

Determinants of Domestic Tourism Participation in Kenya

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Abstract

Tourism has over the recent past become an important industry providing crucial economic stimulus to both developed and developing nations. This has made it necessary to understand tourism demand. This study sets out to examine the factors influencing the decision to participate in domestic tourism. Employing discrete choice logistic model, data from the 2010 Domestic Tourism Survey in Kenya is used for the analysis. The results suggest that economic and social demographics are crucial in determining the decision to travel. Income, age, education and information are some of the key factors driving domestic tourism participation. The findings suggest that there is a growing propensity to travel for Kenyan residents, and that the government should implement policies aimed at stimulating and sustaining the demand for domestic tourism.

Abbreviations and Acronyms

DTC	Domestic Tourism Council
GDP	Gross Domestic Product
KNBS	Kenya National Bureau of Statistics
KTB	Kenya Tourism Board
KWS	Kenya Wildlife Services
RUM	Random Utility Model
MTP	Medium Term Plan
T&T	Travel and Tourism
TSA	Tourism Satellite Account
WTTC	World Travel and Tourism Council

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1. Introduction

1.1 Background

Over the last decade, the Travel and Tourism (T&T) industry has grown into a globally recognized industry with the ability to considerably contribute to economic growth in both the developed and developing world. Factors such as higher populations, increasing disposable incomes, better education, growth in transport and telecommunications, and rapid globalization have led to better informed and wealthier populations ready to take part in travel for leisure.

The annual growth of travel and tourism has in recent times outpaced growth in key sectors such as manufacturing, financial and transport services (WTTC, 2017). Because of this rapid growth, the World Travel and Tourism Council (WTTC) recorded 1,186 million international tourists in 2015, generating receipts of US\$ 1,260 billion (WTTC, 2017). Africa has also reaped benefits from the sector with 53 million international tourists visiting the continent, translating into US\$ 33 billion (WTTC, 2017). In Kenya, the sector is a major foreign exchange earner, providing jobs and stimulating the development of small and micro-enterprises. For example, in 2016, the Kenya National Bureau of Statistics (KNBS) reported 1,339,700 international arrivals earning the country Ksh 99.7 billion. In the same year, the sector's total contribution to GDP stood at 9.8 per cent while its contribution to total employment stood at 3.4 per cent (WTTC, 2017). In addition, it is estimated that the sector accounts for 11 per cent of government revenue through license fees, taxes, duties and park entry fees (MTP II).

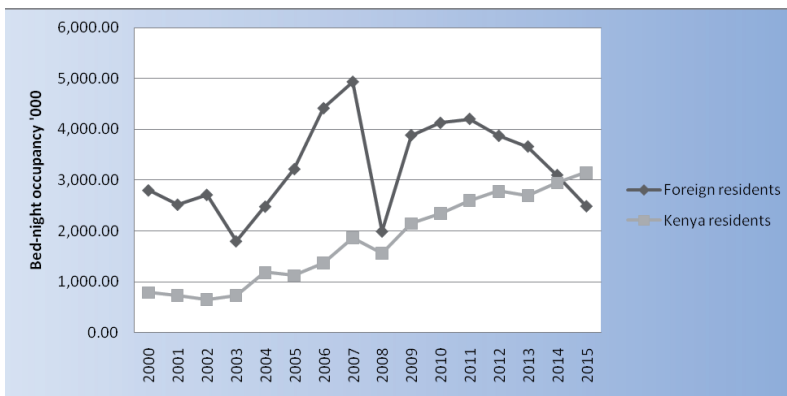
Related to this exceptional growth has been the expansion of the domestic tourism sub-sector. The WTTC reports that the global trend over the last decade shows that domestic tourism spending has grown faster than international tourism spending. Domestic tourism which involves the activities of residents travelling within the borders of their country is expected to become even more dominant in the future. Bigano, Hamilton and Tol (2007) argue that globally, domestic tourists already outnumber international tourists by a ratio of 5:1. For example, in 2005, the number of Chinese domestic tourists exceeded the number international inbound visitors. In South Africa, the South African Tourism Satellite Account (TSA) estimates for 2009 showed a robust domestic tourism that accounted for about 79 per cent of the total tourism economy and 54.8 per cent contribution to Gross Domestic Product (GDP) (TSA, 2010). Tourism, both international and domestic has thus become an important sector for achieving socio-economic development.

1.2 Overview of Tourism in Kenya

International inbound tourism has for a long time been the focus of the tourism industry in Kenya. Over the past 50 years, the sector has earned the country billions in foreign exchange, provided hundreds of jobs and played a key role in economic growth through its forward and backward linkages. Due to its importance, the sector has been a feature in government policy, with the Vision 2030 setting out a target of 3 million international arrivals and earnings of Ksh 200 billion (MTP II). This was set to be achieved through various strategies, including the development of niche products to diversify the products on offer and expand the source markets from the traditional markets in Europe to emerging markets especially in Asia.

Unfortunately, international inbound tourism has not performed consistently well over the recent past. The demand for international inbound tourism has shown fluctuations especially in the recent past as the country has been dealing with a number of external and internal shocks. For example, the 2007 financial crises resulted in shrinking income in source markets, which led to falling international arrivals. Internal insecurity has also led to falling international arrivals; for example, arrivals from the United Kingdom fell from 185,944 in 2012 to 91,364 in 2015 (KNBS, 2017) following the terror attacks that occurred over that period and subsequent travel advisories. In addition, Kenya's tourism has been facing stiff competition from other destinations in the region and in Africa as a whole, which has led to the shrinkage of its market share.

By comparison, the domestic tourism market has shown marked growth over the recent past. This is despite the fact that the domestic tourism sub-sector has for a long time played second best to international tourism. Sindiga (1996) argues that the importance of domestic tourism has been recognized by the Kenya government since the formation of the Domestic Tourism Council (DTC) in 1984 whose functions have since been moved to the Kenya Tourism Board. Despite the formation of the DTC, for a long time the country did not have tourism infrastructure such as offices for promoting domestic tourism (Sindiga, 1996) in Kenya. In addition, Sindiga (1996) observed that most Kenyan's found travel expensive due to high costs of transport and accommodation, with travel experience limited to organized travel by young people. However, over the past decade, socio-economic changes in Kenya especially a growing middle class have begun to create interest in travel for leisure, leading to a growing demand for domestic tourism. As the statistics indicate, the number of bed-nights occupied by residents has been on the increase to reach the current 54 per cent occupancy rate (KNBS, 2017).

Figure 1.1: Bed-night occupancy-foreign/Kenya residents

Source: Kenya National Bureau of Statistics (Various), Economic Surveys

The uncertain demand in international inbound tourism and the current surge in demand for domestic tourism have renewed interest in domestic tourism in Kenya by both private enterprises and State agencies. The tourism sector is now governed by the Tourism Act 2011 which revised and consolidated earlier policy and legislation. The Act provides for the development of institutions and national strategies to guide the tourism sector. Among these strategies is the marketing of domestic tourism by the Kenya Tourism Board (KTB). The government, along with KTB, has undertaken a number of initiatives to promote the domestic tourism sub-sector, including the KTB ‘*Tembea Kenya*’ campaign; Kenya Wildlife Services (KWS) reduced rates for residents entering game parks and reserves, and reduced hotel rates by some hotels especially during the off-peak seasons, among others. In addition, in 2014, the government provided a stimulus package aimed at the domestic tourism market, which included tax rebates to employers offering vacation expenses for their employee’s domestic trips.

While such initiatives and strategies are commendable and bear fruit in the short run, they are not grounded on any policy and therefore their long-term viability is not assured. Interestingly, most of these interventions geared towards the domestic tourism market seem to come about because of the slump in international tourism market. Ghimire (2001) argues that such *ad hoc* policy solutions mean that the country ends up making unplanned expenditures to revamp the sector. In addition, domestic tourism is still perceived as the ‘poor cousin’ to international tourism (Ghimire, 2001). This perception is not endemic in Kenya only. Yap (2011) points out that research on international tourism is three times higher than that of domestic tourism. In addition, Scheyvens (2007) argues that governments in developing countries invest large resources into attracting international tourists

while putting limited efforts in support of domestic tourism. Even in countries which have well defined domestic tourism policies, governments lack the practical commitment necessary to grow the sector (Scheyvens, 2007). Domestic tourism is thus seen as the 'poor cousin' as governments in developing countries view international tourism's contribution to GDP as larger than that of domestic tourism (Ghimire, 2001; Scheyvens, 2007). Another reason given in the literature for this neglect is the fact that domestic tourism is perceived as less prestigious compared to international outbound tourism. Athanasopoulos and Hyndman (2008) found evidence of this in a study of Australian tourists. It is therefore not surprising that Kenya's domestic tourism sub-sector is relatively under-developed particularly in comparison to the international inbound tourism segment.

Despite its perception as a poor substitute, the literature is unanimous on the role and importance of domestic tourism (Scheyvens, 2007; Jafari, 1987). The main proposition is that the growth in domestic tourism can be explained within a framework of deep social and economic changes happening over the past decade. This study's main focus is thus domestic tourism demand; particularly it analyzes household's decision to participate in domestic tourism.

1.3 Problem Statement

The Kenya Vision 2030 has identified tourism as a key sector to drive economic growth and help achieve middle income status. To achieve this objective, the Vision has identified several measures, including developing and promoting domestic tourism. The Vision target was to increase bed-night occupancy by residents to 60 per cent by the year 2012. To develop the sub-sector and reach its objectives, the government undertook initiatives such as the stimulus package and promotional campaigns. Despite this, domestic tourism has not yet reached its target of 60 per cent and the entire tourism sector is still shy of its Ksh 200 billion target set in the Vision 2030.

The development of domestic tourism is critical and can cushion the sector against the uneven demand occasioned by external shocks to the international inbound tourism. For example, the slumps experienced by the sector over the recent past due to travel advisories to the country have led to losses in tourism earnings. In addition, Kenya's tourism is seasonal, with two peak seasons starting in mid-June through to October and mid-December to February with a low season experienced in April to June. During the low season, over half of the hotels close down, leading to massive job and revenue losses. Further, Njiraini et al (2015) observe that competition for international tourists particularly from other East African nations offering similar products has eaten into Kenya's market share.

These issues combined deprive the government and the private sector income in terms of tax revenues and profits, respectively. Seasonality in the sector means that there are periods in which workers lose their jobs and sources of income. Furthermore, the economy suffers as growth in GDP slow down following a slump in tourism earnings.

There is therefore need for policy makers to understand what drives domestic tourism, especially the decision to participate in domestic tourism, in order to develop strategies that will not only stimulate but also sustain demand for domestic tourism.

1.4 Objectives of the Study

The overall objective of this study is to investigate the factors determining the decision to participate in domestic tourism in Kenya. The Specific objectives were to:

- (i) Analyze the economic and social demographic determinants of the decision to participate in domestic tourism.
- (ii) Assess the significance of the above factors on the decision to participate in domestic tourism.

1.5 Research Questions

- (i) What are the economic and social demographic factors influencing the decision to participate in domestic tourism in Kenya?
- (ii) What is the level of influence of these factors on the decision to participate in domestic tourism in Kenya?

1.6 Justification

There are several strategies which can be used to develop the domestic tourism sub-sector. For example, the hospitality industry can improve standards, change prices or change the range of products they offer in accordance with the preferences of their consumers. On the other hand, the government or national agencies may embark on developing new products, investing in resorts and engaging in promotional campaigns aimed at their target market. However, for any of these policies to be effective, both the private sector and the national agencies require a comprehensive understanding of the potential tourist. An understanding of the social demographic factors affecting domestic tourism demand can ensure that

the above strategies are well targeted and thus help address any challenges in the sector and meet its target.

Further, the focus of much of the literature has been on international tourism. By comparison, domestic tourism has received less attention leading to a scarcity of literature on the subject matter. For example, Kiarie (2009) and Ndubi, (2009) use macro-level data to study international tourism in Kenya using variables such as tourist arrivals and earnings while Mutinda and Mayaka (2012) use micro-level data to determine destination choice by domestic tourists in Kenya. The use of social demographic factors to determine the choice of destination has been the focal point for much of the research on domestic tourism in Kenya but little has been done on the economic and social demographic factors that influence the decision to participate in domestic tourism in Kenya. This study aims to use micro-economic data to delve into the characteristics of the potential tourist. By studying the way in which economic and social demographic factors affect the decision to travel domestically for leisure, policy makers will be able to track how changes in any of these factors affects demand and thus effectively estimate future demand.

In addition, by encouraging domestic tourism, the country reaps benefits from not only the economic aspect such as economic growth and job creation but also the social cultural aspects. The people become more aware about their country and their differences which can effectively break down social and cultural barriers while at the same time enhancing national cohesion. Thus, domestic tourism can help promote balanced economic development.

2. Literature Review

2.1 Introduction

This chapter provides a review of relevant theoretical literature on domestic tourism demand, relevant empirical literature and a conclusion of the literature reviewed.

2.2 Theoretical Literature

The classical utility maximizing theory forms the point of reference for most studies on tourism demand. The basic idea is that a rational consumer presented with a set of possible alternatives will choose the alternatives that maximize his utility. It is thus assumed that consumers rank goods and services so that they choose the select combinations that yield the highest value, subject to budget constraints (Disegna, Durante and Foscolo, 2013). In tourism demand, the consumer or tourist is assumed to maximize his or her utility by choosing the best possible vacation, subject to his/her budget and preferences.

From the perspective of the classical utility theory, the most important determinants are income, prices, availability of substitutes/competition, tastes and preferences. However, estimating the exact influence of these factors can be quite challenging because tastes and preferences change constantly and markets are quite dynamic (Ayres, 1998). This is more so in the case for the tourism product. Tourism can be taken as an amalgamation of certain goods and services that form the tourism bundle. These include such goods as accommodation services, food, transport and tourist attractions. Thus, unlike other economic activities, tourism has a set of unique characteristics that set it apart. First, it cannot be classified as a standalone industry but rather as a combination of interconnected industries that serve the tourist (Ardahaey, 2011).

In addition, consumption of tourism occurs at the supply point (Divisekera, 2003). To enjoy consumption of the good, the consumer must travel to the destination. Divisekera (2003) argues that the consumer derives utility from consuming the tourism good at a particular destination and for a specified time period. The very existence of tourism is thus dependent on the availability of certain tourism resources at the point of supply or destination and tourists consume those goods available at the chosen destination (Divisekera, 2003). The utility of the tourist will thus depend on certain attributes such as the type of accommodation, food, and distance to destination, security, climate, recreational facilities and the general attractiveness of the destination.

The tourism demand theory argues that to explain tourist choice, an assumption of separability and discreteness within the choice structure is necessary (Papatheodorou, 2001). Drawing rational choice decisions simultaneously on thousands of goods seems unrealistic. In addition, the consumer is not omnipresent, which makes consumption of all goods simultaneously unrealistic (Papatheodorou, 2001). This makes discrete choice analysis an attractive option for studying tourism consumption and thus demand from a micro-econometrics perspective. The Random Utility Model (RUM) of discrete choices enables the analysis of choice among discrete alternatives. Under this model, the consumer's utility will be a function of economic variables that affect the consumer's income, a discrete alternative and observed and unobserved characteristics of the consumer (Ben-akiva and Bierlaire, 1999; Greene, 2003). The model takes into account the heterogeneity or differences in tastes and preferences across consumers.

2.3 Empirical Literature

The development of tourism into a global phenomenon with the ability to effectively contribute to economic development is reflected in the volume of empirical literature explaining the determinants and characteristics of tourism demand. These studies look at tourism demand from a macroeconomic and microeconomic level (Wang and Davidson, 2010). At the macro level, studies rely on aggregated variables such as the total expenditure on tourism and tourism arrivals; a majority of these studies report their findings in the form of elasticities. On the other hand, micro-economic studies on tourism demand use firms, individuals and households as the unit of analysis (Wang and Davidson, 2010).

In identifying, measuring and analyzing the main determinants of tourism demand, studies that analyze demand from a macroeconomic level have identified a number of variables that affect tourism demand. Economic factors such as income, prices of tourism goods and costs of transportation play a key a role (Crouch, 1994). In international tourism demand literature, relative prices between competing destinations and exchange rates are important determinants. Non-economic factors such as consumers' preferences, promotion and marketing expenditures, and special events are also important determinants (Yap, 2011). In a meta-analysis of international tourism demand elasticities, Peng et al. (2015) find that the impact of income on tourism demand is positive, in accordance with economic theory. Most studies find income elasticity with a value of one or more. A meta-analysis by Crouch (1995) found that the average income elasticity was 1.86 with a 1.78 standard deviation (Peng et al., 2015). In contrast, other studies suggest that income elasticities differ when considered from the perspective

of origin-destination (Peng et al., 2015). For example, Crouch (1995) argues that Asia's average income elasticity was high at 4.45 while estimates for Latin American countries were inelastic while the income level in the countries of origin had a limited effect on tourism demand in Africa (Peng et al., 2015).

Another significant variable in tourism demand literature is the relative price of tourism. The price elasticity tends to be negative, with Consumer Price Index being the most frequently used proxy for tourism prices. In Australia, Maurer et al. (2006) finds that prices, consumer confidence and discretionary income are key drivers of domestic demand. Other significant determinants include transportation costs, prices in alternative destinations, repeat visits and distance. Using panel data, Fourie and Santana-Gallego (2013), and Naude and Saayman (2005) conclude that income, repeat tourism, relative prices, tourism infrastructure and cost of travel are important determinants of African tourism. Kiarie (2009) found that for Kenya, the determinants for international tourism demand included repeat visits, tourism prices, word of mouth and income per capita in the tourist generating country.

The high number of contributions to literature on tourism demand especially using macro-level data is a reflection of the importance of the subject to research both in academics and policy. However, the demand elasticities reported in the studies at the aggregate level vary significantly. These variations can be attributed to either differences in estimation methods, data measurements or other inherent cultural circumstances (Peng et al., 2015). As a result, comparison among the different studies and across countries becomes difficult, leading to the development of methodologies that try to bridge this gap.

Given that tourism is not just one product, but a bundle of goods and services that together form the tourist product, consumption of the tourism product is likely to vary among tourists (Wang and Davidson, 2010). As a result, the use of such aggregate data such as the number of arrivals will not give a clear picture of tourists' tourism participation and expenditure choices. Micro-econometric modeling has emerged as a methodological response to these challenges. Alegre and Pou (2004) theorize that micro-econometric models fit better into theoretical consumer models and also enable the researcher to control for such biases as the participation bias. They also take into account the heterogeneity and diversity in the behaviour of consumers (Soldi, 2016).

Microeconomic studies on tourism demand usually fall into three categories (Wang and Davidson, 2010). There are those that focus on the choice decisions of tourism consumption; they model the choices of tourists under a discrete choice framework and analyze the factors affecting the decision to buy or not to buy tourism goods. Another group focus on the factors that influence tourist

expenditures while a smaller section attempts to model tourism prices by using the hedonic pricing method (Wang and Davidson, 2010).

A comprehensive literature review by Wang and Davidson (2010) and Brida and Scuderi (2013) find that tourist participation behaviour is contingent on a broad set of factors which can be grouped into three categories: the economic constraints; social demographic and trip-related factors. Under economic constraints, the decision to travel and the spending capacity is influenced by income. Most studies find that income is positively correlated with both the decision to travel and level of expenditure (Wang, Rompf, Severt and Peerapatdit, 2006; Nicolau and Más, 2005; Alegre, Mateo and Pou, 2013). In addition, income will also determine the choice of destination. Athanasopoulos and Hyndman (2008) point out that as the income of Australians go up, international trips are preferred over domestic trips.

On the social demographic characteristics, the literature identifies age, level of education, household composition and gender as some of the influencing factors (Nicolau and Más, 2012; Serra, Correia and Rodrigues, 2015). The level of education positively impacts on the decision to consume tourism goods. Studies use age and gender as proxies for tastes and preferences. While both of these variables are often used, there is no clear and conclusive relationship on the decision to consume tourism. Some studies such as Wang et al. (2006) reported a negative correlation between age and tourism consumption or participation. In contrast, Nicolau and Más (2005) and Wang and Davidson (2010) proposed a non-linear u-shaped relationship between age and tourism participation as middle-aged tourists showed a higher likelihood to travel and their level of expenditure was higher compared to the younger and older travellers. On education, studies reported a significant and positive relationship because having an education is likely to increase an individual or household's access to knowledge and information (Alegre, Mateo and Pou, 2010; Bernini and Cracolici, 2016).

A study by Boakye, Annim and Dasmani (2013) examined the internal travel patterns in Ghana using a discrete choice model and found that social demographic factors such as age influenced the propensity to travel. They also concluded that the motives for travel were mostly social, including visiting friends and relatives. Asiedu (2008) supports the view that visiting friends and relatives is an important form of tourism in Ghana and has the potential to mobilize revenue collections. Asiedu (2008) also concluded that social demographic factors were critical in determining travel.

Trip-related characteristics describe the characteristics of the tourist's trip and include length of stay, time of holiday, activities, size of the travel party, previous or first time traveller, travel information source, travel distance, mode of travel, among others (Bernini and Cracolici, 2016; Wang and Davidson, 2010). These

variables were found to be significant as they had an impact not only on the choice to take an holiday but also on the intensity of expenditure (Brida and Scuderi, 2013).

Further, tourism studies using microeconomic and primary data in the Kenyan scene have focused mainly on the destination choice for domestic tourists. Ndivo, Waudo and Waswa (2012) investigated the destination's appeal from a domestic market perspective using survey questionnaire administered among Nairobi residents and found that a majority of respondents favoured taking a domestic holiday; 32.2 per cent considered taking a holiday as very important while 75 per cent of the respondents had visited the Nairobi National Park. Mutinda and Mayaka (2012) found that economic constraints, safety, adventure and information about the destination were some of the main factors influencing destination choice among residents of Nairobi. On tourist accommodation choice, Kamau et al. (2015) found that services, prices, location and promotions played a key role in determining the choice of accommodation in a survey of Nairobi and Nakuru residents. Studies focusing on the heterogeneity and characteristics that can explain the decision to participate or not participate in the tourism market are however scarce.

2.4 Overview of Literature

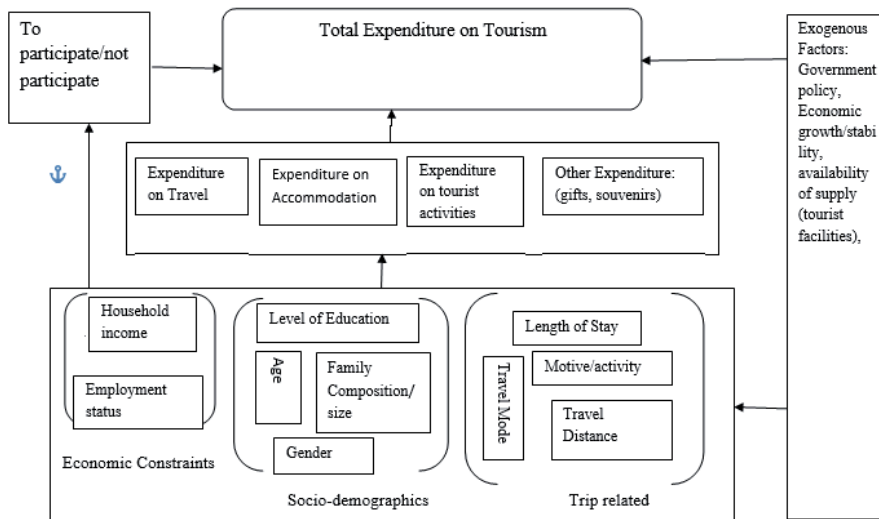
Most studies on tourism demand have been macroeconomic in nature, using aggregated time series data to analyze demand for outbound and inbound tourism. However, time series data may present problems of sample size. This is because data over a long period may not be available especially in developing countries such as Kenya. Cross sectional data increases the number of observations and the robustness of the analysis. In addition, individuals differ in their tastes and preferences even within a similar market segment, making it necessary to consider the heterogeneity in tourism demand analysis which is often lost within aggregated data. Further, a majority of microeconomic studies on tourism demand focus more on the developed countries, leaving emerging and developing countries relatively unexplored in the literature. Incorporating microeconomic data along with the more complex models in analysis of tourism demand can effectively assist a country in product development and maximizing the benefits of tourism. This study uses household level data to contribute to this subject in an effort to provide an understanding of the average Kenyan domestic traveller.

3. Methodology

3.1 Conceptual Framework

As evident from literature, an analysis of tourism demand from a micro-econometric perspective should look at both the decision to participate, and the level of expenditure. The decision to consume tourism goods or participate in tourism is an important step in the process, as only those who travel spend on tourism, and the level of tourism expenditure is an indicator of actual revenues from tourism. Conversely, the first objective should be the identification and analysis of variables that determine the decision to participate in tourism. This model indicates a two-stage process in a household's tourism consumption: the decision to participate (consume tourism goods) and the level of expenditure (how much to spend). This study focuses on the first stage of the process, the decision to participate. Second, as suggested by economic theory, tourism demand is influenced by income, prices, tastes and preferences. These factors can be grouped into three categories: economic constraints, social demographic and trip-related characteristics following the example of (Marcussen, 2011), and the literature reviewed. The conceptual framework guided the study in analyzing the determinants of tourist consumption as an important first step in an analysis of tourism demand.

Figure 2.1: Potential determinants of domestic tourism participation



Source: Modified from Marcussen (2011)

3.2 Model Specification

The random utility discrete choice model provides an analytical framework which allows for the prediction and analysis of how choices are influenced by both observable characteristics and unobservable effects.

Following McFadden (1974), a household or consumer decides whether to participate in tourism or not (to consume tourism goods and services or not). It is assumed that the household will choose the alternative that confers the highest utility. If the choice is to participate in tourism, the observed choice reveals that domestic tourism provides a greater utility than not participating in domestic tourism.

Thus, if the household h chooses to participate p , then the probability of participating p is

$$P_{hp} = P(U_{hp} \geq U_{hn}) \tag{1}$$

And the probability of not participating n is

$$P_{hn} = 1 - P_{hp} \tag{2}$$

Given that the decision to participate depends on the observable or measurable variables and random unobservable variables, option (1) can be expressed as:

$$P_{hp} = P(U_{hp} \geq U_{hn}) = P(V_{hp} + \mathcal{E}_{hp} \geq V_{hn} + \mathcal{E}_{hn}) = P(V_{hp} - V_{hn} + \mathcal{E}_{hp} - \mathcal{E}_{hn} \geq 0) \tag{3}$$

Where V_h is a function of observable variables/attributes

\mathcal{E}_h is the unobservable random component

Expressing (3) as a linear function, we get,

$$P_{hp} = P(\beta_p x \mathcal{E} - \beta_n x \mathcal{E} + \mathcal{E}_p - \mathcal{E}_n \geq 0 | x) = P(\beta x \mathcal{E} + \mathcal{E} \geq 0 | x) \tag{4}$$

Where $\beta x \mathcal{E}$ defines the deterministic part or all the observable variables while \mathcal{E} gives the difference between the two random terms.

The dependent variable, has two possible outcome, either 1 for those who participated and 0 otherwise; it follows a Bernoulli distribution. We then assume a logistic distribution for the \mathcal{E} term leading to a discrete choice logit model.

$$P_{hp} = \frac{e^{\beta x}}{1 + e^{\beta x \mathcal{E}}} \dots \dots \dots \text{Logistic Distribution}$$

Thus the equation to be estimated is:

$$\ln \left(\frac{P_{hp}}{1 - P_{hp}} \right) = \beta_0 + \beta_1 x_1 + \dots \dots \dots + \beta_k x_k \tag{5}$$

If we assume $\ln \left(\frac{P_{hp}}{1 - P_{hp}} \right) = y^*$

Then,

$$y^* = \beta_0 + \beta_1 \text{age_grp} + \beta_2 \text{Gender} + \beta_3 \text{Monthlyincome} + \beta_4 \text{Education} + \beta_5 \text{Tourism_info} + \beta_6 \text{Employment_Status} + \beta_7 \text{Geo_loc} + \beta_8 \text{Hown} + \beta_9 \text{ownMV} \quad (6)$$

Where:

Table 3.1: Variables

Age_grp	Age category of respondent
Gender	Household
Monthlyincome	Household income
Education	Level of education
Tourism_info	Has seen/heard advertisement on tourism
Employment Status	Household involved in economic activity
Geo_loc	Geographic location of the Household
Hown	Household lives in its own house
ownMV	Household owns at least one vehicle

The basic hypothesis is that the decision to participate in domestic tourism depends on factors correlated with the household's economic and social demographic features. The independent variables are thus categorical variables. The dependent variable is a binary variable that takes the value of 1 if the household has undertaken a trip in the period under review and 0 otherwise.

We run a logistic regression and report the findings using marginal effects. The marginal effects are defined as the deviations in the probability, as result of a unit increase in the variable, holding all other variables constant (Alegre and Pou, 2004). In addition, the study includes some interaction terms to see how the effect of an explanatory variable will change when another explanatory variable changes (Buis, 2010). This gives the interaction effect of some key variables within the model.

3.3 Data and Variables in the Model

The study makes use of survey data on household domestic overnight trips undertaken in June 2010 by the Ministry of Tourism, and the Kenya National Bureau of Statistics in collaboration with the Central Bank of Kenya. The survey focuses on overnight trips undertaken between November 2009 and April 2010, a six-month period. Through the use of multi-stage sampling, the survey used

the 1999 National Population and Housing Census as its sampling frame. A total of 8,276 households both rural and urban across the country were interviewed. From the survey, 52.2 per cent of the respondents indicated they had travelled domestically while 47.8 per cent indicated they had not. The unit of study is a respondent within the household. This enables the dependent variable to take on a dichotomous nature; if a household has consumed tourism services (participated in the domestic tourism market) within the six-month period, the dichotomous variable takes a value of 1, and 0 otherwise.

Based on the literature review, the following independent variables were used in the study:

Table 2: Definition of variables

Variable	Variable Description	Variable Type	Apriori Expectation
Dependent variable			
Participation in domestic tourism	If household has participated in domestic tourism within the period of study, it takes a value of 1 and 0 otherwise	Dichotomous	
Independent variable			
Household income	Captured as the total monthly income of the household before tax. It categorized into 1. <20,000; 2. 20,001-60,000; 3. 60,001-100,000; 4. 100,001-200,000; 5. >200,001 We take the lowest income level as the base to demonstrate the importance of income to domestic tourism participation	Categorical	+
Age	A non-linear u-shaped relationship between age and participation in tourism is expected. The variable is in categories of 1.<25; 2.25-44; 3.45-64; 4.>65 The base is chosen following the findings in the literature that favour a u-shaped for age and domestic tourism participation. Younger and older persons are more likely to travel domestically.	Categorical	Indeterminate
Gender	The variable is either male or female	Binary	+/-

Level of education	The variable is categorized into 1. Illiterate: 2. Primary School: 3. Secondary school: 4. Higher Education The base category is illiterate and it gives a clear comparison to those with an education and those with no education	Categorical	+
Employment status	Being employed can positively influence tourism consumption as the household can effectively cover costs associated with travel. It is categorized into 1. Employed: 2. Unemployed:3. Retired/pensioner:4. Student	Categorical	+
The geographical location of the household	The variable was categorized into: rural and urban.	Binary	+/-
Housing tenure (owning a home)	A binary variable was used with 1 for households owning their own homes and 0 for those that do not own their homes	Binary	+
Owning a car	A binary variable was used with 1 if the household owns at least one car and 0 for those without a car	Binary	+
Advertisement (information)	A binary variable on whether or not the respondent had information on tourism goods and services available through media campaigns within the country	Binary	+

The explanatory capacity and expected sign of the variables depends on their classification as economic constraints, social demographics or trip-related. As the literature indicates, tourism goods are considered normal goods; income is expected to have a positive sign. Work-status or employment is also expected to have a positive sign as this can be seen as positive shock to income. If a household lives in their own home, rather than a rented house, we would expect the household to have some extra income and thus likely to consume tourism goods. Owning a home should positively affect the probability to travel domestically.

On the social demographics, education should exert a positive influence on the likelihood to travel. This is because some of the skills and knowledge acquired during education involve leisure activities. As argued in the literature, age has a non-linear u-shaped relationship with the probability to travel. It is thus expected that younger and older people are more likely to participate in domestic travel and would thus have a positive influence. Owning a car would increase mobility and is expected to have a positive sign because a number of domestic travellers prefer to travel by road. The location of the household, either rural or urban is expected to

have an impact on the likelihood to travel. Living in urban areas will likely have a positive impact due to the opportunities available to urban dwellers. In addition, having information on domestic travel opportunities is expected to have a positive sign. This information is usually acquired through advertisements.

4. Results and Discussion

4.1 Descriptive Statistics

Table 4.1 gives a profile of the demographic and economic characteristics of the respondents. Approximately 48.68 per cent of the respondents were male while 51.32 per cent were female. Within this group, 51.02 per cent female and 53.44 per cent male reported that they had participated in domestic tourism within the period under study. The Pearson chi statistics indicates a significant relationship between gender and the participation in domestic tourism. Out of the total sampled households, 59.74 per cent were between the ages of 25-44 with 53.46 per cent of respondents within this age group having participated in domestic tourism. The Pearson chi statistic showed a significant relationship between age and domestic tourism participation.

On the geographical location of the household, 55.86 per cent of urban households and 49.54 per cent of rural households participated in domestic tourism. The Pearson chi statistic supports a significant relationship between geographical location and participation in domestic tourism.

Out of the sampled households, a majority of them, 85.15 per cent, had an income below Ksh 20,000. About 46.7 per cent of the households with income below Ksh 20,000 indicated that they had participated in domestic tourism. About 94.6 per cent of the households who participated had an income of between Ksh 100,000 and Ksh 200,000. The Pearson chi statistic suggest a significant relationship between income and participation in domestic tourism.

About 57.2 per cent of the households that participated indicated that they were employed either full time or part time while 38.50 per cent of those who participated were unemployed. About 50.6 per cent of the students had participated while 51.8 of retired/pensioners also indicated that they had participated. The Pearson chi statistic shows a significant relationship between employment and the ability to participate in domestic tourism.

The Pearson chi statistic also indicates a positive relationship between the level of education and participation in domestic tourism. Out of the households sampled, 72.1 per cent of households with a higher education participated in domestic tourism with only 26.9 per cent of the households without formal education indicating they had participated. Other variables such as having information on touristic sites, owning a motor vehicle or living in your own home also showed a significant relationship with participation in domestic tourism.

Table 4.1: Summary statistics for households within the sample

		All Households	Households That Participated	Households that did not participate	χ^2
		8,276	4,320	3,956	
Gender of respondent	Male	48.68	53.44	46.56	4.8260**
	Female	51.32	51.02	48.98	
Age	<25	19.42	52.40	47.60	30.1735***
	25-44	59.74	53.46	46.54	
	45-64	17.57	50.55	49.45	
	>65	3.27	36.90	63.10	
Geographical location of Household	Urban	42.07	55.86	44.14	32.2636***
	Rural	57.93	49.54	50.46	
Income	<20,000	85.15	46.72	53.28	442.3489***
	20,001-60,000	15.72	76.25	23.75	
	60,001-100,000	2.42	72.50	27.50	
	100,001-200,000	0.45	94.59	5.41	
	>200,001	0.27	45.45	54.55	
Employment Status	Employed	70.65	57.21	42.79	218.4824***
	Unemployed	25.64	38.50	61.50	
	Retired/Pensioner	2.66	51.82	48.18	
	Student	1.05	50.57	49.43	
Education level	Illiterate	7.01	26.90	73.10	714.2810***
	Primary school	31.46	38.29	61.71	
	Secondary school	34.11	54.27	45.73	
	Higher education	27.42	72.06	27.94	
Having seen/ Heard adverts and tourism campaigns within the Country	Not seen/ heard adverts and campaigns	32.79	38.91	61.09	285.8481***
	seen/heard adverts and campaigns	67.21	58.68	41.32	

Household that owns at least one car	Own a Car	11.12	74.02	25.98	197.5517***
	Does not Own a car	88.88	49.47	50.53	
Household lives in its own house	Live in own house	57.56	47.23	52.77	111.1312***
	Does not live in own house	42.44	58.94	41.06	
***P<0.01: **P<0.05: *P<0.10					

Source: Author's own computation using data from the Domestic Tourism Survey, 2010

4.2 Empirical Results

The likelihood ratio tests for statistical significance for some variables and measures of fit are shown in Table 4.2 below. The likelihood ratio test uses a step-wise process to make comparisons between different model fits. If the difference between the first model and the second are statistically significant, then the model with more variables or the less restrictive model fits the data significantly better as seen in Table 4,2.

Table 4.2: Likelihood ratio tests

	LRX ²	df	P-Value
Age_grp	8.83	3	0.0316
Gender	8.19	1	0.0042
Monthlyincome	78.73	4	0.0000
Education	158.48	3	0.0000
Tourism_info	116.38	1	0.0000
Employment Status	33.26	3	0.0000
Geo_loc	13.75	1	0.0002
Hown	24.80	1	0.0000
ownMV	20.29	1	0.0000
Model	1070.41	22	0.0000

Cox-Snell R²=0.121 Nagelkerke R²=0.162: Significance of the Hosmer-Lemeshow test =0.5626

The marginal effects obtained after running a logistic regression model are presented in Table 4.3. The significance of the Hosmer-Lemeshow test is 0.5626. The high p value indicates that the model has a predictive capacity. The pseudo R^2 measures are included in the appendix. The Nagelkerke R^2 gives a value of 0.162; that is, about 16 per cent of the variability in the dependent variable can be explained by the independent variables.

Table 4.3: Determinants of domestic tourism participation - logistic results

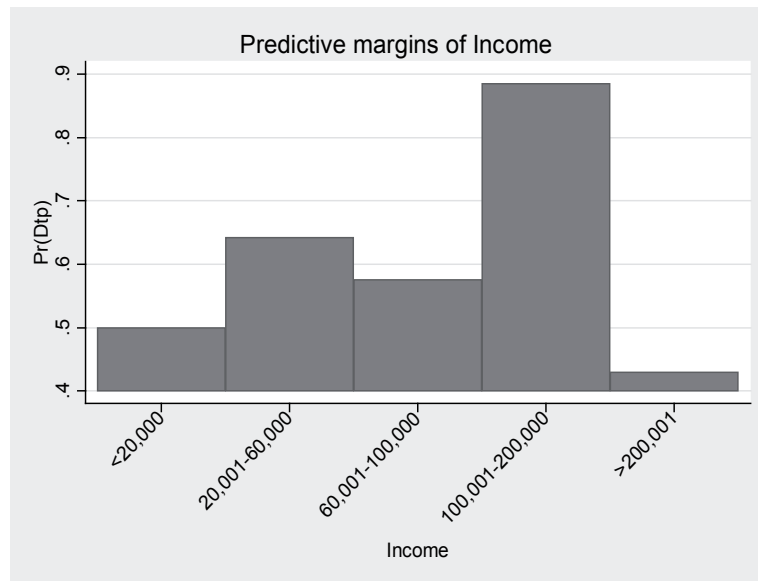
Average marginal effects		Number of obs = 8,276	
Independent variables	dy/dx	z	P>z
Age_grp (Ref=25-44)			
<25	0.0342444***	2.55	0.011
45-64	0.0299926***	2.05	0.040
65>	0.0056891	0.18	0.857
Gender (Ref=Male)			
Female	0.0570392***	2.88	0.004
Monthlyincome (Ref=<20,000)			
20,001-60,000	0.1430447***	8.16	0.000
60,001-100,000	0.0764837**	1.96	0.050
100,001-200,000	0.3848969***	5.24	0.000
>200,001	-0.0700159	-0.67	0.501
Education_level (Ref= illiterate)			
Primary school	0.0762795***	3.30	0.001
Secondary school	0.1923196***	8.10	0.000
Higher education	0.2856641***	9.81	0.000
Tourism_info (Ref= Not/Heard Advert)			
Seen/Heard Advert	0.1261145***	10.74	0.000
Employment_Status (Ref= Unemployed)			
Employed	0.1101511***	5.61	0.000
Retired/Pensioner	0.098787	1.49	0.137
Student	0.1351302	1.31	0.190
geo_loc(Ref= HH is located in Rural)			
Yes	0.0433171***	3.73	0.000

Hown (Ref=HH lives in its own house)			
Yes	-0.0609586***	-4.96	0.000
ownMV (HH owns atleast 1 MV)			
Yes	0.0869553***	4.5	0.000
fem_employed	-0.0677267***	-2.84	0.005
fem_higheduc	-0.0087289	-0.35	0.724
student_tourisminfo	-0.1962218	-1.7	0.090
retired_Info	-0.0776377	-1.06	0.290
Note: dy/dx for factor levels is the discrete change from the base level.			
*Significant level at 10%; **Significant level at 5%; ***Significant level at 1%			

4.2.1 Economic constraints

The explanatory capacity of both employment and income are relatively high as seen in Table 4.3. Employment shows the expected positive sign. The average marginal effect value is 0.11 for those employed; that is, the probability of consuming tourism goods or participating in domestic tourism increases by 11 per cent compared to being unemployed. This can be an indication of the ability to afford leisure goods and services. The value for pensioners/retired and students is not statistically significant although it is positive. The variable income also shows a strong explanatory capacity. For the income group belonging to the 20,001-60000 and 1000001-200000 ranges, there is a 7 per cent and a 38 per cent higher probability of participating in tourism than for those with incomes below 20000.

Figure 4.1 shows the mean predicted probability of income across different income categories. The mean predicted probability is calculated using Stata's post-estimation commands. The figure indicates a level of segmentation based on the level of income. The probability of participation is lower for households' with a higher level of income. This may suggest a substitution effect where household's with higher levels of income prefer to undertake outbound tourism as Athanasopoulos and Hyndman (2008) find for the Australian domestic market. The segmentation within the income categories is an indication that more research and analysis can be carried out to understand the influence of income on domestic tourism participation.

Figure 4.1: Probability of participation in domestic tourism by Income

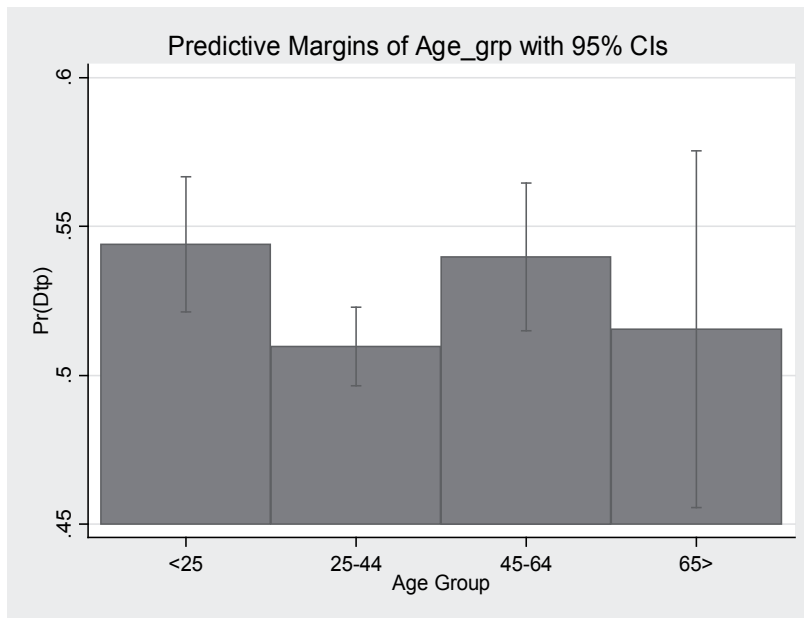
Source: Author's own computation using data from the Domestic Tourism Survey, 2010

4.2.2 Social demographics

The variable for age implies a 3 per cent increase in the probability to travel domestically for those under the age of 25 years while those between the ages of 45 to 64 years show a 3 per cent increase in the probability to travel compared to persons between the ages of 25 to 44 years (Table 4.3). This indicates that the younger and older generations will likely travel more than those in their middle age leading, to the u shaped non-linear relationship. The reasons for this may be that younger cohorts which include students will likely have time to engage in domestic tourism while those who are in the median age may lack the time to participate in domestic tourism. On the other hand, the older generations will likely have the resources such as income that will enable them to undertake domestic tourism. However, the value for persons aged 65 and above is not statistically significant.

Figure 4.2 gives the mean predicted probability of participating in domestic tourism. The figure below points to a u-shaped relationship between age and the probability to travel as evidenced in the literature. The effect of age on the probability to travel seems to increase as one grows older; this is, however, not the case for those over the age of 65 whose probability declines. This is in line with the findings of our model where pensioners/retirees who likely fall within this age group give a statistically insignificant result.

Figure 4.2: Probability of participation in domestic tourism by age

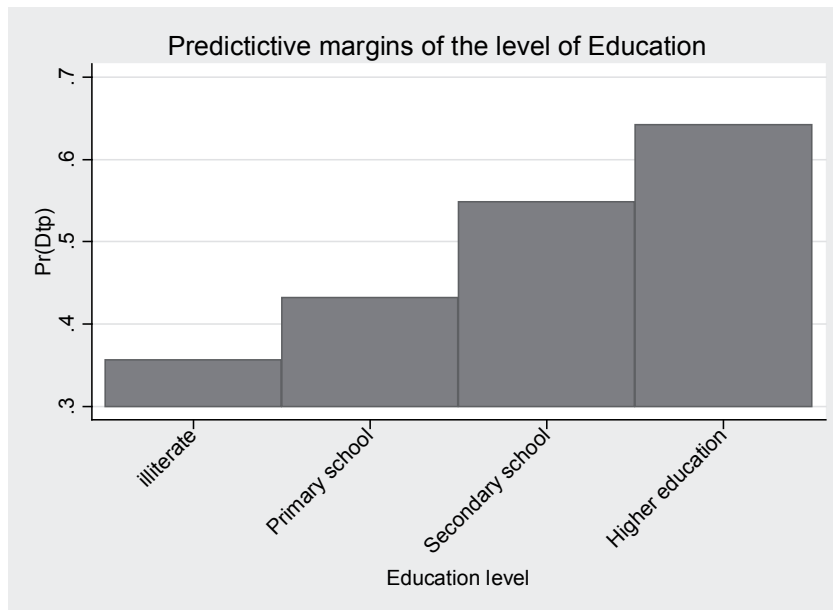


Source: Author's own computation using data from the Domestic Tourism Survey, 2010

Having a higher education compared to having no education shows 28 per cent probability to travel domestically. The marginal effects increase as the level of education goes up. For the category primary school, the probability to travel domestically is 7 per cent while having secondary school education, the likelihood of domestic tourism participation is 19 per cent. Thus, the direct effect of education on the probability to travel is positive and large because having an education opens up opportunities and enables one to have access to information, which is important for domestic tourism participation. This is in line with the literature (Brida and Scuderi, 2013; Nicolau and Mas, 2005; Wang and Davidson, 2010). Figure 4.3 which gives the mean predicted probability indicates that the probability of participation increases with the level of education.

Other variables included as a measure of affluence and mobility are households that own their own home and at least own a car. The variable for own home is significant and negative. Owning their own home reduces the probability of travel by 6 per cent while owning a car increases the probability of travel by 8 per cent. Owning one's home is a measure of affluence and it could mean that the household is affluent enough to afford a vacation abroad, which may be the reason for the negative influence on the probability to participate in domestic tourism. The location of the household is also another variable included in the

Figure 4.3: Probability of participation in domestic tourism by level of education



Source: Author's own computation using data from the Domestic Tourism Survey, 2010

model. Households located in rural households showed a positive and significant relationship. The likelihood of participation in domestic tourism is 4 per cent for households in rural areas compared to households in urban areas. Having information on the availability of tourism goods and services was found to have a positive impact on the probability to participate in domestic tourism. Having seen or heard an advertisement on tourism shows a 12 per cent probability to participate in domestic tourism

Interaction terms were also included in the model to see how one variable changes when the magnitude of another changes. Several variables were interacted. First, how being female and employed (*fem_employed*) affects participation; how being female and having a higher education (*fem_higheduc*) influences participation; how being a student and having information (*student_tourisminfo*) on touristic sites influences participation and if being retired and having information (*retired_info*) on touristic sites influences participation. Out of this, only being female and employed is significant. Women who are in the workforce are 6 per cent less likely to participate in domestic tourism. This may be due to the fact that they lack the time to engage in leisure activities like domestic tourism.

5. Conclusions and Policy Recommendations

5.1 Conclusions

An analysis of domestic tourism demand can be viewed from a two stage process; first, the decision on whether to participate or not to participate in tourism and how much to spend on tourism goods and services. This study concentrates on the first decision, whether to participate in domestic tourism by using a binary logistic model to determine economic and social demographic factors that influence a household's decision to consume tourism goods.

The study arrives at some important findings and contributions. First, it gives the predictor variables with the highest impact. Education, income and employment, and having information on tourism had positive and significant impacts. Second, the study shows the heterogeneity in income for the different categories of income. Third, the findings point to U-shaped relationship between and the probability to participate in domestic tourism. These findings are in line with the findings available in literature on domestic tourism as economic and social demographic determinants are found to be important factors in the decision to consume tourism goods.

There are, however, a number of limitations. First, the results are based on data collected using an old sampling frame. The 1999 National Population Census was used for sampling. In addition, the data is subject to the respondent's willingness to give factual information.

5.2 Policy Recommendations

The results of this study are relevant not just for policy makers but destination managers as well.

First, destination managers and marketers can segment the target market to reach the different categories of tourism consumers. For example, they can create products and marketing campaigns for students and high-end products for high income households/individuals. By reaching preferred target visitors, managers can effectively increase demand for tourism goods and save on resources.

In addition, Policy makers in both the government and private sector should tackle issues that are considered barriers to domestic travel; for example, by implementing policies targeting employees and students for rebates on domestic travel expenses to reduce and manage costs of travel.

5.3 Areas of Further Research

Further, the results give rise to a number of issues that require additional research. The selected economic and social demographic variables do not exhaustively answer the research question. Inclusion of trip-related characteristics such as number in the travel party, mode of travel and even travel distance can improve the research. The influence of variables like psychological factors would also present an interesting insight into participation in domestic tourism.

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APPENDIX

Appendix Table 1: Correlation matrix

Age_grp		gender	~yincome	Educat~l	Touris~o	Employ~s	geo_loc	Hown	ownMV
Age_grp	1.00000								
gender	-0.0731	1							
Monthlyinc~e	0.0372	-0.0554	1						
Education_~l	-0.1221	-0.0594	0.3861	1					
Tourism_info	-0.0384	-0.0578	0.1377	0.2628	1				
Employemen~s	0.1358	0.0929	-0.1523	-0.202	-0.0279	1			
geo_loc	0.0768	0.0092	-0.1707	-0.2264	-0.0385	0.1713	1		
Hown	0.1617	-0.0048	-0.1081	-0.2562	-0.0004	0.2608	0.4281	1	
ownMV	0.0282	-0.0085	0.3945	0.2838	0.1185	-0.071	-0.0762	0.012	1

Appendix Table 2: Measures of fit for logistic regression

Log-Lik Intercept Only:	-5728.479	Log-Lik Full Model:	-5193.28
D(8253):	10386.552	LR(22):	1070.406
		Prob > LR:	0.0000
McFadden's R2:	0.093	McFadden's Adj R2:	0.089
ML (Cox-Snell) R2:	0.121	Cragg-Uhler(Nagelkerke)R2:	0.162
McKelvey & Zavoina's R2:	0.161	Efron's R2:	0.122
Variance of y*:	3.922	Variance of error:	3.29
Count R2:	0.649	Adj Count R2:	0.265
AIC:	1.261	AIC*n:	10432.55
BIC:	-64064.711	BIC':	-871.941
BIC used by Stata:	10594.037	AIC used by Stata:	10432.55