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Institutional economics of tourism safety and security: Insights from tourists and industry operators

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Abstract

The study analyzes how domestic and foreign tourists and tour operators perceive safety and security facilities while adopting an institutional economic approach. Every security system in the tourism industry meets requirements set by both formal rules from law enforcement and regulatory frameworks and informal rules based on trust and social norms. The analysis focuses on evaluating primary safety measures that involve police protection and physical accommodation accessibility and emergency setups among other fundamental elements like supervisor training and security instructions as well as bag safety and family defense system and parking system and staff medical equipment. The research obtained its data primarily from 320 domestic tourists alongside 80 foreign tourists and 50 tour operators who inhabited major tourist sites in Karnataka through a stratified sampling methodology. A specific questionnaire gathered data to assess how successfully safety facilities were both available and functional. Researchers applied Chi-square technique to explore how demographic traits (age, gender, marital status) influence measurements of safety and security perceptions. Statistical data validates that demographic variables link to tourist observations about safety infrastructure. The analysis used factor analysis to group security and safety elements under three categories that included institutional safety measures and safety aids and family unit security. ANOVA analysis revealed that both tourists and tour operators do not differ in their satisfaction ratings regarding institutional safety measures. The study demonstrates how institutional structures determine how people perceive safety levels and affect tourism sector performance regarding economic expansion. Tourism sustainability depends heavily on strong institutional governance and firm regulatory monitoring as well as trustworthy security measures in order to protect destination safety. The research delivers guidelines which suggest improvements to safety protocols to enhance institutional defense capabilities which will boost tourism economic value as the main growth source.

Keywords: Ecotourism, Institutional Economics, Foreign tourists, Regulatory frameworks, Rural tourism, Domestic tourists, Safety and Security, Tour Operators, Tourism.

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1. Introduction

The state of Karnataka runs through the tourism industry which provides diverse awe-inspiring opportunities such as peaceful water bodies with verdant terrain and grand wildlife with sparkling coastlines. The tourism sector demonstrates substantial economic power because it made up 15% of Karnataka's Gross State Domestic Product in 2010 while experts predict this amount to grow to 25% within the next decade [1]. The economic importance of Karnataka's tourism sector requires attention toward resolving pressing security and infrastructural problems in order to maintain sustainable development. The prolonged political tension between India and Pakistan creates wide-reaching geopolitical instability which triggers international travel warnings that dissuade foreign tourist participation [2]. The 2008 Mumbai attacks along with other terrorist incidents generated lasting damage to tourism flows throughout Kashmir because this region depends heavily on tourism revenue [2]. The tourism industry in India suffered from reduced female tourist arrivals up to 35% during early 2013 after the 2012 Delhi gang rape incident [3]. Foreigner safety in India has been undergoing a worrisome increase according to U.S. State Department warnings which recommend women avoid independent night travel [4]. Karnataka needs to boost its tourism infrastructure because this development will reduce safety hazards while increasing visitor contentment. The public demands reliable parking solutions together with safe family zones and high-quality lodging facilities and clean public services as well as efficient law enforcement safeguards [5]. All institutional systems that monitor tourism safety through policing and legal regulations together with public-private partnerships and safety regulations determine how visitors experience their tourism activities. Existing research about tourism in Karnataka remains fragmentary because it focuses on service quality and sustainability but neglects security infrastructure development and risk understanding.

Tourism safety together with security constitute essential criteria which determine destination attractiveness and visitor satisfaction and sustainable industry development [6]. According to institutional economics principles safety and security in tourism depend on formal institutions such as laws and regulations and also informal institutions based on social norms together with trust and cultural expectations [7]. Institutional economics defines a systematic approach to explore how governance systems and transaction expenses as well as property rights affect tourism sector safety policy development and implementation [8]. Tourism uncertainties receive significant reduction through institutions which develop protective regulatory frameworks to safeguard tourists while promoting fair market conduct [9]. Safety regulations develop through public-private collaboration between government bodies and private groups and international entities yet traditional cultural norms based on communal trust along with past security realities drive actual compliance and perceived safety risk perception levels [10]. Safety management becomes less efficient when institutions remain weak and enforcement proves ineffective due to corruption which subsequently generates risks for both tourists and tourism operators [11]. The research focuses on tourism safety and security within institutional economic theory to understand how regulatory systems together with legal systems and market forces influence security policy development and execution. The study evaluates risk perception and security measure adherence as well as tourism sector resilience through multiple perspectives of both tourists and operators [12]. A destination review among locations with different institutional abilities will show effective practices and security policy suggestions for tourism enhancement. Knowledge regarding institutional tourism safety factors leads to enhanced destination reputability and investment confidence and sustained industry growth [13].

This research investigation addresses the knowledge void through evaluation of how institutional systems influence both security service perceptions and current tourism infrastructure performance. Tourists' confidence about destination safety depends heavily on the combination of legal codes and governance systems that work through enforcement agencies to deliver tourism safety programs. A properly functioning institutional framework creates trust between stakeholders and tourists resulting in improved competitive position and economic stability of a tourism destination. The coordinated efforts of public and private institutions in Karnataka will allow the state to create a governance model that optimizes safety systems in line with overall economic development objectives. The combination of these factors will elevate Karnataka's tourism leadership position and develop sustainable economic growth and efficient regulation and strong economic stability throughout the years.

1.1. The Review of Literature

Studies about destination security and visitor safety from institutional frameworks have appeared throughout literature of institutional economics combined with tourism management and public policy domains. The structure of institutions

together with regulatory policies and law enforcement and governance mechanisms establishes fundamental patterns through which tourists perceive destinations and develop their competitive standing [7]. Tourism sector sustainability depends upon effective institutional governance because it builds trust between visitors [14].

Institutional Economics and Tourism Security From an institutional economic perspective the establishment of both formal and informal institutions helps diminish economic uncertainties and transaction expenses that affect tourism operations [8]. Tourism security operates under two types of institutional influences including the formal services of law enforcement along with regulatory measures and legal frameworks while also influenced by informal cultural elements including social beliefs and public trust [15]. Weak institutional mechanisms such as insufficient law enforcement and insufficient regulatory oversight both discourage international tourists by negatively affecting economic growth according to Mansfeld and Pizam [11].

Impact of Safety Perception on Tourism Demand Multiple research investigations have studied how tourists evaluate safety perceptions when making their travel choices. George [16] demonstrated that security concerns drive major changes in destination perception which then drives customer choices. Ritchie and Jiang [17] demonstrate that destinations possessing effective safety structures connected to institutions rebuild faster after facing terrorist incidents and natural disasters as well as health emergencies. Security perceptions deteriorated so much after the 2008 Mumbai attacks that international tourist arrivals in India reached a significant decline [6].

The Role of Public-Private Partnerships (PPPs) in Tourism Security Tourism security infrastructure achieves its enhancement through Public-private partnerships (PPPs) in combination with effective crisis management as described by Bramwell and Lane [13]. When private innovations work jointly with government regulatory framework the result is better safety outcomes involving advanced surveillance systems and emergency response measures and cybersecurity protection for digital tourism platforms [18]. The tourism sector of Karnataka would gain from joint institutional approaches that reinforce security measures and construct resilient structures.

Safety Infrastructure and Tourist Satisfaction Studies show that the satisfaction of visitors depends on proper safety facilities along with secure transportation and prepared emergency systems [19]. Research finds that tourists strongly reduce their satisfaction rates in places with inadequate security measures thus producing detrimental economic impact on tourism [20]. The tourism infrastructure in Karnataka requires implementation of international safety criteria to establish efficient police services and easy healthcare services and secure transportation that boosts visitor trust [21].

Institutional Failures and Policy Implications The safety policies of tourism suffer from institutional failures which include government corruption and bureaucratic inefficiencies along with stakeholder miscommunication that eventually leads to reduced tourism security investments [22]. A complete policy framework integrating police forces with tourism boards alongside local communities will generate greater security for both tourists and operators [23].

Travelers need basic infrastructure services that include safety standards together with protection measures as well as hospitality programs and tour guide services along with taxi and auto driver assistance and amusement systems at visitation sites [24]. The purpose of this visit to the location consists of attracting diverse types of visitors. Tourists can navigate the city without difficulties through facilities designed for mobility since Lakshmi [25] published this expertise. The author presented efforts to understand Foreign tourist satisfaction levels during city travel together with their assessment of facilities at tourist sites. The research examined Mysore city in Karnataka state as its sole location. The development of the road transport infrastructure for the tourism sector prompts Government to conduct continuous and regular checks of both infrastructure and commuter safety and implement tourism police for tourist protection and property defense [26]. The development of the tourism industry and its emerging issues in the globalization. The paper studies national problems and tourism planning weaknesses within Indian limits [27]. The paper presented recommendations for managing sustainable promotion of tourism activities throughout India. Some tourism industry problems prevent progress because they include inadequate transportation systems alongside insufficient basic hygienic services, unsatisfactory heritage protection and danger to women experiencing harassment at tourist locations while there is insufficient workforce to manage each issue [28].

The tour operations featured in this research will be presented subsequently. Bureaucracy and capital acquisition challenges together with excessive competition, deficient infrastructure, high taxation, limited technological resources and untrained tour guide scarcity, economic uncertainties, funding mismanagement through corruption and safety and security issues hinder the tourism sector. Tourist behavior problems including failure to comply with safety guidelines along with alcohol consumption further complicate the situation. The study focuses on understanding how tourists view the present state of tourism infrastructure in the region as well as their roles in regional development [29]. The author investigates if the tourists see their destination differently from reality. India faces multiple shortcomings in its tourism planning while the General Agreement on Trade in Services creates various challenges and effects against the country. Studies revealed three key problems: insufficient hotel capacity, expensive travel expenses and inadequate supporting road networks, communication systems and security measures and lack of tourist demographic data [30]. The authors identified the infrastructure gaps at 'KAS' as well as studied tourists' profiles and movements to segment visitor demographics [31]. The authors explored how tourists view both the significance and level of satisfaction regarding available amenities and services at their visitation locations. The gap between expectation of the tourism service and the experience. Satisfaction evaluation of a destination for tourists requires considering chosen metrics as measuring elements. The authors performed statistical tests using Paired T-test together with Anova to test their hypotheses [4]. The marketers of service industry in Kerala need to enhance their significant quality attributes to improve the perception of Kerala as a tourism destination. Tourists require proper tourism infrastructure to support peak arrivals because this essential element provides better comfort during their stay at destinations [32]. The increased number of visitors to our nation remains below projections. Our country

experiences limited tourist traffic primarily because of insufficient tourist infrastructure combined with missing essential amenities and general worries about safety and insufficient Information Communication Technology services at tourist locations and inadequate transportation connections.

1.2. Research Questions

RQ1: How does the quality of formal institutions (e.g., laws, regulations, and enforcement) influence tourists' perceptions of safety and security at tourist destinations?

RQ2: What is the impact of institutional safety and security measures (e.g., police presence, safety protocols, medical kits) on tourists' perceptions of safety and security at tourist spots?

RQ3: How does community engagement and regulatory support (e.g., local safety practices, government regulations) influence tourists' perceptions of safety and security at tourist destinations?

RQ4: Is there a significant difference in the satisfaction levels of physical safety facilities (e.g., infrastructure, accessibility) between tourists and tour operators?

RQ5: Do tourists and tour operators experience a significant difference in their satisfaction with the presence and training of supervisors at tourist destinations?

RQ6: Is there a significant difference in the satisfaction levels of vehicle parking facilities between tourists and tour operators at tourist locations?

RQ7: How do tourists and tour operators differ in their satisfaction with luggage safety measures (e.g., locker facilities, storage security) at tourist destinations?

1.3. Hypotheses of the Study

Tourists' Perceptions of Security and Safety Across Destinations:

H₁: Higher formal institutional quality positively influences tourists' perceptions of security and safety.

H₂: Institutional Safety and Security Measures have a positive and significant effect on tourists' perception of safety and security.

H₃: Community and Regulatory Support for Safety has a positive and significant effect on tourists' perception of safety and security.

1.4. Tourists' Satisfaction with Safety and Security Facilities

H₄: Significant difference in satisfaction of physical facilities availed by tourists and tour operators

H₅: Significant difference in satisfaction of trained supervisor availed by tourists and tour operators

H₆: Significant difference in satisfaction of vehicle parking availed by tourists and tour operators

H₇: Significant difference in satisfaction of safety of luggage availed by tourists and tour operators.

2. Research Methodology

The study conducted by using primary data. The primary data has been obtained through survey method. The survey was conducted with domestic tourists, foreign tourists and tour operators in popular destinations across Karnataka. To carry out the survey structured questionnaire method was employed. To decipher the information related to safety and security issues 10 variable were incorporated based on the extensive literature survey. Key variables are Police force and their services, Access for physically challenged, Safety and Survival, Trained supervisors, Safety instructions, Safety of luggage, Safety of family, Safety of females, Vehicle parking and Medical kits.

Population: There are total of 3,31,89,125 tourists have arrived in the above mentioned 10 tourists destinations (Domestic+ Foreign Tourists) in 2018 .

Table 1. Tourists' inflow in Tourism destinations in Karnataka as on 2018.

Tourism Destinations	Domestic tourists	International Tourists	Total Tourists
1 Hampi	2,504,034	81,900	2,585,934
2 Pattadakal	1,944,865	23,706	1,968,571
3 Badami	1,944,865	23,706	1,968,571
4 Aihole	1,944,865	23,706	1,968,571
5 Belur-Halebed	3,400,014	106,846	3,506,860
6 Bijapur	1,647,931	2,808	1,650,739
7 Jog falls	2,301,688	5,099	2,306,787
8 Mysore	13,260,373	114,160	13,374,533
9 Karwar	2,005,769	36,533	2,042,302
10 Coorg	1,810,960	5,297	1,816,257
Total			3,31,189,125

Source: Department of Tourism

Table 2.
Perception of Availability of Safety & Security Facilities.

Tourists	Perception	Strength of laws,	Regulations	Governance	Enforcement related to public safety and security	Social trust	Cultural openness	Hospitality	Community engagement in tourism.	Vehicle Parking	Medical Kits
Domestic	Inadequate	123 (38.4%)	194 (60.6%)	225 (70.3%)	109 (34.1%)	203 (63.4%)	203 (91.6%)	139 (43.4%)	141 (44.1%)	195 (60.9%)	153 (47.8%)
	Manageable	102 (31.9%)	126 (39.4%)	67 (20.9%)	171 (53.4%)	77 (24.1%)	27 (8.4%)	181 (56.6%)	179 (55.9%)	125 (39.1%)	167 (52.2%)
	Adequate	95 (29.7%)		28 (8.8%)	40 (12.5%)	40 (12.5%)					
Foreign	Inadequate	35 (43.8%)	48 (60.0%)	58 (72.5%)	33 (41.2%)	51 (63.8%)	71 (91.2%)	38 (47.5%)	35 (43.8%)	50 (62.5%)	44 (55.0%)
	Manageable	23 (28.8%)	32 (40.0%)	15 (18.8%)	39 (48.8%)	21 (26.2%)	7 (8.8%)	42 (52.5%)	45 (56.2%)	30 (37.5%)	36 (45.0%)
	Adequate	22 (27.5%)		7 (8.8%)	8 (10.0%)	8 (10.0%)					
Tour Operators	Inadequate	18 (36.0%)	24 (48.0%)	33 (66.0%)	18 (36.0%)	27 (54.0%)	44 (88.0%)	15 (30.0%)	15 (30.0%)	31 (62.0%)	27 (54.0%)
	Manageable	15 (30.0%)	26 (52.0%)	10 (22.0%)	28 (56.0%)	19 (38.0%)	6 (12.0%)	35 (70.0%)	35 (70.0%)	19 (38.0%)	23 (46.0%)
	Adequate	17 (34.0%)		7 (14.0%)	4 (8.0%)	4 (8.0%)					

2.1. Sampling Design

In order to select the required number of respondents from the population, stratified random sampling technique has been incorporated for Domestic tourists, Foreign tourists and for Tour operators snowball sampling has been incorporated as a referral point of one tour operator to another.

Sampling Unit: In Stratified sampling the population is divided into 10 tourists' spots called strata, namely Hampi, Pattadakal, Badami, Aihole, Belur&Halebedu, Bijapur, Jog falls, Mysore, Karwar and Coorg. Accordingly, domestic tourists, foreign tourists and tour operators were contacted for the data collection in the above mentioned 10 tourism destinations.

Sample Size: For total 3,31,189,125 tourists which includes domestic as well as foreign tourists with a 5% significance and 95% confidence level a sample of 320 Domestic tourists, 80 Foreign tourists and 50 tour operators, were selected for the study. The sample size required for the study conducted is given below:

$$\frac{(1.96)^2 * (0.5) * (0.5) * 3,31,89,125}{(0.05)^2(3,31,189,125 - 1) + (1.96)^2 * (0.5) * (0.5)} = 383.98 \approx 384$$

Krejcie and Morgan formula reveals that 384 is the maximum sample size that will be required. The above value is equal to the infinite population sample size value. Therefore, the study totally 450 samples which includes domestic as well as foreign tourists and tour operators were selected.

2.2. Data Analysis

2.2.1. Descriptive Statistics

H₁: Higher formal institutional quality positively influences tourists' perceptions of security and safety.

Table 3. Institutional qualities.

Demographic	Type	Domestic				Foreign			
		H ₀	χ ² -Value	P-Value	Remarks	H ₀	χ ² -Value	P-Value	Remarks
Age	Strength of laws,		201.4	0.000	Reject		35.716	0.000	Rejected
	Regulations		157.7	0.000	Reject		24.671	0.000	Rejected
	Governance		184.4	0.000	Reject		37.991	0.000	Rejected
	Enforcement related to public safety and security		106.4	0.000	Reject		31.165	0.000	Rejected
	Social trust		201.4	0.000	Reject		36.238	0.000	Rejected
	Cultural openness		99.775	0.000	Reject		2.926	0.403	Accepted
	hospitality		93.425	0.001	Reject		7.323	0.062	Accepted
	Community engagement in tourism.		63.849	0.001	Reject		9.909	0.019	Rejected
	Vehicle Parking		42.018	0.000	Reject		13.789	0.003	Rejected
	Medical Kits		51.799	0.000	Reject		19.994	0.000	Rejected

Based on Table 2, it is observed that since P = 0.000, most of the stated hypotheses are accepted, indicating a significant relationship in both the case of domestic and foreign tourists, except for "safety of luggage" and "safety of family," where P > 0.05, suggesting no significant association for these two factors. This implies that there is a significant association between tourists' age and their perception of safety and security facilities. Therefore, it can be concluded that tourists' age plays an influential role in shaping their perceptions of safety and security measures at tourist destinations. Furthermore, this supports the inference that higher formal institutional quality (such as strong laws, regulations, and enforcement) positively influences tourists' perceptions of security and safety.

H₂: Institutional Safety and Security Measures have a positive and significant effect on tourists' perception of safety and security.

Based on Table 3, it can be observed that since P < 0.05, most of the stated hypotheses are rejected in the case of domestic tourists, except for "access for physically challenged" and "safety of family."

In contrast, for foreign tourists, as P > 0.05, most of the hypotheses are accepted, except for "safety of family." This indicates that there is a significant association between tourists' gender and their perception of safety and security facilities meaning that gender influences perceptions of safety and security among domestic tourists, whereas gender does not influence such perceptions among foreign tourists. Thus, in the context of Hypothesis H2, while Institutional Safety and Security Measures have a positive and significant effect on foreign tourists' perceptions of safety and security, this effect is less consistent among domestic tourists, where gender appears to moderate the relationship.

H₃: Community and Regulatory Support for Safety has a positive and significant effect on tourists' perception of safety and security.

Table 4.
Institutional Safety and Security Measures.

Demographic	Type	Domestic				Foreign		
		H ₀	χ ² -Value	P-Value	Remarks	χ ² -Value	P-Value	Remarks
Gender	Strength of laws,		64.287	0.000	Rejected	0.819	0.664	Accepted
	Regulations		0.178	0.673	Accepted	0.819	0.664	Accepted
	Governance		36.292	0.000	Rejected	0.926	0.629	Accepted
	Enforcement related to public safety and security		94.201	0.000	Rejected	0.151	0.927	Accepted
	Social trust		102.3	0.000	Rejected	0.142	0.932	Accepted
	Cultural openness		14.606	0.000	Rejected	0.718	0.397	Accepted
	hospitality		2.097	0.148	Accepted	3.899	0.048	Rejected
	Community engagement in tourism.		1.268	0.001	Rejected	2.807	0.094	Accepted
	Vehicle Parking		30.253	0.000	Rejected	0.003	0.954	Accepted
	Medical Kits		98.221	0.000	Rejected	0.115	0.734	Accepted

Table 5.
Community and Regulatory Support

Demographic	Type	Domestic			
		H ₀	χ ² -Value	P-Value	Remarks
Marital Status	Strength of laws,		18.072	0.000	Reject
	Regulations		15.488	0.000	Reject
	Governance		49.343	0.000	Reject
	Enforcement related to public safety and security		44.782	0.000	Reject
	Social trust		82.651	0.000	Reject
	Cultural openness		9.440	0.002	Reject
	hospitality		6.819	0.009	Reject
	Community engagement in tourism.		1.868	0.172	Accept
	Vehicle Parking		6.884	0.000	Reject
	Medical Kits		46.615	0.000	Reject

Table 4 illustrates that since P = 0.000, most of the stated hypotheses are rejected for both domestic and foreign tourists, except for "safety of family." This suggests a significant association between tourists' marital status and their perception of safety and security facilities. Therefore, it can be inferred that marital status influences tourists' perceptions of safety and security at tourist destinations.

In relation to Hypothesis H3, these findings imply that while Community and Regulatory Support for Safety is an essential factor, its positive and significant effect on tourists' perceptions of safety and security may vary depending on marital status, particularly for aspects not related to family safety. Thus, marital status appears to play a moderating role in shaping how tourists perceive community and regulatory efforts toward ensuring safety at tourist spots.

Table 6 Factor Analysis for Safety and Security facilities.

Table 6.
KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.716
Bartlett's Test of Sphericity	Approx. Chi-Square	4167.024
	df	45
	Sig.	0.000

Kaiser-Meyer-Olkin (KMO) is a measure of sampling competence statistic which shows the proportion of variance in variables that might be caused by underlying factors. This index ranges from 0 to 1, reaching 1 when each variable is perfectly predicted without error by the other variables. The KMO value must exceed 0.50 for both the overall fit and each individual variable and the value above is 0.716 is considered commendable (Hair, 2008). The KMO measurable value for the sample adequacy of the current study is 0.716.

The communalities for the safety and security at tourists' spot are 0.931. This means 93.1 % of the information content of the safety and security at tourists' spot is captured by the three factors. Similarly, other communalities can be interpreted.

Table 7.
Communalities.

	Initial	Extraction
Strength of laws,	1.000	0.931
Regulations	1.000	0.725
Governance	1.000	0.774
Enforcement related to public safety and security	1.000	0.822
Social trust	1.000	0.827
Cultural openness	1.000	0.247
hospitality	1.000	0.888
Community engagement in tourism.	1.000	0.837
vehicle parking	1.000	0.867
Medical kits	1.000	0.866

Source: Primary data analysis with SPSS. Extraction Method: Principal Component Analysis.

Table 8.
Total Variance Explained.

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.516	55.156	55.156	5.516	55.156	55.156	3.147	31.466	31.466
2	1.267	12.669	67.825	1.267	12.669	67.825	2.373	23.730	55.196
3	1.002	10.021	77.846	1.002	10.021	77.846	2.265	22.650	77.846
4	0.923	9.225	87.072						
5	0.534	5.343	92.415						
6	0.304	3.036	95.451						
7	0.196	1.962	97.413						
8	0.142	1.418	98.831						
9	0.080	0.805	99.636						
10	0.036	0.364	100.000						

Source: Primary data analysis with SPSS: Extraction Method: Principal Component Analysis.

It can be analysed from the Table 7 that principal component analysis that the result of the total variance and eigen values of ten factors is shown in below table. The table presents the total variance explained by the factor analysis solution and gives an indication about the number of useful factors. The first column under “initial eigen values” gives the eigen values for all the possible factors in a decreasing order. The second column titled “extraction sums of squared loadings” gives information on factors with eigen values greater than 1 after factor extraction. The last part of the table, titled “rotated sums of squared loadings” gives the information on the extracted factors after rotation. The value under the column “Cumulative %” indicates that the factors extracted from 31.466 to percent to 77.846% percent of the variance.

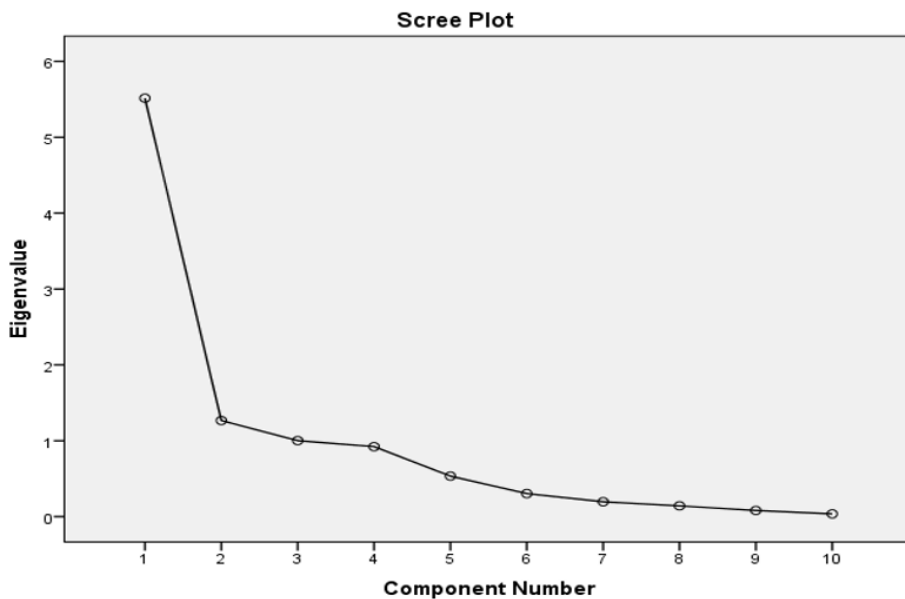


Figure 1.
Scree Plot.

2.2. Number of Factors to Extract

There are multiple criteria for deciding number of factors to extract. The present study followed a hybrid strategy to extract the factors by following two criteria: Kaiser’s criteria (Latent root criterion) and screen test criteria which are commonly used in the social science research to extract factors. The study used latent root methods as the first criterion to extract the factors. By this criterion the only factors having latent roots or Eigen value greater than 1 are considered as factors. The scree plot that is derived by plotting the eigen values against the number of factors in their order of extraction and the shape of the resulting curve shows the cut-off point to evaluate the extracted factors.

Table 9.
Rotated Component Matrix^a

	Component		
	Safety & Security measures	Safety Aids:	Safety of Family unit
Strength of laws, Regulations	0.711		
Governance		0.771	
Enforcement related to public safety and security		0.563	
Social trust	0.670	0.880	
Cultural openness			
hospitality			0.891
Community engagement in tourism.			0.880
vehicle parking	0.898		
Medical kits	0.902		

Source: Primary data analysis with SPSS: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser normalization. A. Rotation converged in 5 iterations.

Interpretation of Factor Matrix: The study used the three criteria to determine the factor structure. They are: (1) Factor loadings more than +0.50 remained for further analysis in the study (2) items which cross load more than one factor were excluded and (3) the difference between the cross loadings should be minimum 0.20 [33] One item did not fit these criteria and was dropped from subsequent analysis. A total of 9 items grouped under three dimensions emerged from the factor analysis as shown in the above Table.

The Table 9 indicates that the rotated component matrix, in which the extracted factors are assigned a new name for all the three factors. It can be analysed from the Table 9 that the factor loading of the variables has been done with 0.5 as the cut off value.

1. The first factor is identified as the most important factor, explaining 31.466% of the total variation. The variables such as Strength of laws and regulations (.711), Governance and enforcement related to public safety and security (.670), Vehicle parking (.898), and Medical kits (.902) are highly correlated with each other. These variables emphasize the role of strong legal frameworks and essential safety facilities. Therefore, this factor is named "Institutional Safety and Security Measures."
2. The second factor accounts for 23.730% of the variance. This segment includes variables like Social trust (.771), Cultural openness (.563), and Hospitality (.880). As these elements are interrelated and contribute significantly to the tourists' sense of security through social and cultural dynamics, this factor is termed "Socio-Cultural Safety Climate."
3. The third factor explains 22.650% of the variance. It comprises Community engagement in tourism (.891) and Regulations (.880). Given the close relationship between community participation and adherence to regulatory standards, which together foster a safer tourism environment, this factor is named "Community and Regulatory Support for Safety."

Table 10.

Satisfaction level of Aailed Safety & Security Facilities.

Safety & Security Facilities	Domestic					Foreign					Tour Operator				
	Satisfaction					Satisfaction					Satisfaction				
	HDS	DS	NS	S	HS	HDS	DS	NS	S	HS	HDS	DS	NS	S	HS
Police force & their services						3 (30.0%)		1 (10.0%)	6 (60.0%)						
physical Challenged	8 (25.8%)		10 (32.3%)	10 (32.3%)	3 (9.7%)	3 (30.0%)		1 (10.0%)	6 (60.0%)			1 (11.1%)	2 (22.2%)	6 (66.7%)	
Safety & Survival Kit	58 (43.6%)		50 (37.6%)	23 (17.3%)	2 (1.5%)										
Trained Supervisors						23 (57.5%)		9 (22.5%)	8 (20.0%)			16 (55.2%)	10 (34.5%)	3 (10.3%)	
Safety for Luggage						4 (33.3%)		3 (25.0%)	5 (41.7%)			6 (66.7%)	3 (33.3%)		
Vehicle Parking												22 (68.8%)	10 (31.2%)		

Source: Primary data: HDS= Highly Dissatisfied, DS=Dissatisfied, NS= Neither Satisfied nor Dissatisfied, S= Satisfied, HS= Highly Satisfied.

H₄: There is no significant difference in satisfaction of physical facilities availed by tourists and tour operators.

Table 11.
ANOVA- Satisfaction of Access for physical.

Hypothesis	Satisfaction	Sum of Squares	DF	Mean Square	F-Value	P-Value	Remarks
	Between Groups	0.622	2	0.311	0.363	0.697	Accept
	Within Groups	40.258	47	0.857			
	Total	40.88	49				

It can be observed from the Table 11, that, as $P > 0.05$, **H₄** is accepted that is there is no significant difference in satisfaction of physical facilities availed by tourists and tour operators. Hence it can be inferred that Domestic tourists, Foreign tourists and tour operators' satisfaction level does not differ with respect to facilities access for physically challenged at the tourists' spot.

H₅: There is no significant difference in satisfaction of trained supervisor facilities availed by tourists and tour operators.

Table 12.
ANOVA- Satisfaction of Trained Supervisor.

Hypothesis	Satisfaction	Sum of Squares	DF	Mean Square	F-Value	P-Value	Remarks
	Between Groups	1.445	2	0.723	1.195	0.305	Accept
	Within Groups	120.322	199	0.605			
	Total	121.767	201				

It can be analysed from the Table 12 that, as $P > 0.05$, **H₅** is accepted that there is no significant difference in satisfaction of trained supervisor facilities availed by tourists and tour operators. Hence it can be inferred that Domestic tourists, Foreign tourists and tour operators' satisfaction level does not differ with respect to availed trained supervisor facilities at the tourists' spot.

H₆: There is no significant difference in satisfaction of vehicle parking availed by tourists and tour operators.

Table 13.
Satisfaction about Vehicle Parking.

Hypothesis	Tourists	N	Mean	SD	SE	DF	Z-Value	P-Value	Remarks
	Domestic	320	2.603	0.816	0.045	350	1.98	0.049	Reject
	Tour Operator	32	2.312	0.470	0.083				

Table 13 indicates that, as $P < 0.05$, **H₆** is rejected that is there is a significant difference in satisfaction of vehicle parking availed by tourists and tour operators. Hence it can be inferred that Domestic tourists, Foreign tourists and tour operators' satisfaction level differ with respect to availed vehicle parking facilities at the tourists spot as many tourists' prefer to visit the tourism places by their own conveyance.

H₇: There is no significant difference in satisfaction of safety of luggage availed by tourists and tour operators.

Table 14.
Satisfaction about Safety Luggage.

Hypothesis	Tourists	N	Mean	SD	SE	DF	T-Value	P-Value	Remarks
	Foreign	12	3.08	0.900	0.260	19	2.244	0.037	Reject
	Tour Operator	9	2.33	0.500	0.167				

The Table 14 shows that $P < 0.05$, thus **H₇** is rejected that there is a significant difference in satisfaction of safety of luggage availed by tourists and tour operators. Hence it can be inferred that Domestic tourists, Foreign tourists and tour operators' satisfaction level differs with respect to availed safety for luggage facilities at the tourists spot as many tourists' carry luggage for their tour visit.

3. Findings and Discussions

Tourism operates as a vital economic base which aids regional expansion while generating new job positions. Tourist safety and security experiences stand as fundamental factors that guarantee the sustainable development of the tourism industry throughout visits. The safety opinions of visitors develop based on their age groups and sexual identity combined with marital positions which establish their tour destination expectations. Lakshmi [25] points out that safety needs differ between children and elderly people as well as those in each age group in between. The security measures demanded by domestic female travelers stand as a critical factor since they seek comprehensive protective measures to establish comfort levels. The management of safety needs during travel appears more self-directed to foreign tourists when compared to domestic tourists. According to Hans [30] marital status stands as a key determinant because honeymooners together with married tourists choose destinations that provide secure and private spaces. The research proves that official government

regulations with community-based informal structures create the foundation that defines security measures in tourist destinations. Regulatory systems and laws with enforcement power represent formal institutions yet informal institutions stem from social codes and hoteliers' hospitality customs and social trust practices. The institutional integration process leads to standardized safety protocols such as emergency preparedness programs and family safety measures that produce confident tourists and satisfied visitors.

The results of the factor analysis performed within safety and security facilities demonstrate why institutional interventions must be implemented. Building these interventions remains essential to enforce standard safety measures while resolving delivery service problems. Research through ANOVA demonstrates that all domestic tourists together with international visitors along with tour operators hold negative opinions about facilities which meet the requirements of physically challenged visitors. Historically important destinations such as Hampi and Badami with Pattadakal and Aihole face serious infrastructure problems that worsen because of seasonal tourism volume increases [24]. The absence of continuous investment in tourism infrastructure indicates market failure in the industry because public and private sector collaboration is essential [34]. Tour operators together with domestic tourists hold negative views about the insufficient supervisory services maintained at tourism sites. Tourism sites encounter unethical behavior because their supervisors lack proper formal training which results in charging higher fees to foreign visitors [2]. The deficiencies in professional service standards require immediate correction through institutional systems that apply regulatory standards and establish standardized fees and require employee training regimes.

Major locations such as Coorg, Hampi, Badami and Pattadakal along with Aihole and Jog Falls lack proper arranged parking facilities which represents a major institutional flaw in infrastructure development. Tourists experience coercive practices from private jeep operators because parking spaces are not provided at tourist areas according to Times of India [35]. Attractive profits from unregulated activities highlight failed public space governance due to institutional gaps therefore requiring targeted urban planning and clear licensing with strict enforcement for proper control of public areas. Foreign tourists and tour operators worry about luggage security at tourist sites because there are no secure locker facilities to protect their belongings [32]. Institutional guardianship for tourist properties appears to have substantial organizational shortcomings. Secure storage solutions along with standardized safety protocols need public-private partnerships to achieve protection of tourist belongings during travel. Studies confirm that safety and security perception among tourists heavily depends on Community and Regulatory Support for Safety practices (which support Hypothesis H3). The current infrastructure deficiencies together with service delivery problems demand institution-led combined regulatory frameworks with community involvement to achieve better security for tourists.

4. Conclusion

For Karnataka to achieve sustainable tourism growth it must develop a strong institutional system that strengthens safety initiatives. Institutional weaknesses, such as inadequate law enforcement, poor regulatory oversight, and a lack of infrastructure, deter tourism growth. Tourists from abroad have expressed worry about their missing passports while also reporting unfavorable police reactions by sharing examples of theft incidents and harassment cases. The robbery and abuse of a German national at Chamundi Hill highlights the necessity for urgent institutional changes in both law enforcement and tourism management. The government should address these problems through three measures involving tourism police protection along with redressal systems to assist tourists and strong oversight of private management to stop harassment. The combination of precise legal frameworks plus public-private partnerships works toward improving the safety and security standards in the region. The tourism sector of Karnataka can achieve sustainable economic growth alongside competitive market strength through institutional safety measures that provide trust to both tourists and locals.

5. Limitations

This academic study faces constraints from time limitations and geographical boundaries along with financial restrictions because the propositions require Tourism management decisions when implementing them. The research applies only to Tourism units within Karnataka State that operate through formal channels. The research findings can apply to facilities of equal dimensions and standard categories. The findings may become invalid if researchers over generalize their results. The questionnaire-based collection of primary data might contain some inaccuracies when tour operators and tourists allow their answers to be influenced by their individual biases.

6. Future Scope

The research should finish by noting that Karnataka presents opportunities for building its Tourism sector. Research opportunities exist in large numbers for studying how private investments and international capital affect tourism development by exploring previously unavailable prospects. New areas within tourism research should be selected to improve study outcomes when exploring different cultural and economic and community challenges facing regional tourism development.

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