Title: The Role of Technology in Sustainable Tourism in the UK

Student ID

Module Code:

Module Title:

Word Count:

University

Date

3. Chapter Three. Research Methodology

3.1. Introduction

The current section demonstrates the methodology used to research how technology impacts UK permanent tourism. A systematic research design proves essential to produce reliable data about digital technology involvement in tourist field stability. The investigation depends on qualitative research methods and secondary information from academic publications, government reports, and industry boards. A professional within the field of exploration uses theme analysis techniques to interpret research findings from this piece of work. Saunders et al. (2019) provide researchers with a systematic structure called the research onion model, which helps select philosophy, approach, strategy, choice and time horison. The research addresses ethical questions about data protection and purity (Saunders, 2009).

3.2. Methodological Framework: Application of the Onion model

The research study implements the research onion model Saunders et al. (2019) developed, which is commonly used within trade and tourism research frameworks. The research model comprises six layers: research philosophy and method, strategy and alternatives, time horisons and techniques, and procedures. Each study team receives a systematic application for building a robust research design which meets the defined research objectives (Deshpande and Magerko, 2024).

3.2.1 Research Philosophy

The present study adopts a positivist research philosophy because such philosophy commonly appears when research utilises empirical data and methodological Analysis. Positive research focuses on actual events, and its primary goal is to detect patterns between studied empirical facts. The standard function applied in this research allows for an organised assessment of existing publications, the latest data reports, and technological trends in sustainable tourism (Mardiana, 2020).

The recognition of frequent subjects and research-based patterns becomes more achievable because of positive Analysis in secondary research examinations. Assessments of digital technologies on permanent tourism practices in the UK through quantitative data and objective Analysis meet both validity and reliability requirements. In addition, a positive attitude provides a systematic disposition to assess stability projects to facilitate comparisons in different tourist areas.

3.2.2 Research Approach

This study employs inductive inquiry to develop concepts rather than evaluate faith. Research should utilise an educative method to examine how technology affects permanent tourism rather than validate a basis. Instead of official records, the research uses secondary sources, including educational literature, industrial reports, and qualitative insights for numerical data, trends, and topics (Azungah, 2018).

The research employs a motivating strategy to identify new trends and approaches to digital tools, AI-powered suggestions, and smart tourist apps. This refers to pre-functioning tourism research on technological development and environmental protection.

3.2.3 Research Design / Strategies

Exploratory research is commonly used to comprehend books or complicated occurrences. Discovery is used because technology-driven durable tourism is dynamic and progresses, affecting company and passenger adoption (Awwad and Akroush, 2016).

Discovery is ideal for qualitative secondary data analysis to uncover trends, issues, and possibilities. This study examines industrial numbers, educational literature, and case studies to outline the stability initiative for British tourism using technology. Discovery Research permits flexibility and adaptability, ensuring the research contains the newest braking technology.

3.2.4 Research Choices

This study employs qualitative data collection and Analysis using a mono-method qualitative research design. Qualitative approaches are suitable for studying complicated issues like digital transformation for sustainability. Secondary source analysis lets researchers blend policymaker, industry, and researcher perspectives (Sutton and Austin, 2015).

Through its inductive methodology, qualitative research may find new topics without numerical validations. Qualitative Analysis is helpful for tourist research since it tackles human components, including experiences, business strategies, and policy formulation.

3.2.5 Time Horison

Since researchers analyse data throughout one period, the study uses a specified time window. This technique is relevant since the study analyses current academic and industrial literature on technology-based sustainable tourism.

The cross-sectional approach gathers UK tourism technology advances, which enhances the study. Due to quick digital technology and improvements in sustainability initiatives, new data analysis enables academics to offer insights relevant to current tourist concerns (Spector, 2019).

3.3. Research Methods:

3.3.1 Type of Data:

The study uses secondary sources such as academic journals, government records, sector-specific publications, and policy papers. Secondary data offers broad subject analysis without original data gathering by giving rich topic knowledge.

VisitBritain, DCMS, and the UNWTO publish international and domestic sustainable tourism trends. Using real-world examples, Google Travel, Skyscanner, and Sustainable Aviation analyse technology's influence on sustainable tourism (Baas et al., 2020).

3.3.2 Sampling Design:

This study uses secondary data, and researchers cannot sample people directly. Purposive sampling selected peer-reviewed, high-quality, and reliable data from trustworthy sources for the research. Only academic, government, industrial, and policy articles are used in this Analysis. When selecting sources, dependability, current publication date, sustainable tourism, and technological content relevancy are considered (Campbell et al., 2020). Since Google Scholar, ScienceDirect, Emerald Insight, and UK Government websites improve the quality and validity of findings, the research uses them.

3.3.3 Describe systematic data collection steps

The data collection method requires rigorous evaluation of academic databases, government research, and industry whitepapers to discover high-quality, relevant sources. Google Scholar, ScienceDirect, Emerald Insight, and the UK Government's tourism site provide data for the research. The research defined search criteria using four keywords: "technology in sustainable tourism," "smart tourism," "AI in tourism sustainability," and "digital transformation in tourism". The research uses current authoritative sources published within five years to achieve reliable study findings.

3.4 Analytical Techniques

The research uses theme analysis to analyse secondary data qualitatively. Thematic Analysis helps researchers find trends and repeated subjects in tourism technology-based sustainable practices studies. This digital innovation assessment method delivers structured insights into UK sustainable tourism progress (Clarke, 2021).

Grouping qualitative data into code groups and finding common themes is the technique. The project uses innovative tourism development and big data analytics for resource management and consumer reactions to sustainable tourism practices to address four critical AI sustainability concerns. When applied to topic category structure analysis, it helps researchers understand technological sustainability in a structured way. The research method provides strong validity to this study by delivering essential knowledge about sustainable tourism development alongside digital transformation.

3.5 Ethical Considerations

Since the study depends on secondary data only, it does not require participant agreement because no human subjects are present. The research must prioritise ethical conditions because protecting data privacy, intellectual property rights, and research integrity involves focus. The study draws data exclusively from peer-reviewed documents publicly available through authorised sources, official government reports, academic journals, and industrial publications. The paper applies recognised protocols for proper author credit attribution while minimising plagiarism occurrences (Vicars et al., 2015).

The study project does not require informed consent documentation because it contains no primary data. Protection of data security and confidentiality under UK GDPR, together with the Data Protection Act 2018, provides ethical oversight to the research use of secondary data sources.

The methods of data interpretation by researchers sometimes lead to ethical complications because they might present false findings. Critically assessing sources' reliability, trustworthiness, and impartiality helps the researcher overcome these limits. The research is transparent and academically honest by not altering secondary data sources. The study does not change secondary data, maintaining openness and educational integrity.

3.6 Chapter Summary

This chapter elucidates the selected research technique, integrating positivist philosophy, an inductive approach, exploratory design, and mono-method qualitative research. The secondary data gathering used a cross-sectional time frame, with theme analysis employed as the approach for analyding the results. Research integrity rules were implemented as a component of the ethical concerns during data gathering. This created framework facilitates robust circumstances for investigating UK sustainable tourism technology via data examination in the subsequent chapter.

References

Awwad, A. and Akroush, Dr.M.N. (2016). New product development performance success measures: exploratory research. *EuroMed Journal of Business*, 11(1), pp.2–29. doi:https://doi.org/10.1108/emjb-12-2014-0043.

Azungah, T. (2018). Qualitative research: Deductive and Inductive Approaches to Data Analysis. *Qualitative Research Journal*, 18(4), pp.383–400. doi:https://doi.org/10.1108/QRJ-D-18-00035.

Baas, J., Schotten, M., Plume, A., Côté, G. and Karimi, R. (2020). Scopus is a curated, high-quality bibliometric data source for academic research in quantitative science studies. *Quantitative Science Studies*, 1(1), pp.377–386. doi:https://doi.org/10.1162/qss_a_00019.

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D. and Walker, K. (2020). Purposive sampling: Complex or simple? Research Case Examples. *Journal of Research in Nursing*, [online] 25(8), pp.652–661. doi:https://doi.org/10.1177/1744987120927206.

Clarke, V. (2021). Thematic Analysis: A Practical Guide. *Thematic Analysis*, [online] pp.1–100. Available at: https://www.torrossa.com/it/resources/an/5282292 [Accessed 15 Mar. 2025].

Deshpande, M. and Magerko, B. (2024). *Holistic Approach to Design of Generative AI Evaluations: Insights from the Research Onion Model*. [online] Available at: https://hai-gen.github.io/2024/papers/5120-Deshpande.pdf [Accessed 15 Mar. 2025].

Mardiana, S. (2020). *Modifying Research Onion for Information Systems Research*. [online] Available at: https://www.researchgate.net/profile/Siti-

Mardiana/publication/359542575_Modifying_Research_Onion_for_Information_Systems_Research/links/62432dc07931cc7ccf033406/Modifying-Research-Onion-for-Information-Systems-Research.pdf [Accessed 15 Mar. 2025].

Saunders, M. (2009). Research methods for business students. *Pearson education*.

Spector, P.E. (2019). Do Not Cross Me: Optimising the Use of Cross-Sectional Designs. *Journal of Business and Psychology*, [online] 34(2), pp.125–137. doi:https://doi.org/10.1007/s10869-018-09613-8.

Sutton, J. and Austin, Z. (2015). Qualitative Research: Data Collection, Analysis, and Management. *The Canadian Journal of Hospital Pharmacy*, [online] 68(3), pp.226–231. doi:https://doi.org/10.4212/cjhp.v68i3.1456.

Vicars, M., Steinberg, S.R., Mckenna, T. and Cacciattolo, M. (2015). *The Praxis of English Language Teaching and Learning (PELT): a Beyond the Binaries: Researching Critically in EFL Classrooms*. Leiden; Boston: Brill | Sense, pp.55–73.