Birdwatching through an Ecotourism Lens: Factors Influencing Eco-Avitourism Engagement

Debankur Saha*
Assistant Professor
IFMR GSB,
Krea University,
5655, Sri City, Andhra Pradesh, 517646, India
Contact number – 8981334946, Email id - debankur.saha@krea.edu.in
*Corresponding author

Anirban Chakraborty
Associate Professor
Indian Institute of Management Lucknow
Prabandh Nagar, IIM Road, Lucknow-226013, India
Contact number – 8400482499, Email id - anirban@iiml.ac.in

Abstract

The study investigates birdwatcher tourists' motivating factors, emphasising their inclination for engagement in sustainable practices aligned with ecotourism principles. Using a mixed-method research methodology, qualitative and quantitative analysis is undertaken with birdwatcher tourists who annually engage in at least two dedicated birding trips. The hypotheses are tested through two-step structural equation modelling (SEM) using 365 responses collected using a self-administered questionnaire. This study enhances the current body of knowledge by identifying the factors that drive individuals to participate in eco-avitourism. The findings will provide valuable guidance to tour managers, enabling them to better cater to the interests of eco-avitourists and encourage sustainable practices that correspond with their values.

Keywords: avitourism, ecotourism, birdwatching, drivers, structural equation modelling

Introduction

Birdwatching tourism, also known as avitourism, has seen a significant rise in demand in recent years (Tan et al., 2023), making it one of the fastest-growing segments in the tourism industry (Janeczko et al., 2021). The availability of guided tours has made it easier for bird enthusiasts to interact with wild birds more frequently and meaningfully (Kutzner, 2019). From a sustainability perspective, birdwatchers are often seen as empathetic individuals who actively support conservation efforts (Gupta et al., 2019).

Ecotourism, on the other hand, is a form of tourism that emphasises visiting natural areas to learn about ecosystems while minimising environmental impact (Fennell, 2001). It has gained widespread support as a way to promote environmentally conscious practices and foster sustainable development in tourist destinations (Boley & Green, 2016). The core idea is to reduce the negative effects of tourism on natural resources and local communities while offering enriching educational and cultural experiences for travellers (Ruhanen, 2019).

Avitourism is often regarded as a subset of ecotourism thanks to its potential for minimal environmental impact, its contribution to conservation, and its ability to provide unique learning experiences (Eyster et al., 2023). This immersive experience not only offers adventure and excitement but also cultivates a deep sense of appreciation and conservation for the natural world (Ginantra et al., 2022). Consequently, many birdwatching enthusiasts are now consciously embracing sustainable and responsible tourism practices to help protect bird habitats and ensure the welfare of these incredible creatures (Aas et al., 2023).

Research suggests that birdwatchers can indeed be viewed as ecotourists, as they focus on observing birds in their natural environments while actively contributing to preserving avian species and their ecosystems (Kruger & Viljoen, 2023). Additionally, birdwatchers often support local communities by engaging in eco-friendly practices and promoting sustainable

tourism initiatives, which aligns closely with the characteristics of an ecotourist (Gupta et al., 2019).

Despite this, research exploring the motivations behind birdwatching activities remains relatively limited (Chen & Chen, 2015; Conradie, 2016). There's a noticeable gap in the literature regarding fully understanding what drives birdwatcher ecotourists. It's clear that more in-depth exploration is needed to understand how avian observation intersects with ecotourism and the factors that contribute to this growing convergence.

This study aims to bridge the gap by exploring the ecotourism aspects of birdwatcher tourists. By delving into their motivations, we hope to gain valuable insights into their specific interests, which can help create tailored experiences that truly resonate with them. Moreover, these findings can highlight the positive impact birdwatchers have on local ecosystems, potentially encouraging further investment in tourism infrastructure and fostering a cycle of sustainable tourism growth.

For this exploration, we'll use the term 'eco-avitourism' to describe instances where birdwatching practices align with the core principles of ecotourism.

Methodology

We aim to explore the causal relationship between the factors driving participation in eco-avitourism and how these motivations translate into actual behaviour at the site. To do this, we have employed the Structural Equation Modelling (SEM) approach, which is well-suited for examining the causal links between underlying variables in our research hypotheses. SEM is recognised for its robustness, especially when it comes to uncovering connections between variables that aren't directly observable or measurable (Hancock, 2018).

Since all the variables in this study are latent and can only be assessed indirectly through observable indicators, SEM stands out as an ideal method for this investigation (Khalek & Chakraborty, 2022).

To gather the necessary data for the SEM analysis, we conducted a survey using a self-administered questionnaire. Drawing from our existing literature, we identified eight key constructs and adapted measurement scales from previous studies. To ensure accuracy and address potential concerns associated with single-item evaluations, we employed multi-item measures for each construct (Churchill, 1979).

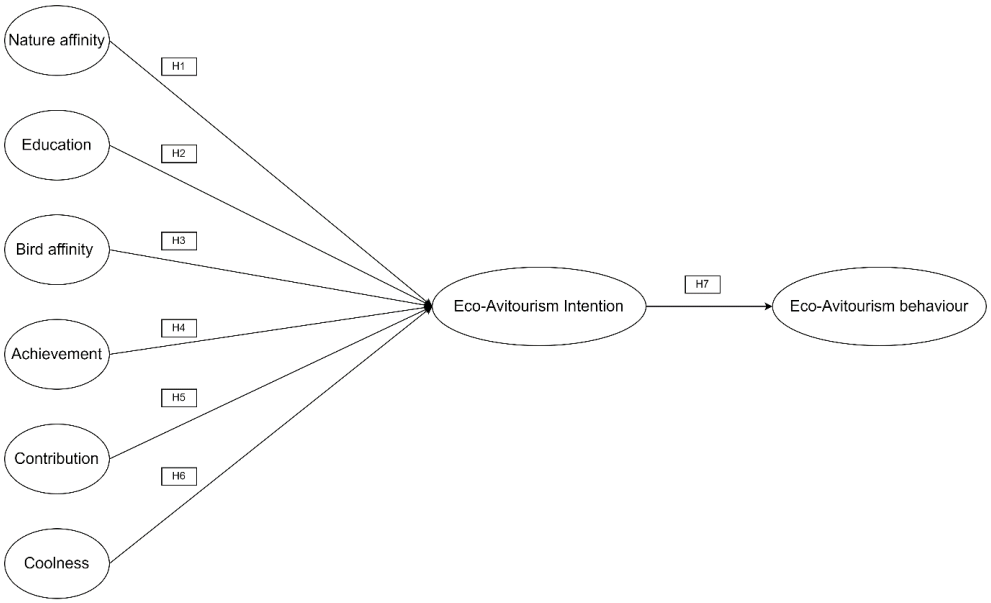

Figure 1. Conceptual Model

Study

We collected a total of 380 responses through both online and offline channels. To gather data, field research was conducted in various birdwatching tourist destinations, including the Sunderban Tiger Reserve, Goa, and Nainital. Bird enthusiasts at these locations provided contact information for other enthusiasts, to whom the questionnaire was then sent electronically.

An initial data screening was performed to identify any outliers, such as extreme responses where participants consistently chose the same value for every item. As a result, we excluded 11 outliers and 4 cases in which respondents reported participating in fewer than two birdwatching trips per year, leading to a final sample size of 365 responses.

To determine the appropriate sample size, we followed Hoelter's (1983) guideline, which recommends a minimum of 200 samples. Additionally, we used G*Power software version 3.1.9.7 (Faul et al., 2009) to calculate the minimal sample size while accounting for statistical power and effect size. Based on a model with a power of 95%, an effect size of 0.10, and an error probability of 0.05, the minimum sample size required was 236. With 365 valid responses, our sample size is more than sufficient for this model.

We assessed data normality using skewness and kurtosis values, as recommended by Kline (2023). The absolute skewness and kurtosis values for the indicators were below 3 and 10, respectively, indicating that the data followed a normal distribution (Xu et al., 2023).

Data analysis was conducted using SPSS 24.0 and Amos 29.0 software. To evaluate the proposed conceptual framework, we carried out a two-step Structural Equation Modelling (SEM) analysis, following the methodology suggested by Anderson & Gerbing (1988) and Kline (2023).

Given that the survey used a self-administered questionnaire at a single point in time, there was a potential risk of common method bias (CMB). To identify any such bias, we applied Harman's single-factor test (Podsakoff et al., 2003). The exploratory factor analysis showed that all items loaded onto a single factor, with the unrotated factor accounting for 28% of the data variance, well below the 50% threshold, confirming that common method bias was not a concern (Podsakoff & Organ, 1986).

We then conducted a Confirmatory Factor Analysis (CFA) to verify the reliability and validity of the measurement scales. The results indicated that the model's fit statistics were satisfactory, as all indices met the criteria recommended by Hair et al. (2010).

We assessed convergent validity through factor loadings and average variance extracted (AVE), internal consistency via composite reliability (CR) and Cronbach's alpha (Hair et al., 2020), and discriminant validity using two methods: the Fornell–Larcker Criterion (Fornell & Larcker, 1981) and the Heterotrait-Monotrait (HTMT) ratio (Henseler et al., 2015). In accordance with Hair et al. (2011), the path analysis is conducted using the bootstrapping method with 5,000 bootstrap resamples, and all seven hypotheses are supported.

Conclusion

This study enriches the existing literature by identifying the key drivers of eco-avitourism intentions and examining their influence on tourists' intended behaviours. While previous research has touched upon the motivations behind birdwatching, there is a noticeable gap when it comes to understanding the perspectives of birdwatching tourists themselves. Our study delves into integrating birdwatching as a core element of ecotourism experiences. It aims to assess the ecotourism attitudes of birdwatcher tourists and investigate how their mindsets and behaviours align with those of eco-tourists. Specifically, we explore aspects such as their love for nature, inclination to learn, desire to support conservation efforts and contribute to society, interest in understanding local cultures, and commitment to supporting these communities economically.

References:

Aas, Ø., Jørgensen, F. M. O., Stensland, S., Reiertsen, T., & Dybsand, H. N. H. (2023). Your place or mine? Exploring birdwatching tourists' behaviour disturbing birds in a nature reserve. *European Journal of Wildlife Research*, *69*(3), 44. https://doi.org/10.1007/s10344-023-01678-y

Boley, B. B., & Green, G. T. (2016). Ecotourism and natural resource conservation: The 'potential' for a sustainable symbiotic relationship. *Journal of Ecotourism*, *15*(1), 36–50. https://doi.org/10.1080/14724049.2015.1094080

Buckley, R. C., Morrison, C., & Castley, J. G. (2016). Net Effects of Ecotourism on Threatened Species Survival. *Plos One*, *11*(2), e0147988. https://doi.org/10.1371/journal.pone.0147988

Chen, L.-J., & Chen, W.-P. (2015). Push-pull factors in international birders' travel. *Tourism Management*, *48*, 416–425. https://doi.org/10.1016/j.tourman.2014.12.011

Churchill, G. A. (1979). A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research*, *16*(1), 64–73. https://doi.org/10.1177/002224377901600110

Conradie, M. N. (2016). *Behavioural involvement in avitourism: An international case study*. https://www.semanticscholar.org/paper/Behavioural-involvement-in-avitourism%3A-An-case-Conradie/001464f705a4a0aa7e9a633a1b74d96adf7ecabd

Eyster, H. N., Naidoo, R., & Chan, K. M. A. (2023). Not just the Big Five: African ecotourists prefer parks brimming with bird diversity. *Animal Conservation*, *26*(4), 428–442. https://doi.org/10.1111/acv.12816

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fennell, D. A. (2001). A Content Analysis of Ecotourism Definitions. *Current Issues in Tourism*, *4*(5), 403–421. https://doi.org/10.1080/13683500108667896

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.2307/3151312

Ginantra, I. K., Muksin, I. K., Joni, M., & Yuni, L. P. E. K. (2022). Bird Diversity as a Support of Ecotourism Activities in the Mangrove Ecosystem of Lembongan Island Bali. *Journal of Environmental Management and Tourism*, *13*(7), Article 7. https://doi.org/10.14505/jemt.v13.7(63).04

Gupta, N., Everard, M., Kochhar, I., & Belwal, V. K. (2019). Avitourism opportunities as a contribution to conservation and rural livelihoods in the Hindu Kush Himalaya—A field perspective. *Journal of Threatened Taxa*, *11*(10), Article 10. https://doi.org/10.11609/jott.4911.11.10.14318-14327

Hair, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, *109*, 101–110. https://doi.org/10.1016/j.jbusres.2019.11.069

Hancock, R. O. M., Gregory R. (2018). Structural Equation Modeling. In *The Reviewer's Guide to Quantitative Methods in the Social Sciences* (2nd ed.). Routledge.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Khalek, S. A., & Chakraborty, A. (2022). "I like to use but do not wish to own": Exploring the role of de-ownership orientation in the adoption of access-based services. *Journal of Retailing and Consumer Services*, *67*, 103035. https://doi.org/10.1016/j.jretconser.2022.103035

Kruger, M., & Viljoen, A. (2023). Bird(er)s of a feather? A typology of birders to South African national parks based on their behavioural involvement. *Annals of Leisure Research*, *26*(1), 1–26. https://doi.org/10.1080/11745398.2020.1813041

Kutzner, D. (2019). Environmental change, resilience, and adaptation in nature-based tourism: Conceptualizing the social-ecological resilience of birdwatching tour operations. *Journal of Sustainable Tourism*, *27*(8), 1142–1166. https://doi.org/10.1080/09669582.2019.1601730

Lee, C.-K., Lee, J.-H., Kim, T.-K., & Mjelde, J. W. (2010). Preferences and willingness to pay for bird-watching tour and interpretive services using a choice experiment. *Journal of Sustainable Tourism*, *18*(5), 695–708. https://doi.org/10.1080/09669581003602333

Ruhanen, L. (2019). The prominence of eco in ecotourism experiences: An analysis of post-purchase online reviews. *Journal of Hospitality and Tourism Management*, *39*, 110–116. https://doi.org/10.1016/j.jhtm.2019.03.006

Tan, X., Yan, P., Liu, Z., Qin, H., & Jiang, A. (2023). Demographics, behaviours, and preferences of birdwatchers and their implications for avitourism and avian conservation: A case study of birding in Nonggang, Southern China. *Global Ecology and Conservation*, *46*, e02552. https://doi.org/10.1016/j.gecco.2023.e02552