

THE SOCIO, ECONOMIC, AND ENVIRONMENTAL IMPACTS OF CASINO TOURISM IN GOA<sup>i</sup>

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**Abstract:** This study investigates resident perception towards Casino Tourism which may be helpful for the formulation of possible strategic tourism policies. Binary logit model was applied to reveal the heterogeneity of resident's perception towards casino tourism impacts. The result of this study reflects the overall opinions of the sample population, and further identifies relatively homogeneous opinion groups. Age, gender, income, education, length of residence was found to have a significant impact on perceptions about casino tourism. Binary logit model and marginal increase function were used to predict increase/decrease in probability to belong to analyzed group by variation in demographic profiles, thus contributing to the debate on casino tourism sustainability.

**Keywords:** Binary logit analysis. Resident perceptions. Tourism segmentation. Casino Tourism. Tourism industry.

## OS IMPACTOS SÓCIO-ECONÔMICOS E AMBIENTAIS DO TURISMO DE CASINO EM GOA

**Resumo:** Este estudo investiga a percepção dos residentes sobre o turismo de casino que pode ser útil para a formulação de possíveis políticas e estratégicas do turismo em Goa. O modelo logit binário foi aplicado para revelar a heterogeneidade da percepção dos residentes em relação aos impactos do turismo de casino. Os resultados desse estudo refletem as opiniões gerais da população da amostra e, além disso, identifica grupos de opinião relativamente homogêneos. Idade, sexo, renda, educação e tempo de residência foram encontradas como categorias de impacto significativo sobre as percepções relativas ao turismo de casino. O modelo de regressão binária e a função de incremento marginal foram utilizados para prever aumento e a diminuição na probabilidade de pertencer ao grupo analisado pela variação nos perfis demográficos, contribuindo assim para o debate sobre a sustentabilidade do turismo de casino.

**Palavras-chave:** Análise de regressão binária. Percepção dos residentes. Segmentação turística. Turismo de casino. Indústria turística.

## LOS IMPACTOS SOCIOECONÓMICOS Y AMBIENTALES DEL TURISMO DE CASINO EN GOA

**Resumen:** Este estudio investiga la percepción de los residentes sobre el turismo de casino, lo que puede ser útil para la formulación de posibles políticas y estratégicas de turismo. Se aplicó el modelo logit binario para revelar la heterogeneidad de la percepción de los residentes sobre los impactos del turismo casino. Los resultados del estudio reflejan las opiniones generales de la muestra de la población y, además, identifica los grupos de opinión relativamente homogêneos. Edad, sexo, ingresos, educación y el tiempo de residencia fueron las categorías encontradas que tienen un impacto significativo en las percepciones sobre el turismo de casino. El modelo de regresión binaria y la función de incremento marginal fueron utilizados para predecir el aumento o la disminución de la probabilidad de pertenecer al grupo analizado por la variación en los perfiles demográficos, contribuyendo así al debate sobre la sostenibilidad del turismo de casino.

**Palabras clave:** Análisis de regresión binaria. Percepciones de los residentes. Segmentación turística. Turismo de casino. Indústria turística.



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## 1 INTRODUCTION

Goa, the former Portuguese colony situated on the west coast of India, boasts an interesting and complex history in relation to tourism patterns and subsequent reactions to them. Although it is the smallest state in India, its history has created a unique cultural diversity that since the 1960's has attracted tourists from all over the world and became one of the most sought after tourism destinations in India as well as around the world.

Though Goa is not coming in the top tourism destination states in India, tourism industry in one of the most prominent one, which provides plenty of employment opportunity, both direct and indirect. Goa, being one of the most popular holiday destinations in India getting around 2.8 million visitors (2012), the gold and white sand beaches, coconut trees rising above your head, delicious seafood, a wonderful blend of Indians and foreigners, and the equally wonderful marketplaces make it the perfect vacation spot, mainly because of the low cost of living compared to other beach destinations around the world, which makes Goa's tourism industry as one of the unique tourist destinations not because of excellent infrastructure and related supporting services available in the tourism industry, but the very absence of it (WILSON, 1997).

Population-wise, the state of Goa ranks 26th in India with a population of only about 1.5 million. But the area spread of Goa is far less as compared to the population, thus making it a state of medium population density. Its population density is almost 400 according to Goa census 2011, in a small area of mere 3000 kilometer square. Tourism is the state's lifeblood, contributing approximately 30% of the state's GDP.

It is a widely accepted fact that any destination focusing on its tourism industry as one of the primary mainstay has to accept the fact that tourism development is double edged sword. Not only does it generate benefits, but it also imposes costs (JAFARI, 2001). By evaluating these benefits and costs, local residents develop their attitudes toward tourism (BUTLER, 1980; DOXEY, 1975; LONG et al., 1990; SMITH; KRANNICH, 1998; SHELDON; VAR, 1984; SHELDON; ABENOJA, 2001; JUROWSKI et al., 1997; WANG; PFISTER, 2008; HANAFIAH et al., 2013).

Previous research proves that apart from perceived benefits and costs residents perception is

modified by various moderating variables (LANKFORD et al. 1994). A lot of research been conducted to find those variables influencing residents' attitudes toward tourism (BROUGHAM; BUTLER 1981, PERDUE et al. 1987, AP 1992, LANKFORD 1994, CAVUS; TANRISEVDI 2002).

Tourism in Goa is mostly dominated by leisure tourism dating back from 1960's onwards. Goa's comparatively young Casino industry was started in the early 1990's by the grant of the Casino license, through an amendment of the Goa, Daman & Diu Public Gambling Act of 1976, in an attempt to boost tourism. It currently boasts of 5 off-shore Casinos and more than 12 on-shore Casinos situated in various Five Star hotels across the state. This thriving Casino Industry contributes Rs 135 crores (approximately US\$ 2.8 mn) revenue to the State government in the form of various taxes including entertainment, liquor charges, port charges, entry fees, VAT etc, that is essential to the State at a time when government revenues have all but dried up after the implementation of the Supreme Court ban on mining in the State (IBT, 2013)

Traditionally monsoons was considered to be off season for leisure tourism in Goa but because of Casinos, Five-star hotels are reporting at least 75 per cent occupancy rate and the tourists are flocking to Goa, or one should say, to the casinos of Goa. This has impacts on residents in both ways. Positive in terms of employment and with more tourist arrivals but residents are feeling the pain in congestion in traffic, crime increase and other social cost. To date, those who have suffered from the negative socio cultural and environmental impacts of mass tourism have not been those who have benefited from its positive economic benefit (BRAMMER; BEECH, 2004).

Present study was conducted to identify the resident's perceptions towards casino tourism in the state of Goa for the purpose of understanding how the residents consider casino tourism industry in Goa, whether it helps in improving the socio-economic conditions of the residents, and also whether they support, oppose, or being neutral towards the government policy towards promoting casino tourism.

Further the study tried to understand the underlying structures of residents' attitudes toward casino development in terms of social, economic, and environmental impacts and to examine causal

relationships between the impact variables and benefits and costs.

This study further identifies the effect of demographic variation on the analyzed cluster and on the resident's attitudes towards tourism, contributing to the debate on casino tourism development. Past research has shown the different impacts of tourism on the local community, and the perceptions and attitudes of residents towards tourism, however no research has shown how and how much these perceptions and attitudes change according to a change in the demographic profile of the local community.

Therefore, present study fills the gap by adding valuable knowledge, new perspectives, and presents possibilities for consideration. The paper offers valuable inputs for different stakeholders of casino tourism industry; especially the academic institutions, casinos operators, academicians, government, and also NGO's in the region under study.

## 2 LITERATURE REVIEW

### 2.1 Global Perspectives

Tourism planning and development in any region must involve various stake holders including local community (BRAYLEY, VAR; SHELDON, 1990; AP, 1990; 1992; AP; CROMPTON, 1998). Residents' attitude plays a crucial role in sustainability of any tourism, more over Destination Management Office (DMO) should identify what are the real drives behind residents' attitudes. Review of literature suggests commonly used theoretical frameworks explaining resident perceptions toward impacts of casino gaming; viz.; social exchange theory (SET).

SET has been advocated as the most appropriate framework for explaining residents' perceptions on the impact of gambling tourism (PIZAM; POKELA, 1985; GIACOPASSI; STITT, 1994; JUROWSKI, 1994 HARALAMBOPOULOUS; PRIZAM, 1996; JUROWSKI, et al., 1997; STITT, et al., 2003; LEE; BACK, 2003; JUROWSKI, GURSOY, 2004; HAM, et al., 2004; LEE; BACK, 2006). SET suggests that residents would evaluate benefits and cost associated with a tourism avenue and then decided whether they should support it or not.

Long (1996) examined residents' attitudes toward casino development in South Dakota and Colorado. They found that residents generally

perceived a positive impact on employment, but a negative impact in terms of traffic congestion, crowding, and crimes caused by gambling. Lee and Back (2003) investigated the impacts of casino development 6 months before and after casino was opened and reported positive impacts (employment opportunities, encouraging inbound tourism) and negative impacts (demoralizing family values, and motivating gambling).

Residents normally evaluate the benefits based on the three main types of perceived impacts of gaming tourism, viz., social, economic and environmental. Although the academic literature on resident attitudes towards tourism development is plentiful and growing, gaming is relatively less researched. Studies found residents perceived both benefits and costs associated with the gaming industries.

Carmichael, Peppard, and Boudreau (1996) stressed the importance of residents' positive and negative attitudes toward casino development. Residents do not form similar groups in terms of their perception of tourism impacts. In fact, those who gain more benefits than costs from tourism view its impacts positively, others view them negatively. A number of different variables influencing residents' perceptions of tourism impacts have been identified in the literature.

Most of the variables suggested in the literature are linked to the socio-demographic and economic profile of the residents, such as age, gender, level of income, as well as level of education. Gender is one of the most significant determinants of resident's perception of gaming tourism impact (PIZAM; POKELA, 1985; DOGAN 1989; PETRZELKA et al. 2005; HALEY et al. 2005; VONG, 2004; 2005; 2008; 2009; 2010; VONG, McCARTNEY, 2005; SHARMA; DYER, 2009; 2012).

In context of gambling tourism a negative perception of female respondents towards legalizing casino exceeded those of male respondents (PIZAM; POKELA, 1985). Vong's (2004) study on Macao resident attitudes towards gaming found that in terms of demographic characteristics female respondents were not in support for gambling tourism as compared to male counterparts.

Vong's (2010) subsequent study on Macao found women, educated persons and professionals still form the core of gaming opponents but married people

supported casino activity around Macao, and youngsters surprisingly opposed casino in Macao. With respect to age, older residents were more concerned with gaming tourism's impact on crime and safety levels and disturbance in the neighborhood than younger residents (TOML JENOVIC; FAULKNER, 2000a; 2000b).

Similarly Cavus and Tanrisevdi (2003) found older Turkish residents hold more negative perceptions towards tourism development than younger residents. Level of education of residents also plays a crucial role, respondents who had completed high school or university education felt more strongly than those with primary education that gambling had no use, and professionals did not agree that gambling was a way of getting rich, and this significantly differed from the view of those who were self-employed (VONG, 2010). Occupation was also found to be affecting resident's attitude the most (CHHABRA; ANDERECK, 2003; 2007; CHHABRA, 2009).

Employment status also influences development of gaming tourism in a region. In their study, Caneday and Zeiger (1991) identified that residents employed in tourism businesses were likely to express a more positive attitude toward the impact of tourism than those employed in non-tourism businesses. Roehl (1999) examined perceived quality of life for residents in Nevada. The quality of life was found to be positively correlated with employment in a casino and casino patronage. With regards to casino, direct employment in the industry also has been found to influence perceptions of gaming impacts (EADINGTON 1986; CARMICHAEL et al., 1996; CARMICHAEL, 2000; 2001).

Length of time living and/or having been born and/or grown up in the region also influences the perception of residents towards gaming tourism. Some researchers have found evidence that attachment is negatively related to tourism attitudes (LANKFORD; HOWARD 1994), but this relationship is not yet conclusive given that others have found the opposite or no definitive evidence (BACK; LEE, 2005; CHHABRA; ANDERELECK, 2009; CHHABRA; GURSOY, 2007; CHHABRA, 2009; DAVIS et al 1988; GURSOY et al, 2002; GURSOY; RUTHERFORD, 2004; JUROWSKI, 1994; JUROWSKI et al, 1997; JUROWSKI; GURSOY, 2004; KANG et al, 2008; LANKFORD; HOWARD, 1994; LANKFORD, 1994; McCOOL; MARTIN, 1994; McGHEE; ANDERECK, 2004). Weak correlations were found between support for gambling and length of residence (LEE; BACK, 2003; 2006).

## 2.2 Indian and Goan Perspective

Despite socially conservative India's ambivalence towards gambling, consultancy firm, KPMG estimated that US\$ 60 billion was wagered in the country in 2010 with expectations of an increase in the years to come. Attitudes are slowly changing as India and more Asian countries are embracing gaming as a revenue generator and a tourist draw (MUNROE, 2013). Goa too, seems to have undergone an image makeover from being known as the hippy capital of the world to the casino capital of India with the concerned authorities making concerted efforts to convert this state into a high end tourist destination designed to attract tourists with deep pockets (ZUBAIR, 2007).

This image diversification has the support, protection and blessings of politicians as well as casino industry stakeholders and is justified on the grounds that gambling is an integral part of ancient Indian culture and tradition, and that casinos with their live gambling is a major draw for over three million tourists who visit the state and bring in much needed revenue to the state (PRABHUDESAI, 2010) and serve as an added attraction for those who would otherwise have preferred other destinations where such facilities exist (TNT, 2013).

However, what is distasteful to note is that the very same politicians who vow to do away with this vice before they come to power, or who were clandestinely protesting it in the past, today support it and even openly defend it on grounds of tradition and economics (PRABHUDESAI, 2010). Many of them in an attempt to adopt a politically correct stance on this issue, go one step further and claim that they personally oppose it, but, acknowledging it to be a tourist draw, feel it should be allowed, in the larger interest of tourism in Goa with the imposition of more stringent rules and regulations (MUNROE, 2013).

The lack of consistency and unanimity in attitude and behaviour among the politicians only serves to further confuse the issue. While politicians and their political parties have constantly either vehemently supported or opposed the casino industry depending on whether they were in power or in the opposition, an undoubted truth that emerges is that each successive government in the state has used the revenues earned from this industry to justify its existence (NAGVENKAR, 2013).

Further, both domestic and foreign tourists visiting the casinos view casinos and gambling as a source of entertainment and neither immoral nor a

social evil. In an attempt to promote this view of casino tourism and boost traffic to casinos, casino managements are now providing kid zones and crèches with state of the art play and rest areas, complete with all the latest entertainment equipment as well as child care facilities, to enable families to visit casinos. Innovative promotion is helping to soft sell the image makeover for casinos from *dens of vice* to *all age appeal family entertainment - Las Vegas style*. (FISHER, 2013; REBELLO, 2014).

Local religious and social activists, NGOs and the like, claim that the casino industry fuels gambling addiction and other incidental woes like drug trade and abuse, flesh trade, moral and social destitution of families and society, money laundering etc, making the State a sin and sex tourist destination as an off shoot to it and fear that this will filter through to Goans and corrupt their culture (TH, 2014). They strongly criticize the government's dependence on gambling revenues, its concessions to casinos, its implicit approval of gambling by the continued illegal advertisements of casinos (TNN, 2012) and demand the scrapping of all casinos to prevent Goa going Las Vegas and Macau way, and want a return to the pre 1992 days before the entry of casinos into the state. (TNT, 2008).

Goa is quickly turning into the Las Vegas of the East, known, not for its time honored beauty and hospitality but as the land of casinos (TNN, 2014). The owners and managing authorities of the same, object to it being linked to the flesh trade and similar social evils on the grounds that the casino industry has been around for over twenty one years, without there being any concrete incident to substantiate such accusations (GN, 2014). Other tourism stakeholders including local tour operators feel that the tourism-casino overlap may harm rather than help tourism. In the absence of a proper, planned, cohesive tourism campaign, the only tourist activity that may actually be promoted is the casinos which are definitely not a good advertisement for Goa.

In an attempt to curb the ever increasing criticism about the negative socio-cultural impacts on locals and to appease the opposers of the casino industry, the state authorities have decided to ban the entry of local residents of Goa into casinos in Goa w.e.f. March 1st, 2014, by the introduction of a Bill to amend the State's Gambling Act (OHERALDO, 2011).

There is speculation that this new bill may negatively affect the casino industry at large and on shore casinos in particular as a majority (between 50-

80%) of clients to on-shore casinos are Goans, while around 70% of clients to off-shore casinos are tourists (PEREIRA, 2014). However, Delta Corporation, the largest gaming company in India and a major player in the Goan market, refuted these claims stating that the hike in license fee is offset by the reduction in entry fee and since most of their clients are tourists, the new rules will not make any significant impact on the industry (SATYA, 2012).

Whatever the argument, in favour of or against casinos, the industry is a major revenue earner for the state and claims to be an employment generator too. But concerned activists claim that such employment is at best, low level, low paid and goes greatly to migrant workers rather than local residents (TNT, 2013). However, in an attempt to placate the opposers of the industry, no fresh licenses will be issued to new off shore casinos and existing off-shore casinos are ordered to relocate from the Mandovi river to mid sea by the next two years, and will not be allowed to operate in any river (TNT, 2013).

### 3 METHODOLOGY

The data collection was performed through an online structured questionnaire delivered during the period January–February 2014 to a randomly selected sample of 200 individual respondents from various villages and cities in Goa, of which only 75 were received back and only 69 were complete resulting in only 37.5% response rate. Data was collected using a structured questionnaire consisting of 2 parts. Part 1 consisted of the demographic profile of the residents and Part 2 consisted of the residents attitudes towards casino tourism (oppose or supporter).

The questionnaire was composed by 56 statements; measuring perception about casino tourism and socio demographic profile of residents, statements 1 to 48, presented the same response pattern: a five-point Likert scale was applied to each claim, with 1 indicating strong disagreement or total opposition and 5 strong agreement or total support, in order to allow people to express different intensity degrees in their attitudes.

Based on the existing literature review on gaming tourism around the world and also Goa, the proposed study tried shed some light on the following research questions. RQ1: Identify the effect of demographic variables on perception about casino tourism in Goa and to describe the main characteristics of each of the

groups (supporters or opposers), and RQ2: To study the effect of variations of population characteristics on each of the groups. Based on the previous researches and literature reviews, the following hypothesis is developed to test RQ1.

**H<sub>0</sub>:** There is no significant difference exists between Casino tourism supporters and opposers with respect to age, gender, income, marital status, education, length of residence, as well as employment status.

Chi-square test is applied to find the answer for RQ1 where as binary logit analysis is applied to study the effects of variations of population characteristics on the cluster membership to find answer for RQ2. Change in demographic variables seems to be relevant in defining the community opinion toward tourism aspects. Demographic resident tendency related with residents' attitude could be a useful tool for tourist developers. To achieve this, a binary logit model was run. If any demographic characteristic showed a significant difference between the clusters, logit analysis permits derive predictive parameters on the significant variables. In this binary logit analysis, the variable of two clusters (CL\_2i; supporters or opposers)

was treated as the dependent variable and demographic characteristics as independent variables and binary logit regression is applied to determine the factor that explains the pertinence of a concrete type of cluster. In binary logit notation, the model was written as (cf. HAIR, BLACK, BABIN, ANDERSON; TATHAM, 2006, p. 360):

$$Logit_i = \ln \left( \frac{prob_{CL2i}}{1 - prob_{CL2i}} \right) = \alpha + \beta_1 X_1 + \dots + \beta_k X_k$$

$$Odds_i = \left( \frac{prob_{CL2i}}{1 - prob_{CL2i}} \right) = e^{\alpha + \beta_1 X_1 + \dots + \beta_k X_k}$$

Where  $\alpha$  = the intercept parameter;  $\beta_k$  = the vector of slope parameter and  $X_k$  = the explanatory demographic variables (Employed in the tourism sector, gender, age, years of residence, income level, marital status, education). Before running the model, test to check essential assumption were carried out, a cross matrix correlation of explanatory variables was used in order to partially avoid possible multicollinearity effects, and, the independent variables of income level, employed in tourism and marital status were dropped (Exhibit 1).

**Exhibit 1: Correlation Matrix.**

	Final output	Gender	Age	Education	Income	Length of Residence	Marital Status	Employment status
Final output	1.0000							
Gender	-0.4308	1.0000						
Age	0.3122	-0.2808	1.0000					
Education	0.7342	-0.1890	0.1747	1.0000				
Income	-0.5714	0.3434	-0.0382	<b>-0.4129</b>	1.0000			
Length of Residence	-0.4296	0.2546	-0.0257	-0.2669	<b>0.9034</b>	1.0000		
Marital Status	-0.2087	0.0950	0.1942	-0.2750	0.3804	0.3042	1.0000	
Employment status	-0.8402	0.3045	-0.2426	<b>-0.6716</b>	<b>0.5174</b>	0.3993	0.2893	1.0000

**Source:** Compiled from primary data analysis final output, i.e., supporter or opposer.

#### 4. RESULTS AND DISCUSSION

**Exhibit 2** shows general demographic profiling of residents gives mean age of study subjects was 44.9 years old, it clearly shows that there was no significant age difference between supporters and opposers of casinos tourism with regards to age ( $\chi^2 = 0.69, p > 0.05$ ),

with older people opposing Casinos. There was a roughly even distribution of male and female with 52.2 percent for male and 47.8 percent for female in responses but significant difference was found with gender ( $\chi^2 = 11.04, p < 0.05$ ), females opposing more to casinos. Income levels were distributed as follows, less than 1000USD (58%), 1000USD–1500USD (29%), and above 1500USD

(13%). Significant difference was found with more higher income group supporting and lower income group opposing Casino based tourism ( $\chi^2 = 23.9, p < 0.05$ ). There was no significant difference exists with respect to marital status among opposers and supporters.

Educational levels were distributed as follows, up to 12<sup>th</sup> (26%), graduation and post-graduation (74%). Significant difference was found between education groups ( $\chi^2 = 24.438, p < 0.05$ ), as more educated people opposed Casinos and lower education group supported casinos. Respondents' length of residence ranged from less than 10 years (14.5%), 11 – 20 years (20.3%), and 21 years and above (65.2%). It was found to have significance difference ( $\chi^2 = 23.936, p < 0.05$ ), with opposition coming from the resident who have stayed more than 21 years. Marital Status do not have any significance difference attitude towards casino tourism ( $\chi^2 = 2.17, p > 0.05$ ), while employment in tourism industry was found to have a significant impact in being a supporter ( $\chi^2 = 44.73, p < 0.05$ ).

Hence, based on the above, the formulated hypothesis that "there is no significant difference between Casino Tourism Supporter and opposers with

respect to age, gender, marital status, income, education, length of residence, as well as employment status" is rejected with an exception of **age** and **marital status**, which clearly corroborates with similar studies carried out earlier that gender, income, education, length of residence, as well as employment status influences residents perception towards casino tourism.

In order to explore the casual relationships between residents' socio-economic and demographic attributes and their attitudes toward casino tourism, binary logit regression was used. Respondents were asked their opinion about attitude towards gambling tourism and were classified into 2 clusters, i.e., opposers and supporters. The demographic profile of Cluster Opposers shows that majority is females living in the region in the range of 21 years and above, highly qualified with average income below INR 50,000 annually with no employment history in tourism sector. With respect to cluster B (supporters) have more male respondents, lived in the region around 11 – 40 years, mostly lower education but with income status between INR 50,000 – 75,000 annually and mostly employed in tourism industry.

Exhibit 2: Demographic Profiling of Residents [n=69].

Demographic Characteristics	Residents Attitude		Total	$\chi^2$ (p)	
	Opposers	Supporters			
<b>Age</b>	20 – 29	12 (26.1 %)	9 (39.1 %)	30.4%	0.6931 (0.4051)
	30 and above	34 (73.9 %)	14 (60.9%)	69.6%	
<b>Gender</b>	Female	29 (63.0 %)	4 (17.4%)	47.8%	11.04 (0.009) *
	Male	17 (37.0%)	19 (82.6%)	52.2%	
<b>Income</b>	Less than 1000USD	36 (78.2%)	4 (17.4%)	58.0%	23.90 (0.000) *
	1000USD – 1500USD	6 (13.1%)	14 (60.9%)	29.0%	
	1500USD and above	4 (8.7%)	5 (21.7%)	13.0%	
<b>Marital Status</b>	Single	22 (47.8%)	6 (26.6%)	40.6%	2.1713 (0.1406)
	Married	24 (52.2%)	17 (73.9%)	59.4%	
<b>Education</b>	Up to 12 <sup>th</sup>	3 (6.5%)	15 (65.2%)	26.1%	24.438 (0.000) *
	Graduation and Post Graduation	43 (93.5%)	8 (34.8%)	73.9%	
<b>Length of Residence</b>	Less than 10 years	2 (4.3%)	8 (34.8%)	14.5%	23.936 (0.000) *
	11 – 20 years	5 (10.9%)	9 (39.1%)	20.3%	
	21 years and above	39 (84.8%)	6 (25.8%)	65.2%	
<b>Employment status</b>	No	46 (100%)	5 (21%)	73.9%	44.732 (0.000) *
	Yes	0 (0.0%)	18 (78.3%)	26.1%	

Source: Compiled from primary data analysis.

\*\* Significant at 0.05 \*mean (age) = 44.9

Figures given in parenthesis are percentage values.

**Table 3** highlights the coefficient values and p-values of the binary logit model. The results shows that for Cluster A (opposers) all four demographic variables, viz., age, gender, length of service, as well as education is significant at 0.05 level. Marginal effects were performed to further investigate the effects of the change in demographic variables over the dependent variable for each group. The marginal effect (**Table 4**) of demographic variables, viz., age, length of residence, and

education is significant at 0.05 for Cluster A (opposers) which indicates that a variation in the age of an individual and educational level increases the probability of being an opposer to Casino tourism by 4.55% and 46% respectively, whereas increase in length of residence decreases the probability of being an opposer by 6.45%. The marginal effect of variable gender is significant at 0.01 level and it implies that probability of males being oppose is 28% lower than female residents.

**Table 3: Binary logit regression. Variable Coefficient (base category Supporter).**

Clusters	Opposers	P value
Age	-6.13	0.013
Gender	0.137	0.024
Length of Residence	1.38	0.001
Education	-0.194	0.023

**Source:** Compiled from primary data analysis.

**Table 4: Marginal effects after Binary logit regression (Variable Coefficients).**

Clusters	Opposers	P value
Age	0.0455	0.026
Gender	- 0.281	0.074
Length of Residence	- 0.0645	0.025
Education	0.460	0.001

**Source:** Compiled from primary data analysis.

## 5 SUMMARY AND CONCLUSIONS

It has been observed that resident's perception is driven by the benefits they perceive about tourism, if cost outweighs benefits, opposition happens for a tourism venture and vice versa. Findings of this paper are in line with social exchange theory (SET).

Majority of studies carried out in Casino tourism measured resident attitude but failed to analyze the possibility of predicting the change in perception with variations of demographic factors. With this background, present study tried to find out whether there is any relation exists between demographic factors and residents attitude towards Casino tourism and effect of change in demographic variable will have on resident's attitude and to what extent.

First part of the analysis was carried out on the relationship between various demographic factors and attitude towards casino tourism, and the result showed that age, gender, income, education and length of residence has a significant impact on resident's perception about casino tourism. The difference was found insignificant in case of marital status indicating that opinion about casino tourism do not vary between married or single person.

Second part of the analysis was binary logit which was applied to measure the change in cluster membership with unit increase in demographic factors. Furthermore, this research shows that issues like percentage of local people employed in the tourism sector, number of years of residency within

the community determine a different support towards casino tourism.

This provides an insight on how tourism segmentation can be done for improving the residents support for promoting casino truism. Based on the level of expertise, more training can be given to the residents who wish to be part of casino tourism industry, there by more benefits will be passed on to the local residents making it fulfilling the social obligation of providing more employment as well as improving the quality of life by providing better infrastructure facilities. Though it sounds promising, it is not possible to achieve this goal in the short run, may take few years to establish the credibility in the minds of residents. As stated in the literature, local support is essential for the creation of an enjoyable tourism product and therefore, this research provides a base for successful tourism policies.

Past research has shown the different impacts of tourism on the local community, and the perceptions and attitudes of residents towards tourism, however no research has shown how and how much these perceptions and attitudes change according to a change in the demographic profile of the local community. This research limits to prediction of only supporter and opposer, further research need to be carried to predict a neutral perspective about casinos. Also finding a core reason for opinion and then applying logit model to predict the change could have a wider application in policy formulation and development of casinos based tourism in Goa.

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