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RESEARCH ARTICLE OPEN ACCESS

AN EVALUATION OF THE DIGITAL INCLUSION INITIATIVES FOR STREET VENDORS IN SPSR NELLORE AND TIRUPATI DISTRICTS OF ANDHRA PRADESH

Venkataramanaiah Malepati[1], Venkateswarlu Palli[2] and T. Bhuvaneswari[3]

[1]Assistant Professor of Commerce, S.G. Govt. Degree and PG College, Pileru- 517 214
[2]Research Scholar, Department of Commerce, S.G. Govt. Degree and PG College, Pileru- 517 214
[3]Research Scholar, Department of Commerce, S.G. Govt. Degree and PG College, Pileru- 517 214

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****Corresponding author:***
Venkataramanaiah Malepati

ABSTRACT

The study explores the integration of street vendors into eco-tourism initiatives in the SPSR Nellore and Tirupati districts, emphasizing the role of digital connectivity. The primary objective is to investigate how digital tools can empower vendors within sustainable tourism frameworks. Addressing a critical research gap, the study evaluates awareness of and accessibility to digital tools, their impact on financial performance and eco-tourism participation, and the effectiveness of support mechanisms. Despite government efforts, vendors face challenges such as inadequate infrastructure, lack of training, and financial constraints, exacerbated by gender and caste disparities. Statistical tools used include descriptive statistics for socio-economic profiling, Chi-Square tests to examine demographic associations with challenges, and ANOVA to analyze differences in outcomes across digital inclusion levels. Regression analysis measured the impact of support mechanisms on financial performance and participation, while factor analysis identified latent barriers, including infrastructure, literacy, and financial constraints. Findings reveal that digital inclusion improves financial performance but has limited direct impact on eco-tourism participation without additional interventions. Gender disparities persist, with women facing more pronounced challenges. Business types like food and beverages and clothing significantly influence participation, emphasizing the need for targeted strategies. The study concludes that systemic interventions such as targeted training, improved infrastructure, and financial support are essential for integrating vendors into eco-tourism. Future research should focus on youth engagement, long-term digital inclusion impacts, and comparative analyses of urban and rural eco-tourism sites to refine best practices. Inclusive policies can foster sustainable growth and economic empowerment.

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INTRODUCTION

Eco-tourism, as a sustainable approach to tourism development, has garnered global attention for its ability to preserve natural environments while fostering economic and social benefits for local communities (Honey, 2008). Within this framework, the empowerment of street vendors represents a critical and often underexplored avenue for achieving inclusive growth. Street vendors, often part of marginalized communities, provide a tangible link between local culture and the tourism experience. Their role in offering authentic regional products, cuisine, and cultural insights can transform tourism into a tool for both environmental sustainability and socio-economic upliftment (Bhowmik, 2005. Tirupati district covers several eco-tourism places including the iconic Venkateswara Temple and a range of eco-tourism destinations such as Chandragiri Fort, Talakona Waterfalls, and Sri Venkateswara National Park, Pulicat lake bird sanctuary attracts millions of visitors annually (Government of Andhra Pradesh, 2020). Whilst the SPSR Nellore District also know for its rich eco-tourism sites such as Narasimhakonda, Penchalakona, Somasila Dam and Udayagiri Fort. These tourists present a significant opportunity for local street vendors to diversify their customer base and increase their income. However, this potential is often untapped due to challenges such as inadequate infrastructure, lack of regulatory support, and insufficient awareness of sustainable practices (Roever & Skinner, 2016). By integrating street vendors into eco-tourism initiatives, the region can ensure more equitable distribution of tourism benefits, align with global sustainability goals, and foster a robust local economy. The significance of this study lies in its focus on the dual objectives of environmental conservation and socio-economic empowerment, demonstrating how street vendors can transition from the fringes of the economy to active participants in sustainable development. Drawing upon examples of food tours, craft markets, and community-based tourism initiatives, the article provides actionable

recommendations for policymakers, tourism stakeholders, and community leaders to ensure the successful integration of street vendors into the eco-tourism sector in Tirupati District of Andhra Pradesh. By doing so, it aspires to contribute to the broader discourse on sustainable tourism and inclusive development in India and beyond (Honey, 2008; Mitchell & Ashley, 2010). Hence, this article delves into key aspects of integrating street vendors into eco-tourism in Tirupati district, including promoting local products and cuisine, fostering community engagement, and emphasizing capacity building and sustainable practices. These measures are in line with community-based tourism models that have proven successful in enhancing the livelihoods of local stakeholders (Goodwin & Santilli, 2009). Additionally, it highlights the socioeconomic benefits that street vendors can derive from ecotourism, including increased income, economic empowerment, and community development. However, challenges such as regulation, quality control, and fair pricing are also discussed, underscoring the need for strategic interventions to address these issues (Mitchell & Ashley, 2010; Weaver, 2001). Further, this article explores the potential of eco-tourism to empower street vendors in the Tirupati district of Andhra Pradesh, India—a region renowned for its spiritual significance and burgeoning eco-tourism initiatives (Government of Andhra Pradesh, 2020).

REVIEW OF LITERATURE

Street vendors, as part of the informal economy, face unique challenges and opportunities. Bhowmik (2005) highlights their critical role in Asia's informal economy, despite being hindered by legal constraints, inadequate infrastructure, and societal marginalization. Eco-tourism provides a potential pathway for economic empowerment, enabling vendors to showcase local products and services to tourists while benefiting from increased demand. Mitchell and Ashley (2010) emphasize that tourism, including eco-tourism, generates direct and indirect economic opportunities, with small-scale vendors creating localized supply chains. Similarly, Scheyvens (1999) underscores how eco-tourism empowers communities economically, socially, and politically, positioning street vendors as vital contributors. Digital inclusion is a critical element of empowering street vendors within eco-tourism. Roever and Skinner (2016) identify barriers vendors face in accessing digital tools, linking digital inclusion with market expansion.

Jack and Suri (2014) show that mobile money platforms reduce transaction costs, enabling street vendors to cater effectively to broader markets. Community-based tourism models also stress local engagement. Goodwin and Santilli (2009) demonstrate that involving vendors fosters ownership and equitable distribution of tourism benefits.

However, scaling eco-tourism comes with challenges. Weaver (2001) highlights the difficulty of maintaining sustainability and local engagement, calling for capacity-building programs to address skill gaps. Sustainability practices are equally critical. Tilley and Parrish (2006) emphasize that vendors adopting eco-friendly practices, such as biodegradable packaging, appeal to environmentally conscious tourists. Cross (2000) adds that inclusive governance and balanced regulations are necessary for vendors to thrive in tourism. Gender empowerment is another significant aspect. Cole and Morgan (2010) show that eco-tourism can promote economic independence for women street vendors, helping them overcome socio-economic barriers. In Andhra Pradesh, the Government of Andhra Pradesh (2020) outlines the state's eco-tourism initiatives, integrating vendors into sustainable tourism activities at destinations like Tirupati and Talakona Waterfalls. These initiatives provide unique opportunities for vendors to align with eco-tourism goals. Despite these opportunities, barriers such as regulatory constraints and financial challenges persist. Bhowmik (2005) and Roever and Skinner (2016) emphasize the need for collaborative strategies, combining capacity-building, digital inclusion, and policy support to maximize the benefits of eco-tourism for street vendors.

RESEARCH GAP

The existing literature highlights the potential of eco-tourism as a pathway for economic empowerment, particularly for street vendors, by providing direct and indirect benefits through increased market access and sustainable community development (Bhowmik, 2005; Mitchell & Ashley, 2010; Scheyvens, 1999). Additionally, studies emphasize the role of digital inclusion in empowering informal economy workers by enhancing financial efficiency and broadening their customer base (Roever & Skinner, 2016; Jack & Suri, 2014). However, a significant research gap exists at the intersection of eco-tourism and digital connectivity, particularly in evaluating how digital inclusion initiatives can support street vendors' integration into eco-tourism frameworks. While existing studies discuss community-based tourism (Goodwin & Santilli, 2009) and sustainable entrepreneurship (Tilley & Parrish, 2006), limited attention has been given to how digital technologies can address operational constraints and barriers for street vendors. In regions like SPSR Nellore and Tirupati districts of Andhra Pradesh, which have significant eco-tourism potential, there is a lack of focused research on the impact of digital connectivity on vendors' participation in eco-tourism initiatives. Government efforts in Andhra Pradesh to promote eco-tourism (Government of Andhra Pradesh, 2020) have not adequately explored the role of digital inclusion in enabling vendors to engage effectively with tourists or adopt eco-friendly practices. Additionally, the gendered dimensions of digital inclusion remain underexplored, despite evidence that women street vendors face compounded socio-economic challenges (Cole & Morgan, 2010). This research seeks to fill these gaps by assessing the availability and reliability of digital infrastructure, the effectiveness of training and capacity-building programs, and the role of digital tools in overcoming barriers to eco-tourism integration for street vendors. By addressing these issues, the study aims to contribute to both academic discourse and policy development, promoting inclusive and sustainable growth in the region.

STATEMENT OF THE PROBLEM

The rapid growth of eco-tourism in regions like SPSR Nellore and Tirupati districts of Andhra Pradesh presents significant opportunities for street vendors to integrate into sustainable tourism activities. However, despite government initiatives and the recognized importance of eco-tourism and digital inclusion, street vendors in these districts continue to face substantial challenges in leveraging digital technologies to participate effectively in eco-tourism frameworks. Existing studies highlight the potential of eco-tourism to empower marginalized communities and the role of digital inclusion in expanding market access and improving economic outcomes. Yet, there is a lack of focused research evaluating how digital infrastructure, training initiatives, and capacity-building programs specifically address the barriers faced by street vendors in eco-tourism contexts. Furthermore, the gendered dimensions of digital inclusion and their impact on women vendors' participation in eco-tourism remain underexplored. This disconnect hinders the realization of inclusive and sustainable growth in these high-potential regions. Addressing these gaps is crucial for developing targeted interventions that enable street vendors to overcome regulatory, infrastructural, and financial challenges, thereby fostering their integration into eco-tourism initiatives and contributing to community development and economic empowerment.

OBJECTIVES OF THE STUDY

The primary objective of the study is to investigate the nexus between the eco-tourism and digital connectivity. The axillary objectives are; to

- Evaluate the awareness, accessibility, and gender-specific barriers in using digital tools among street vendors in SPSR Nellore and Tirupati districts for eco-tourism integration;

- Assess the impact of digital inclusion on the financial performance and participation of street vendors in eco-tourism, addressing socio-economic and gender disparities; and
- Identify challenges and evaluate the effectiveness of support mechanisms in promoting digital and eco-tourism practices among street vendors.

METHODOLOGY

The present study adopts a mixed-methods exploratory approach, integrating both quantitative and qualitative methods to examine the relationship between eco-tourism and digital connectivity among street vendors in SPSR Nellore and Tirupati districts. Primary data was collected from 150 street vendors through structured questionnaires, focusing on socio-economic profiles, digital accessibility, and participation in eco-tourism. Secondary data from government reports, academic journals, and policy documents provided contextual insights. Statistical tools included descriptive statistics for socio-economic analysis, Chi-Square tests to explore demographic associations with digital tools and challenges, ANOVA to assess differences in financial performance across digital inclusion levels, and factor analysis to identify barriers such as infrastructure and literacy have been used. Regression analysis used to measure the impact of digital inclusion and support mechanisms on financial performance and eco-tourism participation. The study focuses on evaluating awareness, accessibility, and gender-specific barriers to digital tools; assessing the impact of digital inclusion on vendor outcomes; and identifying challenges and the effectiveness of support mechanisms. Hence, only the vendors at the eco-tourism sites were interviewed. The geographic scope encompasses eco-tourism sites such as Talakona Waterfalls, Sri Venkateswara National Park, and Pulicat Lake, highlighting regions with substantial tourist inflows and vendor activity. Limitations include the relatively small sample size, geographic focus on two districts, and potential biases in self-reported data. Despite these limitations, the methodology provides a robust framework for understanding the integration of street vendors into eco-tourism through digital connectivity, offering insights to address barriers and enhance sustainable growth. This approach aims to inform policies promoting inclusive economic development.

RESULTS AND DISCUSSION

The socio-economic demographics of the respondents such as age, sex, caste, religion, educational qualifications, type of business, income levels and vender experience are given in the Table 1. A glance at the Table reveals that the dominance of middle-aged respondents (36-45 years (57.33 per cent), 46-55 years (29.33 per cent) highlights a mature and experienced workforce in street vending. Younger age groups (18-35 years) being underrepresented (13.33 per cent) suggests an opportunity to engage youth through eco-tourism, which can attract younger entrepreneurs to adopt sustainable vending practices. There is a clear exhibition of gender disparity in involving street vending at eco-tourism sites with 70 per cent of male and 30 per cent female. It clues that there is a need for gender-sensitive eco-tourism initiatives. Women vendors, who often specialize in crafts or local delicacies, could contribute significantly to promoting cultural heritage. Increasing female participation in eco-tourism-related vending could enhance diversity and enrich tourist experiences, while also empowering women economically. In terms of caste, the participation of marginalized groups, including OBC (34.67 per cent), SC (20.67 per cent), and ST (14.67 percent), reflects the inclusive nature of street vending. Among the three major religions of the respondents, Hindu street vendors are in majority and highlights the diverse cultural fabric that street vendors embody (Hindu: 85.33 per cent, Muslim: 11.33 per cent, Christian: 3.33 per cent). Among the respondents, 37.33 per cent of vendors having primary education and 18 per cent lacking formal education, eco-tourism initiatives must focus on skill-building and training programs. In terms of income distribution, 54 per cent of respondents are earning in the range of ₹10,001-₹20,000. This indicates that street vending provides moderate financial stability. Street vending business is predominantly occupied by food and beverage (65.33 per cent) aligns well with eco-tourism's focus on promoting local cuisine. Clothing, accessories (24 per cent), and handicrafts (10.67 per cent) also hold potential to attract eco-tourists seeking authentic, locally made goods. Encouraging vendors to adopt eco-friendly materials and packaging could further align these businesses with sustainable tourism goals. It is interesting to note that the majority of vendors (59 per cent) have 6-10 years of experience, suggesting a stable workforce with substantial expertise. This experience can be leveraged to educate tourists about local history, culture, and sustainable practices. Newer vendors (40 per cent with 1-5 years of experience) could benefit from training programs to adapt their businesses to eco-tourism demands.

Awareness among vendors about digital tools and eco-tourism initiatives: The Chi-Square Test of Independence examines whether there is a significant association between awareness of digital payment systems and various demographic variables. Table 2 explains the interpretation of the results for each variable. A look at the Table reveals that none of the demographic variables tested (gender, age, caste, religion, income) showed a statistically significant association with awareness of digital payment systems. This suggests that awareness levels are fairly uniform across different demographic groups. Slight variations (e.g., in caste and income) may warrant further investigation with a larger sample size or additional variables for better insights.

Accessibility of Digital Tools: The ANOVA test examines whether the mean access scores differ significantly across groups within demographic variables. Among the demographics, only monthly income and educational qualification found significant where as other demographic variables such as age group, caste, religion did not show significant differences in access scores. The factor analysis (Table 4 &5) reveals three primary latent factors contributing to the barriers faced by street vendors in utilizing digital tools: infrastructure, literacy, and financial constraints. The infrastructure factor encompasses challenges related to inadequate digital facilities, such as unreliable internet connectivity or lack of access to digital devices. The literacy factor highlights barriers stemming from language difficulties or insufficient training opportunities to effectively use digital platforms. Lastly, the financial constraints factor captures challenges associated with the cost of adopting digital or eco-friendly practices. Gender-specific analysis of these factors shows distinct patterns: female vendors exhibit higher scores on the literacy and infrastructure factors, indicating that they face greater challenges in these areas compared to their male counterparts. Male vendors, in contrast, report lower scores across all factors, suggesting relatively fewer obstacles in accessing and utilizing digital tools. These findings underscore the need for targeted interventions to mitigate gender-specific barriers. Focused training programs aimed at enhancing digital literacy among female vendors, improved infrastructure to ensure reliable internet connectivity in areas where female vendors operate, and financial incentives or subsidies to alleviate the costs of adopting digital or eco-friendly practices are crucial steps to address these challenges effectively.

Impact of digital inclusion on financial performance and eco-tourism participation: The linear regression analysis (Table 6 & 7) reveals that digital accessibility, as a composite score of access to smartphones, reliable internet, and digital transactions, does not significantly influence either financial performance (monthly income levels) or interest in participating in eco-tourism programs among street vendors. Gender, educational qualification, type of business, and years of experience as a vendor also show no statistically significant effects on these outcomes. These findings suggest that neither socio-economic factors nor gender-specific differences strongly predict financial or participatory benefits in eco-tourism. The lack of a significant relationship between digital accessibility and the dependent variables highlights the need for complementary interventions. Simply improving access to digital tools may not be sufficient; initiatives such as tailored training, financial incentives,

Table 1. Socio-economic Demographic Characteristics of the Respondents

Variable	Characteristics	Frequency N= 150	Percent
Age	18-25	0	0.00
	26-35	20	13.33
	36-45	86	57.33
	46-55	44	29.33
	56 and above	0	0.00
Sex	Male	105	70.00
	Female	45	30.00
Caste	OBC	52	34.67
	General	45	30.00
	SC	31	20.67
	ST	22	14.67
Religion	Hindu	128	85.33
	Muslim	17	11.33
	Christian	5	3.33
Educational Qualification	Primary	56	37.33
	Secondary	42	28.00
	No formal education	27	18.00
	Higher Secondary	25	16.67
Type of business (Street vending)	Food &beverages	98	65.33
	Clothing &Accessories	36	24.00
	Handicrafts	16	10.67
Income Range	Below ₹5,000	0	0.00
	₹5,001 - ₹10,000	9	9.00
	₹10,001 - ₹20,000	54	54.00
	₹20,001 - ₹30,000	37	37.00
	Above ₹30,000	0	0.00
Vendor Experience	Less than 1 year	0	0.00
	1-5 years	40	40.00
	6-10 years	59	59.00
	11-20 years	1	1.00
	More than 20 years	0	0.00

Source: Primary data

Table 2. Chi-Square Test Results and Interpretation

Demographic Variable	Chi-Square Statistic	Degrees of Freedom	P-Value	Interpretation
Gender	2.177363	2	0.336659	No significant association between gender and awareness ($p > 0.05$).
Age Group	31.422705	4	0.765858	No significant association between age group and awareness ($p > 0.05$).
Caste	10.875431	6	0.092303	Marginally insignificant association between caste and awareness ($p > 0.05$).
Religion	1.5345268	2	0.464281	No significant association between religion and awareness ($p > 0.05$).
Monthly Income Level	39.559773	28	0.072330	Marginally insignificant association between income and awareness ($p > 0.05$).

Source: Primary data

Table 3. Analysis of Significant Findings from ANOVA Results

Demographic Variable	F-Statistic	P-Value	Significance	Interpretation	Implications
Monthly Income Level	1.87	0.041	Significant ($p < 0.05$)	Income levels influence access to digital tools, with higher-income vendors likely having better access.	Focus on providing affordable tools and support to lower-income vendors to bridge access gaps.
Educational Qualification	6.86	0.0003	Highly Significant ($p < 0.001$)	Educational qualifications strongly influence access, with higher-educated vendors having better access.	Tailored training programs for less-educated vendors can enhance their digital literacy and tool usage.

Source: Primary data

Table 4. Factor Loadings for Challenges

Challenge	Factor 1 (Infrastructure)	Factor 2 (Literacy)	Factor 3 (Financial Constraints)
Lack of digital infrastructure is a major barrier for my business.	0.048	-0.132	-0.436
I face language barriers when using digital platforms.	-0.146	-0.626	0.118
Lack of training opportunities hinders my ability to engage with digital systems.	-0.619	0.327	0.141
I find it difficult to get involved in eco-tourism activities due to lack of information.	-0.353	0.246	-0.241
Financial constraints prevent me from adopting eco-friendly practices.	0.703	0.238	0.076

Table 5. Gender-Specific Factor Scores

Gender	Factor 1	Factor 2	Factor 3
Female	0.096	0.261	0.040
Male	-0.038	-0.104	-0.016

Table 6. Impact on Financial Performance

	coef	std err	T	P>|t|
Const (Monthly Income)	1.202e+04	5522.947	2.177	0.033
Digital Accessibility Score	1288.4180	1244.579	1.035	0.304
Gender	2254.7352	1184.691	-1.903	0.061
Educational Qualification	3514.4999	876.758	4.009	0.000
Experience	-87.1020	367.628	-0.237	0.813
Type of business (Street vending)_Handicrafts	1317.8992	2006.187	0.657	0.513
Type of business (Street vending)_Food & beverages	601.2135	1333.040	0.451	0.653

Table 7. Impact on Eco-Tourism Participation

	coef	std err	T	P>|t|
Const.(Interest in Participating in Eco-Tourism Programs)	4.0541	0.761	5.325	0.000
Digital Accessibility Score	0.0588	0.172	0.343	0.733
Gender	0.1390	0.163	0.851	0.397
Educational Qualification	-0.0798	0.121	-0.660	0.511
Experience	-0.0232	0.051	-0.458	0.648
Type of business (Street vending) Handicrafts	-0.3868	0.277	-1.399	0.166
Type of business (Street vending) Food &beverages	-0.0770	0.184	-0.419	0.676

Source: Primary data

Table 8. ANOVA Results and Interpretation

Dependent Variable	F-Statistic	P-Value	Significance	Interpretation
Financial Performance	4.23	0.007	Significant ($p < 0.05$)	Financial performance varies significantly across digital inclusion levels. Higher digital inclusion scores likely contribute to better income generation.
Eco-Tourism Participation	0.77	0.511	Not Significant ($p > 0.05$)	Eco-tourism participation does not vary significantly across digital inclusion levels. Digital accessibility does not strongly influence engagement in eco-tourism.

Source: Primary data

Table 9. The Chi-Square Test Results on Relationship between Specific Challenges Faced by Street Vendors and their Demographic Characteristics

Challenge	Demographic Variable	Chi-Square Statistic	Degrees of Freedom	P-Value	Interpretation
Lack of digital infrastructure is a major barrier for my business.	Gender	6.32808	2.0	0.042254	Significant association ($p < 0.05$)
	Age group	41.27675	38.0	0.329383	No significant association ($p > 0.05$)
	Caste	9.546769	6.0	0.145082	No significant association ($p > 0.05$)
	Religion	1.323522	2.0	0.515941	No significant association ($p > 0.05$)
	Monthly Income Level	22.61549	28.0	0.752032	No significant association ($p > 0.05$)
	Educational Qualification	3.399857	6.0	0.757242	No significant association ($p > 0.05$)
I face language barriers when using digital platforms.	Gender	6.197058	2.0	0.045115	Significant association ($p < 0.05$)
	Age group	28.06325	38.0	0.880881	No significant association ($p > 0.05$)
	Caste	8.709129	6.0	0.190609	No significant association ($p > 0.05$)
	Religion	3.239595	2.0	0.197938	No significant association ($p > 0.05$)
	Monthly Income Level	27.11616	28.0	0.511927	No significant association ($p > 0.05$)
	Educational Qualification	4.454988	6.0	0.615350	No significant association ($p > 0.05$)
Lack of training opportunities hinders my ability to engage with digital systems.	Gender	0.399	2.0	0.819140	No significant association ($p > 0.05$)
	Age group	34.31659	38.0	0.640499	No significant association ($p > 0.05$)
	Caste	12.58294	6.0	0.050158	Marginally insignificant association ($0.05 <= p < 0.1$)
	Religion	0.595047	2.0	0.742654	No significant association ($p > 0.05$)
	Monthly Income Level	23.24670	28.0	0.720596	No significant association ($p > 0.05$)
	Educational Qualification	10.29524	6.0	0.112756	No significant association ($p > 0.05$)
I find it difficult to get involved in eco-tourism activities due to lack of information.	Gender	4.155596	2.0	0.125205	No significant association ($p > 0.05$)
	Age group	42.85584	38.0	0.2707023	No significant association ($p > 0.05$)
	Caste	10.75074	6.0	0.0963923	Marginally insignificant association ($0.05 <= p < 0.1$)
	Religion	0.029962	2.0	0.9851302	No significant association ($p > 0.05$)
	Monthly Income Level	19.57200	28.0	0.8795615	No significant association ($p > 0.05$)
	Educational Qualification	5.814624	6.0	0.4442732	No significant association ($p > 0.05$)
Financial constraints prevent me from adopting eco-friendly practices.	Gender	1.647592	2.0	0.4387628	No significant association ($p > 0.05$)
	Age group	40.02191	38.0	0.3804977	No significant association ($p > 0.05$)
	Caste	11.12680	6.0	0.0845356	Marginally insignificant association ($0.05 <= p < 0.1$)
	Religion	2.618460	2.0	0.2700278	No significant association ($p > 0.05$)
	Monthly Income Level	29.87339	28.0	0.3692952	No significant association ($p > 0.05$)
	Educational Qualification	9.164186	6.0	0.1645526	No significant association ($p > 0.05$)

Source: Primary data

Table 10. Regression Results on Support Mechanism and Eco-Tourism Participation

Variable	Coefficient	P-Value	Significance
Const (Support Mechanism Satisfaction)	2.7379703391001526	3.2809455273421645e-13	Significant ($p < 0.05$)
Gender	0.09619583241211616	0.5253035694004059	Not Significant ($p > 0.05$)
I am satisfied with the current digital infrastructure provided for street vendors.	0.05529377625469843	0.6252889641415567	Not Significant ($p > 0.05$)
Type of business (Street vending)_Clothing &Accessories	0.9906666275149225	1.7679337510188796e-08	Significant ($p < 0.05$)
Type of business (Street vending)_Handicrafts	0.6398278589984518	0.0011408331000953773	Significant ($p < 0.05$)
Type of business (Street vending)_Food & beverages	1.1074758525867792	1.0275196100775317e-12	Significant ($p < 0.05$)

Source: Primary data

and business-specific support are likely required to maximize the impact of digital inclusion on vendors' financial performance and their engagement in eco-tourism. Furthermore, targeted awareness campaigns and support mechanisms for specific business types may help bridge gaps and foster better outcomes. This analysis underscores the importance of addressing broader systemic and contextual factors to effectively empower vendors in both financial and eco-tourism dimensions. A glance at Table 8 tells that there is a significant difference in financial performance across different levels of digital inclusion, as indicated by a p-value of 0.007. This finding suggests that vendors with higher digital inclusion scores tend to have better financial outcomes compared to those with lower scores. Digital tools such as smartphones, internet connectivity, and digital payment platforms likely enable vendors to conduct transactions more efficiently, reach a wider customer base, and potentially participate in digital marketplaces, thereby enhancing their income. However, the test did not find significant differences in eco-tourism participation across digital inclusion levels, with a p-value of 0.511. This result implies that digital accessibility does not strongly influence vendors' interest or engagement in eco-tourism programs. Additional factors such as lack of awareness, training, or tailored opportunities may play a more critical role in motivating vendors to participate in eco-tourism. Overall, the findings highlight the importance of digital inclusion for improving financial performance while emphasizing the need for complementary interventions to foster participation in eco-tourism.

Key barriers adoption of digital and eco-tourism practices: The Chi-Square Test results (Table 9) reveal important insights into the relationship between specific challenges faced by street vendors and their demographic characteristics. A significant association was observed between gender and challenges such as lack of digital infrastructure ($p = 0.042$) and language barriers ($p = 0.045$), suggesting that female vendors are disproportionately affected by these barriers. Marginally insignificant associations were noted between caste and challenges like lack of training opportunities ($p = 0.050$), difficulties accessing eco-tourism information ($p = 0.096$), and financial constraints ($p = 0.084$). These findings indicate potential disparities among caste groups that warrant further investigation. Conversely, most challenges showed no significant associations with other demographic variables such as age, religion, income level, or educational qualification, suggesting that barriers like infrastructure, language, and financial constraints are pervasive across these groups. The results emphasize the need for targeted interventions to address gender-specific and caste-related disparities, such as providing language training, improving infrastructure access for women, and offering additional support for underprivileged caste groups. At the same time, inclusive policies should be designed to tackle systemic challenges that impact vendors across all demographics.

Support mechanisms: The regression analysis (Table 10) examines the impact of support mechanisms on eco-tourism participation, with control variables including gender and business type. The results indicate that the satisfaction with the current digital infrastructure, represented as the support mechanism score, had a positive but statistically insignificant relationship with eco-tourism participation ($p > 0.05$). Similarly, gender did not exhibit a significant influence on eco-tourism participation, suggesting that men and women engage at comparable levels when controlling for other factors. However, one significant finding emerged: the type of business, specifically businesses related to "Clothing & Accessories," showed a positive and statistically significant association with eco-tourism participation ($p < 0.05$). This suggests that vendors in this category are more likely to engage with eco-tourism programs compared to those in other business types. Overall, while the support mechanism score and gender were not significant predictors, the business type appears to play an important role in influencing eco-tourism participation.

Summary of Findings and Conclusion

The study highlights significant insights into the integration of street vendors into eco-tourism initiatives within the SPSR Nellore and Tirupati districts. Key findings indicate that middle-aged vendors dominate the sector, with limited participation from younger groups. Gender disparities persist, with male vendors comprising 70 per cent of the workforce. While caste and religion reflect inclusivity, vendors face barriers such as limited digital infrastructure, language difficulties, and financial constraints, with women experiencing more pronounced challenges. Digital inclusion was found to have no significant direct impact on financial performance or eco-tourism participation. However, business types, such as "Clothing & Accessories" and "Food & Beverages," significantly influenced participation in eco-tourism. The ANOVA results emphasized that financial performance varied significantly across digital inclusion levels, while eco-tourism participation did not, suggesting that complementary interventions are required. Integrating street vendors into eco-tourism frameworks presents an opportunity to boost local economies while promoting sustainable practices. However, systemic barriers, particularly gender-specific and digital challenges, must be addressed. The findings suggest that while digital inclusion alone does not directly enhance outcomes, it serves as a foundational enabler when complemented by targeted training and support mechanisms.

Scope for further Research & Policy Recommendations: Future research should focus on strategies to attract younger entrepreneurs to eco-tourism-related vending, addressing the underrepresentation of youth in this sector. Additionally, exploring the intersectionality of gender, caste, and economic barriers in greater depth could provide nuanced insights into the challenges faced by diverse groups of vendors. Longitudinal studies are essential to assess the long-term impact of digital inclusion initiatives on vendors' financial performance and eco-tourism participation. Comparative studies between urban and rural eco-tourism sites can identify scalable best practices to support vendors in various contexts. From a policy perspective, targeted training programs should be implemented, focusing on gender-sensitive digital literacy for women and business-specific modules to enhance eco-tourism readiness. Infrastructure development is crucial, including expanding reliable internet and digital payment systems, particularly in areas where women vendors operate. Financial support mechanisms such as subsidies for adopting eco-friendly materials and improved access to microfinance can reduce cost barriers. Community engagement through awareness campaigns and collaboration between street vendors and local tourism boards can foster participation in eco-tourism initiatives. Lastly, inclusive policies should ensure equitable access to opportunities for marginalized groups, including women and lower-income vendors. Together, these measures can empower street vendors and contribute to sustainable tourism goals, driving inclusive economic growth in the region.

REFERENCES

Bhowmik, S. K. (2005). Street vendors in Asia: A review. *Economic and Political Weekly*, 40(22-23), 2256-2264, https://doi.org/10.2307/4416705

Cole, S., & Morgan, N. (Eds.). (2010). *Tourism and inequality: Problems and prospects.* CABI.

Cross, J. C. (2000). Street vendors, and postmodernity: Conflict and compromise in the global economy. *International Journal of Sociology and Social Policy, 20*(1/2), 29-51. https://doi.org/10.1108/01443330010789158

Goodwin, H., & Santilli, R. (2009). Community-based tourism: A success? *ICRT Occasional Paper*, 11, 1-37. Retrieved from https://www.icrtourism.com/

Government of Andhra Pradesh. (2020). *Tourism in Andhra Pradesh: Annual Report 2019-20*. Andhra Pradesh Tourism Development Corporation. Retrieved from https://aptourism.gov.in/

Honey, M. (2008). *Ecotourism and sustainable development: Who owns paradise?* Island Press.

Jack, W., & Suri, T. (2014). Risk sharing and transactions costs: Evidence from Kenya's mobile money revolution. *American Economic Review, 104*(1), 183-223. https://doi.org/10.1257/aer.104.1.183

Mitchell, J., & Ashley, C. (2010). *Tourism and poverty reduction: Pathways to prosperity.* Earthscan.

Roever, S., & Skinner, C. (2016). Street vendors and cities. *Environment and Urbanization*, 28(2), 359-374. https://doi.org/10.1177/0956247816653898

Scheyvens, R. (1999). Ecotourism and the empowerment of local communities. *Tourism Management, 20*(2), 245-249. https://doi.org/10.1016/S0261-5177(98)00069-7

Tilley, F., & Parrish, B. D. (2006). Sustainability entrepreneurship: Charting a field in emergence. *International Journal of Entrepreneurship and Innovation, 7*(1), 5-12. https://doi.org/10.5367/000000006775870451

Weaver, D. B. (2001). Ecotourism as mass tourism: Contradiction or reality? *Cornell Hotel and Restaurant Administration Quarterly*, 42(2), 104-112. https://doi.org/10.1016/S0010-8804(01)80024-7

Weaver, D. B. (2001). Ecotourism as mass tourism: Contradiction or reality? *Cornell Hotel and Restaurant Administration Quarterly, 42*(2), 104-112. https://doi.org/10.1016/S0010-8804(01)80024-7

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