- Chapter 3 this chapter presents the planning and organization of the STS project.

- Chapter 4 presents sampling methodology used determine sample size and sample selection.

- Chapter 5 describes survey documents used, provides the code books and instruction manuals used for the project.

- Chapter 6 provides the planning, organization and requirements to execute the field work of the STS project.

- Chapter 7 discusses the method of data collection and data capture and data storing procedures.

- Chapter 8 describes the editing and coding process, tabulation and ultimate reporting of the results.

1.2.　　Objectives

Tourists expenditure and satisfaction statistics serve a variety of purposes with respect to economic, social and other forms of description and analysis. It provides the following information:
1. Socio-economic characteristics
2. Visitor Expenditure
3. Level of Satisfaction

The results of the Tourist Survey will enable us to:
- Analyse existing trends and market developments in tourism
- Produce the expenditure patterns of the visitors divided into their place of residence and other characteristics
- Provide information on the country's image among visitors

1.3.　　Historical Development

This report pertains to one half of the overall Tourism Expenditure Survey, it provides information on stay-over visitors who departed St. Maarten/St. Martin during the first quarter of this 2013. The previous Stay-over surveys (STS) were carried out by CBS Curacao during Winter 1997-1998 and in Winter 2002/2003 by collaboration of the St. Maarten Tourism Bureau (STB), St. Maarten Hospitality Trade Association (SHTA) and Caribbean Tourism Organization (CTO).

In the last report it was noted that the STB and SHTA conducted data collection and the CTO performed data processing and reporting. However, in present report primary data analysis and reporting will be conducted by St. Maarten's Department of Statistics (STAT) whereas STB will again perform their prior role in carrying out SOSs on a ¼ - yearly intervals.

1.4.　　Coverage

The STS 2013 covers a sample of all tourism visiting St. Maarten by means other than via Cruise vessels or yacht. In particularly, targeted tourists will be those leaving the island through aircraft via the Princess Juliana International Airport. According to the WTO (2001), Tourism is defined as the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited. Individuals that are residing on St. Maarten / St. Martin one year or longer will be excluded from the survey. Due to the geographical location and size of St.

Maarten / St. Martin in this report all tourists are viewed as international visitors. These international visitors also include nationals residing permanently abroad.

As this survey objective is to obtain the purpose and measure the economic activity of tourists within the island, it is crucial that we define visitor consumption, determine the timing of purchase that is measured, and distinguish between the

Visitor consumption covers "the total consumption made by a visitor or on behalf of a visitor for and during his/her trip and stay at destination. It encompasses these purchases as well as all expenditure on goods and services by all institutional units on behalf of visitors. As well as including all forms of transfers in kind and other transactions benefitting visitors that are not cash or financial assets provided to the visitors but goods and services (thus, the consumption of individual non-market services is included). As a consequence, visitor consumption includes all categories of consumption goods and services (WTO, 2001). This survey will try to collect data on consumption of both market and non-market services by collecting data on expenditure behaviours and satisfaction statistics respectively.

2. Concepts and Definitions

The aim of the following section is to provide clarity on the widely known definitions used in this study. Therefore, we have constructed a list of the most used tourist-related definitions provided by the World Tourism Organization.

2.1.   Tourism

Tourism is defined as the activities of person(s) (referred to as visitors) travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure business and other purposes not related to the exercise of an activity remunerated from within the place visited (WTO, 2001)

Persons working on St. Maarten and getting a remuneration from within the island were excluded. Convention visitors, business people, shopping tourists, excursionists were all included. Convention visitors, business people, shopping tourists, excursionists were all included in the population. Students were included as long as their stay did not exceed twelve months, as long as they did not register themselves as a resident.

However, statistical information on the nature, progress and consequences of tourism is mainly based on arrivals and overnight stay statistics, as well as balance of payments information, which do not grasp the whole economic phenomenon of tourism.

All visitors to St. Marten were interviewed. Prior to the dissolution of the Netherlands Antilles, individuals visiting from islands within the Antilles were considered domestic tourists. However, within this survey these former "so called domestic tourists" will now be included with other regional tourists.

The population in this survey was the group of incoming international visitors. This means that residents of the Netherlands Antilles on vacation and domestic tourists were not interviewed.

Purpose of the visit

The main purpose of visit refers to the reason in the absence of which, the trip would not have taken place or the given destination would not have been visited. Tourists are individuals who travel for leisure, recreation and holidays. Therefore it follows that these individuals often leave the usual environment where a person usually lives and works. As a consequence, a business or commercial traveller may or may not be a tourist, according to the place from where he/she is paid and how he/she undertakes his/her activity. Determining the purpose of visit or the reason upon which the trip was taken to the given destination(s), distinguishes the type of visitor and what attracted them to the destination.

Accommodation

The available space for occupants in a facility, such as a room, group of rooms, or building in which someone may live or stay. In reference to tourism, these facilities provide lodging for overnight occupants.

Tourism consumption

Tourism consumption, except when it corresponds to the intermediate consumption of enterprises, will thus conform to the concept of 'final consumption' in the system of national accounts, regardless of type of consumers.

The present Tourism Satellite Account (TSA), developed by the UNTWO, recently provided clarity on the widely known definition of visitor consumption as "the total consumption expenditure made by a visitor or on behalf of a visitor for or during his/her trip and stay at destination" (WTO, 2001).

Before examining the issues in detail, two important general points should be made:

- First, individual consumption is an activity undertaken by individuals, by the households to which they belong, and by businesses, government units and non-profit institutions serving households (NPISH) in the production of goods and services. In the same way as the visitor is at the centre of tourism activity, the consumption of the visitor is at the centre of the economic measurement of tourism. The visitor is viewed as a particular type of individual consumption unit, who is distinguished from other individuals by the fact that he/she is outside his/her usual environment and travels or visits a place for a purpose other than the "exercise of an activity remunerated from within the place visited". Otherwise, he/she behaves like an ordinary consumer, so that the characteristics of consumption activity described in The System of National Accounts (SNA) 1993 are also relevant for visitors;
- Second, the measurement of visitor consumption is complicated by the fact that a single type of transaction can be deemed to be included or excluded from visitor consumption by the nature of the transactor (visitor or non-visitor).

Included in this survey were expenditure made by a visitor or on behalf of a visitor for and during the trip while on the island of St. Maarten. Prepaid package costs were included in the data for both cruise the cruise and air travellers.

In this survey, tourism consumption encompasses all visitor consumption transactions excluding:

- Purchases for commercial purposes
- Capital investments or transactions
- Non-payment transactions which does not represent the transfer of money for goods or services, such as financial gifts and loans to family or friends, and donations.

Tourist Satisfaction

In the context of tourism satisfaction is defined as the tourist's emotional state after experiencing the trip (Baker and Crompton, 2000). Customer satisfaction is significant to achieve loyalty not only in physical products, but also in tourism context when visitors intend to revisit the same destination, or another within the same country. It is generally known in tourism that high quality of service would result in tourist satisfaction, create a positive word-of-mouth, and lead to repeat visits. This in turn affects suppliers' financial performance in tourism industry (A.P. Mat Som & M. Bader Badarneh, 2011).

Non-response

Non-response is when an approached tourist declines to participate in the survey or does not complete the survey sufficiently. The degree of non-response bias depends essentially on two factors: the percentage of the sample not responding and the extent to which non-responders differ systematically from the study population (S. Barclay, C. Todd, I. Finlay, G. Grande, and P. Wyatt; 2002). Purpose for not successfully participating in the survey may arise due to the following reasons:

- The perceived salience of the subject matter is a strong predictor of response.
- Many potential respondents perceive a rising tide of questionnaires that they are too busy to complete.
- Communication problems with the potential participant.

3. Survey Organization

This chapter is intended to present the planning and organization of the TES project to be conducted by the Tourism Bureau & the Department of Statistics (STAT) in 2013.

3.1. Survey and Reference Period

The survey period for collecting and analysing of the tourism expenditure statistics is for a full year. However, this year is divided into quarters in which one week will be allocated for the data collection and one month for the data analysis process. The quarterly surveying periods serves the purposes of providing recent insight into tourist experience and purchasing behaviours while residing on the island.

In addition, the data allows significant quarterly and seasonal behavioural differences between tourists to be distinguished.

During the survey period outgoing visitors that resided on the island for at least 1 day were targeted for duration of 1 week. Surveys were distributed at the departure hall of the Princess Juliana International Airport. These questionnaires were filled out by the interviewees, reviewed by the interviewer for errors to be corrected, and accepted once the survey has been appropriately filled out.

3.2.   Schedule

The Tourism Expenditure Survey has six (5) phases namely;
- **I.** Planning and Preparation
- **II.** Publicity, Recruitment and Training
- **III.** Pilot Survey
- **IV.** Survey period
- **V.** Market Research

Phase 1: <u>Planning and Preparation</u>

Timeframe: 3 months (Jan. - March. 2013)
- − Questionnaire Development
- − Methodology Development
- − Budget
- − Schedule Plan
- − Instruction Manuals

Phase 2: <u>Digitalization and Testing</u>

Timeframe: 3-4 months (Jan 2013 – Apr 2013)
- − Questionnaire in PDF
- − Testing Questionnaire
- − Variable list
- − Development of Access Database + SQL database

Phase 3: <u>Publicity, Recruitment and Training</u>

Timeframe: 1 month (March 2013 – Apr 2013)
- − Recruitment of 6 freelancers
- − 1 day Training (8 March, 18 March, & 20 March2013)
- − Press Release (March 2013 – Apr 2013)

Phase 4: <u>Pilot Survey</u>

Timeframe: 2 days (9 March – 13 March 2013)
  - 2 Pilot Full Load (9 March & 12 March 2013)
  - Pilot Survey Evaluation (13 March 2013)

Phase 5: <u>Survey Period</u>

Timeframe: 1 year (March 2013 – Dec 2013)
  - 1st quarter (March 23 2013 – March 30 2013)
  - 2nd quarter (June 22 2013 – June 29 2013)
  - 3rd quarter (Sept 21 2013 – Sept 28 2013)
  - 4th quarter (Dec 14 2013 – Dec 21 2013)

  - 6 interviewers with a workload of approximately 50 quotas per day
  - Performance Evaluation
  - Data collection and quality check (March 23 – April 17, June 22 – July 17 , Sept 21 – Oct 16, Dec 14 – Jan 15)

Phase 6: <u>Market Research</u>

Timeframe: 3 months (March 2013; June 2013; Sept 2013; Dec 2013)
  - PJIAE
    - Departure hall
    - Check-in Hall
  - 8 days survey period
  - 3 market researchers per survey area
  - 6 market researchers (1 reserve)
  - Data entry Market Research (April 2013, July 2013, Oct 2013, Jan 2014)

3.3.   Project Budget

Sint Maarten Tourism Expenditure Survey (TES) 2013: Planning Budget					
Survey Period TES		**23-Mar TO 30-Mar**		**Sample Size**	**1066**
					1065
Item	**Rate**	**Quatity**	**Budgeted Expense**		
PJIAE - 23 - 30 March					
5 enumerators	10.00	1066	10,660.00		
SMHHC - 23 - 30 March					
5 enumerators	10.00	1065	10,650.00		
Subtotal: Pilot Survey				ANG	21,310.00
Materials					
Training					
Questionnaires - Airport: Xerox quota	0.35	8000	2,800.00		
Cruise: Xerox quota	0.35	10000	3,500.00		6,300.00
Bags					
Clipboards					
Pens					
Envelops					
Subtotal: Materials				ANG	1,890.00
Survey Training					
Publicity campaign					
Enumerators	5.00	25.00	125.00		
Enumerators Reserves	1.00	25.00	25.00		
Subtotal: Survey				ANG	150.00
Total Cost				ANG	23,350.00

3.4.   Recruitment of Field Staff

The recruited field staff should have the following qualifications and competencies:

- Minimal Completed High School (preferred MBO or Associate Degree)
- Capability to utilized Mobile Devices (computer literate)
- Good with numbers (numerical oriented)
- Organized and Good Time Management
- Polite Demeanour
- Stress Resistant
- High Work Ethic (can handle confidential information and has a sense of integrity)
- Preferred persons between 25-50 years of age

3.5.   Frequency of Measurement

By its very nature, tourism is a seasonal phenomenon though many countries present tourism statistics mostly on a yearly basis. This might not sufficient, in particular for policy making and for the compilation of Balance of Payments that usually should be at least on a quarterly basis. In most countries of the world, tourism, and particularly international tourism, presents seasonal variations related to climatic conditions (in the country of origin or of destination), religious celebrations, holiday seasons or other factors that affect with varying intensity the different markets of origin and destination.

The Tourist Survey took place every third week of the month, initiating from Saturday till the following Saturday. The research questionnaires targeted principally stay-over tourists to the island of St. Maarten, in the departure hall of the Princess Juliana International Airport. The questionnaires were filled out by interviewees and checked for errors or non answers, by interviewers. Prior to the execution of the survey, interviewers received intensive training by staff members of Department of Tourism. The training included how to locate, identify, contact, greet and examine the respondents, as well as how to record responses and terminate the interview. Above all, they were instructed on the importance of following instructions and procedures for the interviews.

4. Sampling Methodology

The purpose of this section is to explain the method through which data was gathered and analysed. Section 4.1 focuses and explains the chosen research design. Section 4.2 explains the general sample size chosen for the research, followed by section 4.3 which 4.4 describes how the data is collected and the methods of analysis chosen. In section 4.5 the scales used to measure each construct within the research are given and explained. Section 4.4 describes the methods used in analysing the data, and finally concluding with pre-descriptive analysis (section 3.6).

4.1.   Sampling Design

A goal of this survey is cumulate data on various segments within St. Maarten's tourism market. In regards to this particular survey it aims to segment the air passenger tourism market. This suggests the use of stratified sampling procedure would be appropriate in gathering data. Daniel (2012) defines stratified sampling as a probability sampling procedure in which separates the target population into mutually exclusive, homogenous strata, from which a stratum is extracted. Stratums selected from various strata are then combined into a single sample. This sampling procedure is also sometimes referred to as "quota random sampling" (Daniel, 2011). However, with quota sampling random sampling error cannot be estimated, selection bias is not minimized, and also it does not allow researchers to have control over the representativeness of the sample in matching the characteristics of the larger population. Thus the results from quota sample may not be always generalizable to the wider population. However, the data collected from this survey will offer some insight into the tourism market of St. Maarten. For this reason, some generalizations are made while keeping in mind that the results are assumptions based on the surveys.

Disproportionate Stratified sampling is a stratified sampling procedure in which the number of elements sampled from each stratum is not proportional to their representation in the total population. Population elements are not given an equal chance to be included in the sample. The same sampling fraction is not applied to each stratum. On the other hand, the strata have different sampling fractions, and as such, this sampling procedure is not an EPSEM sampling procedure. In order to estimate population parameters, the population composition must be used as weights to compensate for the disproportionality in the sample. However, for some research projects, disproportionate stratified sampling may be more appropriate than proportionate stratified sampling (Daniel, 2011).

In considering that the research's objective is descriptive, in that it seeks to describe the parameters, differences between or among population, or relationships among variables in the tourist population. Disproportionate stratified sampling may be broken into three subtypes (within-strata, between-strata analyses, or optimum allocation) based on the purpose of allocation that is implemented. This research will utilize the within-strata sub-type sampling method for STS 2013. Proportionate allocation may not yield a sufficient number of cases for such detailed analyses. Thus, it offers an option to oversample the small or rare strata, although it would create a disproportional distribution of the strata in the sample when compared to the population. Yet, there may be a sufficient number of cases to carry out the within-strata analyses required by the study's objectives. The following steps are made:

A. Identify the target population. The targeted population is all tourists visiting for at least one day (24hrs) but less than 1 year on Dutch Sint Maarten. These recipients must all be leaving the island via PJIAE, must be 18 or older, and
B. Stratums are determined by grouping countries into regions by using the proportional population of visitors distributed over the five highest percentage of region. Example is that North America region consists of the USA and Canada which holds 80 % market share.
C. The sample per region is determined by the seasonality of visitors and the percentage of market share their region holds in Sint Maarten market based on a two year average. Therefore, low percentage markets with seasonal visits may be over sampled during their peak visiting periods. Whereas, regions with a constant visiting trend throughout the year will have a consistent sample size per each survey quarter.
D. The sample of visitors per stratum is randomly selected.
E. Quarterly sampling and analyses will be aggregated to offer a snapshot seasonal trends and overall yearly assessment of visitors.

4.2.   Sample Size

Sampling is a strategy used to select elements from a population. A sample is a subset of the population elements that results from a sampling strategy. Sample size determination is an important and often difficult step in planning an empirical study.

A confidence interval is of the form; estimate +/- margin of error. The margin of error shows how accurate we believe our guess is, based on the variability of the estimate. For a confidence interval, the

margin of error is: $Z_{\alpha/2} * \sigma/\sqrt{n}$. The expression has $z_{\alpha/2}$ and σ in the numerator $\sqrt{n}$ in the denominator.

So the margin of error gets smaller when:
- z gets smaller
- σ gets smaller
- n gets larger

Confidence Level	Tail area α	$Z_{\alpha/2}$
90%	.05	1.645
95%	.025	1.960
99%	.005	2.576
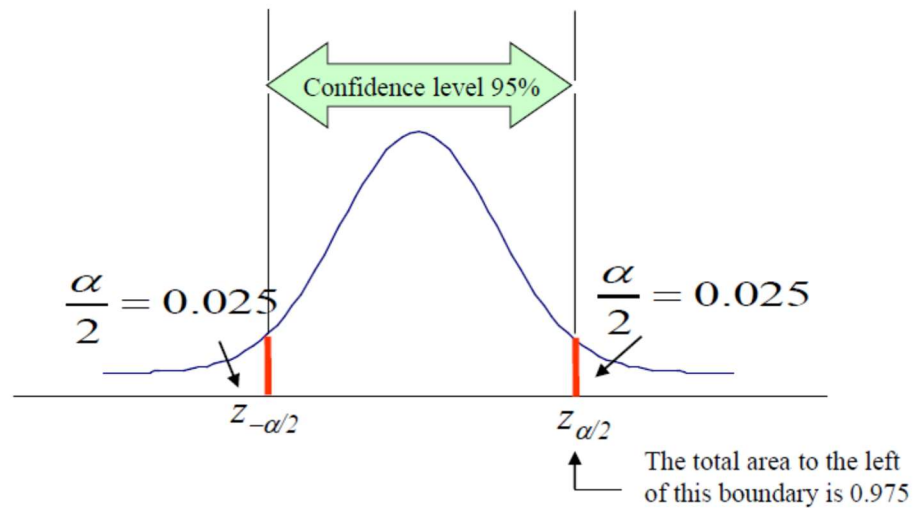
Sample size formula: $n = \left(\dfrac{Z_{\alpha/2}*\sigma}{E}\right)^2$; for the maximum error E of estimate where σ is known.

When σ is unknown we replace it with $p * q$ and population is known N

Then Sample Size formula (Krejcie & Morgen, 1970):

$$n = \frac{X^2 * N * (pq)}{d^2 * (N-1) + X^2 * (pq)}$$

$p = 0.5$
$q = 1 - p$

$$d = degree\ of\ accuracy = 0.035$$
$$N = \quad 544,752\ (target\ population\ of\ AT)$$
$$N = \quad 167,184\ (1st\ quarter\ target\ population\ of\ CT)$$
$$N = \quad 129,995\ (2nd\ quarter\ target\ population\ of\ CT)$$
$$N = \quad 116,831\ (3rd\ quarter\ target\ population\ of\ CT)$$
$$N = \quad 130,742\ (4th\ quarter\ target\ population\ of\ CT)$$

$$X^2 = 3.84\ (.05\ level = 95\%\ confidence\ level)\ \texttt{Chi-square @ d.f.= 1}$$

$$n = 4233\ total\ AT$$

4.3.   Sampling Method

In the year 2013 a target total of 4,233 air passenger tourists were targeted by the Tourism Expenditure Survey interview team. Due to the need for high response rates face-to-face interviews were chosen technique of interacting with respondents. Advantages and disadvantages of this technique are:
Advantages

1. It allows interviewers to take advantage of social cues, which can be added to verbal answers of interviewees to questions.
2. The target market is easily accessed.
3. Reduces non-response rate among questions.

Disadvantages

1. Negative social cues or attitudes can also hamper the communication between the interviewer and interviewee
2. Synchronous communication of face-to-face interviews can be costly and time consuming.

4.4.   Data Collection

The surveys were design to target specific groups of tourists visiting the St. Maarten. Surveying period consisted of 1 week and took place every third Saturday of the month, with the exception of the 4th quarter, which initiated a week earlier, due to the Christmas holiday season. They were held in the Departure Hall of the Princess Juliana International Airport (PJIAE) for departing Air Passengers, and the Harbour port facilities (St. Maarten harbour and Captain Hodge Wharf). Questionnaires were filled out by interviewees, collected and scanned by interviewers for errors or non-responses. In advance to the surveying period interviewers were received intensive training by staff members of the Department of Statistics, which encompassed locating, identifying, soliciting respondents, examining respondent's

responses for errors, and terminating the interview. They were strongly advised to adhere to the training instructions and procedures prior to interviews.

4.5.   Measurement Scales and Surveys

This study employed a casual research design using a several questions, which have been utilized by prior Tourists expenditure surveys[1]. STAT together with partners from St. Maarten's tourism bureau, and the Economic department evaluated the questions which resulted in the enclosed questionnaire (see annex 1). The questionnaire was prepared in English, but can eventually be expanded into more languages. It consist of four sections pertaining to their Travel activities, Satisfaction rating, Travel expenditures, and General information. Prior to the first fieldwork the questionnaire was tested during a pilot survey and revisions made where appropriate. For training purposes of the interviewers a manual was prepared in which explanations were given on how to conduct the survey.

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[1] In developing the present Tourism Expenditure Survey questions were generated and selected from previous surveys conducted on the island, as well as those available from other islands (Anguilla and Aruba).