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Original Article

Tourism Value Chain Determinants of Destination Competitiveness in Tanzania: Mediating Role of Mobile Application

Thereza Mugobi¹*

¹ Open University of Tanzania, P. O. Box 23409, Kinondoni, Tanzania.

* Author for Correspondence ORCID ID: <https://orcid.org/0000-0002-8707-6782>; Email: tmugobi@gmail.com

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Keywords:

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Mobile Application,
Destination
Competition.

This study seeks to explain the mediating effect of mobile application usage on the relationship between determinants of the tourism value chain and destination competitiveness. Employing a positivist philosophy, the research utilized an explanatory design based on a deductive approach. Three hundred and twenty questionnaires were distributed to tourists who visited Serengeti National Park, resulting in 238 usable responses for subsequent analysis. Data collection employed non-probability (purposive) and probability (stratified) sampling techniques, relying on primary and secondary data sources. Structural Equation Modeling (SEM) was conducted using AMOS software to analyze the relationships among the variables and test the mediating effect of mobile application usage on pre-travel, during-travel, and post-travel experiences; Structural Equation Modeling (SEM) was conducted using AMOS software. The primary finding of this study indicated partial mediation between mobile application usage and the relationship between pre-travel and post-travel experiences on destination competitiveness. Conversely, a full mediation effect was observed between mobile application usage during travel and destination competitiveness. This research contributes to theoretical discourse by providing empirical evidence on concepts related to pre-travel, during-travel, and post-travel experiences that require further investigation within the Tanzanian context. Implementing an official mobile application is essential to enhance Tanzania's competitiveness relative to other African destinations. Furthermore, this model may be utilized in comparable tourist destinations across Africa, enabling a comparative analysis with existing findings and fostering the development of more robust theoretical frameworks.

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INTRODUCTION

Adopting information and communication technology (ICT) has transformed the tourism and travel industry, significantly changing individual behaviours and organizations (Bakar *et al.*, 2020). Over 92% of travel information searches are online, giving individuals unprecedented access to resources that influence their decisions. Understanding how internet usage impacts search behaviour for tourist destinations is crucial for industry stakeholders and policymakers (Oke, 2023). As a result, developed countries effectively leverage ICT, particularly mobile applications, to promote their destinations, with tourists appreciating these tools' benefits and customization (Estrada, 2022). Consequently, global internet usage in travel and tourism has surged.

To remain competitive in destination marketing, Tanzania must improve its adoption of ICT, mainly through mobile applications. Tanzania boasts a diverse array of mobile applications, essential for expanding market reach and enhancing the efficiency and effectiveness of business operations. The impact of mobile application usage on business performance is largely contingent upon the extent of its integration into the organization's critical value-chain activities (Christian, 2015). However, the existing mobile applications do not encompass all the essential elements required for creating a comprehensive tourism destination, such as accommodation, activities, amenities, attractions, and accessibility (Respatyanti, 2019). Insufficient investment in innovation and infrastructure development undermines the potential for progress and growth in the tourism industry. Research indicates that mobile internet users in Tanzania experience a 20% higher level of pressure than stationary internet users, reporting a

20% decrease in relaxation. This data underscores significant differences in user experience based on the mode of internet access (Sürücü, & Maslakçi, 2020). Mobile internet users typically demonstrate lower to moderate levels of patience in comparison to stationary users, who are characterized by a higher degree of patience. This difference in patience levels may be attributed to the on-the-go nature of mobile usage, where users often seek quick access to information and services.

In contrast, stationary users, such as those utilizing desktop or laptop devices, may engage in more prolonged and detailed interactions. Understanding these distinctions can provide valuable insights into user behaviour and help optimize digital experiences for varying contexts. The continuously changing business environment presents many challenges to tourism destinations, specifically those that need to efficiently and effectively utilize ICT through Mobile applications to meet the universal international destination standards and increase the information supply (Kibria, & Nayeem, 2023). Therefore, tourism destinations must set out critical measures to ensure the effective and efficient use of mobile applications to gain international visibility (Kim, & Kim, 2017). One way to achieve this goal is through focusing on applications that support destination management with the possibility of reaching more tourists in direct ways, such as online marketing, distribution of tourism products, and managing and corroding stakeholders involved in the creation and delivery of tourism products, hence achieving competitive advantage (Adukaite et al., 2016).

The increasing adoption of digital connectivity, mainly through internet and mobile internet subscriptions, has opened up new opportunities for economies to tap into the growing digital

travel and tourism services industry. According to the World Economic Forum (2023), the number of mobile subscriptions per 100 people has increased from low to middle-income, indicating a significant shift in digital access. In the early 2000s, the adoption of mobile phones in low- and middle-income countries (LMICs) was slower compared to high-income countries (HICs). However, there has been a significant increase in mobile subscription rates in many LMICs in recent years, bringing them closer to the rates in HICs (Kibria, & Nayeem, 2023). The recent trend highlights significant progress in mobile phone accessibility and usage in LMICs, offering tourism and travel service providers valuable online services and marketing opportunities. However, the World Economic Forum has identified a critical need for improved mobile application adoption in Sub-Saharan Africa. As travellers increasingly rely on technology, attracting visitors is essential. Additionally, East Africa shows a considerable gap in Information and Communication Technology (ICT) readiness, signalling a need for targeted efforts to bridge this digital divide. Addressing these challenges can enhance the tourism experience and participation in the global digital economy (Štetić *et al.*, 2020; Starcevic, & Konjikušić, 2018).

The primary objective of this study is to explore the determinants of the tourism value chain and their impact on destination competitiveness, with a particular emphasis on the role of mobile application usage as a mediating variable. Utilizing a tourism value chain model, the study aims to enhance the effectiveness of tourism operations and provide exceptional travel experiences. This model is designed to inform strategic planning for industry leaders, facilitating value creation while minimizing costs (Calvignac & Smolinski, 2020). Although academic literature well-documented the relationship between various factors and mobile application usage, this study concentrates on the mediating role of mobile applications within the tourism value chain and their influence on destination competitiveness. To the best of the researcher's knowledge, no comprehensive study, either globally or

specifically in Tanzania, has examined how mobile application usage mediates the relationship between tourism value chain determinants and destination competitiveness. This underscores the significance of this study.

THEORETICAL UNDERPINNINGS

Tourism Model and Destination Competitiveness

The Tourism Value Chain model, introduced by Michael Porter in 1985, highlights the importance of creating and efficiently managing all components within the tourism industry to attain a competitive advantage. The competitiveness of tourism destinations relies on their ability to offer superior tourism products and services compared to other destinations (Kim, & Kim, 2017). Various factors, such as the business environment, infrastructure, laws and regulations, and available resources, contribute to the competitiveness of the tourism industry (Susanti, & Amelia, 2021). To maintain a destination's competitiveness, it is crucial for the government to continuously enhance tourism offerings by developing new destinations and products and improving the dissemination of information to potential tourists (Bishar, & Robertine, 2023). This model comprises three variables: pre-travel experience, during-travel experience, and post-trip experience, which facilitate the provision of information to tourists (Kim, & Kim, 2017). This allows for identifying a destination's relative strengths and weaknesses, aiding the industry and government in increasing tourism numbers (Rahmiati *et al.*, 2019). Therefore, mobile applications are vital in mediating these variables within the tourism value chain model to gain a competitive advantage.

Pre-Travel Experience and Destination Competitiveness

In the pre-travel phase, tourists actively seek information about their prospective travel destinations, culminating in evaluating their experiences following their trip (Cretu *et al.*, 2021). During this phase, travellers consider various alternatives before deciding on their

destination. Mobile applications are crucial in facilitating access to this information, as they offer comprehensive and accurate insights related to pre-travel activities, essential goals, and other pertinent details that travellers require before departure (Milićević *et al.*, 2020). According to a survey conducted by Booking.com in 2020, which included responses from 20,000 travellers across 28 countries, 51% of the respondents indicated that they draw inspiration for their vacations through online resources. Additionally, 35% desired online travel booking platforms to provide reward points that encourage sustainable choices, which could be redeemed for complimentary perks and discounts.

Furthermore, 29% preferred clearer signposting on travel booking websites to identify sustainable options, while 28% anticipated travel companies offering helpful travel tips. The survey also highlights that 55% of travellers are enthusiastic about the potential for technology to personalize their travel experiences in the future, and 53% are interested in technological solutions that enable last-minute reservations. Following the lifting of lockdowns, 65% of travellers expressed a renewed excitement for travel. Other important factors identified by Travelport in 2022 include a simple online booking process, which 61% of travellers prioritized, and 58% requested a faster booking experience, with 66% explicitly noting this need among leisure travellers.

Albayrak *et al.* (2021) examined mobile application user behaviour in the context of travel planning and booking in Turkey. Their research highlighted that the service quality dimension of mobile applications significantly influences users' intentions when booking a destination. Similarly, Stetic *et al.* (2021) explored the role of mobile applications as a strategic tool for goal achievement and development, identifying a positive correlation between mobile application usage and the development of destination products. Furthermore, Lee *et al.* (2021) investigated travellers' adoption of mobile applications to access information about their desired destinations. The findings indicated that

various factors, including perceived usefulness, perceived ease of use, the e-service escape environment, and electronic word-of-mouth (eWOM) communication, play a crucial role in shaping the impact of mobile users on tourism-related factors.

Travel itineraries can be tailored to enhance the tourist experience, providing alternatives to conventional offerings from travel agencies. In the pre-travel phase, mobile applications facilitate connections between travellers and local merchants, allowing for more efficient booking processes that can help minimize payment gateway and bank fees (Christian, 2015). Promotional offers can be redeemed directly through these local merchants, contingent upon the specific terms of each offer. Contributors on the platform will specify the minimum consumption requirements for various products or services shared within the itinerary, enabling users to obtain a more precise budget estimation.

Moreover, the mobile application enhances user engagement by allowing individuals to upload and view 360-degree photos and videos. This feature provides a more realistic depiction of the surroundings, offering deeper environmental insights and reducing the potential for misconceptions arising from static images (Tabi *et al.*, 2019). Based on the author's best knowledge, none of the studies has investigated the mediation effect of Mob App usage on the relationship between pre-travel experience (PRE) and destination competitiveness (PER). Thus, the hypothesis below is proposed: H1: Mob App usage mediates the positive effect of PRE and PER.

During Travel Experience and Destination Competitiveness

The travel experience represents the second stage of the model, during which travellers interact with various destination offerings, including transportation, accommodation, and attractions (Kim, & Kim, 2019). During this phase, tourists leverage mobile applications to navigate directions and explore various lodging options, such as hotels, boutique hotels, motels,

apartments, and resorts. This stage emphasizes the capacity of travellers to conduct ongoing research and make reservations while at their destination, supported by the accessibility and portability of Internet connectivity. Existing academic literature indicates that travelers' reactions to tourism practices are notably impacted by their expectations of the experience and overall satisfaction (Kim, & Kim, 2019).

From a technological perspective, some factors can improve the overall experience, like ensuring availability and reliable access to the Internet during one's trip. Once the Internet factor is in place, the focus shifts to providing valuable online content and information to help improve the overall travel experience, and when the tourist experience is met, it will bring a competitive advantage to the destination (Kim, & Kim, 2019; Rivera *et al.*, 2019). Utilizing a mobile application can significantly enhance the tourist experience. During the travel sessions, travelers are involved in tourism activities by consuming tourism products or services (Lugedo, 2021; Gunter, & Önder, 2015; Küçükaltan, 2016). The activities consumed could include buying tangible products such as arts and crafts, foods and drinks, and staying in a hotel. All these activities during the travel experience contribute to destination competitiveness (Okocha, 2021). A study by Calvignac, & Smolinski (2020) examined how using mobile applications changes the course of a sightseeing tour in Albi. The study suggested that mobile application usage during the travel session stage significantly modifies the planned walking pace and program—the outcome of modest benefit to the endpoint.

The research conducted by Potapkina (2017) highlighted that users of mobile applications demonstrate shared behaviours when using these tools for navigation and sightseeing during their travel experiences. In a separate study, Kim & Kim (2017) investigated the role of mobile technology in promoting sustainable tourism. Their findings indicated that mobile applications cultivate a sustainable competitive advantage and enhance competencies essential for intelligent

tourism. In this context, the quality of service provided through mobile applications emerges as a critical component for achieving competitive advantage. To date, there has been no investigation into the mediating effect of mobile application usage (Mob) on the relationship between user delight (DUR) and destination competitiveness (PER). Accordingly, the following hypothesis is proposed: H2: Mob App usage mediates the positive effect of DUR and PER.

Post-Travel Experience and Destination Competitiveness

The final stage of the tourism value chain model is centred on post-travel experiences, which play a crucial role in shaping tourists' overall satisfaction and loyalty. During this phase, a comprehensive evaluation occurs wherein travellers reflect on their experiences, and their perceptions are assessed based on the entirety of the tourism journey. This journey includes pre-travel preparations, experiences during the travel, and assessment of satisfaction and loyalty in the post-travel period (Rahmiati *et al.*, 2019). In this stage, travellers often report satisfaction and a profound sense of meaning from their tourism activities. This feeling can stem from personal reflections on the cultural, social, and physical experiences they encountered throughout their journey (Kim, & Kim, 2017).

These post-travel experiences are also frequently articulated and shared within personal or digital platforms, inspiring and motivating other prospective travellers. The conditions under which these experiences are shared can significantly influence the decision-making processes of future tourists. Furthermore, the travel cycle is deemed complete when individuals actively share their experiences through social media, travel blogs, or word-of-mouth conversations. This sharing phase extends the reach of the travellers' narratives. It contributes to the collective knowledge and inspiration within the travel community, thereby encouraging others to embark on their journeys. This dynamic interaction highlights the importance of post-

travel engagement in enhancing the overall tourism experience for future travellers (Larsen *et al.*, 2019; Altinay, & Kozak, 2021).

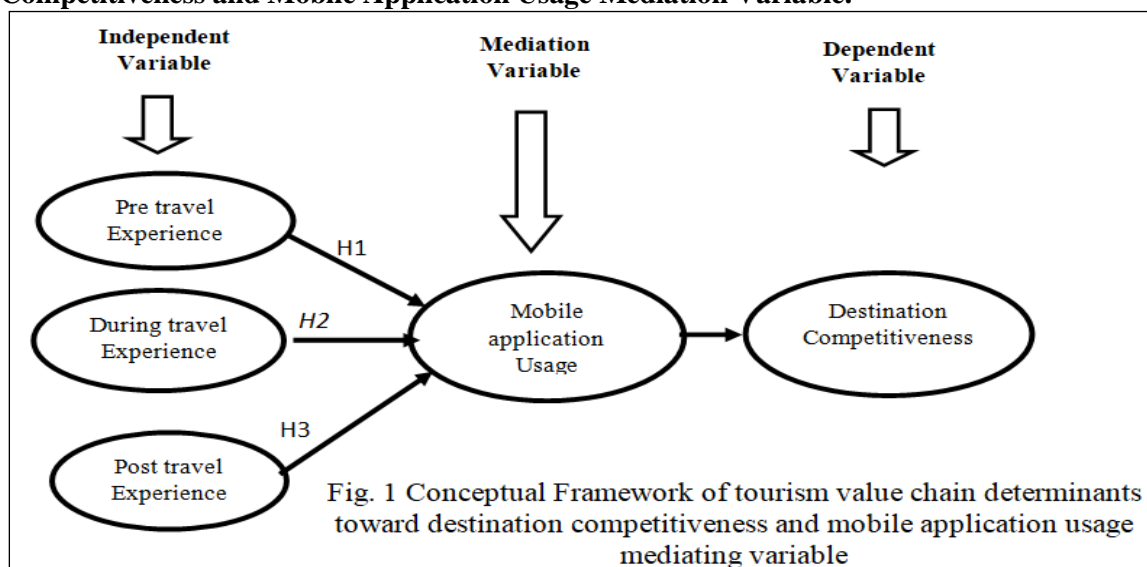
Mobile applications significantly enhance post-travel experiences by allowing travellers to share their trip photos. Social media platforms serve as a powerful tool for disseminating post-travel insights. Consequently, destination-related social media must be integrated with mobile applications (Liu *et al.*, 2020). Key factors to consider in this integration include the format, quality, and content of shared experiences. Travellers can also share their experiences through film footage of the destination, customer testimonials, and specific authentic moments captured using various media throughout their journey (Arica *et al.*, 2022). In an era where mobile applications play a crucial role in daily life, tourists increasingly utilize social media to communicate their experiences (Bishar, & Robertine, 2023). High-quality photographs capture moments and enable individuals to envision themselves at their desired destinations. To gain a competitive edge and deliver memorable travel experiences, it is imperative for destinations to integrate mobile applications across all stages of the value chain. Notably, there is a need for more research examining the mediating effect of mobile App usage (Mob) on the relationship between post-travel experience (POS) and destination competitiveness (PER). Accordingly, the following hypothesis is proposed: H3: Mob App usage mediates the positive effect of POS and PER.

Proposed Structural Model of the Study

The independent variables in this study consist of three constructs, namely, PRE, DUR, and POS,

adapted from earlier studies employing the tourism value chain model. Within this context, mobile application usage is proposed as a mediating factor that influences the relationship between identified determining factors and the dependent variable, destination competitiveness, as illustrated in Figure 1. In a significant study by Yuniawati, & Ridwanudin (2020), the researchers focused on measuring the quality of the tourist experience through the tourism value chain model framework. They structured their analysis around three distinct phases, utilizing descriptive research methods and verification techniques, particularly factor analysis, to analyze their data. The results demonstrated that the proposed model is both valid and reliable for assessing travel experiences and destination competitiveness, especially within the specific context of Tanzania.

Moreover, this theoretical framework integrates variables about mobile application usage, which play a critical role in mediating the relationship between the determining factors and destination competitiveness. The rationale for including mobile application usage as a mediating variable lies in providing a comprehensive explanation of how determinants within the tourism value chain impact destination competitiveness. The model's envisioned order suggests that mobile application usage depends on various determinants derived from the tourism value chain. This usage, in turn, is thought to enhance destination competitiveness, implying a sequential relationship rooted in the dynamics of modern tourism practices. The insights gained from this framework not only advance theoretical understanding but also offer practical implications for leveraging technology to improve competitiveness in the tourism sector.

Figure 1: Conceptual Framework of Tourism Value Chain Determinants towards Destination Competitiveness and Mobile Application Usage Mediation Variable.

METHODOLOGY

Design

This study employed an explanatory research design, as outlined by Muñoz (2019) and Saunders et al. (2009), to investigate cause-and-effect relationships. Yin (2011) highlights the goal of identifying causal links among relevant variables. The study sought to clarify how mobile application usage mediates the relationship between pre-travel, during-travel, and post-travel experiences on destination competitiveness, utilizing the Structural Equation Modeling (SEM). This approach is supported by its ability to analyze relationships among latent constructs (Kuo *et al.*, 2019) and estimate measurement error (Byrne).

Population and Sampling

This study targeted 320 tourists visiting Serengeti National Park from November to December 2022. A voluntary approach was employed to encourage participation. The park warden invited tourists to complete a questionnaire at designated intervals during their visit, facilitating direct engagement and subsequently enhancing the response rate. Three hundred and twenty questionnaires were distributed to collect comprehensive data regarding tourists' experiences and perspectives on using a mobile application to improve their overall experience at the destination. Of these, 238

valid and usable responses were retained for analysis, resulting in a robust dataset for the study.

Source of Data

This study gathered primary data through a self-administered structured questionnaire utilizing a drop-and-collect technique. This method involves providing respondents with the questionnaire and retrieving it upon completion. In this study, a thorough review of secondary data sources was conducted. Most publications were sourced from reputable databases, including Google Scholar, Taylor & Francis Online, Wiley Online Library, JSTOR, Freefullpdf, and Emerald. These databases were systematically searched using phrases such as "mediation effect of mobile application usage on the relationship between the tourism value chain and destination competitiveness," "Mobile application usage and destination competitiveness," "technology usage toward customer satisfaction," etc.

Validity and Reliability

Construct reliability was assessed using the "Master Validity Tool" within AMOS version 23. Construct reliability (CR) is a measure of internal consistency for latent constructs, with a threshold of $CR > 0.6$ required for composite reliability. In this study, all factor loadings exceeded the recommended 0.6, confirming adequate construct reliability per Neto *et al.*'s guidelines (2020).

Furthermore, the reliability of the mediating variable, Mobile App Usage, was evaluated using Cronbach's alpha coefficient through the SPSS software, as shown in Table 1. Mobile App Usage (MOB) was measured using seven items (MOB1 to MOB7), with three items excluded during

Exploratory Factor Analysis. Raimkulov *et al.* (2021) indicate an excellent reliability coefficient of around 0.90. The study produced an alpha coefficient of 0.953, demonstrating high reliability for this measure.

Table 1: Item Total Statistics for Mob App Usage Reliability Test

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha Coefficient	Cronbach's Alpha if Item Deleted
MOB1	20.37	15.583	.660	0.956	.891
MOB2	20.29	14.990	.769		.876
MOB3	20.55	15.371	.691		.887
MOB4	20.34	14.806	.747		.878

Statistical Treatment of Data

This study analyzed data using Structural Equation Modeling (SEM) and AMOS software version 23. As soon as the respondents provided the data, it was altered to increase accuracy, consistency, and completeness and simplify the coding exercise. SEM is a statistical method for assessing the relationship between two or more variables.

Ethical Considerations

In adherence to ethical standards, the researcher implemented principles outlined by M, & Hossei (2022), which include promoting voluntary participation, obtaining informed consent, and ensuring confidentiality. An introductory letter from a university articulated the research objectives and emphasized the commitment to safeguarding participants' information. The researcher demonstrated a strong ethical commitment to utilizing rigorous scientific methodologies. The research problem was clearly defined and substantiated by a comprehensive literature review. Throughout the reporting process, the study prioritized the integrity of the research design, diligently avoided statistical misuse, and rigorously addressed plagiarism

issues through appropriate citation and referencing.

RESULTS AND DISCUSSION

The study used indirect and direct structural or fully mediated models to examine hypotheses 1 to 3. This analysis sought to establish whether Mob App usage is a mediator between determining factors PRE, DUR, and POST and destination competitiveness (PER). The model fit results for the direct structural model without the mediator produced the following fit indices: CMIN/DF= 2.048, GFI = 0.593, TLI = 0.617, CFI = 0.654, and RMSEA=0.148.

Secondly, the study obtained the direct effect's standardized regression weights and probability values, indicating the respective path's significance (Table 1). The model fit results for the structural model with the mediator are CMIN/DF 2.174, GFI = 0.542, TLI = 0.547, CFI = 0.585, and RMSEA=0.156. This confirms that the structural model is appropriate for explaining the mediation effect of Mob App usage on the relationship between determining factors and destination competitiveness (PER), as shown in Table 2.

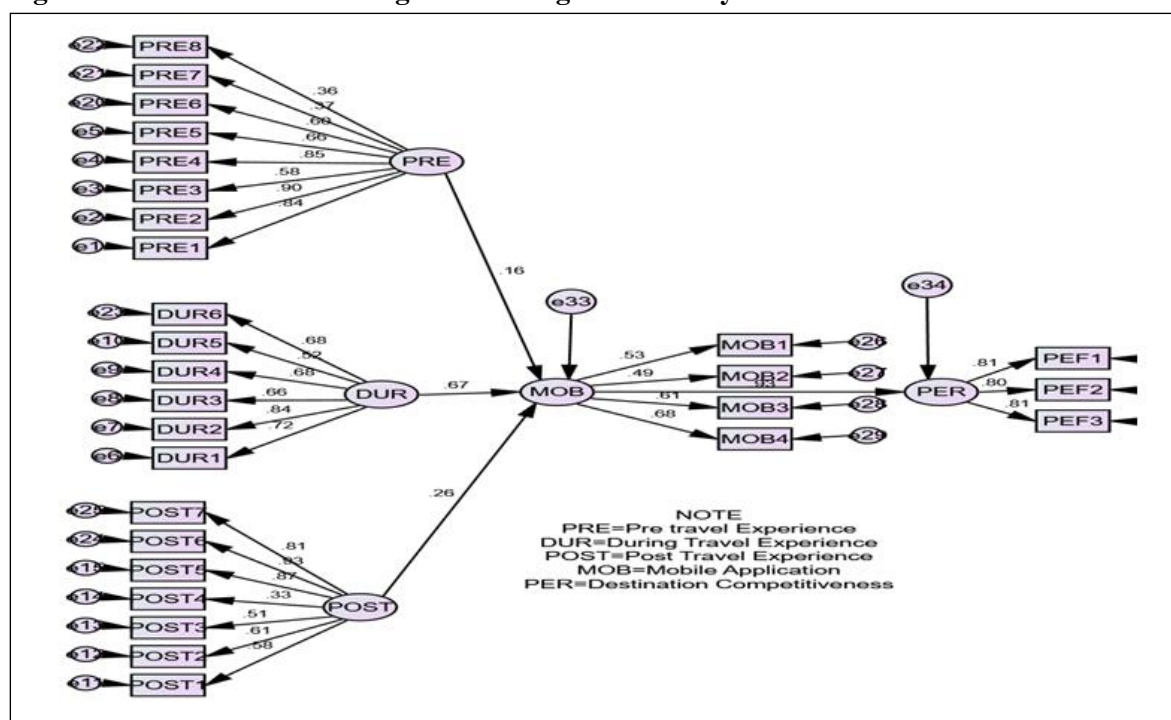
Table 2: Standardized Regression Weights

			Estimate	S.E.	C.R.	P
PER	<---	PRE1	2.339	.097	24.088	***
PER	<---	PRE2	2.306	.099	23.386	***
PER	<---	PRE3	2.500	.137	18.289	***
PER	<---	DUR1	2.306	.100	23.077	***
PER	<---	DUR4	2.371	.099	23.993	***
PER	<---	DUR6	1.000			
PER	<---	POST1	1.271	.172	7.395	***
PER	<---	POST4	1.594	.185	8.594	***
PER	<---	POST6	1.380	.174	7.948	***

Structural Model Results

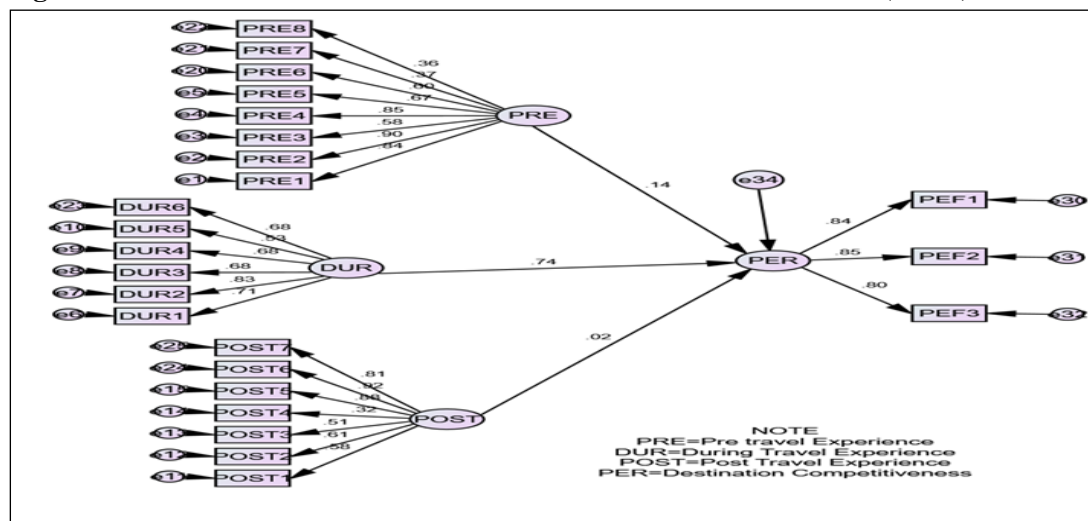
In testing the structural model for the overall sample, the analysis started by evaluating goodness-of-fit indices. The model met the

recommended guidelines for the goodness of fit (CMIN/DF = 2.174, RMSEA = 0.156, GFI = 0.542, CFI = 0.585, TLI = 0.547, as shown in Figure 2.

Figure 2: The Standardized Regression Weights for Every Path in the Model.

In testing for mediation, the initial process involved the removal of the mediator's Mobile usage (MOB). A direct effect of the travel value chain model variable (PRE, DUR, POST) on destination competitiveness (PEF) indicators was significant. The model produced the following indices: CMIN/DF = 2.048, GFI = 0.593, TLI = 0.617, CFI = 0.654, and RMSEA = 0.148; thus, the

model fit confirms the suitability of the structural model to explain the mediation effect of Mobile application usage on tourism value chain toward destination competitiveness as appears in figure 3. The magnitude of the direct impact indicated the path coefficient from PRE to PEF (.14), DUR to PEF (.74), and POST to PEF (.02).

Figure 3: The Structural Model for Direct Effect Without a Mediator (MOB).

When Mobile application usage was included in the model, the magnitude of the path was as follows: PRE to MOB (.16), DUR to MOB (.67), POST to MOB (.02), and MOB to PEF (.01).

The Mediation Test for Both Direct and Indirect Effects with Mediator

The structural model is executed to test for direct and indirect effects with a mediation variable of the MOB App. This process was intended to test for direct and indirect effects. This is followed by confirmation of model fit to ascertain the estimates' legitimacy. The model fit results for the structural model with the mediator are CMIN/DF 2.174, GFI = 0.542, TLI = 0.547, CFI = 0.585, and RMSEA=0.156. This confirms that the structural model is appropriate for explaining the MOB App Usage's mediation effect on the relationship between tourism value chain determinants and destination competitiveness (PEF). Results from the direct impact before mediation, where PRE has a direct relationship with PER, supported the study by having a significant positive relationship between PRE and PER ($\gamma = 0.143$, $p = 0.000$). However, when the mediator entered the model, the strength of the direct effect increased while the relationship was significant ($\gamma = 0.160$, $p = 0.041$). Thus, partial mediation occurs, and H1 is supported.

The findings are similar to those of Liu *et al.* (2021), who found that pre-travel experience through destination websites influences

destination marketing. Likewise, Rejoice Okocha *et al.* (2021) found that from pre-travel experience, tourists form trust with the endpoint, and hence, endpoint attractiveness significantly impacts tourists' beliefs. Through pre-travel experience, tourists become advocates of the destination, thus resulting in destination competitiveness. In line with the above, Larsen *et al.* (2019) found that pre-travel experience through destination websites influences destination competitiveness. Destination competitiveness among African destinations is increasing, and tapping the dimensions of factors influencing destination competitiveness is invaluable. Therefore, pre-travel information should have strong content with unique attractions that affect tourists. Providing data regarding interests and activities is a critical dimension contributing to destination competitiveness during the pre-travel experience, Muñoz (2019). Larsen *et al.* (2005) found that pre-travel experience tourists develop knowledge of a destination through the online content search that the traveller engages in while planning a trip.

The study also examined the MOB App usage mediating the relationship between DUR and destination competitiveness (PER). Results from the direct effect before mediation, where DUR has a direct relationship with PER, supported the study. The relationship between DUR and PER was positive and significant ($\gamma = 0.20$, $p = 0.007$) when the mediation entered the model, and the

strength of the direct effect increased. The relationship was slightly meaningful ($\gamma = 0.204$, $p = 0.006$); thus, MOB App usage fully mediates the relationship between DUR and PER, and H2 is supported. These findings are consistent with Oke (2023), who showed that during the trip experience, tourists develop personal enrichment with the destination through a mobile application. Muñoz (2019) found that, through mobile applications during the trip experience, tourist suppliers rate natural attractiveness, cultural attractiveness, and human resources as critical dimensions contributing to the competitiveness of Zimbabwe. During travel experiences, with the help of mobile applications, tourists develop a positive image of their destination. Thus, it increases destination performance (Akhoondnejad, 2015).

The relationship between POST and PER was positive and significant ($\gamma = 0.182$, $p = 0.034$) when the mediation entered the model; the strength of the direct effect did not change and dropped while the relationship was significant ($\gamma = 0.182$, $p = 0.033$); thus, MOB App usage would partially mediate the relationship between POST and PRE, and therefore, H3 is supported. These findings are similar to Milićević (2020), who found that post-travel experience through mobile application has an unforeseen good impact on the international tourism receipts in a destination. Lee *et al.* (2021) found that post-travel experience through mobile application has a good result on return visitors; mobile application within a goal plays a significant role in tourism development and, therefore, is an inevitable part of the tourism industry's expansion (Zengeni, & Chaneta, 2018).

Managerial Implication

The results of this study indicate that the utilization of mobile applications clearly and meaningfully facilitates the relationship between tourism value chain factors and end-point citizenship in Tanzania. Mobile application usage transforms tourism destinations and acts as a change agent within the country and internationally, providing expert information and knowledge transfer to public and private

organizations about the tourism industry in the country.

Mobile application usage generates inventive experiences for consumers, fosters a sustainable competitive advantage for tourism destinations and tourism-related suppliers, and creates sustainable competencies for intelligent tourism. Mobile application travel experience influenced by the three tourism value chain determinants is appropriate for categorizing tourists based on destination competitiveness attributes. With the changing tourism demand, Bishar, & Robertine (2023) recognized that 60% of queries for travel destination information come from mobile devices. 69% use the mobile application to find travel inspiration, 46% to find directions, and 45% to compare deals provided by Target. 52% of Facebook users said their friends' photos inspired their travel plans.

CONCLUSION AND RECOMMENDATIONS

Our initial research hypothesis sought to examine the mediating role of mobile application usage in enhancing the positive impact of pre-travel information (PRE) and destination competitiveness (PER). Consequently, our study posits that the strategic utilization of mobile applications to deliver PRE to tourists plays a crucial role in augmenting a destination's visibility on the international stage and significantly contributes to shaping a positive image of the destination. Utilizing mobile applications within the tourism industry has afforded destination management organizations a direct avenue for engaging with tourists and prospective visitors. This allows for effective online promotion and marketing, streamlined distribution of tourism products, and enhanced management and coordination among all stakeholders involved in developing and delivering tourism offerings (Adukaite *et al.*, 2016). Furthermore, our research investigated how mobile application usage mediates the positive effects of duration experience (DUR) on destination competition (PER). The findings suggest that mobile application usage fully mediates the relationship

between DUR and PER. This outcome underscores the imperative for decision-makers to effectively leverage mobile application usage to enrich visitor experiences, particularly in destinations that may be less familiar with information and communication technology (ICT). These applications need to be compatible with existing systems.

Additionally, our third hypothesis aimed to explore the mediating effect of mobile application usage on the relationship between post-travel feedback (POST) and destination competitiveness (PER). The results indicated that mobile application usage partially mediates this relationship. These findings highlight the necessity for decision-makers to recognize that an evolving business environment demands destinations to integrate mobile application usage into their operational strategies. This study affirms that mobile application usage is a complete and partial mediator in the relationship among PRE, DUR, POST, and destination competitiveness (PER). Prior research concerning mobile application usage has primarily concentrated on identifying determinant factors toward destination competitiveness. However, this study contributes to the literature by examining the mediating effect of mobile application usage on the relationship between the tourism value chain determinants and destination competitiveness. Future research endeavours in Tanzania, as well as in other regions, may adopt this model within various tourism organizations. Additionally, this model could be applied to comparable tourist destinations in Africa, allowing for a comparative analysis with previous findings, thereby contributing to developing more robust theoretical frameworks.

REFERENCES

- Adukaite, A., van Zyl, I., & Cantoni, L. (2016). The Role of ICT in Tourism Education: A Case Study of South African Secondary Schools. In *Review of Tourism Research (ITR). ENTER 2016 Conference of Information and Communication Technologies in Tourism (Vol. 7)*.
- Akhoondnejad, A. (2015). Analyzing the pre-travel, on-travel, and post-travel behaviors of Iran's first-time visitors. *Journal of Travel & Tourism Marketing*, 32(8), 1023-1033.
- Albayrak, T., Rosario González-Rodríguez, M., Caber, M., & Karasakal, S. (2021). The use of mobile applications for travel booking: impacts of application quality and brand trust. *Journal of Vacation Marketing*, 13567667211066544.
- Altinay, L., & Kozak, M. (2021). Revisiting destination competitiveness through chaos theory: The butterfly competitiveness model. *Journal of Hospitality and Tourism Management*, 49, 331-340.
- Aramendia Muneta, M. E., & Ollo López, A. (2013). ICT Impact on the Tourism Industry. *International Journal of Management Cases* 2013; 15 (2): 87-98.
- Arica, R., Cobanoglu, C., Cakir, O., Corbaci, A., Hsu, M. J., & Della Corte, V. (2022). Travel experience sharing on social media: effects of the importance of content sharing and what factors inhibit and facilitate it—*International Journal of Contemporary Hospitality Management*.
- Bakar, N. A., Hashim, N. A., Nawi, N. M. M., Rahim, M. A., Muhamed Yusoff, A., Aziz, C., & Ahmad, G. (2020). Travel mobile applications: The use of unified acceptance technology model—*International Journal of Innovative Technology and Exploring Engineering*.
- Bishar, A., & Robertine, P. L. (2023). Branding and Promotion of Tourism Destinations in Africa: An investigation of the branding and promotion of tourism in Africa, case of Cameroon.
- Calvignac, C., & Smolinski, J. (2020). How can using a mobile application change the course of a sightseeing tour? A question of pace, gaze, and information processing. *Tourist Studies*, 20(1), 49-74.

- Christian, M. (2015). Mobile application development in the tourism industry and its impact on on-site travel behavior. Modul Vienna University.
- Cretu, C. M., Turtureanu, A. G., Sirbu, C. G., Chitu, F., Marinescu, E. Ş., Talaghir, L. G., & Robu, D. M. (2021). Tourists' perceptions regarding traveling for recreational or leisure purposes in times of health crisis. *Sustainability*, 13(15), 8405.
- Development, T., & Activities, P. (2001). • Identification of potential value added for the customer – how can our product add value to the customer's value chain (e.g., lower costs or higher performance) – where does the customer see such potential? 1985, 1–2.
- Do, H. N., Shih, W., & Ha, Q. A. (2020). Effects of mobile augmented reality apps on impulse buying behavior: An investigation in tourism. *Heliyon*, 6(8), e04667.
- Estrada, S.A. (2022). The effect of the use of ICT on the Touristic Experience. Universidad Anahuac Mexico, Edo.Mex. Mexico.
- Gunter, U., & Önder, I. (2015). Forecasting international city tourism demand for Paris: Accuracy of uni-and multivariate models employing monthly data. *Tourism management*, 46, 123-135.
- Kim, D., & Kim, S. (2017). The role of mobile technology in tourism: Patents, articles, news, and mobile tour app reviews. *Sustainability*, 9(11), 2082.
- Kibria, G. M. A., & Nayeem, J. (2023). Trends and factors associated with mobile phone ownership among women of reproductive age in Bangladesh. *PLOS Global Public Health*, 3(5), e0001889.
- Küçükaltan, E. G., & Pirnar, I. (2016). Competitiveness factors of a tourism destination and impact on residents' quality of life: The case of Cittaslow-Seferihisar. *Journal of Tourism, Heritage & Services Marketing*, 2(1), 22-29.
- Kuo, T. S., Huang, K. C., Nguyen, T. Q., & Nguyen, P. H. (2019). Adoption of mobile applications for identifying tourism destinations by travelers: an integrative approach. *Journal of Business Economics and Management*, 20(5), 860-877.
- Larsen, S., Wolff, K., Doran, R., & Øgaard, T. (2019). What makes tourist experiences interesting? *Frontiers in Psychology*, 10, 1603.
- Lee, C. C., Chen, M. P., Wu, W., & Xing, W. (2021). The impacts of ICTs on tourism development: International evidence based on a panel quantile approach. *Information Technology & Tourism*, 23(4), 509-547.
- Liu, X., Mehraliyev, F., Liu, C., & Schuckert, M. (2020). The roles of social media in tourists' choices of travel components. *Tourist Studies*, 20(1), 27-48.
- Lugendo, A. (2021). The Determinants of Tourism Destination Competitiveness: A Case of Tanzania Wildlife Management Authority (TAWA).
- Mazhar, S. A., Anjum, R., Anwar, A. I., & Khan, A. A. (2021). Methods of data collection: A fundamental tool of research. *Journal of Integrated Community Health (ISSN 2319-9113)*, 10(1), 6-10.
- Milićević, S., Petrović, J., & Đorđević, N. (2020). ICT as a factor of destination competitiveness: The case of the republics of former Yugoslavia. *Management & Marketing*, 15(3), 381-392.
- M., & Hosseini, R. N. S. (2022). How can destination competitiveness be essential in developing small island sports tourism? Integrated ISM-MICMAC modeling of critical factors. *Journal of Hospitality and Tourism Insights*, (ahead-of-print).
- Neto, A. Q., Dimmock, K., Lohmann, G., & Scott, N. (2020). Destination competitiveness: How does travel experience influence

- choice? *Current Issues in Tourism*, 23(13), 1673-1687.
- Oke, A.e. (2023). The relationship Between Internet Usage and the Search for Tourist Destination: A case of Nigeria. *International Journal of Research Publication and Reviews*, 14(6).3192-3196
- Potapkina, E. (2017). Designing a mobile multiple-destination app for city traveling.
- Rahmiati, F., Ismail, Y., Amin, G., Simatupang, T., Larson, D., & Othman, N. A. (2019, September). Tourism Value Chain Activities Model for Competitive Advantage Measurement. In *International Conference on Trade 2019 (ICOT 2019)* (pp. 43–47). Atlantis Press.
- Raimkulov, M., Juratungunov, H., & Ahn, Y. J. (2021). Destination attractiveness and memorable travel experiences in Silk Road tourism in Uzbekistan. *Sustainability*, 13(4), 2252.
- Rahmiati, F., Ismail, Y., Bakri, M. H., Teknikal, U., & Amin, G. (2020). The Analysis of Tourism Value Chain Activities on Competitive Creation: The Analysis of Tourism Value Chain Activities on Competitive Creation: Tourists Perspective. December.
- Rejoice Okocha, E., Agina, E. K., & Ojiula, U. B. (2021). Influence of Tourism Marketing on Destination Competitiveness and Economic Development: Exploring Nigeria and Other African Countries. *European Journal of Hospitality and Tourism Research*, 9(4), 19-28.
- Respatyanti, Y. R. (2019). Enhancing The Information Availability Of Indonesia's Tourism Destinations Through A Travel App.
- Rivera, M., Croes, R., & Zhong, Y. (2016). Developing mobile services: A look at first-time and repeat visitors in a small island destination—*International Journal of Contemporary Hospitality Management*.
- Susanti, E., & Amelia, D. (2021). The Digital Promotion Strategy of Tourism Sector Towards Sustainable Tourism Development. 36–39.
- Starcevic, S., & Konjikušić, S. (2018). Why millennials as digital travelers transformed marketing strategy in the tourism industry.
- Starcevic, S., & Konjikusic, S. (2018). Why Millennials as Digital Travelers Transformed Marketing Strategy in Tourism Industry, *International Thematic Monograph Tourism in Function of Development of the Republic of Serbia-Tourism in the Era of Digital Transformation*, University of Kragujevac, 221–24.
- Štetić, S., Šimičević, D., Aksentijević, J., & Trišić, I. (2020). Mobile apps as a destination management tool—a Belgrade case study. *Modern management tools and economy of the tourism sector in the present era*, 569.
- Sutomo, Y. A. W., Sianipar, C. P., Basu, M., Onitsuka, K., & Hoshino, S. (2022). Tourism value chain: synthesizing value webs to support tourism development and planning. *Tourism Review*, (ahead-of-print).
- Sürücü, L., & Maslakçi, A. (2020). Validity and Reliability in Quantitative Research. *Business & Management Studies: An International Journal*, 8(3), 2694–2726. <https://doi.org/10.15295/bmij.v8i3.1540>.
- Tabi, K., Randhawa, A. S., Choi, F., Mithani, Z., Albers, F., Schnieder, M., ... & Krausz, M. (2019). Mobile apps for medication management: review and analysis. *JMIR mHealth and uHealth*, 7(9), e13608.
- Muñoz, A. (2019). An integral mobile application for pre-travel, on-site, and post-travel stages. *International Journal of Information Systems and Tourism (IJIST)*, 4(1), 7-17.
- Yuniawati, Y., & Ridwanudin, O. (2015). Analysis of Travel Experience Quality at City

Destinations. Journal of Business on
Hospitality and Tourism, 1(1), 8.

Zengeni, D. M., & Chaneta, I. (2009). Information
communication technologies and destination
competitiveness in Zimbabwe.