Prioritizing Tourist Experience Enablers in Ecotourism Destination: An Application of Ridit and Grey Relational Analysis

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Abstract: *This paper provides a practical approach to RIDIT and Grey relational analysis. In this paper prioritize the most important success factors impacting tourism experience. We evaluate these Ridit and Grey strategies to identify the driving enablers. The major Enablers 21 enablers taken from the literature for the tourist experience are Stake holder commitment(SE1), Destination Preparedness (SE2), safety and security (SE3) ,effective are security measures (e.g., police presence, surveillance) (SE4), Network reliability(TE1), Smart technologies(TE2), Website and mobile apps(TE3), Technical support(TE4), Service quality(SSR1), Friendly staff(SSR2), Service staff(SSR3), Staff Competitiveness(SSR4), Souvenir(SOU1), Appealing of souvenir(SOU2), Craft souvenir(SOU3), Food price(SOU4), Diversified food(SOU5), Destinationatmosphere(EC1), Cultures(EC2),Destination layout(EC3), Refreshing(EC4). The outcome shows from the Ridits and Gray relational analysis is that destination preparedness (SE2), safety and security at any destination, closely followed by stakeholder commitment (SE1) ranked the top 3 construct for tourist experience in ecotourism* destinations.

Keywords: *RIDIT, GRA Analysis, Tourist Experience, Ecotourism destination*

Introduction

Ecotourism seeks to strike a balance between sustainability, community development, and conservation. The efficacy of ecotourism is still up for question, and definitions differ despite its promise. Even though there have been some achievements, obstacles including weak governance, insufficient stakeholder participation, and competing interests frequently impede advancement. These problems make it difficult for developing nations with abundant natural and cultural resources to make successful use of ecotourism. In order to accomplish long-

term ecological and socioeconomic objectives, this study focuses on stakeholder. factors that influence collaboration, and a framework for sustainable ecotourism development that emphasizes collaborations between governments, communities, and the private sector (Wondirad, A et al., 2020). Enhancing visitor experiences to increase sustainability is key to the success of ecotourism. Educational resources and guided tours are examples of interpretive programs that improve knowledge of cultural and environmental concerns, encouraging consciousness and responsible action. Studies reveal that these components greatly enhance tourists' understanding of conservation, resulting in a more substantial ecotourism experience (Walker et al., 2014). The value of an ecotourism destination has a significant impact on visitor loyalty and satisfaction. Important elements include site reputation, interesting activities, and infrastructure quality. Enhancements to amenities, machinery, and employee education have a favorable effect on visitors' opinions, increasing their level of satisfaction and promoting return trips. A more pleasurable and unforgettable experience results from a better perceived value, which encourages repeat business and loyalty (Oviedo García, M.Á et al.,2017). Tourist who feels an emotional connection to a place is more likely to act sustainably. Both place connection and new experiences have a beneficial effect on this behaviour, although the effect of new experiences is greater. Building this connection motivates tourists to contribute to conservation initiatives (Zhou, L et al., 2024). Integrating conservation into visitor experiences is an excellent way to encourage sustainable behaviour. Lodges and resorts provide activities like habitat restoration and wildlife tracking to engage guests in ecological projects. These immersive experiences foster a sense of responsibility and a connection with conservation by teaching guests about environmental issues and equipping them with the means to actively protect ecosystems (Cubillas-Para, C et al., 2023). Sustainability and conservation are promoted when ecotourism locations prioritize tourist experience facilitators. Beyond just taking in the scenery, a well experience also includes activities that foster comprehension, admiration. High-quality educational materials and interpretive programs are important facilitators, guaranteeing a comprehensive and memorable experience that raises visitor awareness and encourages long-term environmental stewardship (Ballantyne, A.G et al.,2025). Ecotourism offers distinctive experiences while protecting natural ecosystems and assisting local populations, making it a sustainable substitute for mass tourism. Along with economic advantages for locals, it encourages cultural appreciation and environmental preservation. In order to promote responsible travel and ensure long-term sustainability for both environment and the people who depend on it, ecotourism reduces negative effects. The success of ecotourism is greatly influenced by the tourist experience, which shapes word-of-mouth advertising, visitor satisfaction, and inclinations to return. A satisfying experience improves the allure of the place, promotes eco-friendly travel methods, and cultivates enduring involvement, all of which are advantageous to the environment and nearby communities (Kozak, M et al., 2000). The quality of ecotourism experiences for visitors is dependent on several important enablers, such as food, souvenirs, technology, personnel, safety, and service. Additionally, cultural and emotional aspects are important in determining how satisfied visitors are. A well-run ecotourism site guarantees security, gives first-rate service, incorporates technology for ease of use, provides genuine souvenirs and regional fare, and cultivates cultural and emotional ties. By enhancing visitor experiences, these factors promote favorable word-of-mouth, return trips, and sustainable tourism growth (Weaver, D.B et al., 2017). This study advances our knowledge of how to maximize ecotourism experiences for both conservation and tourist happiness at Debrigarh Wildlife Sanctuary in Odisha. The results will help regulators, travel planners, and ecotourism

operators create more sustainable and visitor-focused tourism models (Palei, N.C et al., 2022).

Reviews of literature

The efficacy of ecotourism is a topic of discussion that reveals a range of results, necessitating close cooperation from stakeholders. Sustainability, local advantages, and environmental effect are important concerns. These issues are examined in literature studies with a focus on conservation, community engagement, and governance. Comprehending these discussions is essential for successful ecotourism development that supports the goals of the research (Wondirad, A et al., 2020). Few research has been conducted in Asian cultures, and the majority of the literature on ecotourism is Western-focused. The environment, culture, and policies of different nations influence research. Community involvement in Klong Noi is highlighted by Thailand, a major ecotourism destination. The Internet and ICTs boost ecotourism worldwide, with smart apps being crucial to Thailand's ecotourism industry (Chai-Arayalert, S., 2020). In choosing a tourist site, the literature emphasizes perceptual impacts, push and pull considerations, and total service expectations. Emotional involvement and self-perception are push variables, whereas accessibility, service quality, and destination image are pull elements. Other factors that influence views include word-of-mouth, service standards, and cultural attraction. Tourism research is seeing a rise in the use of evidence-based management (EBM), which optimizes marketing tactics using empirical data. Nonetheless, there are still few integrated frameworks for choosing a destination brand in India, which calls for a methodical EBM approach. Internal reasons such as emotional involvement, self-perception, social influence, cultural discovery, and overall wellbeing are known as push factors. Pull variables influence traveler choices and include climate, affordability, cultural offerings, service quality, accessibility, and destination image (Bhattacharya, S et al., 2017). Culture and creativity play vital roles in tourism by enhancing visitor experiences and destination competitiveness. Cultural tourism is evolving into creative tourism, fostering immersive, participatory experiences. Cultural and creative industry parks (CCIPs) drive economic and urban development by clustering cultural assets. Tourists seek unique, hedonic, and symbolic experiences in CCIPs. This study explores tourist experiences in CCIPs, aiming to develop a classification framework for effective marketing and management (Chang et al., 2021). Economic growth and job creation are hiked by the tourist sector, which is expected to increase significantly. A growing trend in rural tourism is a reflection of people's desire to de-stress and be back in touch with nature. This change highlights the value of regional resources and cultural legacy in drawing tourists, which benefits community and economic growth (Lin et al., 2013). The tourist sector, which creates jobs and reduces poverty, is essential to sub-Saharan Africa's economic development. To grow tourism effectively, it is necessary to have ongoing data on visitor attitudes, perceptions, and spending habits. The challenges of conducting successful tourist research are further compounded by issues like high rates of illiteracy and limited infrastructure. Specific problems noted include cultural misunderstandings, a lack of experience with marketing research, and mistrust over the purpose of the study (Moswete, N.N et al., 2012). The study explores the influence of ICTs on tourism., highlighting how they might improve visitor experiences. Although the advantages are widely known, there are still unanswered questions about certain technical facilitators and obstacles. Through semi-structured in-depth interviews, the study uses an exploratory qualitative technique to collect insights from tech-savvy travelers about how they used ICTs for travel in the previous year (Neuhofer, B et al., 2015). The study evaluates the effectiveness of supply chains in the industrial sectors of Odisha, emphasizing important variables that affect productivity. Insights come from a survey of 429 participants in the paper, sugar, steel, and cement industries. It highlights the function of inter-organizational systems in enhancing coordination among supply chain

partners for improved management through the use of a 49-item questionnaire with a five-point rating system (Mishra, R.K et al., 2023). The potential of ecotourism in the Aral Sea region of Uzbekistan, a delicate ecology dealing with environmental difficulties. Tourism is an important economic industry, accounting for 10% of the world's GDP. Ecotourism promotes awareness-building and conservation. 86 local stakeholders were surveyed to get their opinions on the advantages of ecotourism as well as its drawbacks, such as a lack of infrastructure and experience. While acknowledging its importance, stakeholders require help, including greater infrastructure and access to financing, for sustainable ecotourism growth (Saidmamatov, O et al., 2020). Knowledge management (KM) is vital in tourism, helping organizations adapt to environmental changes and boost innovation. Ecotourism capital combines personal experience and access to reliable environmental knowledge, promoting conservation. Social media fosters trust by sharing accurate environmental information, influencing tourist decisions. Ecotourism supports ecosystems while generating economic benefits, with success depending on tourists' positive intentions and organizations' commitment to sustainability in catering to the eco-conscious market (Cubillas-Para, C e al., 2023).

The most relevant keyword is "ecotourism," indicating the research is centered around sustainable tourism. Tourism seems multidimensional science, therefore keywords such as economic, cultural, environmental, destination, experiences are strongly connected to tourism. Influence, study, research and impact, words, all of which indicate a 'scientific' approach to understanding ecotourism. This suggests an engagement with a range of tourists, visitors, stakeholders, and communities. The variables of economic, cultural, and environmental factors contribute significantly to the destination brand equity. Service, management, development, infrastructure and growth are familiar terms that are representative of factors that beautify a destination's temple and serves to heighten its reputation. Lastly, such words as advantages, supply, demand, and quality imply a combination of internal (push) and external (pull) influences on tourists' choices.

Identified Tourist Experience Enablers:

Five important enablers of the tourist experience that are pertinent to the study are covered in this section. A brief explanation of each enabler's function is provided. These elements were found in a number of studies, underscoring their importance in influencing visitor experiences. A detailed list of these enablers, together with definitions and the corresponding authors who helped identify them, is provided in Table 1. A coherent foundation for comprehending how factors affect the entire visitor experience is established by the inclusion of the enablers in this study.

Table 1: Tourist Experience Enablers

Sl. no	Identified enablers/Notation	Author	Year	Definition
1	Stake holder commitment(SE1)	Yen, C	2021	Performance is affected by stakeholder commitment; affective commitment raises satisfaction, but ongoing commitment increases the likelihood of quitting in building projects with limited resources.
2	Destination Preparedness (SE2)	Todman-Lewis	2017	Emergency preparedness requires planning, training, and resources to mitigate risks in tourism, healthcare, and cultural sector.

3	safety and security (SE3)	Gregory	2018	perspectives of visitors' safety at various periods of their trip, providing information for destination safety management.
4	effective are security measures (e.g., police presence, surveillance)(SE4)	Laufs, J	2021	police presence and monitoring discourage crime, they have distinct effects on civil liberties and safety at the destination
5	Network reliability(TE1)	Bethapudi, A	2013	ICT revolutionizes tourism by enhancing communication, accessibility, efficiency, and sustainability worldwide.
6	Smart technologies(TE2)	Ionescu, A. M	2024	Smart technologies enhance tourism sustainability, satisfaction, and operational efficiency globally.
7	Website and mobile apps(TE3)	Gavalas, D	2011	Personalized, context-aware, and data-driven travel recommendations are provided by web-based ubiquitous recommendation systems, which improve mobile tourism.
8	Technical support(TE4)	Long, P.T	1994	Through technology, technical assistance improves customer experience, accessibility, integration, efficiency, and resource management in the tourist industry.
9	Service quality(SSR1)	Akroush, M. N	2016	Traveler loyalty and Behavioral impressions throughout the world are influenced by destination image, which mediates the quality of tourism services.
10	Friendly staff(SSR2)	Song, H	2020	Friendly, knowledgeable staff enhance tourist satisfaction, destination image, and repeat visits.
11	Service staff(SSR3)	Webb, K	2007	Patient-centred care requires better environments, organization, communication, and attentive staff for improvement
12	Staff Competitiveness(SSR4)	Safarov, B	2021	The competitiveness of tourism employees depends on their abilities, education, output, and efficient human resource management.
13	Souvenir(SOU1)	Soukhathammavong, B	2019	Souvenirs shape destination image, influence perceptions, boost tourism appeal, and drive economy.

14	Appealing of souvenir(SOU2)	Littrell, M.A	1993	By incorporating individuality, beauty, and regional distinctiveness, cultural and creative design improves mementos.
15	Craft souvenir(SOU3)	Littrell, M.A	1993	Destinations with distinctive craftsmanship combine branding, tourism, and legacy to draw tourists and maintain sustainability.
16	Food price(SOU4)	Belisle, F. J	1983	Travelers can afford to pay for meal services at a place.
17	Diversified food(SOU5)	Okumus, B	2024	By sustaining culinary traditions, boosting economies, and enhancing culture, diverse cuisine improves tourism.
18	Destination atmosphere(EC1)	Cheng, T. M	2023	The general ambiance, mood, and sensory experience that a visitor has at a place, influenced by social, cultural, and environmental factors, is referred to as the destination atmosphere.
19	Cultures(EC2)	Hooper-Greenhill, E	2006	Through immersive activities and instruction, visitor cultural learning promotes comprehension, appreciation, and connection.
20	Destination layout(EC3)	Chang, A	2021	In digital mapping, urban planning, and cartography, destination layout improves readability and understanding by organizing geographical data.
21	Refreshing(EC4)	Teichert, T	2021	Travel refreshes the mind, reduces stress, boosts well-being, and enhances life satisfaction.

Objectives of Study

1-To identify the key enablers that make the success of an ecotourism destination.

2-To rank these enablers based on their impact on the performance of ecotourism destinations and assess their relative importance.

3-To evaluate the overall effectiveness of ecotourism destinations and their role in enhancing the tourism sector.

Research Method

315 respondents in Odisha participated in a study to gather first-hand information on tourist destinations such as Daringbadi Eco-Tourist Sites and Debrigarh Wildlife Sanctuary. Telephone discussions were also carried out due to restrictions in data collecting. Twenty-one closed-ended items assessing five latent variables on a five-point Likert scale were included in the questionnaire, along with explicit instructions. These items were chosen based on previous

research and evaluated for length, scale range, clarity, and question order. To guarantee dependability, the questionnaire was modified from earlier publications. In order to prioritize the influential elements, data analysis was done using RIDIT and Grey analysis. This method assisted in the methodical assessment of the major factors influencing Odisha's tourist views.

Analysis & Results

Ridit Analysis:

A non-parametric statistical technique for comparing ordinal or ranked data distributions between groups is called ridit analysis. By allocating scores according to the cumulative probability distribution of a reference group, it converts ordinal categories into a continuous scale (Bross, 1958). This approach is especially helpful for examining survey data with ordered but not necessarily interval-scaled replies, subjective evaluations, and health outcomes. The likelihood that a randomly chosen observation from the reference group would have a lower or equal value to a randomly chosen observation from the research group is represented by a Ridit score, which ranges from 0 to 1. To compare treatment effects, evaluate perceptual disparities, and examine categorical answers without presuming normalcy, researchers use ridit analysis (Sharma, A et al., 2022).

RIDIT Analysis for tourist experience Enablers:

According to Fleiss et al. (2003), RIDIT analysis is a non-parametric, distribution-free statistical technique that does not make any assumptions about the distribution of the population. Response categories are given weights according to how likely they are to be included in the reference distribution. When examining structured data that has more than two classifications but does not follow the rules of interval or ratio scales, this approach is especially helpful (Panda & Sreekumar, 2012). Composite indices, global ratings, ratings with three or more categories, and other variables evaluated on ordinal scales are frequently subjected to RIDIT analysis (Beder & Heim, 1990). The RIDIT value for a particular category is calculated by adding half the proportion of people in the same category and the proportion of the reference group with a lower score. The likelihood that an observation from the reference group will have a lower or equal value to an observation from the research group is therefore represented by the RIDIT score, which ranges from zero to one. Individual scores are converted in accordance with the determined RIDIT values for each dependent variable category. Rather than utilizing percentage distributions, the last step is to calculate the average RIDIT value for a group. Because of this methodology, RIDIT analysis is especially useful in fields with a high prevalence of ordinal data, such as the social sciences, healthcare, and marketing research. It is a versatile and perceptive analytical tool that offers a reliable way to compare response distributions without assuming assumptions about data normalcy. To rank the factors influencing how effectively the visitor experience functions on tourism sites, we employed RIDIT analysis. The components, sub factors, and item count are listed in Table 1. In ecotourism destinations, we have 315 valid Prioritizing Tourist Experience Enablers: Grey analysis and RIDIT implementation. A total of 21 items has been collected for the analysis (Table 2).

Table 2: Tourist Experience Enablers with the number of statements

Factors	No. of Items
Safety related enablers	4
Technology related enablers	4
Staff and Service-Related Enablers	4
Souvenirs and Food-Related Enablers	5
Emotional and Cultural Enablers	4

Table 3: Descriptive Statistics of the Data Set

Descriptive statistics

	N Statistic	Minimum statistic	Maximum statistic	Mean statistic	Skewness Statistic	std.error	Kurtosis Statistic	std.error
SE1	315	1	5	3.80	-.936	.137	-.353	.274
SE2	315	1	5	4.36	-1.548	.137	3.364	.274
SE3	315	1	5	4.14	-1.164	.137	2.353	.274
SE4	315	1	11	3.92	-.408	.137	4.508	.274
TE1	315	1	5	3.91	-.790	.137	.243	.274
TE2	315	1	5	3.57	-.435	.137	-1.013	.274
TE3	315	1	5	3.86	-1.077	.137	-.146	.274
TE4	315	1	5	4.00	-1.215	.137	.560	.274
SSR1	315	1	5	3.67	-.648	.137	-.427	.274
SSR2	315	1	5	3.78	-.903	.137	.137	.274
SSR3	315	1	5	3.71	-.82	.137	-.079	.274
SSR4	315	1	5	3.74	-1.063	.137	.392	.274
SOU1	315	1	5	3.76	-.825	.137	.103	.274
SOU2	315	1	5	3.56	-.758	.137	-.401	.274
SOU3	315	1	5	3.77	-.826	.137	-.174	.274
SOU4	315	1	5	3.64	-.767	.137	-.417	.274
SOU5	315	1	5	3.73	-.432	.137	-.981	.274
EC1	315	1	5	3.06	-.636	.137	-1.106	.274
EC2	315	1	5	3.65	-.979	.137	-.342	.274
EC3	315	1	5	3.18	-.128	.137	-1.260	.274
EC4	315	1	5	3.69	-.751	.137	-.159	.274

21 variables (SE1 to EC4) based on 315 respondents are summarized in the descriptive statistics table. Each variable is scored on a five-point scale (1 to 5). The distribution and features of the gathered data, which include answers from 315 participants, are shown in the descriptive statistics table. For every variable, the table displays important metrics including the mean, standard deviation, skewness, and kurtosis. The lowest and highest numbers show that a Likert scale with a range of 1 to 5 was used to capture the replies. The majority of respondents expressed moderate to high agreement with the survey items, as indicated by the mean values, which range from 3.56 to 4.36. The standard deviations differ; some variables (like TE3: 1.341) indicate more dispersion, while others (like SE2: 0.791) show more consistency in responses. Table 4 shows the response frequencies and the reference data set. The RIDITs for each item type are shown in the last row of the table for the reference data set. For the products that enable tourist experiences, the Kruskal-Wallis (W) is 266.142

Table 6. represent Ridits for the comparison data set. The ρi is calculated. The upper bound and lower bound is calculated. This is the calculation which further helpsto the next step shown in Table 6. Since the Kruskal-Wallis W (266.142) is significantly among the respondents are statistically different somehow.

greater than $\chi 2(21 \text{ “ } 1) = 31.41$, it can be inferred that the opinions about the scale items

Table 4: **Ridits for the reference data set**

OPINIONS	STRONGLY AGREE(5)	AGREE(4)	NEUTRAL(3)	DISAGREE(2)	STRONGLY DISAGREE(1)	πi
OP1	116	115	15	42	27	315
OP2	158	225	23	5	4	315
OP3	104	166	33	8	4	315
OP4	102	133	50	4	25	315
OP5	95	131	60	23	6	315
OP6	101	76	60	56	22	315
OP7	129	112	8	32	34	315
OP8	129	122	15	32	17	315
OP9	93	99	70	33	20	315
OP10	95	121	55	24	20	315
OP11	84	128	51	32	20	315
OP12	80	148	39	20	28	315
OP13	98	101	80	13	23	315
OP14	71	132	54	30	20	315
OP15	103	128	54	30	20	315
OP16	96	101	61	22	35	315
OP17	108	79	69	52	7	315
OP18	129	92	17	75	2	315
OP19	94	133	25	9	54	315
OP20	77	62	66	62	48	315
OP21	89	108	71	24	23	315
Fj	**2151**	**2411**	**976**	**628**	**459**	**6615**
1/2fj	**1075.5**	**1205.5**	**488**	**314**	**229.5**	
FJ	**1075.5**	**3356.5**	**5050**	**5852**	**6395.5**	
RJ	**0.16**	**0.50**	**0.76**	**0.89**	**0.96**	

Table 5: Kruskal-Wallis W is calculated as follows(W)= 12"(ρi-0.5)²

The Kruskal-Wallis W (266.142) indicates a statistically significant difference in respondents' opinions regarding the scale items, as it is significantly greater than χ^2 (21 – 1) = 31.41. The opinions about the scale items among the respondents are statistically different somehow. Kruskal-Wallis W=266.142; χ2(6-1)=31.41

Kruskal-Wallis-W	266.142
Chi-square (21-1)=15df	31.41

Table-6: Ridits for the comparison data set

	SA	A	N	D	SD	ρi	LB	UB
OP1/SE1	0.05	0.18	0.03	0.11	0.08	0.45	0.42	0.48
OP2/SE2	0.08	0.3	0.05	0.01	0.01	0.45	0.42	0.48
OP3/SE3	0.05	0.2	0.07	0.01	0.01	0.34	0.31	0.37
OP4/SE4	0.05	0.2	0.12	0.01	0.07	0.45	0.42	0.48
OP5/TE1	0.04	0.2	0.14	0.06	0.01	0.45	0.42	0.48
OP6/TE2	0.05	0.12	0.14	0.15	0.06	0.52	0.49	0.55
OP7/TE3	0.06	0.17	0.01	0.09	0.1	0.43	0.4	0.46
OP8/TE4	0.06	0.19	0.03	0.09	0.05	0.42	0.39	0.45
OP9/SSR1	0.04	0.15	0.16	0.09	0.06	0.5	0.47	0.53
OP10/SSR2	0.04	0.19	0.13	0.06	0.06	0.48	0.45	0.51
OP11/SSR3	0.04	0.2	0.12	0.09	0.06	0.51	0.48	0.54
OP12/SSR4	0.04	0.2	0.09	0.05	0.08	0.58	0.55	0.61
OP13/SOU1	0.04	0.16	0.19	0.03	0.07	0.49	0.46	0.52
OP14/SOU2	0.03	0.2	0.13	0.08	0.06	0.5	0.47	0.53
OP15/SOU3	0.05	0.16	0.13	0.08	0.06	0.58	0.55	0.61
OP16/SOU4	0.04	0.12	0.14	0.06	0.1	0.48	0.45	0.51
OP17/SOU5	0.05	0.14	0.16	0.14	0.02	0.51	0.48	0.54
OP18/EC1	0.06	0.14	0.04	0.2	0.006	0.44	0.41	0.47
OP19/EC2	0.04	0.21	0.06	0.02	0.16	0.49	0.46	0.52
OP20/EC3	0.03	0.09	0.15	0.17	0.14	0.58	0.55	0.61
OP21/EC4	0.04	0.17	0.17	0.06	0.07	0.51	0.48	0.54

Note: L.B: lower bound of the 95% confidence interval of mean ridit ρi UB: upper bound of the ;;95% confidence interval of mean ridit ρi

Table 7: Ranking of Tourist experience enablers in ecotourism destinations

Opinion	Ranking
SE3	1
TE4	2
TE3	3
EC1	4
SE1	5
SE2	5
SE4	5
TE1	5
SSR2	6
SOU4	6
SOU1	7
EC2	7

SSR1	8
SOU2	8
SSR3	9
SOU5	9
EC4	9
TE2	10
EC3	11
SOU3	11
SSR4	11

From the above RIDIT ranking the most top 3 enablers are opinion3, opinion 8, opinion 7 and the statements of the opinion are 1-To what extent do you agree that the role of security officer is actively engaged in promoting safety and security at the destination.2- There is sufficient technical support available for tourists using digital services at the destination.3- Online platforms (e.g., websites, mobile apps) for the destination are user-friendly and provide comprehensive information. These three statements are coming sound in the ranking opinion.

Grey Relation Analysis (GRA) for tourist experience enablers in tourist ecotourism destination

The term "grey "refers to bad, incomplete, or vague and is used much of the time to refer to information (Huang, 2010). GRA, being from Grey Theory, is a methodology for determining the way that any factor in any system relates to the other factors (Meng and Kees, 2007). GRA measures the distances, GRA indicates the level of relationship between two measurement sequences (Huang, 2010). GRA is utilized to generate a list of alternatives and suggest the optimum one (Debata et al., 2010). It applies the Grey system information to assess influence factors quantitatively in real-time. It accomplishes this by examining the extent to which all the factors are similar and distinct. A Grey Relation Grade is utilized to analyse the numerous performance aspects (Kuang et al., 2008). We applied Grey relation analysis to determine the ranking of RIDIT and concluded the priority order of important tourist experience enablers. We distributed 624 questionnaires, and 315 individuals completed them correctly. All these samples were tested and appropriate conclusions arrived at. All 21 of the tourist experience enablers were assessed to determine how they rank in comparison to one another. The RIDIT score and the Grey score are compared in Odisha's tourism. The GRA scores and grades were determined for each of the scale items using the algorithms provided previously.315 opinions are drawn from the tourist officers, stakeholders and tourist.

Comparative Ranking of RIDIT and Grey Analysis for tourist satisfaction Enablers

We are employing GRA because we wanted to know where RIDIT was ranked and arrive at conclusion regarding the priority order that the tourist experience enablers to fit the different dimensions. Table 8 illustrates how Grey analysis resulted in a different set of rankings for the dimensions. Both tests and analyses were conducted on all 21 dimensions of tourist experience facilitators, that were distributed among 315 samples.

In this analysis, Γ values are the measures of agreement to scale items. A high Γ value indicates a high level of agreement. As per the size of the Γ values of scale items presented in table 10, the scale items can be portraying in the following sequence. it is observed that $\Delta max = 4$ and $\Delta min = 0$. can then be converted to grey relational coefficients in table 10. $\gamma 1(1)$ and $\Gamma 1$ are calculated by the following expressions.

Table-8: Comparative Ranking of Ridit and Grey Analysis

SL NO	ENABLERS	GRAScore	GRA Rank	RIDIT Score	RIDIT Rank
1	SE1	0.751	2	0.42	2
2	SE2	0.814	1	0.34	1
3	SE3	0.750	3	0.43	3
4	SE4	0.699	9	0.44	4
5	TE1	0.711	7	0.45	5
6	TE2	0.672	17	0.45	5
7	TE3	0.736	4	0.45	5
8	TE4	0.719	6	0.45	5
9	SSR1	0.680	16	0.48	6
10	SSR2	0.698	10	0.48	6
11	SSR3	0.682	14	0.49	7
12	SSR4	0.686	13	0.49	7
13	SOU1	0.694	11	0.5	8
14	SOU2	0.657	18	0.5	8
15	SOU3	0.702	8	0.51	9
16	SOU4	0.681	15	0.51	9
17	SOU5	0.694	11	0.51	9
18	EC1	0.729	5	0.52	10
19	EC2	0.690	12	0.58	11
20	EC3	0.611	19	0.58	11
21	EC4	0.682	14	0.58	11

Findings and Discussion

The findings from both RIDIT and Grey Relational Analysis highlight top three most important enabler are the rankings of destination preparedness indicators that is noted as SE2 holds Rank 1. The ability to handle emergencies is seen as the most crucial factor, indicating that respondents have a strong belief in the destination's capability to manage crises. This is viewed as a major strength in terms of stakeholder commitment holds Rank 2. The commitment of stakeholders plays a significant role in safety and security, showing that collaborative governance and responsible participation are valued, though they are slightly less prioritized than actual Safety and security measures noted as SE3 holds Rank 3. Engagement of security officers is rated the lowest among the three indicators. This suggests that while their role is recognized, there might be issues with visibility, communication, or trust in their effectiveness compared to the broader aspects of emergency preparedness or stakeholder involvement.

Conclusion and Implications

The conclusion is based on the opinions of 315 tourists, supply from different ecotourism destinations destination preparedness is the top construct as it figures out the top 1 priorities. So, the safety related enablers, Technology related enablers, staff and service-related enablers are the most significant enablers influencing ecotourism destinations.

Scope of the Future Research

1. Similar study with a larger and more diverse sample could be conducted to ensure that the findings can be applied to larger audience.

2. The study can be more interesting if more factors will be included to broader population

3. A comparative study can be conducted to evaluate the performance of different tourist places of attractions.

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