THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING TOURISM REVENUE GROWTH

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ABSTRACT

This research explores the transformative impact of Artificial Intelligence (AI) on tourism revenue growth in Uganda, driven by the urgent need to bridge the gap between current earnings and ambitious post-pandemic targets. The study delves into the determinants of tourism revenue, the integration of AI in the industry, and its potent role in driving financial gains. Employing a comprehensive mixed-methods approach, the findings reveal that AI is not just a tool but a powerful catalyst, revolutionizing marketing strategies, dynamic pricing, and personalized experiences to unlock unprecedented revenue potential. This study highlights AI's critical role in reshaping the tourism landscape, offering actionable insights for policymakers and industry leaders to propel Uganda's tourism sector toward sustainable and significant economic growth.

DECLARATION

I, **BIIMBWA ELIJAH JAPHES** hereby declare that this is my original work, is not plagiarized and has not been submitted to any other institution for any award.

Signature: 

Date: 18/09/2024

APPROVAL

This dissertation, titled ***THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING TOURISM REVENUE GROWTH*** was prepared under my supervision and is ready for submission to the School of Business for examination purposes.

Supervisor: Julius Jjuuko

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Date: 18/09/2024

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LIST OF ACRONYMS AND ABBREVIATIONS

AI – Artificial Intelligence

CAGR – Compound Annual Growth Rate

EU – European Union

GDS – Global Distribution System

IT – Information Technology

MICE – Meetings Incentives Conferences Exhibitions

PR – Public Relations

UNWTO – United Nations World Tourism Organisation

WTTC – World Travel and Tourism Council

CHAPTER ONE

1.1 Introduction

This chapter presents the background of the study, the statement of problem, objectives of the study, research questions, and the rationale of the research, significance and scope of the study.

1.2 Background to the Study

According to the World Bank (2008), tourism revenue (tourism receipts) is "the expenditure by inbound visitors, including payments to national carriers for international transport." In another view, Timothy (2013) defines tourism revenue as the monetary return generated by the tourism industry within a destination. Factors that affect tourism expenditure can include destination price, substitute price, number of tourist arrivals, the exchange rates and per capita income in generation countries (Mohebi and Rahim, 2010).

Revenue growth refers to the increase in a company's total revenue or income over a specific period, typically calculated quarterly or annually (Userpilot, 2023). This definition is still applicable within the context of tourism.Data from the UNWTO (2024) shows that tourism revenue has been rising over the years and has reached an all-time high of US$1.4 trillion in 2019.

The Ministry of Tourism, Wildlife and Antiquities in 2020 reported that tourism exports (the money inbound tourists spend in another country) grew between 2012 and 2019 by 15 percent from US$374 million in 2012 to US$431 million in 2019. In 2018, tourism generated USD 1.6 billion compared to USD 1.45 billion in 2017 (Uganda Tourism Board, 2020). Collectively, spend by domestic tourists and international visitors was UGX 7,996.92 billion (USD2.2bn) in 2019 according to the Uganda Tourism Satellite Account (2023). The regulating bodies have also set bold targets for the future of the tourism sector. According to a New Vision article for Monday, June 19, 2023 by Mulondo, the Executive Director for Uganda Tourism Board, Dr. Lily Ajarova said the sector targets to increase foreign exchange earnings from $1.6b in 2019 to $5.19b by 2028. Despite

positive signs of recovery, tourism revenue has not yet surpassed pre-pandemic levels; neither has it reached halfway the targets set. A news article by Oketch in the Monitor of Wednesday, September 20, 2023 claims that Uganda earned US$736 million from tourism in 2022.

On the other hand, there are a number of factors contributing to tourism revenue growth. One such factor is a destination that has a variety of tourism offerings such as leisure/holiday, MICE and cultural activities among many others. Extra work should be put into creating innovate tourism products in order to increase tourism revenue (Chen et al., 2023). Another factor is the level of development of tourism infrastructure and ancillary services such as a comprehensive transportation system, five star accommodation facilities, and food and beverage services. Chen et al. (2023) says by optimizing tourism routes to meet the diverse needs of tourists, the overall service level of tourism transportation can be improved, thereby reducing the travel costs for visitors.A third factor that contributes to tourism revenue growth is the level of purchasing power of both domestic and inbound tourists. Chen et al. (2023) says that:

> To enhance the tourism consumption level of urban residents, it is necessary to eliminate their negative expectations about future employment while ensuring employment stability and a high level of disposable income. Therefore, measures such as gradually raising the minimum wage standard and continuously improving the social security system can be implemented to alleviate their concerns about a potential decline in future living standards caused by tourism consumption. This will fully unleash the tourism consumption potential of urban residents and increase the total tourism revenue.

Uganda Tourism Board also laid out a strategic plan in 2020 that indicates the need to resort to a variety of digital marketing campaigns across a vast array of platforms such as social media marketing, mobile marketing, online PR, content marketing, virtual reality, video and affiliate marketing collaboration with tourism and travel trade partners (Uganda Tourism Board, 2020).

Now, with the fourth industrial revolution upon us, a variety of powerful technologies like Artificial Intelligence have come up that are poised to transform the tourism industry as we know it. Artificial Intelligence is one of the factors influencing tourism revenue growth and this study aims to focus on it as a catalyst for tourism revenue

growth.McCarthy and others (1955) described AI as the science and engineering of making intelligent machines, especially intelligent computer programs.Russell and Norvig (2003), in another context, say that artificial intelligence is a branch of computer science that encompasses the creation of intelligent agents, which are systems that can reason, learn, and act autonomously.

With AI-powered personalization, travel companies can mould more personalized and customized travel experiences for their customers, build stronger relationships with their customers, and heighten customer loyalty (Zunnurain, 2023). AI analyzes market trends, competitor pricing, and historical data to optimize pricing strategies for hotels, airlines, and other tourism services, maximizing revenue while maintaining competitiveness (Yeoman et al., 2018).AI analyzes user data to deliver targeted marketing content, travel advertisements, and website experiences tailored to individual preferences and interests (Wang and Li, 2020).

1.3 Statement of Problem

Despite positive signs of recovery, tourism revenue has not yet surpassed pre-pandemic levels, with tourism exports at US$431 million in 2019 (Ministry of Tourism, Wildlife and Antiquities, 2020); neither has it reached halfway the target set of $5.19b by 2028 (Mulondo, 2023). This is evidenced by a news article by Oketch in the Monitor, a national newspaper of Wednesday, September 20, 2023 claims that Uganda earned US$736 million from tourism in 2022. This discrepancy in expected tourism revenues prompted the researcher to investigate the role of AI in tourism revenue growth in Uganda.

1.4 Purpose of the Study

The purpose of the study is to establish the role of Artificial Intelligence in enhancing tourism revenue growth.

1.5 Objectives of the Study

i. To examine tourism revenue growth and its driving factors.
ii. To examine Artificial Intelligence in the tourism industry.

iii. To establish the role of Artificial Intelligence in tourism revenue growth.

1.6 Research Questions

The study will be guided by the following research questions:

i. What are the trends and key determinants of tourism revenue growth?
ii. What is Artificial Intelligence and how is it currently employed within the tourism industry?
iii. What is the role of AI in tourism revenue growth in Uganda?

1.7 Rationale of the Research

From baggage screening and way finding apps in airports to hotel concierge services and booking engines, artificial intelligence (AI) has arrived in Travel. AI investments are drastically improving traveler experiences, optimizingoperational efficiency, empowering employees, simplifying logistics and more (Nevstruyev et al., 2022).Against this backdrop, the research seeks to explore and justify the pivotal role of AI in driving advancements in key areas of tourism.

The rationale behind this research is twofold. Firstly, as we transition into a new era marked by technological disruption, it becomes imperative for industries, including tourism, to embrace innovation and streamline processes to stay ahead of the curve.“By using artificial intelligence, companies have the potential to make business more efficient and profitable. But ultimately, the value of AI isn’t in the systems themselves. Rather, it’s in how companies use these systems to assist humans—and their ability to explain to shareholders and the public what these systems do—in a way that builds trust and confidence” (McKinsey & Company, 2024). AI, with its ability to analyze vast datasets, uncover patterns, and make autonomous decisions, emerges as a catalyst for transformation within the tourism sector. By harnessing the power of AI, businesses can obtain depth of insight into consumer behavior and deliver personalized experiences that resonate with modern travelers.

Secondly, at the heart of this research lies the overarching objective of driving tourism revenue growth. In an increasingly competitive landscape, where destinations vie for visitor attention and spending, leveraging AI-driven strategies becomes instrumental in unlocking the full revenue potential of the tourism industry. By examining how AI influences critical aspects such as tourism marketing, dynamic pricing, channel management, and personalized offerings, this study aims to elucidate the mechanisms through which AI serves as a driving force behind revenue growth in the tourism sector.

1.8 Significance of the Study

By elucidating the implications of AI adoption on revenue generation within the tourism industry, this research contributes valuable insights to policymakers, industry practitioners, and other stakeholders. It provides a roadmap for harnessing AI technologies effectively to enhance competitiveness, stimulate economic growth, and foster sustainable development within the tourism ecosystem.

1.9 Scope of the Study

1.9.1 Geographical Scope

This study focuses on the influence of Artificial Intelligence on tourism revenue growth within the context of the global tourism industry. The research draws insights from various tourism related businesses in different geographical locations that have adopted AI in their operations.

1.9.2 Time Scope

The study considers the contemporary landscape of the tourism industry, with a focus on recent developments and trends related to AI adoption. While historical perspectives may be referenced to provide context, the primary emphasis is on current and emerging practices within the timeframe relevant to the research, that is, from the onset of significant AI advancements in the tourism sector to the present day.

1.9.3 Discipline Scope

This study integrates insights from multiple disciplines, including tourism management, marketing, economics, and technology. By bringing together perspectives from these diverse fields, the research aims to offer a holistic understanding of how AI influences key aspects of tourism revenue growth, such as marketing strategies, dynamic pricing mechanisms, channel management practices, and personalized offerings.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The purpose of this comprehensive literature review is to expound on the determinants and trends influencing tourism revenue growth, explore the current applications of AI in the tourism industry and examine theextent to which AI contributes to tourism revenue growth.

2.2 Determinants and Trends Influencing Tourism Revenue Growth

2.2.1 Economic factors

A variety of authors overtime have set out to trace and discover the intricate factors influencing tourism revenue growth. "According to the analysis of historical tourism data, it was found that tourism revenue is influenced by multiple factors, and there exists a linear relationship between these factors and tourism revenue" (Chen et al., 2023). Chen et al. in 2023 furthermore say that diversifying tourism products, developing the transportation infrastructure, and increasing the per capita disposable income of residents are all relevant in promoting the development of the tourism economy.

Jiao et al. (2021) also mention "socioeconomic factors like GDP, tertiary industry revenue, disposable personal income, the number of persons engaged in tertiary industries, urbanization rate, highway mileage, the number of scenic spots, and the number of star-rated hotels as contributors to tourism revenue generation."

Wall &Mathieson (2006) say that higher incomes are keyamong the three main factors influencing travel.

A study by Lim (1997) reviewing 100 studies on models measuring tourism demand confirmed that higher income levels and transportation costs are significant factors.

According to BBC (n.d.), a variety of factors have contributed to the growth in the tourist industry since the 1950ssuch as increased leisure time and greater affluence.

Cooper (2016) says that "as more countries enter the advanced economy classification, so the volume of trade and foreign investment increases and business travel develops."

“Economic growth in OECD and emerging economies, trends in personal income, free trade agreements, fuel prices/subsidies, and the expansion/integration of international banking/payment systems have all significantly impacted tourism” (Scott & Gössling, 2015). They further more say that in the next 40 years, the rate of economic growth, the instability of the financial sector, growing income disparity, instability in world oil prices, the introduction of a carbon price, and sovereign debt are expected to influence future tourism.

Scott & Gössling (2015) also mention as environmental factors that the role of tourism in ecological and cultural heritage preservation, as well as the impact of natural disasters (e.g., earthquakes, tsunamis, hurricanes) and pandemics (e.g., SARS, avian flu), have been major considerations in the past 40 years and GHG emission reduction requirements, the introduction of a carbon price, fuel costs, climate change impacts, and greater environmental awareness will be critical factors in the next 40 years.

Scott & Gössling (2015) say that in the past 40 years, population growth, gains in available holiday-leisure time, package holiday products, and threats to personal safety such as terrorism have influenced tourism trends, while population growth, ageing populations in mature markets, changing retirement age, growing income disparity, widespread youth unemployment, family dynamics, the role of social media for consumer referrals and targeted social action, increased urbanism, travel preferences of emerging markets, the redefinition of work-leisure time, cross-cultural relations, and social connectedness, and liquid identities will shape future tourism in the next 40 years.

Gabriela and Smaranda (2015) calculated demand for tourism in Romania during the years 1998and 2014. The results of this study exhibited that the cost of travel in the destination country has a negative effect while the exchange rate, per capita income and behavioural habits, have had a positive and significant effect on the tourism demand of this country.

Kuek et al. (2017) examined factors affecting the China Tourist Arrival in the United States. They used the economic and non-economic variables such as exchange rate, income (GDP growth per capita), terrorism and natural disaster from the year 1990 to the year 2014. In this study, they used an Autoregressive Distributed Lag (ARDL) method to investigate the long run relationship between tourist arrival, exchange rate, income, terrorism and natural disaster. The results indicated that the increase in number of terrorism and the increase in the number of natural disasters have a negative impact on the tourist arrival from China to the United States. The results also indicated that

there is a long run relationship between the tourist arrival, exchange rate and terrorism.

It is also noted that marketing efforts can influence demand; however, research suggests that other economic factors have a bigger impact (Crouch, 1994).

According to Katranis (2020), “accessibility is a major factor since all tourism areas or destinations have to be easily linked through roads, bridges, railroads. Tourists need to have easy access to everywhere in order to explore their destinations and fulfill their needs. They need to have multiple options of transport: taxis, buses, boats etc. The level of accessibility of a tourism destination help the tourist determine whether to choose the destination for vacations.”

Katranis (2020) mentions accommodation and the level of infrastructure provided to the tourist needs as another factor. He says that “tourism always grows in destinations that advertise their facilities and their capabilities to service their guests. Luxury hotels or comfortable hotels are essential in tourist choice of stay depending on their star position.”

Katranis (2020) also citesCerinaet al. who add that “the backbone of a destination’s facility and maintenance system is of course the ancillary services that the destination provides. Banks, hospitals, insurance companies and communications-internet spots are crucial to maintain a feeling of security to the tourist and provision with some of the most basic needs. This factor persuades a tourist to stay in a destination for longer periods of time.”

According to Ahebwa& English (2018), Uganda’s product range is very low, which is largely concentrated on wildlife which hinders arrival of tourists interested in other activities such as MICE and entertainment.

Ahebwa& English (2018) also report that there is low level of tourism skills throughout value chain that is the managerial, technical, operational positionsas well as in key supporting functions both in government and private sector and that tourism education and training is fragmented across a multiplicity of stakeholders that is, Ministry of Tourism, Wildlife and Antiquities, Ministry of Education and Sports, Ministry of Gender, Labour and Social Development, National Council of Higher Education, Uganda Tourism Board, Education& Training institutions, and Tourism Industry Employers, with limited coordination.

Ahebwa& English (2018) further mention a lack of ancillary services to support tourism in Uganda such as transportation, 5 – star accommodation and destination infrastructure.

2.2.2 Political factors

On the political side of it, Cooper (2016) says that “the degree of government involvement in promoting and providing facilities for tourism depends upon the political complexion of the government.”He means to say that government involvement in supporting or promoting tourism activities plays a key role in determining tourism demand hence leading to tourism revenue growth.

“In recent years political factors in the form of political unrest (such as the Arab spring) and terror attacks have had an increasing impact on tourism demand (cf. Dwyer et al., 2009).” It is reported that these have negatively impacted tourism revenue growth.

According to Stainton (2024), “legislation, or laws, plays a crucial role in shaping the tourism industry, encompassing health and safety laws, employment laws, and planning laws. These regulations ensure the safety and quality of tourism services, affecting staffing and the development of tourism facilities. She also says that taxes significantly impact tourism by altering travel costs and possibly deterring tourists with additional expenses like trade, airport, and visitor taxes.”

As regards the influence of passport and visa regulations, Stainton (2024) says that destinations that streamline visa processes can boost their appeal by making travel more accessible whereas strict entry requirements deter visitors due to complexity and additional costs.

Strategies like tax incentives and investments in tourism infrastructure further emphasize the government’s commitment to developing the sector, demonstrating a proactive approach to bolstering both the appeal of destinations and the overall well-being of the economy through tourism (Stainton, 2024).

In the past 40 years, Changes in border regulations (e.g., Schengen Agreement, China’s preferred country status), liberalization of travel markets, and political unrest (e.g., Arab Spring) have impacted tourism, whereas in the next 40 years,New regional free trade agreements, changes in border regulations, regional political instability/conflict, terrorism, and the emergence of a new cold war will influence future tourism (Scott & Gössling, 2015).

Taxes significantly impact tourism by altering travel costs and possibly deterring tourists with additional expenses like trade, airport, and visitor taxes (Tourism Teacher, 2024).

Tourist boards are very important in destination promotion, offering tourists comprehensive information and working on strategies to improve visitor experiences (Tourism Teacher, 2024).

Adversely, Tourism Teacher (2024) also says that “one of the key political factors influencing tourism is political instability. When a country faces political problems, like threats of terrorism or war, it can really hurt tourism. This means people might cancel their trips, businesses related to tourism might fail, and the money that usually comes in from tourists will drop.”

For highly developed countries, increased political stability does not impact tourism revenues. However, there is a significant positive impact of improved political stability on tourism revenues for less-developed countries (Jaisinghani et al., 2023).

A study by Worimegbe et al. (2019) “established that political and economic risks are key determinants of tourism. The study also suggested that exchange rates,inflation, rule of law, political stability and regulatory quality are key determinants of politicaland economic risk in Nigeria. The study further reveals it is possible for high political andeconomic risk to exist and be compensated by high levels of tourism.”

For Uganda, Ahebwa& English (2018), say that there is limited government support for investment in the sector and that there are no realistic work plans to implement tourism at the local government level.

Ahebwa& English (2018) continue to add that there is a gap in quality assurance characterized by weak enforcement of the regulations on quality of facilities, limited awareness of quality guidelines and standards by both the public and private sectors, inadequate coordination for implementation of quality standards among the different stakeholders, and generally poor customer service.

2.2.3 Technological factors

As time has progressed, innovations of various kinds have impacted travel and tourism. Hjalager (2015) in her article, 100 innovations that transformed tourism, categorized the innovations according to how they changed the industry in seven categories: Changing the tourist experience, Increasing the social and physical efficacy of the tourist, Increasing productivity and efficacy in tourism businesses, Creating new destinations, Increasing mobility, Altering the way information is spread and Changing how the market functions, and power relationships.

Some of these innovations included the railway, museum, weather forecasting technology, the credit card and computer reservation systems (Hjalager, 2015).

Momani et al. (2022) in their journal mention technologies like hotel management systems, online travel agencies, and social media which have all played a part to improve revenue generated from tourism activities globally. They furthermore add that cloud technology, artificial intelligence, and big data are set to impact the tourism industry at large.

Stryzhak (2022) says that the widespread use of digital tools by hotel chains, aviation companies, and travel aggregators empowers the opportunities for attracting customers and partners in any business.

BBC (n.d.) mentions that increased awareness through television programmes and growth of the internet has enabled much wider autonomous travel planning.

Scott & Gössling (2015) say that in the past 40 years the widespread introduction of television, the Internet, and other travel marketing platforms, as well as computerized reservation systems, web, and social media-based consumer reviews, have significantly influenced tourism growth and in the next 40 years the continued evolution of mobile reservation and marketing systems, social media, peer-to-peer marketing and product transparency, the expansion of informal tourism service provision (e.g., Uber, Couchsurfing), increased automation and robotics in service delivery, and potential cyber-attacks or disruptive technologies are expected to shape future tourism trends.

In the realm of transportation, Scott & Gössling (2015) also say that in the past 40 years, massive expansion of land-sea-air transport networks, faster transportation speeds, and travel time-distance compression have been crucial in tourism development, whereas fluctuating fuel costs and anticipated fuel efficiency gains, the feasibility of low-no carbon energy options for aviation, and the advent of automated vehicles will play pivotal roles in the future of tourism in the next 40 years.

According to Wahab (2017), “Information Technology or IT has played a critical role not just in the advancement of tourism, but it has helped in spreading the phenomenon of tourism to every part of the world and has made travel safer. In the past few decades, especially towards the end of the previous, and the beginning of the new millennium, IT brought in some radical changes that have altered the scenario of travel and tourism, making travel easier, bridging the gap between customer as well as the seller and by providing the right information at any point in time.”

Statista (2024) reports that “an important achievement behind the online travel experience dates back to the 1960s when the first global distribution system (GDS) was

introduced. GDSs are online networks connecting suppliers - such as airlines, hotels, or cruise lines - to providers, like travel agencies and online travel agencies. Having access to the suppliers' inventory, like the number of seats or hotel rooms available, GDSs allow providers to access such information, helping customers book multiple travel services at once. In 2022, the air distribution business segment of Amadeus, one of the most renowned GDSs worldwide, generated more than two billion U.S. dollars in revenue."

Information technology (IT) significantly impacts tourism by enhancing the identification, presentation, dissemination, and competitive advantage of tourism products. IT is essential for tourism management due to the need for extensive information gathering and dissemination. The advancement of IT has created new opportunities for efficient cooperation and globalization in the tourism sector. IT's role in information creation, processing, and transmission is crucial for daily operations, and its integration is vital in marketing, distribution, promotion, and coordination within tourism. Investigating its impact on tourism highlights its importance in consumer decision-making and overall industry efficiency (Bayram, 2020).

"Two decades ago, almost 100% of reservations in the travel sector were handled via telephone calls. Fortunately, these inefficient systems are no longer with us. They caused too many errors due to the variety of reservations, often weeks and months in advance. Today tourists can make reservations with a few simple clicks. The hoteliers have access to reservations and even get notifications when a reservation is due. They can even track and record guests' information and use it to fuel future marketing initiatives" (Truyols, 2024).

Truyols (2024) says again that "Technology introduced automation to remove redundant tasks. With redundant tasks gone, marketers can focus on more important things. Plus, they are not overworked, leading to fewer errors across the board. Then we have the data that technology gives marketers access to these days. Instead of basing decisions on a hunch, they can use data to create efficient marketing strategies. In other words, technology has enabled tourism to benefit from data-driven marketing—other big data solutions such as Hotelmize leverage data to unlock hidden hotel booking profits."

2.3 Current Applications of AI in the Tourism Industry

According to Sousa (2024), Artificial intelligence (AI) has received special attention in the area of Tourism and Hospitality and its applicability in this sector has grown exponentially in recent years.

Sun (2023) says that the “great advantage of artificial intelligence is the possibility of offering a personalised service to the customer. We see AI technologies, such as facial recognition, employed for check-ins at airports and hotels, enhancing security and streamlining the boarding process. Biometric systems contribute to a more seamless and secure travel experience. Robots equipped with AI capabilities are used in hospitality for tasks such as room service, concierge services and cleaning. Some airports also deploy robots for baggage handling and customer assistance.”

McDonald (2024), in a report by the World Travel & Tourism Council mentions 10 AI deployments in the tourism industry: Personalized Recommendations & Marketing; Dynamic Pricing & Revenue Management; Customer Service &Chatbots; Demand Forecasting & Business Operational Requirements; Traveller Planning Assistance; Enhanced Customer Experience; Improved Operational Efficiency; Risk Management; Destination Insights; Sustainability and Resource Management.

In another place, Zlatanov and Popesku (2019) mention AI powered chatbots that help users plan their trips as well as robots in the hospitality sector that are trained to carry out food preparation as well as food service.

According to Porta (2024), customer chatbots (58%) and dynamic pricing (52%) are the most popular applications of accommodation businesses in the EU, followed by customer review management (47%) and content marketing (45%).

According to the European Accommodation Barometer Fall 2023 published by Statista in collaboration with Booking, Austria was the European country with the highest share of accommodation businesses (44%) that considered AI as a key opportunity over the next six months. Just 13% of the sample in Greece and 16% in France believed the same. The EU average stood at 23% (Porta, 2024).

Porta (2024) continues to say that “airlines and travel agencies are leveraging generative AI to create virtual travel assistants that can assist customers with booking flights, hotels and activities, making the booking process more convenient and user-friendly and enhancing customer satisfaction. Moreover, online travel platforms are using Generative AI to offer personalized travel recommendations. By analyzing user preferences and historical data, these platforms suggest destinations,

accommodations, and activities tailored to individual traveller tastes, enhancing the overall travel experience."

"The use of facial recognition is an important technology because it recognizes the face of the tourists, verifies it with the face in the documents and provides hassle-free check-ins. By using this technology, tourists can comfortably pass through the airport check-ins and all other station check-ins, without the document verifications by various authorities such as immigration, customs, etc."(Samala et al., 2022).

Another helpful application of artificial intelligence in travel is in the field of customer segmentation. "TravelPerk, a Barcelona-based global travel management platform, uses Twilio Flex and Twilio Segment to segment the market in order to deliver a better customer experience" (EPAM, 2024).

An article by Samala et al. (2022) also mentions "language translators and Google maps" as other AI use cases in the travel and tourism industry.

According to a blog by the Tourism Innovation Summit (2024), "AI algorithms analyze a wealth of data, from your online searches and social media interactions to your past travel preferences, to offer personalized recommendations on destinations, activities, hotels, and restaurants that perfectly suit your tastes and budget."

"Trip.com launched an enhanced version of their AI travel assistant, TripGenie. This tool provides more convenient, personalized and intuitive travel planning. It harnesses the concept of the language user interface, providing users with real-time assistance that significantly enhances convenience and intuitiveness in the planning process. If you inquire, "How do I plan a three-day trip to Switzerland?" the travel assistant swiftly creates a personalized, editable itinerary in under a minute. It recommends tourist spots and shopping destinations and even provides booking links, images and city maps within the conversational interface. The results are not just promising, they are transformative. TripGenie has increased order conversion rates and user retention rates, leading to heightened loyalty and satisfaction among users" (Sun, 2023).

In an article by the World Travel & Tourism Council (2024), Julia Simpson, WTTC President & CEO, said:"AI is already being used across our sector with incredible results. Several major hotel groups including Iberostar are using AI to monitor and reduce food waste, which recently resulted not only in a 27% cost saving but prevented thousands of kilos of unwanted food going to landfill."

Srivastava (2024) says that AI can be used for:

Hotel Search and Booking-AI in the travel industry provides smart algorithms that help customize recommendations, enrich the user experience, and declutter bookings, transforming the accommodations process.

Itinerary Planning and Recommendations-The use of AI in travel industry has enabled intelligent itinerary planning, providing customized suggestions, and tailoring journeys to personal preferences.

Predictive Analytics for Demand Forecasting-Applications of AI in travel industry include predictive analysis in forecasting demands. AI enhances resource allocation, customer experiences, and business adaptability to dynamic travel trends.

Facial Recognition-Applications of AI in travel have enhanced security and efficiency with facial recognition. Simplified check-ins, customized experiences, and border control ensure an effortless journey for travelers.

Chatbots for Customer Support-AI in travel sector has transformed customer support with chatbots and enhanced user experience. It answers queries, provides instant assistance, and facilitates travel-related information.

Srivastava (2024) also offered real world solutions such as Expedia's Chatbot which helps customers book hotels and flights, provides constant assistance and personalized suggestions, answers queries, enriches the user experience, and eases the disorganized booking process and Marriott International which adjusts room tariffs based on factors like demand and local events. This ensures competitive pricing, affordable choices, and revenue maximization.

Truyols (2024) adds and says that "AI also has a use case in information distribution, such as AI assistants. Given its versatility, AI has found use cases in other processes, including room mapping, dynamic price tracking, and analytics."

According to Torres (2023), advances in AI, including generative AI and machine learning (ML), are prompting the industry and consumers to reimagine what it means to plan, book and experience travel."Travel and tourism companies are using AI to automate and optimize the customer service process, enhance customer experience and operate more efficiently. AI-enabled technology shows up in a variety of places and functions, such as trip planners, booking platforms, check-in systems, automated baggage handlers, smart hotel rooms, face ID security, front desk robots and virtual tour guides."

Torres (2023) adds that:"AI-powered analytics are being used to gather and analyze data on customer preferences, predict behavior, make recommendations and personalize services such as hotel room temperature, lighting and entertainment."

McDonald (2024) shares in a report by the WTTC that “Microsoft and American Airlines are partnering to use technology that will create better experiences for American Airlines customers and employees. They aim to use data and AI to optimize every aspect of their business, from bag tracking to digitally simulating operations at major airport hubs. One innovative example is at Dallas Fort Worth International Airport (DFW), which is American Airlines’ largest hub airport. Reaching the gate quickly after landing is critical to running a smooth operation, so Microsoft is using AI to reduce the taxi time, which can save thousands of gallons of jet fuel per year and give connecting travellers extra time to make their next flight. Built on the Azure Microsoft Cloud, American Airlines intelligent gating programme provides real-time analysis of data points, including routing and runway information, to automatically assign the nearest available gate to each arriving aircraft. Previously, gating decisions for American Airlines 136 gates at DFW required manual input from gate planners. Now, the AI program can look at multiple data points simultaneously for hundreds of daily arrivals, saving more than a minute of taxi time per flight. That adds up to over 10 hours of reduced taxi time per day, lowering fuel usage, reducing operating costs and decreasing CO2 emissions.”

McDonald (2024) adds that “Google teamed up with American Airlines and Breakthrough Energy to use AI with satellite imagery, weather information and flight path data to help airlines reduce the climate impact of contrails. Contrails are thin white lines sometime seen behind airplanes, which have a surprisingly large impact on the climate. A 2022 IPCC report 33 noted that clouds created by contrails trap large amounts of heat that would otherwise have left the earth’s atmosphere and account for approximately 35% of aviation’s global warming impact. If airlines avoid flying through areas that would create contrails this could significantly reduce global warming – the challenge is knowing which flight routes will not create contrails.Using Google’s AI predictions, American Airlines pilots flew 70 test flights attempting to avoid altitudes forecasted to create persistent contrails. Post-flight analysis of satellite images found the pilots reduced contrails by 54%, while only burning 2% more fuel. Further optimisation could reduce the net fuel impact to just 0.3% while avoiding most contrail warming. This shows that contrail avoidance is a cost-effective, scalable way to reduce aviation emissions. The next steps are to automate avoidance, target highest-impact contrails, and improve satellite verification. The ultimate goal is to work with all airlines to implement contrail avoidance using AI in the coming years.”

McDonald (2024) offersmore use cases for AI in Tourism in Table 1 below:

Expedia	**Expedia:** In 2023, Expedia launched an AI trip planning experience within its smartphone app. This offers recommendations such as where to go, where to stay and what to see in a destination.
Tripadvisor	**Tripadvisor:** In 2023, Tripadvisor upgraded its 'Trips' planning product with the introduction of a new AI powered travel itinerary generator.
Trip.com	**Trip.com:** In 2023 Trip.com introduced TripGen, an AI chatbot to 'generate your dream trip'. TripGen offers real-time travel tips, inspiration & itinerary suggestions.
SITA	**SITA:** SITA OptiClimb uses AI with weather forecasts and operational flight plan inputs to predict aircraft fuel burn scenarios, providing pilots with optimised climb speeds and acceleration levels that can minimise fuel burn during take-off.
vision-box	**Vision-Box:** In 2023, Vison-Box launched AI technology within their biometric border corridors, which uses AI based image processing and tracking to provide an alternative to narrow and gated access control gates.
IBEROSTAR GROUP	**Iberostar:** Iberostar reduced its food waste by 28% in the first half of 2023 by implementing AI in its hotels. Their AI system monitors food production and categorises food waste, to control costs and reduce waste.
Hilton	**Hilton** : In 2023, the Hilton 'Green Breakfast' pilot used AI to reduce food waste by 62% across 13 UAE hotels. This equates to preventing 726 tonnes of CO2e emissions across a year.
airbnb	**Airbnb:** Airbnb has introduced AI powered 'photo tours', for hosts to automatically create photo experiences of their properties and in 2023 acquired GamePlanner.ai to accelerate AI projects across the Airbnb platform.

Source: World Travel and Tourism Council: Artificial Intelligence in Action 2024. All rights reserved.

2.4 The Contribution of AI to Tourism Revenue Growth

According to the Artificial Intelligence (AI) Market Size Worldwide Report by Statista, the global AI market size is projected to reach $1,847,495.6 million by 2030 (Barten, 2024).

EPAM (2024) says that “no innovation has revolutionized the industry more than artificial intelligence in tourism. At the moment, virtually every company involved in tourism uses at least one AI-powered technology, with market forecasts reaching $1.2 billion by 2026.”

Porta (2024) says, in another place that the size of generative AI in the tourism market was globally valued at $3647.43 million in 2023, and the total generative AI in tourism revenue is expected to grow at a CAGR of 17.5% from 2024 to 2030, reaching by the end of the current decade an estimated value of $11278.53 million.

A report by Nevstruyev et al. (2022) under Accenture, a company specializing in information technology services and consulting, names travel companies that have the AI maturity today to unlock its full potential as AI Achievers. It goes on to say that “in all industries, AI Achievers’ commitment pays off in superior performance across financial metrics and beyond with 50% greater revenue growth.It is expected that the share of AI Achievers in Travel will increase rapidly and significantly, more than doubling to 26% by 2024.”

Lamont (2024) reports that the Georgia Aquarium initially implemented Iterable, an AI-powered customer communications platform, to enhance their email campaign strategy. This included promotional messaging for new guests and loyalty campaigns for returning members, with messages tailored to customer history and interests. The addition of SMS ticket delivery expedited entry to exhibits and reduced wait times for visitors. These improvements resulted in increased sales and a 96% rise in net promoter score (NPS). The aquarium also observed a 200% increase in revenue, attributed to a data-driven understanding of customers and more personalized communications.

According to a study by Juniper Research, AI-powered chatbots are projected to save the tourism industry an astounding sum of more than $8 billion by 2022 (Lee, 2024).

Statistics by Statista (2023) report that“global survey involving companies with revenue higher than one billion U.S. dollars investigated the share of travel firms' revenue that was AI-influenced, namely sales that were finalized thanks to Artificial Intelligence insights. According to the study, roughly 21 percent of the surveyed companies' revenue in the travel market was AI-influenced in 2021, rising sharply from just nine percent in

2018. As forecast, the share of AI-influenced revenue in the travel industry was predicted to rise to 32 percent in 2024."

Srivastava in 2024 reports that: "According to Statista, the global AI in travel market was valued at $81.3 billion in 2022 and is expected to reach $423.7 billion by 2027, growing at a CAGR of 35% between 2022 and 2027"

According to a report by Maximize Market Research (2024),"the Global Generative Artificial Intelligence in Tourism Market size was valued at USD 3647.43 Million in 2023 and the total Generative Artificial Intelligence in Tourism revenue is expected to grow at a CAGR of 17.5% from 2024 to 2030, reaching nearly USD 11278.53 Million.By application, the personalized recommendations segment dominated the global Generative Artificial Intelligence in Tourism Market with the highest market share of 34.75% in 2023. The segment is further expected to grow at a CAGR of 26.4% and maintain its dominance by 2030."

CHAPTER THREE
METHODOLOGY

3.1 Research Design

This study employs a quantitative research method to provide a comprehensive analysis of the role of Artificial Intelligence (AI) in enhancing tourism revenue growth. The quantitative component includes a survey designed to quantify the use of AI in tourism businesses in Uganda and the impact of AI on tourism revenue growth across various tourism business types.

The methodology is designed to be replicable, allowing other researchers to duplicate the study and verify the findings. Detailed documentation of the research design, data collection instruments, and analytical techniques will be provided to facilitate replication.

3.2 Area of Study

The geographical scope of this study is Uganda with a focus on tourism, travel and hospitality businesses in Kampala City as well as government agencies affiliated to tourism. This allows for a broad understanding of AI's impact on the tourism industry in Uganda as a case study.

3.3 Sources of Information

The study will gather data from both primary and secondary sources. Primary sources of data will be collected through an in-depth survey that will target a wide range of stakeholders in the tourism industry, including hotel managers, tour operators, travel agencies, and government officials involved in tourism planning and development.

Secondary sources of datawill include existing literature, surrounding academic journals and conference papers on AI and tourism, industry reports and white papers from tourism and technology organizations, publications from government and tourism bodies, and company publications and case studies on AI implementations in tourism.

3.4 Population and Sampling Techniques

The target population for this study includes tourism-related businesses and stakeholders in Uganda. To ensure a comprehensive representation, the study will use a quantitative sampling technique to ensure representation across different segments of the tourism industry, such as hospitality, travel agencies, and tour operations. This approach will help in obtaining a balanced and diverse sample that reflects the various facets of the industry.

3.5 Variables Definitions and Measurement Levels

The key variables in this study include:

3.5.1 Key Determinants of Tourism Revenue Growth

Factors influencing tourism revenue growth, such as marketing strategies, dynamic pricing, customer service enhancements, and personalized offerings, will be identified and measured through both qualitative insights and quantitative metrics.

3.5.2 AI Adoption

The extent and manner of AI technology utilization in tourism operations will be measured. This includes the types of AI technologies used (e.g., chatbots, dynamic pricing systems, AI-driven marketing) and the scale of their implementation.

3.5.3 AI in Tourism Revenue Growth

The extent to which AI applications have contributed to tourism revenue growth will be measured, such as by cost savings, increased customer acquisition and retention and dynamic pricing techniques.

3.6 Procedure for Data Collection

Data collection will be conducted in one phase which shall be done by distributing an online survey to a larger sample of tourism businesses and stakeholders. The

questionnaires will include both open-ended and closed-ended questions to capture a broad range of data.

3.7 Data Collection Instruments

A structuredonline survey will be designed with a combination of multiple-choice and open-ended questions to capture both quantitative data and qualitative insights.

3.8 Quality/Error Control

To ensure the reliability and validity of the data collected:
Questionnaires will be pre-tested with a small sample of respondents to identify and rectify any issues before the full-scale data collection.
Data collection procedures will be standardized to minimize variability and ensure consistency across different respondents and locations.

3.9 Data Processing and Analysis

Thematic analysis will be used to identify and analyze patterns and themes in the data. This involves identifying recurring themes, and interpreting the findings in the context of the research questions.

3.10 Ethical Considerations

The study will adhere to ethical research standards to ensure the protection and respect of participants:
All participants will be provided with detailed information about the study and will be required to give their informed consent before participating.
Participants' identities and responses will be kept confidential, and data will be anonymized where possible.
The study will aim to minimize any potential biases and ensure that the findings are objective and impartial.

3.11 Methodological Constraints

Potential constraints of the study include:

Limited access to data from certain businesses may pose a challenge. Efforts will be made to mitigate this by seeking necessary permissions.

There is a risk of bias in self-reported data, which may affect the accuracy of the findings. Cross-verification with secondary data sources will be used to address this issue.

CHAPTER FOUR
DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter presents the analysis, presentation, and interpretation of the data collected, guided by the research objectives. The analysis includes descriptive statistics to summarize the characteristics of the respondents and the key findings related to tourism revenue growth, the role of Artificial Intelligence (AI) in the tourism industry, and the impact of AI on tourism revenue growth.

4.2 Characteristics of Respondents

The respondents were categorized based on age, gender, type of organization, position/role in the organization, and years of experience in the tourism industry.
The respondents were distributed across various age brackets, with the majority being in the 25-34 age groups.
The sample included both male and female respondents, with a vast majority being males.
Respondents were from diverse organizations, including educational institutions, tourism training institutions, hotels/resorts/lodges, and travel agencies.
Positions ranged from lecturers and consultants to marketing managers and field rangers.
Experience in the tourism industry varied, with most having 4 - 10 years of experience.

4.3 Descriptive Analysis of Findings

4.3.1 Tourism Revenue Growth and its Driving Factors

The key drivers of tourism revenue growth identified by the respondents included political stability and safety as the major driver with increased marketing, improved infrastructure and diversification of tourism offerings following closely behind.

4.3.2 Artificial Intelligence in the Tourism Industry

The AI applications in tourism identified by the respondents as being mostly used in their organizations include Customer Review Management Systems and Predictive Analytics and Demand Forecasting. Chatbots and AI-driven marketing tools are also fairly used. Government tourism bodies, travel agencies, and hotels were identified as the organisations most notably using some of these applications.

4.3.3 Role of Artificial Intelligence in Tourism Revenue Growth

The impact of AI applications on tourism revenue growth as perceived by the respondents in their organisations has surrounded the variables like increased operational efficiency and productivity, improved customer service, and increased revenue. This trend was mostly seen with respondents working in government tourism bodies, travel agencies and hotels.

4.4 Interpretation of Findings

The findings indicate that the key drivers of tourism revenue growth are primarily related to political stability, marketing efforts, infrastructure improvements, and diversification of tourism offerings. AI applications, though not widely used, have shown potential in enhancing operational efficiency, customer service, and better decision making.

CHAPTER FIVE
DISCUSSION OF FINDINGS

5.1 Introduction

This chapter provides a discussion of the key findings from the research.

5.2 Discussion of Key Findings

5.2.1 Tourism Revenue Growth and its Driving Factors

The research findings highlight that political stability and safety are critical drivers of tourism revenue growth in Uganda. This aligns with existing literature, which emphasizes that a secure and stable environment is fundamental for attracting tourists. Additionally, increased marketing efforts, improved infrastructure, and the diversification of tourism offerings were identified as significant contributors to revenue growth. These factors collectively enhance the appeal of a destination, improve accessibility, and cater to diverse tourist interests, thereby driving revenue growth.

5.2.2 The Application of Artificial Intelligence in the Tourism Industry

The findings indicate that AI applications, though still in the early stages of adoption in the tourism industry, are playing an increasingly important role. Customer Review Management Systems and Predictive Analytics are among the most commonly used AI tools, reflecting the industry's focus on understanding and predicting customer behavior to enhance service delivery. The use of AI-driven marketing tools and chatbots is also growing, suggesting a shift towards more personalized and efficient customer interactions.

5.2.3 Impact of AI on Tourism Revenue Growth

The respondents perceive AI as a valuable tool for enhancing operational efficiency, improving customer service, and ultimately driving revenue growth. The use of AI in

government tourism bodies, travel agencies, and hotels has led to increased productivity and better decision-making processes. This finding is consistent with the view that AI can significantly contribute to the optimization of business processes and customer experiences, leading to increased profitability in the tourism sector.

CHAPTER SIX
CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter draws conclusions based on the data analysis, and offers recommendations for the effective integration of Artificial Intelligence (AI) in the tourism industry to foster revenue growth.The chapter also addresses the limitations encountered during the study and suggests areas for further research.

6.2 Conclusion

The study concludes that while AI is not yet fully integrated into Uganda's tourism industry, its potential to drive revenue growth is significant. Political stability, effective marketing, infrastructure development, and product diversification remain the primary drivers of tourism revenue growth. However, the adoption of AI technologies is poised to enhance these efforts by increasing operational efficiency, improving customer service, and providing data-driven insights for better decision-making.

6.3 Recommendations

6.3.1 Accelerating AI Adoption in the Tourism Industry

To fully leverage the potential of AI, stakeholders in the tourism industry should prioritize the adoption of AI technologies. This includes investing in AI-driven tools for marketing, customer service, and operational efficiency. Training and capacity-building initiatives should also be implemented to equip industry professionals with the necessary skills to effectively use AI tools.

6.3.2 Enhancing Collaboration Between Industry Stakeholders

Collaboration between government tourism bodies, private sector players, and educational institutions is crucial for fostering innovation in the tourism industry. Such

partnerships can facilitate the sharing of best practices, resources, and knowledge, thereby accelerating the adoption of AI and other emerging technologies into the tourism sector.

6.3.3 Focus on Political Stability and Safety

Maintaining political stability and ensuring the safety of tourists should remain a top priority for the government of Uganda. Continuous efforts to promote Uganda as a safe and secure destination will be essential for sustaining and increasing tourism revenue growth.

6.3.4 Continuous Marketing and Infrastructure Development

To attract more tourists, continuous marketing efforts and infrastructure improvements are necessary. Investment in infrastructure, such as transportation and communication networks, should be prioritized to enhance accessibility and the overall tourist experience.

6.4 Limitations of the Study

Despite the valuable insights gained, the study faced several limitations that may have impacted the applicability of the findings.

There was a small and unrepresentative sample size which limited the ability to generalize the findings to the broader tourism industry. The limited number of respondents may not accurately reflect the diverse perspectives within the sector, particularly in different regions or types of organizations.

Another significant limitation was the varying levels of AI adoption and knowledge among the respondents. Many organizations have not yet fully embraced AI technologies, which may have influenced the perceived impact of AI on tourism revenue growth. This limitation suggests that the findings may be more reflective of early-stage AI adoption rather than mature implementation.

These limitations indicate the need for further research with a larger, more representative sample and a focus on organizations with varying levels of AI adoption.

6.5 Areas for Further Research

Future research could explore the long-term impact of AI adoption on tourism revenue growth, particularly in developing countries. Additionally, studies could examine the challenges and barriers to AI adoption in the tourism industry and propose strategies to overcome them. Research on the role of AI in other aspects of tourism, such as sustainable tourism and cultural heritage preservation, could also provide valuable insights.

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APPENDIX

APPENDIX A: SURVEY FOR RESEARCH STUDY

Survey on the Role of Artificial Intelligence in Enhancing Tourism Revenue Growth in Uganda

Dear Participant,

Thank you for taking part in this survey designed to understand the role of Artificial Intelligence (AI) in enhancing tourism revenue growth in Uganda. Your insights as a professional in the tourism, travel, and hospitality industry are invaluable to this research.

* Indicates required question

The survey should take approximately 10 minutes to complete. Your responses will be kept confidential and will be used solely for academic purposes. By continuing with the survey, you consent for your data to be used to understand the nuances of the AI potential in Uganda's tourism industry.

1. Email *

Demographic Data

2. Full Names *

Kindly state your names as: FirstName LastName

3. AgeBracket *

Mark only one oval.

- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 and above

4. Gender *

Mark only one oval.

- Male
- Female

5. Type of Organization *

Select the kind of organization you currently work in

Mark only one oval.

- Hotel/ Resort/ Lodge
- Travel Agency
- Tour Operator/ DMC
- Government Tourism Body
- Other: _____

6. Position/ Role in the Organization *

Briefly state the position you fill in the organization you currently work in

_____

7. Years of Experience in theTourismIndustry *

Mark only one oval.

- ◯ Less than 1 year
- ◯ 1 - 3 years
- ◯ 4 - 6 years
- ◯ 7 - 10 years
- ◯ More than 10 years

Survey Questions

Please answer the questions below to the best of your knowledge and experience in the tourism, travel and hospitality industry in Uganda.

8. In your experience, what have been the biggest drivers of tourism revenue growth in Uganda in the past 10 years? *

Select all options that apply

Check all that apply.

- ☐ Increased Marketing and Promotion Efforts
- ☐ Improved Infrastructure (roads, airports)
- ☐ Diversification of Tourism Offerings (e.g. wildlife, cultural experiences)
- ☐ Political Stability and Safety
- ☐ Customer Service Enhancements
- ☐ Government Policies
- ☐ Other: _____

9. Have you heard of Artificial Intelligence (AI)? *

Mark only one oval.

- ◯ Yes
- ◯ No

10. How familiar are you with Artificial Intelligence (AI) technologies? *

Mark only one oval.

- ◯ Very familiar
- ◯ Somewhat familiar
- ◯ Not familiar at all

11. Which AI technologies are currently employed in your organization? *

Select all that apply

Check all that apply.

- ☐ Chatbots/ Virtual Assistants
- ☐ AI-driven Marketing and Personalization
- ☐ Dynamic Pricing Systems
- ☐ Predictive Analytics and Demand Forecasting
- ☐ Customer Review Management Systems
- ☐ None
- ☐ Other: _____

12. If you are using AI-powered solutions, how have they impacted your business? *

Select all that apply

Check all that apply.

- ☐ Increased Revenue
- ☐ Increased Operational Efficiency and Productivity
- ☐ Improved Customer Service
- ☐ Enhanced Marketing and Targeting
- ☐ Cost Savings
- ☐ Better Decision Making
- ☐ I have not used AI solutions in my organization
- ☐ Other: _____

*

13. What are the biggest barriers to adopting AI solutions in the Ugandan tourism industry?

Select all that apply

Check all that apply.

- [ ] High costs
- [ ] Lack of technical expertise
- [ ] Lack of awareness and understanding
- [ ] Limited infrastructure to support AI-powered solutions
- [ ] Data privacy concerns
- [ ] Resistance to change
- [ ] Integration to existing systems
- [ ] Other: _____

*

14. According to Statista, the global AI in travel market was valued at $81.3 billion in 2022 and is expected to reach $423.7 billion by 2027, growing at a Compound Annual Growth Rate (CAGR) of 35% between 2022 and 2027, what efforts do you think can be made now to ensure that the Ugandan tourism industry reaps benefits from Artificial Intelligence?

_____

_____

_____

_____

Congrats!

You have reached the end of the survey, thank you for your time and your valuable inputs!