

TOURISTS ASSESSMENT OF INFRASTRUCTURE AVAILABILITY IN GOA (INDIA): A GAP ANALYSIS

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Abstract

This paper examines the perceptions of tourists visiting the state of Goa with regard to the importance given to and the satisfaction level with respect to the infrastructure, facilities, services and amenities available for tourism; to identify infrastructural strengths as well as problem areas which will enable various stake holders to take appropriate measures. Gap Analysis, which is based on Importance-Performance Analysis, was used to determine the gap between tourist perception of importance given before trip and satisfaction level after trip; and paired t-test was used to determine whether the gap was significant. 34 variables with respect to infrastructure, facilities, services and amenities were rated on importance given to and the satisfaction level through a structured questionnaire administered to 1000 tourists. Research findings reveal that in 29 out of 34 variables, there is a significant difference in tourist perception before and after the trip. Further, when plotted on an Importance-Performance Grid; 13 out of the 34 variables fall in Quadrant A indicating an urgent need to focus efforts and resources to improve the same, while the same, when plotted on the Modified 2 Quadrant Importance-Performance Grid, 29 variables fall in Quadrant A (High Priority).

Keywords: Tourist perceptions, assessment of Infrastructure, Importance-Performance Analysis, Goa, India.

AVALIAÇÃO DOS TURISTAS DA DISPONIBILIDADE DE INFRAESTRUTURA EM GOA (ÍNDIA): UMA ANÁLISE GAP

Resumo

Este trabalho analisa as percepções dos turistas que visitam o estado de Goa no que respeita à importância dada ao e o nível de satisfação com relação à infra-estrutura, instalações, serviços e comodidades disponíveis para o turismo; para identificar os pontos fortes de infra-estrutura, bem como áreas problemáticas que permitirão várias partes interessadas para tomar as medidas adequadas. Utilizou-se a Gap Analysis, que se baseia na análise de Importância-Desempenho, para determinar a diferença entre a percepção do turista da importância dada antes de viagem e satisfação nível depois da viagem; e teste t emparelhado foi utilizado para determinar se a diferença era significativa. Foram analisadas 34 variáveis com relação à infra-estrutura, instalações, serviços e comodidades foram classificados na importância dada ao e do nível de satisfação através de um questionário estruturado administrado a 1000 turistas. Os resultados revelam que em 29 de 34 variáveis, há uma diferença significativa na percepção do turista antes e depois da viagem. Além disso, quando plotados em uma grade Importância-Desempenho; 13 das variáveis 34 cair no Quadrante A que indica uma necessidade urgente de concentrar esforços e recursos para melhorar a mesma, enquanto a mesma; enquanto que no Quadrante 2 Modificado da Grade de Importância-Desempenho, 29 variáveis são de alta prioridade (Quadrante A).

Palavras-chave: Percepções turísticas, avaliação de Infra-estrutura, Importância - Análise de Desempenho, Goa, Índia.

TURISTAS DE EVALUACIÓN DE LA INFRAESTRUTURA DISPONIBILIDAD EN GOA PARA PROMOVER EL TURISMO: UN ANÁLISIS GAP

Resumen

Este trabajo examina las percepciones de los turistas que visitan el estado de Goa con respecto a la importancia dada a la y el nivel de satisfacción con respecto a las infraestructuras, instalaciones, servicios y comodidades disponibles para el turismo; para identificar las fortalezas de infraestructura, así como las áreas problemáticas que permitan a las distintas partes interesadas para tomar las medidas adecuadas. Se utilizó el Análisis Gap, que se basa en análisis de Importancia-Rendimiento, para determinar la brecha entre la percepción turística de importancia que se da antes de nivel de disparo y la satisfacción después del viaje; y se utilizó la prueba t pareada para determinar si la diferencia fue significativa. Fueran analizadas 34 variables con respecto a la infraestructura, instalaciones, servicios y comodidades calificados en importancia dada a y el nivel de satisfacción a través de un cuestionario estructurado administrado a 1.000 turistas. Los resultados revelan que en 29 de los 34 las variables, hay una diferencia significativa en la percepción de turista antes y después del viaje. Además, cuando se representa en una cuadrícula Importancia-Rendimiento (original rejilla 4 cuadrantes), 13 de las 34 variables que entran en el Cuadrante A, que indica la urgente necesidad de concentrar los esfuerzos y recursos para mejorar el mismo, mientras que el mismo, cuando representada en el cuadrante 2 Rejilla Importancia-Rendimiento Modificado, 29 variables caen en el cuadrante A (de Alta Prioridad).

Palabras-chave: Percepciones turísticos, evaluación de Infraestructura, Análisis Importancia - Rendimiento, Goa, India.



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(The data of the other coauthors are in the end of the text).

1 INTRODUCTION

The development of the tourism industry and the subsequent interest in investigating its implications has increased greatly over the past few decades. Tourism and travel is now considered one of the world's largest industries.

The United Nations World Tourism Organization's (UNWTO's) Tourism 2020 Vision forecasts that international arrivals are expected to reach nearly 1.6 billion by the year 2020. Of these, worldwide arrivals in 2020 will be 378 million long-haul travelers and 1.2 billion will be intra-regional (UNWTO, 2008).

For many countries tourism has become an important source of business activity as well as a generator of income, employment and foreign exchange. With the rapidly growing scope of tourism and the accelerating pace of competition in this field, if tourism is to contribute to both local and national development, the four A's (attractions, access, amenities, and ancillary services) must be nationally and internationally recognizable and competitive (COOPER, et al, 1994; YOON, et al, 2001).

This has led to extensive research in tourism covering aspects that include competitive advantages of different destinations; the flow of tourists around the world as well as different tourism impacts on socio-cultural, environmental, and economic aspects, destination image (AHMED, 1991), ecotourism and sustainability (BUTLER; BOYD, 2000), strategies related to sustainable development (CLARKE, 1997) as well as the importance of community involvement in decision-making (PUCZKO; RATZ, 2000).

However, despite the increased number of studies related to tourism, only very recently a number of studies have been focusing on the importance of repeat visitors to the same destination (OPPERMANN, 1999). While some studies on repeat visitation have focused on tourists' satisfaction in different destinations (KOZAK, 2000, 2001); others have identified tourists' perception of the environment after years of visiting the same destination (DYMOND, 1997; POLLARD; DOMINGUEZ, 1993; RYAN, 1995; PUCZKO; RATZ, 2000).

Visitor satisfaction is a major factor which determines repeat visitation and recommending the destination to others. Previous research findings demonstrate that there is a significant relationship among tourist satisfaction, intention to return, and positive 'word-of-mouth' recommendation (KOZAK; RIMMINGTON, 2000). Tourists are increasingly becoming more demanding and desire value for money and the provision of quality products and services (POON, 1993).

Since the tourism product comprises many inter-related components such as accommodation, activities, transport and entertainment; a '*halo effect*' may occur wherein satisfaction or dissatisfaction with one of the components leads to satisfaction or dissatisfaction on the total tourism product or experience (DANAHER; ARWEILER 1996; RYAN 1995).

Customer satisfaction is therefore a major goal of service-oriented businesses. Understanding the causes and nature of visitor satisfaction and dissatisfaction can help to promote and develop a tourism destinations by measuring the 'health' of the industry for strategic planning purposes, understanding the customers reaction to a product, encouraging both new and repeat visitation and comparing different sectors within the industry to determine areas that may need improvement.

There is growing evidence that customer satisfaction is a driving force behind firm's business competitiveness and performance (PARASURAMAN et al., 1985, 1988; ZEITHAML et al., 1996). This is also true in the case of tourism, where concepts, models and tools aimed at evaluating customer satisfaction are widely employed. In order to evaluate the strengths and the weaknesses of a tourist destination and to improve its competitiveness, it is of vital importance to determine the views and expectations of tourists visiting the destination. The Tourism industry which is quite difficult to evaluate in quantitative terms, considers "satisfaction" to be one of the most widely accepted indicators of the state of its health. Satisfaction, for tourism, as well as for other industries, is also directly linked to the loyalty of "clients" and therefore, to the sources of competitive advantage.

Although the relevance of Importance-Performance Analysis (IPA) as an instrument for the measurement of quality perception is well documented in marketing literature (ENNEW et. al, 1993; SLACK, 1994; MATZLER et al., 2003), still there is a lack of research to provide empirical application to tourism destination management especially in *Mass Tourism* destinations, Goa being one such destination. So far no research has been carried out in Goa with respect to tourist's satisfaction using IPA, which makes this study unique and provides valuable inputs on otherwise unexplored area.

Using the IPA as a tool for evaluating tourist satisfaction, this study attempts to fill in this gap by assessing the perceptions of tourists visiting Goa and for identifying the main factors and/or areas of intervention to improve the quality of the tourism product and services offered, in accordance with tourists' perceptions. This study concentrates on the state of Goa as the research location in order to evaluate the importance given to and satisfaction of

tourists toward the infrastructural facilities and attractions available in the state.

With the evaluation of the tourist's importance and satisfaction, conclusions can be drawn in regard to these attributes and their need for enhancement and improvement in view of the state's robust tourism growth. Therefore, the 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 tourism industry; especially the academic institutions, hotels and restaurants, tour operators, government as well as NGO's in the region to be studied.

2. LITERATURE REVIEW

2.1 Tourist Satisfaction

Tourist satisfaction is important to successful destination marketing because it influences the choice of destination, the consumption of products and services, and the decision to return (KOZAK; RIMMINGTON, 2000).

Several researchers have studied customer satisfaction and provided theories/models about tourism, for example, Parasuraman, Zeithaml, and Berry's Expectation-Perception Gap Model (PARASURAMAN et al. 1985), Oliver's Expectancy-Disconfirmation Theory (PIZAM; MILMAN, 1993; PIZAM; ELLIS, 1999), and Sirgy's Congruity Model (SIRGY, 1984; CHON; OLSEN, 1991). Importance-Performance Analysis (IPA) (MARTILLA; JAMES, 1977) and the performance – only model. Pizam, et al., 1978 have been used to measure tourist satisfaction with specific tourism destinations.

Since tourism is considered to be an amalgam of service industries (FUCHS; WEIERMAIR, 2003), research has generally focused on the marketing measurement tools aimed at assessing customer satisfaction, in view of the fact that satisfaction affects both expectations and intentions for future destination purchasing decisions. Over the last decade, numerous research contributions have discussed the limits and the problems of the research in this area.

Different perspectives and theories have been proposed in tourism literature to assess tourist satisfaction. Most of the studies have utilized models of expectation-disconfirmation, according to which consumers develop expectations about a product/service before purchasing it and subsequently they compare actual performance with those expectations (OLIVER, 1980).

If the performance is better than the expectations, the consumer has a positive disconfirmation, which

means that (s)he is satisfied and (s)he will be more willing to repeat the purchase. If the performance is worse than the expectations, the consumer has a negative disconfirmation, which means that (s)he is unsatisfied and (s)he will look for alternatives for the next purchase. Applying such a model to tourism, it follows that satisfaction is the result of a comparison between [tourists] previous images of the destination and what (s)he actually sees, feels and achieves at the destination (CHON, 1989).

Review of literature, suggests that customer surveys in tourism are useful and reliable only if they are meticulously designed keeping in mind the conceptual construct and the theoretical model used. The choice of the survey method, the sample design, the time and place of the interview are all highly critical issues in tourism satisfaction surveys that may invalidate the results if improperly chosen and/or managed (FUCHS; WEIERMAIR, 2003). Given these limits and possibilities of tourism satisfaction research, this paper uses the Importance-Performance Analysis (IPA) (MARTILLA; JAMES, 1977) which is generally viewed as a "low-cost/easily managed" tool for evaluating tourists satisfaction, which is part of the expectation-disconfirmation branch of literature.

2.2 Importance-Performance Analysis (IPA)

Importance-performance analysis requires the simultaneous consideration of customers' assessments of the importance of salient attributes as well as their level of satisfaction with the service provided and the performance of the service providers.

The IPA framework has been widely applied across various fields and contexts. In tourism, policymakers and management have used the IPA matrix to assess the competitive position of a tourism product, service, company or destination and to formulate the relevant strategies to achieve a competitive advantage over rivals (DENG, 2007; ENRIGHT; NEWTON, 2004; HUDSON et al., 2004).

It achieved significant popularity among tourism, hotel and leisure researchers who adopted the approach in studies of destination image (JOPPE et al., 2001; LITVIN; LING, 2001; O'LEARY; DEEGAN, 2005); destination policy (EVANS; CHON, 1989); destination positioning (PIKE; RYAN, 2004); and parks and protected areas (HOLLENSHORST et al., 1992; HUNT et al., 2003; TONGE; MOORE, 2007; WADE; EAGLES, 2003).

The method usually defines a two dimensional grid with the horizontal axis indicating the visitors' perceptions of the service providers' performance on a given attribute. The vertical axis indicates the importance of the attribute to the visitor. The visitors'

importance and satisfaction values are plotted on the grid, which is divided into four quadrants that are formed based on the mean scores of the importance and satisfaction attribute ratings.

Martilla and James (1977) who pioneered this technique highlighted that since IPA works with relative rather than absolute measures of importance, therefore the placement of crosshairs in relation to satisfaction mean is subjective (ZEIGLER et al., 2012). The various crosshair measures used include actual/data means, scale means and statistical means (OH, 2001; TONGE; MOORE, 2007).

These values are then assessed according to their quadrant on the grid. Each quadrant suggests a different strategy. Attributes that are rated high in importance and high in satisfaction suggest that the service provider's high performance should be continued and that resources should continue to be directed toward these attributes. In contrast, attributes having a low importance rating and a low satisfaction rating suggest that investing scarce resources on these attributes may have little strategic advantage.

Attributes that are rated high in importance and low in satisfaction are the attributes that an organization should pay particular attention to, investing the greatest amount of resources to improving the performance of these attributes. Lastly, attributes rated low in importance and high in satisfaction are attributes that an organization should continue to maintain but not necessarily allocate any additional resources (ALMANZA et al., 1994; GO; ZHANG, 1997; JOPPE et al., 2001; RYAN, 1995a; 1995b; UYSAL et al., 1991).

The main purpose of IPA is to determine which attributes the visitors consider most important, measure how well the destination performs in delivering these attributes and to make recommendations to destination site management about what they should concentrate upon and what strategies they should follow (KOZAK; NIELD, 1998).

The IPA can be effectively used to point out a destination's strengths and weaknesses. The use of this method has significant management implications for decision-makers at any destination. The IPA provides significant support to policy-makers, both as forward-looking instrument aiming to audit the state of health of the tourist destination and to define the main area of intervention as well as a backward-looking instrument aiming to evaluate the impact of the programs and strategies implemented.

3 RESEARCH METHODOLOGY

The objective of this research paper was to evaluate the importance given to and satisfaction with

the infrastructure, facilities, services and amenities available for tourism in the state of Goa. The evaluation was based on perceptions of both foreign and domestic tourists visiting the state. The Study Area was the entire State of Goa and the Study Period was a fourteen month period from November 2013 to December 2014.

The Sampling Method used was Convenience/Judgment sampling. The Sample size was 1000 Tourists, above 18 years of age, who were surveyed in Tourist locations all over Goa. Total Responses received were 805 and the total usable responses were 761 (final response rate 76.1%).

The Data collection was based on a four part structured questionnaire with five point Likerts scale based on a study of "Infrastructure Gaps in Tourism Sector" conducted by GOI, Ministry of Tourism, Market Research Division, prepared by GFK Mode Pvt. Ltd. Part I comprised demographic & biographic profile of the tourists, Part II comprised a five point Importance-Performance scales consisting of 34 variables were used in this study. Part III and IV were on sustainability issues which are not used in this paper. Secondary Data was collected from Research Journals, Published booklets and data procured from Department of Tourism, GTDC, and other Government Departments & Government publications.

The Importance-Performance (satisfaction) theories suggest that customers' satisfaction can be measured by the difference between a consumers' expectation of a product or service and his/her actual experience after service delivery. Ryan (1995) observes that '*if satisfaction is seen as the congruence of need and performance, then dissatisfaction can be perceived as the gap between expectation and experience*'. The average importance of the infrastructure, facilities, services and amenities available for tourism and the average level of satisfaction with these elements were calculated for all visitors to the state of Goa in the sample selected.

The placement of each element on an importance-satisfaction scale is accomplished by using the means of importance and performance as the coordinates. Once these calculations are performed, they are plotted on a two dimensional grid called the *Importance-Satisfaction Matrix/Grid* (JOPPE et al., 2001; KOZAK; NIELD, 1998; PIZAM; ELLIS, 1999; RYAN, 1995). Each element on the grid is then analyzed by locating the appropriate quadrant in which it falls (refer **Figure 1**).

Quadrant A is termed '*Concentrate here*' and elements in it are rated very important, but the level of satisfaction is rated below average therefore action/efforts & resources are required here. It is a critical area for research allocation with the goal being to achieve customer satisfaction.

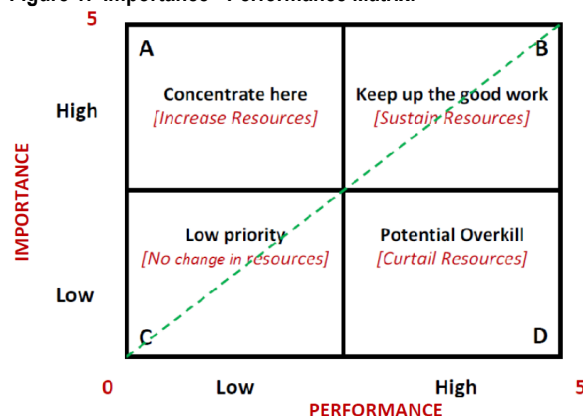
Quadrant B is termed 'Keep up the good work' and elements in it are considered most important and satisfaction level is above average and one must work as well as continue to invest sustain resources to maintain quality of these areas.

Quadrant C is termed 'Low Priority' and elements in it are rated least important and the level of satisfaction is below average. Usually nothing is done about this area until some point when respondents begin to view this area as more important, hence no change in resources are required.

Quadrant D is termed 'Possible Overkill' and elements in it are rated above average on satisfaction, but are rated below average on importance and usually the areas require no action or improvement and no further investment of resources.

The findings will indicate the infrastructural facilities that meet with the satisfaction of the tourists and those that require to be developed further or require improvement on priority basis.

Figure 1: Importance - Performance Matrix.



Source: Importance-Performance Matrix (CHEN, 2014).

The modified IP Analysis (ABALO et al., 2007, DENG, 2007, AZZOPARDI; NASH, 2013, CHEN, 2014) diagonally divides the elements under study in to two, those elements above the diagonal line comes under *Quadrant A* where more concentration is required, and those below comes under *Quadrant B* which is of low priority or keep up the good work or potential overkill (refer **Figure 1**).

Data was analyzed using SPSS 20. Descriptive Statistics, Mean Analysis, Gap Analysis (Importance – Satisfaction for infrastructure in terms of pre and post visit) and Paired t-test were used. The reliability of the scale and data was tested using Cronbach's Alpha. Factor Analysis was carried out on the original scale of 34 variables comprising infrastructure, facilities, services and amenities, evaluated by the tourists to condensed or reduce into factors with minimum loss of information.

The Mean Analysis indicates the Tourists' perception of the Importance of & Satisfaction with the Infrastructural facilities, amenities, services available in the state and is obtained from tourist responses on a 5 point Likerts scale where 1 is very unimportant / very unsatisfactory, 2 is unimportant / unsatisfactory, 3 is important / satisfactory, 4 is above average importance / above average satisfaction, 5 is very important / very satisfactory. If the mean value is between 3 and 5, it indicates that tourists agree that the infrastructure is important / satisfactory. For values between 1 and 2, it means they consider it to be unimportant / unsatisfactory.

Gap Analysis indicates the difference in values between Satisfaction Mean (perceived mean after the trip) and the Importance Mean (estimated / expected mean before trip) (TONGE; MOORE, 2007, HANIM; REDZUAN, 2010). If the Gap value is zero or positive it indicates that the tourists' actual experience from use of infrastructure / facilities / services / amenities is equal to their expectations or more than expectation, indicating *satisfaction*. If the value is negative it means that their expectations were higher than their actual experience indicating *dissatisfaction*. Paired t-test has been carried out to determine whether the Gap (difference in mean values) was significant or otherwise. Statistically it was used to test the following hypotheses:

H_1 : There is no significant difference between Tourist perception about the Importance given to and Satisfaction with Tourist Assistance factors (F1); Infrastructure Factors (F2); Attraction / Destination Factors (F3); and Entertainment Factors (F4), which are available in the state for tourism, before and after the trip.

4. RESEARCH FINDINGS & DISCUSSION

4.1 Research Location & Infrastructure Background

Goa is India's smallest state by area and the fourth smallest by population (1.45 million). Located in south west India in the region known as the *Konkan*, it is bounded by the state of Maharashtra to the north and by Karnataka to the east and south, while the Arabian Sea forms its western coast. It has a coastline of 106 kilometers of which 65 kilometers consist of sandy beaches. *Panaji* is the state's capital, with Margao, Mapusa, and Vasco as its main cities.

While *Konkani* and *Marathi* are spoken as the native language of Goa; English is widely used and spoken in the state for both official and social purposes. Portuguese was used extensively as an administrative language during the Portuguese colonial era but is no longer in use now officially, though it is still used socially. Due to its scenic beauty and the architectural splendor

of its temples, churches and monuments, Goa is a favorite spot for tourists from all over the world.

Goa has impressive socio-economic indicators with the growth rate under Primary sector increasing from (-) 39.89 percent to 9.86 percent, mainly due to the improvement in the sub-sector Agriculture, Forestry and Fisheries as a result of the proactive steps taken by the government, in the Secondary sector from 4.43 percent to 5.60 percent but declined in the Tertiary sector from 10.26 percent to 8.64 percent due to decline in the sub-sector Transport, Storage and Communication (ESG, 2014).

Goa has impressive socio-economic indicators. Rated as the best among the emerging states in the country for its social infrastructure, the state government is furthering civic, information technology & transport facilities. The number of banking offices has increased as have the number of Micro, Small and Medium Enterprises due to the expansion of existing industrial estates. However, in an attempt to boost environmentally sustainable industrial development, generate employment and create a robust industrial base, the state government has approved the Goa Investment Policy – 2014 as well as the setting up of an Investment Promotion Board (ESG, 2015).

Several All India Financial Institutions along with the State's Financial and Infrastructure Developmental Organizations help entrepreneurs to get a firm foothold in Goa without any inconvenience. The State has a well-knit banking network, with as many as 694 banking offices as on 30-06-14. As on March 2014, Goa tops the list amongst States and Union Territories in the country with regard to population covered per bank branch and the bank branches in the state depicted an increase in deposit mobilization by 22.81% over the previous year (ESG, 2015). A unique feature of the Goan banking industry scenario is the high Credit-Deposit Ratio, where the ratio of amount of deposits made is much higher than advances given. This can be possibly explained if one considers that the mindset of the typical Goan consumer is opposed to risk taking and consequently opposed to credit purchases on one hand and on the other the high amount of deposits by the NRI community in Goa.

Goa's requirement of power for all users is 480 MW, out of which 380 MW is currently available. The shortfall during peak hours is around 100 MW. Power is available through a central grid from super thermal power stations. The short fall is made up to the extent possible from various other sources and during peak hours, heavy duty users including major industries and 5 star hotels etc. use generators. It draws 12 mega watts on weekdays from Reliance infrastructure Ltd, and 14-12 mega watts of power from Goa Energy Pvt. Ltd, and 1-2 mega watts of power from Goa Sponge

and Power Ltd. (ESG 2015, Pai, 2014). The Telecom facilities in Goa are on par with other metro cities in the country. Optical fiber provides high speed access to a wide range of Internet related services from Email to the WWW. Goa is the second State in the Country to achieve 100% automatic telephone system, with a very good network of Telephone Exchanges. All towns are well connected to the STD and ISD network.

Goa has sufficient water for domestic as well as industrial uses. The overall demand for water in all sectors of the economy including domestic, industrial, tourism, mining, agriculture etc. is approximately 927 MCM, while the overall water supply available is 1283.9 MCM (WRD, 2013). The Projected overall demand for water for 2020 is 1166 MCM while the projected availability for 2020 is 1288 MCM (TERI, 2013). Water available in adequate quantity and is piped through Assonora, Selaulim and Opa reservoirs.

With respect to sanitation, as per 2011 census, 63% of the State is urbanized but needs well-knit sewerage network and majority of the population is still dependant on the traditional septic tank and soak pit system for the disposal of wastewater (ESG, 2014). However, the Government undertook the process of revamping the sewerage system in all major cities in the third quarter of 2014 and is currently in the process of completing this task.

In terms of health and social welfare, Goa has excellent health parameters in comparison to other states in the country with a very good medical college and teaching hospital having excellent facilities and infrastructure to cater to all aspects of health and the treatment of disease, (both regular and super-specialty) which are ably supported by government hospitals in certain major cities and primary health centers in most villages.

In terms of Law & Order, the government has been making efforts to enhance the capabilities of its law & order personnel through training, augmenting, and modernizing infrastructure and the work force as a result of which the overall crime situation in the state remained under control as well as showed a reduction in criminal cases by 18% over the past year. However, despite its enhanced capacity in terms of Law and Order and despite a reduction in overall criminal cases, it is clearly observed that loopholes do exist in the system and that the enforcers of law and order in the state do not treat it with the seriousness it deserves thus allowing anti-social, criminal and deviant behavior among both locals and tourists, to progress steadily in the state which is a detriment to society in general. In addition, the Fire & Emergency services (including 108 ambulance services) are prompt, well trained, equipped and functions efficiently in dealing with any casualty or emergency in the state (ESG, 2015).

Tourism is now the largest industry in Goa after the ban on mining in the post-colonial era and is the “backbone of Goan economy”. According to the State Department of Tourism as a sizeable percentage of Goa’s population directly or indirectly derives its livelihood from tourism activities thus influencing social, cultural, ecological aspects of life in the state. With its breathtakingly diverse natural beauty, captivating churches and temples and its diverse flora and fauna as well as its unique blend of Indo-Portuguese culture, Goa is widely accepted as the best tourism destination in India for both domestic and overseas visitors.

In terms of tourism specifically, the Government has initiated a series of efforts to diversify tourism activities and to provide, improve and maintain tourism related infrastructure for enhancing the level of tourist retention. Intensive beautification efforts in major tourist spots, creation of a mega tourism circuit in the Calangute, Candolim, Anjuna belt, as well as the completion of the Panjim jetty were undertaken in order to improve facilities for tourists visiting the state, increase their satisfaction with the same as well as to improve the carrying capacity of the state.

Two much needed tourism initiatives i.e. a Policy for Regulating Water Sports and a Mobile Based Tourist Guidance Service were recently finalized in the state. The Tourism department has stepped up its participation in national and international events and its promotional activities in print and electronic media in order to boost awareness and promote tourism in the state (ESG, 2015).

Goa has a well-developed international airport with visa on arrival which is currently extended to 75 countries and also customs clearance facilities; which is well connected to major cities of India, besides having facilities for chartered flights and international flights. Its Dabolim International Airport is 25 km away from the State Capital, Panaji. Chartered flights from European countries arrive here regularly.

Goa is connected by a well-developed network - both rail and road, to major cities in other parts of the country and has a well-developed internal water transport network formed by a grid of navigable rivers which is being planned to be used for development of backwater/hinterland tourism.

The international Mormugao Port which can accommodate over 50 ships in outer anchorage has mechanized loading facility, a fully containerized service operations and an oil berth. A general Cargo berth is being planned to be used to promote international cruise tourism and minor ports are also available along the river.

With respect to roads; Goa has 195 kms of roads for every 100sq. km, against the National average of 50 Kms of roads for 100 sq. km. It is well connected by two

national highways along the west coast, namely NH4A and NH17, besides the dense network of metallic roads connecting the state to other parts of the country. As on 31st December 2014 the number of vehicles registered in the State stands at 10,63,899 of which 68% are in the category of 2 wheelers while, 11 % comprise of transport vehicles and 89% are from the non- transport category (ESG, 2015).

In terms of its railways, South-Central Railway and Konkan Railway provide rail links with major cities. It is well linked by South-Central railway to Bangalore, Delhi, Bombay and Secundrabad and well connected with Konkan railway from Bombay, Mangalore & Kerala.

Tourism has the potential of keeping the demographic growth to a minimum level while ensuring GDP growth (ESG, 2015). Goa is widely accepted as the best tourism destination in India for both domestic and overseas visitors resulting in a year around floating population of tourists in Goa, which also has a well-developed hospitality industry handling approximately 10% of all foreign tourist arrivals in India. The above facts and ever increasing numbers of tourists are indicators of the continuing interest in Goa as a tourism hot spot (refer to Figure 2).

Figure 2: Administrative Map of Goa.



Source: adapted from Goa-Holidays-Advisor.com

4.2 Data Presentation and Discussion

Demographic Profile of Respondents (Refer **Table 1**) indicated an approximately equal distribution in terms of Category of Tourist- Indian (49.3%) and Foreign (50.7%) as well as in terms of Gender – Male (47.7%) and Female (52.3%).

In terms of Age, 32.5% were in the age group 18-27 years, 27.3% in the age group 28-37 years, 18.4% were in the age group 38-47 years, 13.8% were in the age group of 48-57 years while 8% were in the age group 58 years and above.

39.3% of tourists stated that they were frequent visitors while 33.6% and 27.1% each stated they were 1st and 2nd time visitors. 41.8% availed of Commercial accommodation, 34.6% stayed in rented accommodation while 15.8% stayed with relatives and friends and 7.9% had other accommodation.

In terms of Duration, 36.1% stayed in the state for less than a week while 40.3% stated that they

stayed for 2 weeks or more, 13.1% were uncertain while 10.4% stated that they stayed for a day only. 40.1% tourists stated that the Main Purpose for the holiday was Rest & Relaxation followed by 28.6% as Beach tourism, while 15.2% & 8% came for Adventure & Nightlife respectively. Travelling for Business at 2.6%, Culture at 1.6%, Religious/Pilgrimage at 1.4% and others at 2.4% were relatively negligible reasons. In terms of Services used, 30.1% used Transport, 29.8% used Hotels and Restaurant, 25% used Nightlife & Entertainment while 5.8% used Adventure / Water Sports and 1.3% used Medical/Health services.

Table 1: Demographic Profile of Tourists (n=761)

Demography	#	%
Tourist Category		
Indian	375	49.3
Foreigner	386	50.7
Gender		
Male	363	47.7
Female	398	52.3
Reason for visit		
Beach Tourism	218	28.6
Adventure Tourism	116	15.2
Rest & Relaxation	305	40.1
Business	20	2.6
Culture	12	1.6
Religious/Pilgrimage	11	1.4
Entertainment/night life	61	8.0
Others	18	2.4
Marital Status		
Single	375	49.3
Married	386	50.7
Duration of Visit		
Only 1 day	79	10.4
Less than a week	275	36.1
2 weeks or more	307	40.3
Uncertain	100	13.1

Source: Compiled from Primary Data.

Demography	#	%
Age		
18-27	247	32.5
28-37	208	27.3
38-47	140	18.4
48-57	105	13.8
58 & above	61	8.0
Type of Accommodation		
Commercial	318	41.8
Rented	263	34.6
Family/ Friends	120	15.8
Others	60	7.9
Type of service Used		
Pub/Night life	190	25.0
Restaurant/Hotel	227	29.8
Transport	229	30.1
Culture	61	8.0
Medical/Health	10	1.3
Adventure/Water sports	44	5.8
Frequency of Visit		
First time	256	33.6
Second Time	206	27.1
Frequent visitor	299	39.3

Factor Analysis of 34 Infrastructural variables used in the Tourist Questionnaire generated 4 Factors. The Principal Components Factor method was used to generate the initial solution. The Eigen values along with the Scree plot suggested that a four factor solution explained 47.843% of the overall variance be considered and four factors with Eigen value greater than 1.0 and attributes with factor loadings greater than 0.3 were reported. The overall significance of the correlation matrix was 0.000 with a Bartlett test of Sphericity value of 11400.763. The statistical probability and the test indicated that there was a significant correlation between the variables and the use of Factor Analysis was appropriate (Refer **Table 2**).

The Kaiser-Meyer-Olkin overall measure of sampling adequacy was 0.891 which was meritorious (HAIR et al., 1999). The *first factor* was **F1**-Tourist Assistance having 9 variables and an alpha of 0.885. The *second factor* was **F2** - Infrastructure Factors having 8 variables and an alpha of 0.831. The *third factor* was **F3** – Attraction / Destination having 10 variables and an alpha of 0.812 and finally, the *fourth factor* was **F4** - Entertainment having 7 variables and an alpha of 0.724 instead of 0.

The KMO value of 0.891 & Bartlett's Test values are acceptable indicating adequacy & appropriateness of data for Factor Analysis. Cronbach's Alpha of the overall scale was 0.921. (Refer **Table 2**).

Table 2: Factor & Gap Analysis, Comparison of Means & Grid Position (n=761), $\alpha=0.921$, 34 Items.

Variables	Loading	Importance	Performance	Gap (P) - (I)		ρ	Original*	Diagonal*	α
F1: Tourist Assistance Factors: Eigen Value 9.827, % of Variance Explained 28.904%									
1. Knowledge/ quality of help at Tourist Office	0.744	3.97	3.41	-0.56		0.000**	A	A	0.885
2. Availability of Tourist guidance centres	0.730	3.88	3.40	-0.50		0.000**	C	A	
3. Availability of authorized tour operators	0.691	3.70	3.48	-0.22		0.000**	C	A	
4. Traffic management	0.667	4.07	3.16	-0.91		0.000**	A	A	
5. Power Supply situation	0.666	4.19	3.30	-0.89		0.000**	A	A	
6. Conditions of street lighting	0.660	4.13	3.14	-0.99		0.000**	A	A	
7. Availability & cost of private transportation	0.617	4.02	3.38	-0.64		0.000**	A	A	
8. Availability of public transportation	0.568	4.06	3.51	-0.55		0.000**	A	A	
9. Roadside signage's & their condition	0.518	4.01	3.23	-0.78		0.000**	A	A	
Factor Mean		4.00	3.33	-0.67					
F2: Infrastructure Factors: Eigen Value 2.798, % of Variance Explained 8.32%									
10. Condition of the Airport/Railway station	0.715	4.10	3.61	-0.49		0.000**	B	A	0.831
11. Accessibility of the destination	0.689	4.15	3.72	-0.43		0.000**	B	A	
12. Quality/condition of Roads	0.655	4.12	3.39	-0.73		0.000**	A	A	
13. Assistance at (Airport/Railway Station)	0.609	4.04	3.66	-0.38		0.000**	B	A	
14. Garbage disposal	0.567	4.17	2.70	-1.47		0.000**	A	A	
15. Sewerage and drainage system	0.560	4.09	2.96	-1.13		0.000**	A	A	
16. Parking facilities	0.474	3.73	3.37	-0.36		0.000**	C	A	
17. Personal safety and security.	0.458	4.45	3.67	-0.78		0.000**	B	A	
Factor Mean		4.06	3.34	-0.72					
F3: Attraction /Destination Factors: Eigen Value 2.105, % of Variance Explained 6.191%									
18. Natural beauty & climate	0.607	4.30	4.16	-0.14		0.000**	B	A	0.812
19. Friendliness of the local people.	0.607	4.11	4.10	-0.01		0.790	B	A	
20. Diversity of cultural/historical attractions	0.563	3.98	3.92	-0.06		0.143	B	A	
21. Overall cleanliness of the destination.	0.552	4.30	3.54	-0.76		0.000**	A	A	
22. Tariff levels of Accommodation (all kinds)	0.537	3.89	3.65	-0.24		0.000**	D	A	
23. Quality / hygiene of wayside Eateries	0.528	4.19	3.32	-0.87		0.000**	A	A	
24. Availability & quality of Accommodation	0.490	4.06	3.84	-0.22		0.000**	B	A	
25. Opportunities for Rest & Relaxation	0.469	4.22	4.10	-0.12		0.001**	B	A	
26. Availability, quality & tariff of local cuisine	0.454	3.99	3.65	-0.34		0.000**	B	A	
27. Public Conveniences/Utilities along roads	0.389	4.00	3.35	-0.65		0.000**	A	A	
Factor Mean		4.10	3.76	-0.34					
F4: Entertainment Factors: Eigen Value 1.141, % of Variance Explained 4.158%									
28. Casino and gambling offer.	0.817	2.76	3.61	0.85		0.000**	D	B	0.724
29. Conference offer.	0.704	3.07	3.37	0.30		0.000**	C	B	
30. Night life and entertainment.	0.678	3.72	3.91	0.19		0.000**	D	B	
31. Availability of sport / recreational activities.	0.557	3.73	3.78	0.05		0.215	D	B	
32. Possibilities for shopping.	0.473	3.82	3.85	0.03		0.394	D	B	
33. Rural Tourism	0.459	3.55	3.45	-0.10		0.027**	C	A	
34. Wellness offer.	0.430	3.71	3.66	-0.05		0.160	D	A	
Factor Mean		3.60	3.66	0.06					
KMO. 0891 Bartlett's test of sphericity 11400.763 ** p < 0.05									

Source: Compiled from Primary Data.

Legend:

* Original IP analysis: A: High Importance-Low Performance, B: High Importance- High Performance, C: Low Importance-Low Performance, D: Low Importance-High Performance (IPA Original).

** Modified IP Analysis: A: High Priority / Concentrate Here, B: Low Priority / Keep up the good work.

Mean analysis found that the Grand Mean Value of the scale in terms for perception of *Importance* of Infrastructure (Expectation) was 3.95. For F1 -Tourist Assistance, it was 4.00 (Above

average) for all variables except 3, i.e., Availability of authorized Tour Operators, Availability of tourist guidance centers & Knowledge and quality of help at tourist offices having slightly less than 'above

average importance' values. For **F2** –Infrastructure, it was 4.06 (Above average) with only Parking facilities having slightly less than 'above average' importance. For **F3** - Destination Attractiveness, it was 4.10 (Above average) for all variables except 3 variables i.e. Diversity of cultural and historical attractions, Availability, quality & Tariff of local cuisine & tariff levels of accommodation having marginally less than 'above average importance' values. For **F4** – Entertainment, it was 3.60 (Average) for all variables except Casino & Gambling having 'below average' importance, thereby indicating **F1**-Tourist Assistance, **F2**- Infrastructure and **F3** - Attraction of Destination are generally considered to have 'above average' importance in a destination's appeal and attractiveness whereas **F4** - Entertainment was considered to be only of 'average' importance. (Refer **Table 2**).

The Grand Mean Value for Satisfaction (Experience) of these factors was 3.54 overall. For **F1** (Tourist Assistance) it was 3.33 with all variables showing only 'average' satisfaction. For **F2** (Infrastructure) it was 3.34, indicating 'average' level of satisfaction overall with 3 variables (Condition of airport/railway station, accessibility of destination and assistance at airport/railway station) tending towards the higher end of 'average' satisfaction, with 2 variables (Quality & condition of roads & Parking facilities) tending toward the lower end of 'average' satisfaction. 2 variables (Garbage disposal & Sewerage & drainage) had 'below average' values.

For **F3** (Destination Attractiveness) it was 3.76 overall, indicating 'average' satisfaction, with 3 variables (Friendliness of locals, Natural beauty, Opportunities for rest and relaxation) having 'above average' satisfaction and 2 variables (Availability & quality of accommodation & Diversity of cultural & historical attractions) having slightly less than 'above average' satisfaction. For **F4** (Entertainment) it was 3.66 overall with all variables having 'average satisfaction' levels. However, 2 variables (Nightlife & Entertainment; Possibilities for shopping) tend towards the higher end of 'average' satisfaction and 2 variables (Conference offer and Rural Tourism) tend toward the lower end of 'average' satisfaction thereby indicating Tourist Assistance, Attraction of Destination, Infrastructure & Entertainment (**F1**, **F2**, **F3** and **F4**) are generally perceived to have 'average' performance/satisfaction in terms of the destination's appeal and attractiveness. However, whereas Destination Attraction (**F3**) and Entertainment (**F4**), tend towards the higher end of 'average' performance, Tourist Assistance (**F1**) & Infrastructure (**F2**) tend towards the lower end of 'average' performance.

The Paired t-test results (Refer **Table 2**) indicate that for Friendliness of Local People & Diversity of Cultural & Historical Attraction in **F3** (Destination Attraction Factor) and Availability of Sport & Recreational Activity & Possibility of Shopping in **F4** (Entertainment Factor) where there is no significant difference in perception of tourists with regard to Importance given to infrastructure and their Satisfaction. with it, the null hypothesis is accepted.

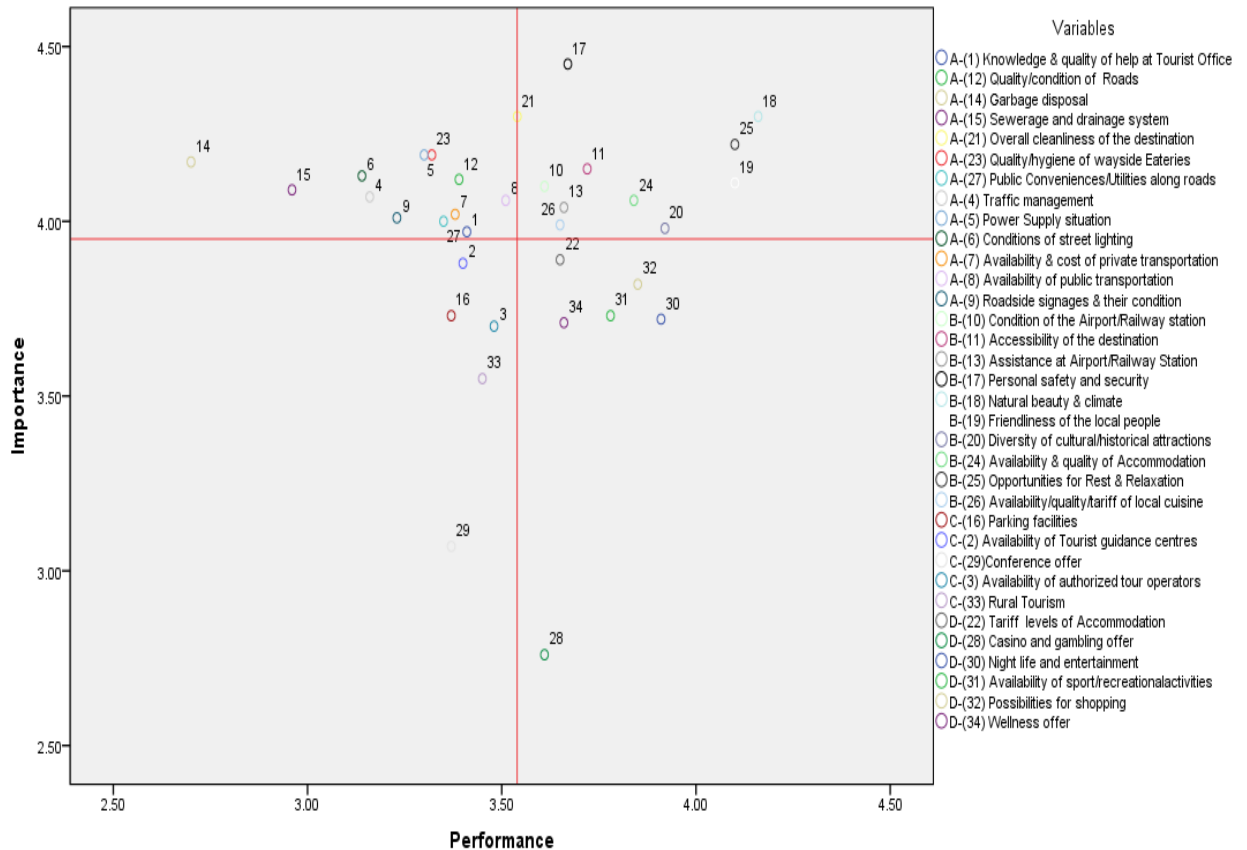
In the case of all other variables in all four factors there is a significant difference in perception of tourists with regard to Importance given to infrastructure and their satisfaction with it, thus rejecting the Null Hypothesis and accepting the alternate hypothesis. Though Mean Analysis indicated 'average' Tourist satisfaction with all factors, Gap Analysis indicated that both overall as well as for individual variables, the gap was negative for Factors **F1** (Tourist Assistance), **F2** (Infrastructure) and **F3** (Destination Attractiveness), indicating that expectations were higher than actual i.e. importance given was more than satisfaction/performance delivered at the destination and that satisfaction level was low giving rise to an experience that is not completely satisfying and hence may not be repeated. For **F4**, (Entertainment) the overall gap was positive. With the exception of Rural & Wellness Tourism where the gap was negative, all the other variables (Casino & Gambling, Conference Offer, Nightlife, Sport & Adventure, Shopping) had positive values indicating satisfaction was much higher than expectation. Thus, while the highest and lowest gap values for **F1**, **F2**, **F3** were negative indicating dissatisfaction, the highest and lowest gap values for **F4** were positive indicating satisfaction.

Variable 'Condition of street lighting' in **F1** (Tourist Assistance), Variable 'Garbage Disposal' in **F2** (Infrastructure), Variable 'Availability, quality & hygiene of wayside eateries' in **F3** (Attraction/Destination) have the highest negative gap among the variables indicating greatest dissatisfaction. Further, they fall in **Quadrant A** (Concentrate here) indicating that greatest efforts and resources should be concentrated on it and be invested in it on a priority basis so as to improve tourist satisfaction. In **F4** (Entertainment) variable 'Casino & gambling' has the highest gap which happens to be positive indicating greatest satisfaction but falls in **Quadrant D** (Possible Overkill) indicating that it should be maintained at this level but probably no additional efforts and resources should be allocated due to its low importance.

Whereas, 'Availability of authorized tour operators' in **F1** (Tourist Assistance) and 'Parking Facilities' in **F2** (Infrastructure) have the lowest gap and are negative but fall in **Quadrant C** (Low Priority) indicating that investing scarce resources to these

variables will offer little strategic advantage and hence, little or no efforts and resources are to be deployed for them as tourists consider them to be of low importance and hence their satisfaction with them though low as well is relatively unimportant.

Figure 3: Importance - Performance Matrix (Original Grid Analysis).



Source: Compiled from Primary Data.

Variable 'Friendliness of Locals' in **F3** (Attraction/Destination) has the lowest gap and falls in **Quadrant B** (Keep up the good work) indicating that very little is needed to improve tourist satisfaction with it but that resources should continue to be directed towards this attribute so as to maintain quality at this level. Variable 'Possibilities for shopping' in **F4** (Entertainment) has the lowest gap among the variables and falls in **Quadrant D** (Possible Overkill) indicating that it should be maintained at this level but probably no additional efforts and resources should be allocated due to its low importance. (Refer **Table 2** and **Figure 2**).

The Importance- Performance Analysis (IPA) is generally regarded as the conventional means of prioritizing attributes to improve service quality using the two dimensions of performance and importance through the development of a four quadrant grid. Martilla and James (1977) who pioneered this technique highlighted that since IPA works with relative rather than absolute measures of importance, therefore

the placement of crosshairs in relation to importance-satisfaction mean is subjective (Zeigler et al., 2012).

The IP matrix for this study was plotted and its cross hairs drawn using both scale mean as well as data mean. Since the Original I-P mapping graph in the current study using scale mean or scale centered approach indicated that all 34 attributes were placed in the upper right hand quadrant i.e. 'keep up the good work', it had no discriminative power and no managerial utility in terms of decision making and it was therefore discarded. Further, the Original I-P mapping graph in the current study using data mean or data centered approach i.e. the Mean of Means or Grand Mean scores of Importance and Performance to determine the crosshairs in the grid in Importance – Satisfaction Matrix, i.e., Grid Analysis showed that (Refer **Table 2** third last column named **Original** and **Figure 3**) the 13 variables falling in **Quadrant A** (Concentrate Here) include knowledge and quality of help at tourist offices, quality/conditions of roads, garbage disposal, sewerage

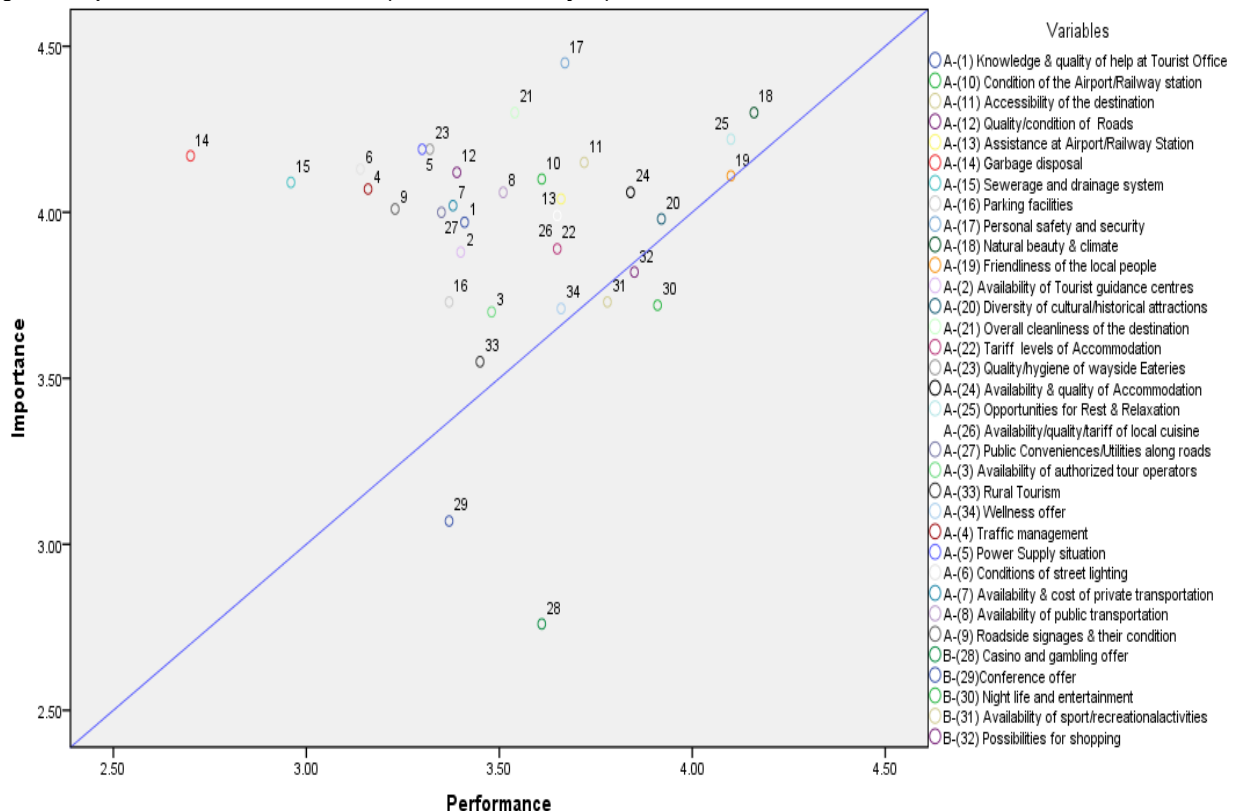
and drainage systems, overall cleanliness of the destination, quality/hygiene of wayside eateries, public conveniences/utilities along roads, traffic management, power supply situation, conditions of street lighting, availability and cost of private transportation, availability of public transportation, and roadside signages and their conditions indicating that greatest efforts and resources should be concentrated on these variables and be invested in them on a priority basis so as to improve tourist satisfaction.

The 10 variables falling in **Quadrant B** (Keep up the good work) include condition of the airport/railway station, accessibility of the destination, assistance at airport/railway station, personal safety and security, natural beauty and climate, friendliness of the local people, diversity of cultural / historical attractions, availability and quality of accommodation, opportunities for rest and relaxation, and availability/quality/tariff of local cuisines indicating that very little is needed to improve tourist satisfaction with these variables but that

resources should continue to be directed towards them so as to maintain quality at this level.

The 5 variables falling into **Quadrant C** (Low Priority) include parking facilities, availability of tourist centers, conference offer, availability of authorized tour operators, and rural tourism indicating that investing scarce resources to these variables will offer little strategic advantage and hence, little or no efforts and resources are to be deployed for them as tourists consider them to be of low importance and hence their satisfaction with them though low as well, is relatively unimportant. The 6 variables falling into **Quadrant D** (Possible Overkill) include traffic levels of accommodation, casino and gambling offer, night life and entertainment, availability of sport /recreational activities, possibilities of shopping, and wellness offer indicating that it should be maintained at this level but probably no additional efforts and resources should be allocated due to its low importance.

Figure 4: Importance - Performance Matrix (Modified Grid Analysis).



Above the diagonal line: QUADRANT A, High Priority, concentrate here.
Below the diagonal line: QUADRANT B: Low Priority, Keep up the Good work
Source: Compiled from Primary Data.

Since the Modified I-P mapping graph in the current study using the diagonal drawn from the scale origin (Refer **Table 2** second last column named **Diagonal** and **Figure 4**) indicated that except for the 5 variables coming under **F4** (Entertainment), viz.,

casinos and gambling offer, conference offer, night life and entertainment, availability of sport / recreational activities, and possibilities for shopping (falling under **Quadrant B**); all the remaining 29 variables are falling under the upper right hand (above the diagonal line)

coming under **Quadrant A** (concentrate here) where serious efforts are required to manage the resources so that the destination attraction can be sustained in the coming years. Those 5 variables falling under **Quadrant B** (keep up the good work) also needs to be managed by way of sustaining resources efficiently.

Though the original IPA resulted in only 13 out of the 34 variables coming under **Quadrant A**, 7 falling under **F1** (tourist assistance), 3 falling under **F2** (infrastructure), and 3 falling under **F3** (attraction/destination). But in the case of revised IPA, almost 29 out of 34 variables coming under **Quadrant A**, all of the variables under the three factors **F1** (tourist assistance), **F2** (infrastructure), and **F3** (attractions / destination). Though only 2 out of 7 of **F4** are falling under Quadrant A, the entire picture is a clear cut indication that the facilities available for tourism in the state of Goa are almost non-existent or not managed properly or badly managed. This is a serious issue which needs to be tackled by the concerned authorities on war footing else the negative impact of tourism will be creeping in to the Goan tourism industry than the positive impacts.

Thus the hypothesis is rejected and in general, tourists visiting the state are not satisfied with the four factors: *H₁: There is no significant difference between Tourist perception about the Importance given to and Satisfaction with: (a) Tourist Assistance Factor (F1); (b) Infrastructure Factor (F2); (c) Attraction/Destination Factor (F3); & (d) Entertainment Factor (F4), which are available in the state for tourism before and after the trip. (Refer Table 2).*

5. SUMMARY AND RESEARCH IMPLICATIONS

This research has been undertaken in order to evaluate the importance and satisfaction of tourists' towards the infrastructure, facilities, amenities and services offered by the tourist destination of Goa. The study has significant implications both for practitioners and academics. From the management perspective the results may provide clear guidance for the improvement of the tourism industry by identifying the main areas where intervention is both necessary and desirable according to the tourists' perceptions, particularly in view of sustaining the destination's competitiveness. Mean Analysis of 34 variables shows 'average' level for both Importance (3.95) & Satisfaction (3.49), This indicates that in general, while tourists are satisfied with the facilities available as a whole, the level of satisfaction is not very high. In-terms of the hypothesis framed with respect to the 4 factors, except for two variables in **F3** (Attraction / Destination) and three variables in **F4** (Entertainment) which are not significant

the remaining 29 variables in the 4 factors are significant before and after the trip. Thus the hypothesis is rejected and in general, tourists visiting the state are not satisfied with the four factors.

The IP analysis has been carried out both as per the original IPA using four quadrants as well the modified IP analysis approach using the diagonal having 2 regions. In particular, as per the original IPA, 13 variables altogether (7 variables from **F1**-Tourist Assistance, 3 from **F2**-Infrastructure and 3 from **F3**-Destination) fall in **Quadrant A** and urgently require concentration of efforts and resources for improvement particularly garbage and sewerage, condition of street lighting, availability and quality of wayside eateries; which have the largest gap and are therefore, undoubtedly the most important area of concern to be improved on a priority basis, because these are rated high in importance so they are perceived as relevant determinants of tourism experience and if satisfaction is low, they will definitely affect the tourism experience, the decision to return and to recommend it to others.

10 variables in just two factors (6 from **F3**-Destination / Attraction and 4 from **F2**-Infrastructure) are rated high both in importance and satisfaction, and fall in **Quadrant B** including Friendliness of the locals which also has the lowest gap value as per the Gap Analysis. Efforts are to be made and resources deployed to ensure that quality and satisfaction levels are maintained at a high level.

5 variables altogether (2 from **F1**-Tourist Assistance, 1 from **F2**-Infrastructure, and 2 from **F4**-Entertainment) fall in **Quadrant C**. These variables are considered Low priority and no further resources are to be allocated to them as they offer little strategic advantage and generally may be ignored until some point at which tourists begin to view them with more importance. 6 variables overall (5 from **F4**-Entertainment and 1 from **F3**-Attraction/Destination) fall in **Quadrant D** which represent attributes of lesser importance, but high performance/satisfaction which should be maintained. However, high satisfaction here could indicate wasteful deployment of resources which could otherwise be better utilized in priority areas.

Though only 13 variables out of 34 were falling under **Quadrant A** in the original IPA, the modified IPA is showing a completely different picture, which is really shocking. As per the modified IP analysis, using the diagonal approach, 29 variables out of 34 are falling in **Quadrant A** indicating an increase of 16 variables to this quadrant. Thus, in the modified IPA all of the variables form **F1**-Tourist Assistance, **F2**-Infrastructure, **F3**-Attraction / Destination, and only 2 from **F4**-Entertainment are in **Quadrant A**. specifically, the variables which have shifted from other quadrants to **Quadrant A** include:

- 2 from **F1** (Tourist Assistance); i.e.; availability of tourist guidance centers; and availability of authorized tour operators.
- 5 from **F2** (Infrastructure); i.e.; condition of the airport / railway station; accessibility of the destination; assistance at airport / railway station; parking facilities; and personal safety and security.
- 7 from **F3** (Attraction / Destination); i.e.; natural beauty and climate; friendliness of local people; diversity of cultural / historical attractions; tariff levels of accommodation; availability and quality of accommodation; opportunities for rest and relaxation; and availability, quality and tariff of local cuisine.
- 2 from **F4** (Entertainment); i.e.; rural tourism; and wellness offer.

The **first** major shift happened is in **F3** (Attraction / Destination); where only 3 variables were falling in **Quadrant A** in the original IPA, but the modified IPA made the remaining 7 variables also fall under **Quadrant A**, making the situation more serious with respect to Attraction / Destination factor where all 10 variables requires concentrated efforts to maintain the attractiveness of the destination. Not a single variable is considered by the tourists as attractive, which means the quality and hygiene of the food, water, sanitation, accommodation are considered unsatisfactory or mismanaged to such an extent and such a way that tourists are exploited at all levels.

The **second** major shift happened is in **F2** (Infrastructure); where from 3 variables it became 8 with the addition of 5 more to **Quadrant A**; making this quite problematic and indicating that none of the infrastructural aspects are considered satisfactory; especially the entry point strategic issues like conditions at the airport / railway stations, as well as the tourist assistance at the airport / railway stations, accessibility to destinations, parking facilities, and most important personal safety and security. This suggests that the entire Goan tourism industry is unsafe and unstable, yet the tourist flow is increasing every year thus making Goa as a paradox.

The **third** shift happened in a uniform way, 2 variables each, from **F1** (Tourist Assistance) and **F4** (Entertainment), but not having the same significance. There were already 7 variables in **Quadrant A** from **F1** (Tourist Assistance) in the original IPA, the remaining 2 more variables also joined with others and shifted and made **F1** (Tourist Assistance) completely falling in **Quadrant A**, indicating that tourists are not at all happy with any of the assistance provided in the state of Goa where tourism is considered as the prominent industry. Tourists feels that they are being taking for a ride by the false promises made in various advertising mediums

(both online and offline). With respect to **F4** (Entertainment), there were no variables in the original IPA, but in the modified IPA only 2 variables came under **Quadrant A**, remaining 5 variables seems somewhat in a state where tourists consider them as acceptable, though not fully satisfactory.

Gap Analysis however, shows the existence of a gap, i.e., - 0.67 for **F1** (Tourist Assistance), - 0.72 for **F2** (Infrastructure), - 0.34 for **F3** (Attraction/Destination), and + 0.06 for **F4** (Entertainment). Except for **F4** (Entertainment) all other factors are having negative gap indicating general dissatisfaction, that may be the main reason why all variables from **F1**, **F2**, and **F3** fallen under **Quadrant A** in the modified IPA. The High gap value for - 0.67 for **F1** (Tourist Assistance) and - 0.72 for **F2** (Infrastructure) which are indicates a lack of balance between perception of importance and actual satisfaction with the same and a consequent need for Government, Service Providers and those responsible for tourism in the state, to improve the tourist offer by identifying the main areas where intervention is both necessary and desirable according to the tourists' perceptions, particularly in view of sustaining the destination's competitiveness. From the perspective of research, this study supports the adoption of the IPA as a framework for evaluating tourist satisfaction and the framework used for the State of Goa could be used in other mass tourist destination, as a benchmarking tool. Such a framework can also be utilized in further research on tourist satisfaction in terms of different segments i.e. the differences in perceptions among domestic and International tourists as well as differing perceptions among International tourists so as to make promotion segment specific and hence more effective.

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