REPUBLIC OF KENYA

MINISTRY OF TOURISM AND WILDLIFE



POLICY BRIEF ON

IMPACT OF COVID-19 ON TOURISM IN KENYA, THE MEASURES TAKEN AND THE RECOVERY PATHWAYS

Digitizing **Travel and Tourism** Industry in Kenya



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THIS RESEARCH HAS BEEN COMMISSIONED BY THE NATIONAL TOURISM CRISIS STEERING COMMITTEE UNDER THE MINISTRY OF TOURISM AND WILDLIFE, KENYA

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PREFACE

The National Tourism Crisis Steering Committee was appointed by the Cabinet Secretary, Ministry of Tourism and Wildlife to among others, "*be the crisis management co-ordination, response and steering organ for any crises in the tourism industry*" and gazetted on 27th March 2020, *Gazette Notice No. 2701*. In execution of its mandate, the Committee in collaboration with several agencies that included Tourism Research Institute, Kenya Tourism Board and the Kenya Wildlife Service as well as the Kenya Tourism Federation, commissioned this study that was spearheaded by Kenyatta University entitled the '*Impact of COVID-19 on Tourism in Kenya, the Measures taken and the Recovery Pathways*'. I therefore wish to thank these institutions, particularly the Kenyatta University team coordinated by Dr. Esther Munyiri, for their invaluable support.

Tourism is one of the key sectors in Kenya's economy and its resilience is critical for socio-economic development and sustenance of livelihoods in the Country. Despite its remarkable growth over the years, the sector has however witnessed unprecedented reversals, not only in Kenya but globally, occasioned by the Corona Virus pandemic. COVID - 19 was reportedly first detected in Wuhan, China in December 2019 and rapidly spread around the world, shutting down the global economy.

This report is a culmination of collaborative efforts by various stakeholders whom despite the current situation in the Country due to the COVID-19 pandemic, participated in this research that was principally aimed at finding ways in which the tourism industry can be reset when the pandemic has been contained.

All stakeholders in the industry were represented during the research journey, and we are truly grateful for their support. We look forward to the continued good working relations not only during this period, but also in the future as we jointly strive to take the sector to greater heights.

The completion of this research could not have been accomplished without the support provided by the Principal Secretary, Hon. Safina Tsungu, CBS, to examine matters that have affected tourism in the wake of the pandemic.

Lastly, I'd like to appreciate the leadership role provided by the Cabinet Secretary, Hon. Najib Balala, EGH, to enhance resilience of Kenya's tourism sector during this period. This will ensure that the gains made so far in the tourism sector are not eroded by the COVID-19 pandemic.



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1. DIGITIZING TRAVEL AND TOURISM INDUSTRY IN KENYA

1.1 Introduction

Digitalization has transformed the way business is done across nations, providing exceptional opportunities for value creation. Consequently, business leaders, across all sectors, are grappling with the strategic implications of these transformations in their organizations, industry ecosystems, and society at large (World Economic Forum, 2016). Digitization is a critical aspect of today's economies, and many sectors are taking advantage of it, to enhance their businesses and brands (UNCTAD, 2019). The travel and tourism industry is evolving rapidly and the business players in the industry need to continuously embrace the latest trends and developments to stay competitive.

Information and Communication Technologies (ICTs) are important tools for identifying changes and trends that allow decisions for seizing tourism developmental opportunities, early (Petti & Passiante, 2009). Travel and Tourism is heavily information-based and would benefit immensely from such ICTs. For Kenya to be a competitive tourism destination, it is important to explore the extent to which the use of modern technologies has impacted Kenya's tourism industry.

1.2. Significance

Digitization and the use of ICTs is good for planners and practitioners within the tourism industry, as it can provide the needed competitive advantages in promotion, as well as strengthen the formation of strategies and operations of the industry (Buhalis & Amaranggana, 2013). ICTs have the potential to increase a destination's revenue; develop and reinforce local tourism and tourism-related entrepreneurship and activities; develop genuine tourism offerings that rely on local productions and traditions and enable direct promotion and commercialization of local tourism offerings in international markets reducing dependence on big foreign intermediaries (Asafe et al., 2013). ICTs allow destinations to improve online presence and offline connectivity such as collaboration as well as inter-sectoral linkages among local public and private tourism and tourism-related actors required to compete in today's global tourism market (Okon, Agbogun, & Yusuf, 2017).

According to Prebensen, Vitterson, and Dahl (2013), the tourism industry has a variety of services that can benefit from ICTs such as the accommodation services, catering services, transport services, tourist support services, recreational services, attractions and the entertainment services. They also consider ICT as crucial in providing important information about tourist destinations, demand and supply, geographic information and weather, amenities, pricing, and information about tour companies, intermediaries and competitors. It is thus apparent, that the various ICT tools are essential for all types of tourism activities.

1.3. Statement of the Problem

The world is developing rapidly and destinations have become increasingly competitive and complex. Therefore, ICTs will coordinate all activities and services, leading to connected, better informed and engaged people (Buhalis & Amaranggana, 2013). With regard to ICT systems, tourism destinations require to dynamically interconnect stakeholders through a technological platform on which information relating to tourism activities could be exchanged instantly.

The UNWTO, 2018 highlights tourism and digital transformation as part of its agenda (UNWTO, 2018). The UNCTAD (2019) recommends digitization as an avenue through which creativity and experimentation can be enhanced. Kenya has been at the forefront of enhancing the use of ICTs, now, with a fully-fledged Ministry of Information, Communications and Technology, in charge of ICTs implementation. Other Ministries including the Ministry of Tourism and Wildlife (MoTW) have made great strides in promoting use of ICT's in enhancing communication and commerce.

However, in spite of the wide use of ICTs, Kenya has yet to timely measure not only its returns on investment on promotional campaigns, but also the quality and sustainability of its attractions. In addition ICT should make it possible for Kenya to monitor visitor and investor behavior, and the MoTW could use digitization to augment research and sound management policies based on real

time data. The challenge, therefore, is to ensure that there are credible content developers for the digitization to succeed. There is also need to ensure that digitization is well integrated with other tourism initiatives within Kenya. This implies that there is need for digital transformation in order for digitization to truly take shape and benefit the industry. This requires Kenya's tourism sector to have a strategic approach to digitization for enhanced opportunities, better goals targeting and quality optimization.

1.4. Objectives

The purpose of this study therefore is to gain insights into Kenya's tourism digitization initiatives and how this can be augmented for the future.

The specific objectives are:

1. To capture travel and tourism knowledge and experiences from both supply and demand perspectives
2. To utilize ICTs in the interpretation of the tourism product
3. To undertake digitized mapping of tourism resources in Kenya
4. To develop a strategic digital marketing platform for Kenya's tourism
5. To develop systems to fight against false information in the tourism industry in Kenya
6. To develop an Integrated Destination Management System for the industry

1.5. Conceptual Framework

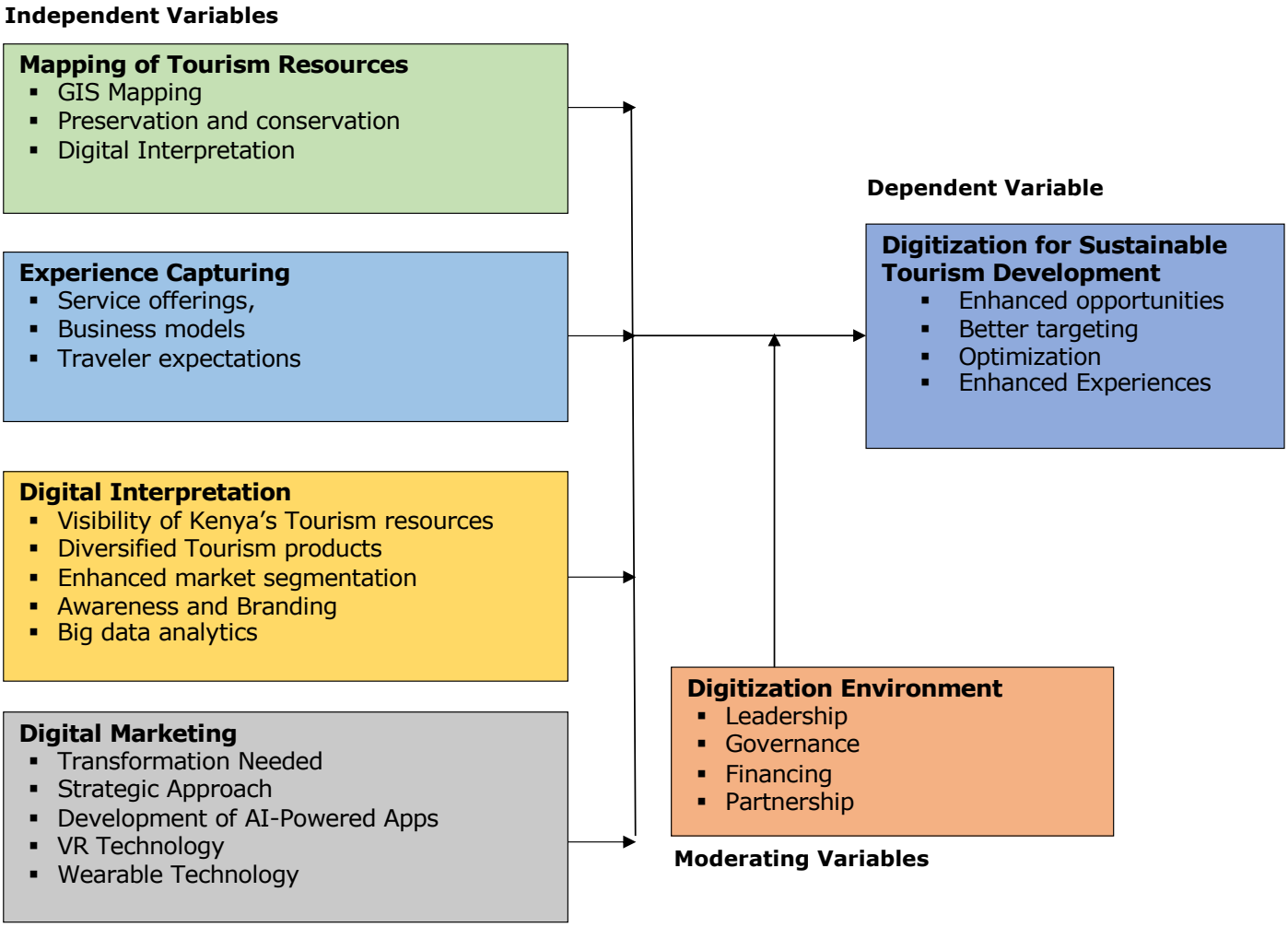


Figure 1. Conceptual Framework on Digitizing Travel and Tourism Industry

Digital technologies have brought significant transformation to the tourism industry in the following ways:

a. Revolutionizing tourism enterprises, products and experiences, business ecosystems, and destinations.

b. Transforming the traditional roles of tourism producers and consumers, with new roles, relationships, business models, and competencies, leading to customization of visitor experiences and enhanced visitor satisfaction.

c. Increasing the variety and volume of tourism products, services and experiences, functionality accelerating the speed of economic transactions, market awareness and feedback.

Coordinated efforts to foster an innovative digital culture in tourism in Kenya can ensure that the destination is competitive both nationally and internationally (Dredge, et al., 2018).

1.6. Key strategies suggested in this project are

1. Knowledge and Experiences Capturing and Sharing for Kenya Tourism Industry
2. Interpretation of the tourism product
3. Geospatial presentation of Tourism resources in Kenya
4. Digital marketing
5. Fight against the Spread of Disinformation

2. DIGITIZATION STRATEGIES FOR TRAVEL AND TOURISM IN KENYA

2.1: Knowledge and Experiences Capturing and Sharing for Kenya Tourism Industry

2.1.1: What is Knowledge Capturing?

Kenya as a destination needs to package information on tourism products through the process of knowledge capturing. Knowledge Capturing is the process of converting the knowledge that resides in people's heads, and elsewhere, into tangible, explicit knowledge assets (Khatun, 2018). This will involve recording experiences from all forms of tourism in Kenya in a format that can be stored, further processed, adapted, and shared within and outside the destination.

The packaged information from knowledge capturing and other sources will then be shared in form of media such as text, audio, videos, images, graphics, etc. (Janus, 2016). Different media could be used that includes website, social media, emails, narratives at the attractions etc. This information will add value in product packaging and marketing, and prolong the product life cycle in line with the recommendations given in the National Tourism Blue Print 2030, developed by the Ministry of Tourism and Wildlife in 2017.



Five-Step Process for knowledge capturing

Capturing of information will be based on the following five-step process:

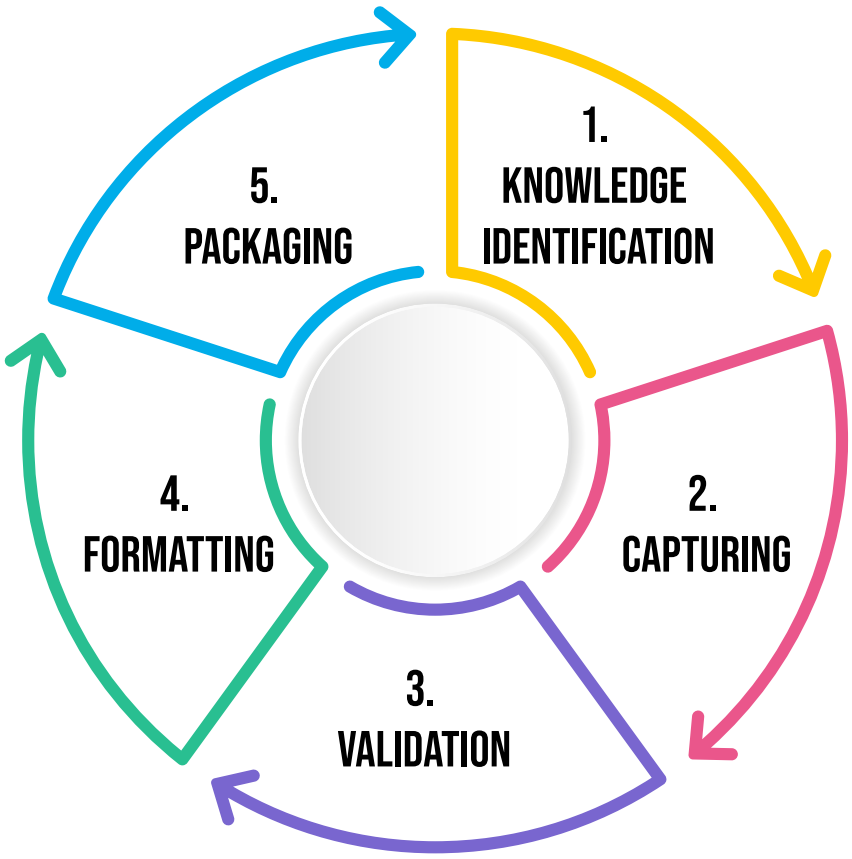


Figure 2. Five-step process for knowledge capturing

1. Identification defines the experiences and lessons learned that should be captured for later sharing (Janus, 2016). The right knowledge at the right time and place can be crucial to overcoming barriers and aiding decision making. Organizations need to determine what is worth sharing and what is not and the identification step is crucial in making that distinction. The process of identification involves targeting such as identifying assets or gaps and applying criteria for deciding on the importance of potential knowledge assets. These include different products such cultural, wildlife, beach, landscapes etc.

Criteria for Knowledge Capturing

a. Relevant

b. Narrowly focused

c. Shareable and replicable

d. Easy to capture or record

e. Easy to validate

f. At risk of being lost

2. Capturing means recording lessons learned from an experience or event by converting the knowledge learned into tangible, explicit knowledge assets. This usually involves recording it in a format that can be stored, further processed, adapted, and shared. Common media formats to capture experiences and lessons learned include text, audio, video, images, and graphics. Making experiential knowledge explicit helps to surface the often hidden knowledge in an organization. Capturing is the critical action that leads to the creation of a library of knowledge assets that can be shared regardless of the availability of one individual. Using a predetermined template, a destination can document knowledge with a standardized story line such as:

- Contextual information
- Actual actions undertaken to overcome challenges
- Results of the actions
- Critical lessons learned from the experience

- Recommendations for those interested in replicating the experience elsewhere
- Telling the Story
- The capturing process structure:
- Stories usually have a beginning, middle, and an end, and so will the story that will be documented
- It starts with a compelling title that suggests what to expect in the story.
- Description of the actions taken to overcome the challenge,
- Highlight the results, and
- Close with concrete lessons learned and transferrable recommendations.



Figure 3. Storyline for capturing and structuring a knowledge asset capturing activities

Experiential knowledge and lessons learned can be captured using a variety of methods, which include:

- Interview
- After-action review
- Storytelling
- Focus group
- Observation
- Wiki
- Blog
- Collaborative workspace
- Back-to-office report
- Webinar
- Online forum Community

The Output

The output of the capturing process is a knowledge asset consisting of some or all of the following elements:

- video,
- audio,
- graphics, and
- text

3. Validation

Validation is the quality-control part of the program that produces knowledge assets. Validation ensures that captured experiential knowledge is presented truthfully, correctly, and in a professional and accessible manner.

Validation Criteria

- The following validation criteria will inform the evaluation process.
- Does the operational experience or lesson learned add to what is already known as a practice that yields successful outcomes? Is it a valuable contribution to the operational

practice of the industry?

- Does the knowledge asset address a distinct issue or challenge?
- Is the content correct?
- Is it presented clearly, so that it cannot be misinterpreted?
- Is the formal presentation and formatting of the content adequate?
- Is the language clear and appropriate?
- Is enough context provided for understanding the particular circumstances in which the operational experience occurred?
- Are concrete lessons and recommendations included?
- Does the knowledge asset create any risk, including reputational or regarding use of intellectual property?

4. Formatting

Formatting involves applying a common, consistent, and user-friendly presentation standard, or format, to all information packages so that users can quickly and efficiently browse through them—especially important for assets containing a variety of media; and labeling packages with information, keywords, and other metadata to increase their searchability. Formatting is important because it allows others interested in the subject matter to easily find the material. If the asset contains several disparate pieces of media, such as written material, video recordings, and images, they also should be assembled in a logical way to make them accessible.

Each product package should be presented using the following formats:

a. Documents (text, images, and graphics),

b. Presentations (slide shows with text, images, graphs, video, audio, and possibly some interaction), and

c. Videos

5. Packaging for sharing

Packaging knowledge assets is usually done in publications and in presentations.

Packaging characteristics:

- Succinct and to the point
- Interesting, even intriguing
- Provoking reflection and reaction
- Application-oriented
- Well sequenced
- Built to reach a set of specific (learning) objectives
- Oriented toward a particular audience
- Professional looking
- Easy to understand, avoiding jargon
- Produced in a language that the user is comfortable with.

To enhance digitization of tourism in Kenya, digital interpretation of the tourism product is key. Digital interpretation is in the form of digital interpretive media such as video, animation, 3D simulation, virtual reality, and augmented reality. There is need therefore, to utilize digital interpretive media at tourism attractions with the aim of improving on the existing traditional media types. In order to attract more tourists, it is suggested that more advanced interpretive media, namely computer simulations; personal stereo guided tours, virtual reality, and augmented reality should be utilized as a way to conserve and preserve attractions, information and values (Liarokapis, Sylaiou, & Mountain, 2008).

Packaging of tourism products using digitization is vital in Kenya today. Digital interpretation is not possible without destination packaging and effective partnership. Various stakeholders need to work in tandem through effective partnerships, which in turn will provide integrated experience and travel itineraries for visitors (Li, Guo, Cao, & Li, 2018). Digital interpretation would provide visitors with attractive images and unique emotional propositions; provide a wide range of information to enhance planning; and enable booking of various forms of packages in one e-booking platform.

Product improvement is key to the success of digital interpretation. In this regard, to be successful, the whole operation must be very customer driven, making it vital to identify products that appeal to key market segments (Flankegård, 2017). Collaboration and packaging by industry is therefore important in addition to advertising and promotion.

6. Knowledge Sharing

After capturing the knowledge, the next step will be sharing it. Knowledge sharing is the process that experience, information, skills and expertise are exchanged, shared and transferred among organization members (Kim & Lee, 2013). Knowledge sharing is a key factor that influences the organizational learning, service innovation and competitive advantage of tourism enterprises. Tourism being a labor-intensive industry, the industrial activities mainly relies on interpersonal communication and interaction (Rao, Yang, & Yang, 2018). Knowledge sharing among tourism enterprise organizations is important and can transfer information without barriers and ensure the timeliness of decision-making. This could be done in form of videos, pictures, narratives etc. Media includes website, social media, emails etc.

2.2: Interpretation of the tourism product

Interpretation is an educational activity which aims to reveal meanings and relationships through the use of original objects by firsthand experience and by illustrative media, rather than simply to communicate factual information. In tourism Interpretation is a communication process, designed to reveal meanings and relationships of our cultural and natural heritage, through involvement with objects, artifacts, landscapes and sites (Veverka, 2005). Interpretation increases the visitor's understanding, awareness and appreciation of nature, of the tourism product hence providing an enjoyable and meaningful experience.

Interpretation may be delivered off-site and on-site and be in either a 'personal' (e.g. guided walks) or 'non-personal' (e.g. brochures) form.

Off-site interpretation

The purpose of off-site interpretation is to:

Pre-visit:

- To inform prospective visitors of existence of the destination and its resources.
- To ensure visitors' expectations are realistic, that images portrayed are relevant and aligned with the destination.
- To ensure that visitors understand the destination.

Post-visit: To provide material to extend visitor's on-site experience.

On-site interpretation

The purpose of on-site interpretation is to enrich the visitor experience of destination by assisting tourists to develop a keen awareness, appreciation, and enjoyment of the value, features and issues of product and educating visitors about appropriate behaviors to alter use patterns – attitude and value change (Wearing et al., 2014).

2.3. Digital marketing



Figure 4. Digital Marketing

Tourism marketing is always about connecting with your target audience in the right place and at the right time. In the modern world, that means you need to meet your audience when they are already spending time on the internet (Kolb, 2017). This makes digital marketing to be a key aspect in digitization of the tourism industry in Kenya.

Digital marketing encompasses all marketing efforts that use an electronic device or the internet. Businesses leverage digital channels such as search engines, social media, email, and other websites to connect with current and prospective customers. This means that there are a number of endless possibilities for tourism brands including email, video, social media, or website-based marketing opportunities.

Digital marketing is therefore vital for Kenya's tourism business and MagicalKenya brand awareness. Having a website and a social media presence or digital advertisement strategy is necessary for the development of tourism. Digital content and marketing is so common that consumers now expect and rely on it as a way to learn about tourism destinations and brands found within them. For Kenya's tourism to enhance its competitiveness, tourism stakeholders will need to embrace some aspects of digital marketing.

An integrated approach to booking and marketing: The integrated online booking system allows users to book accommodation, transportation, attractions, entertainment and leisure offers. The main aim of such integration through digitization would be to pool and purposefully direct marketing efforts within and outside Kenya to promote Kenya's tourism industry. For digital marketing to succeed there is need to consider adoption or improvements in the following areas:

- Adoption of clean, clear and efficient appealing, modern web design
- Focus on customer benefits delivering the essentials
- User-centered functions rather than rigid, complex structures
- Search instead of complex navigation structures
- Magazine and map view to provide inspiration
- Creation of ambassadors for Kenya
- Sharing of everything on Facebook, Twitter, Instagram, etc.
- Adaption of the MagicalKenya logo by all tourism entities
- Integration of the MagicalKenya website and MagicalKenya booking platform
- Access to information by geography or theme from the portal page through GIS applications

2.4: Geospatial presentation of Tourism resources in Kenya

In order to achieve greater resilience for the travel and tourism industry in Kenya, one of the areas that the country can hugely improve on is in the mapping of tourism resources in the country using Geographical Information System (GIS). GIS is used to record, store, edit, analyze and reproduce spatial or geographical data. It performs as a tool to analyze spatial data and assists in building decision support systems for destinations. A lot of information regarding a destination is already available on the internet which can easily be accessed by tourists. However, accessing accurate and sufficient information is difficult. GIS produces thematic maps which can help tourists understand their destination in a better and detailed manner. In addition, GIS enables visitors to enhance their experience and helps them understand the culture and values of the people living in the area.

Tourism contributes to other sectors and greatly develops the economies of countries. Mapping is an important tool that a destination can use in promoting tourism both domestically and internationally. Tourism mapping is crucial as it provides guidance to tourists in identifying and finding the best tourism spots in the area (Eboy, 2017). Mapping of existing and potential tourism facilities, services, infrastructure, resources and attractions in Kenya is important in displaying the well-known tourism products as well as opening up the underutilized regions. Tourist maps have also been known to play vital roles in identifying and locating tourist attractions and have essential roles to play in the effective and efficient management of tourism resources (Eboy, 2017).

Tourism mapping aims at identifying and visualizing market trends, patterns, opportunities and threats which otherwise may not be possible with data on paper and in tabular formats, for sustainable planning, management and marketing. Tourism has increasingly expressed demands for new technologies in the management and control of tourist activities, as well as in the decision-making process and one

of it is the use of GIS technology. GIS is used for the collection, storage, management, analysis and mapping of geographic data and today, it is the most widely used in tourism planning, or in management of tourism resources (Cvetkovic & Jovanovic, 2016). This technology integrates common database operations such as query with the unique visualization and geographic analysis benefits offered by maps (Jovanović & Njeguš, 2013). GIS has the capacity to handle several kinds of information that can be related to a location or area making it possible to integrate tourism information, visualize complex scenarios, present powerful ideas and derive effective solutions, otherwise not possible (Eboy, 2017).

In the new global order, sustainable development of tourism needs the support of GIS technology to improve business operations, both in the tourist offer, and in the tourist demand (Cvetkovic & Jovanovic, 2016). Studies in Chinese tourism indicate that GIS technology is applied in several aspects. These include investigation of tourism resources and the development of tourism products; landscape tourism planning including landscape mapping, spatial analysis, tourist communications, landscape visualization; tourism information management; tour guide system among others. This shows that the GIS technology is already widely applied in many aspects of the tourism industry; in many cities and destinations hence making management system more scientific, easy to operate and very efficient. Furthermore, Hongyong in 2010 presented a GIS-based tourism information system design, through an experimental analysis of the tourism development status, whose results showed that the design is simple to achieve, easy to extend and maintain, and has very high practical value.

2.4.1: The Application of GIS in Tourism

GIS is one of the most remarkable technologic innovations in tourism planning and decision making (Thecla & Odum, 2014). Tourism uses GIS to improve business operations, both in the tourist offer, and in the tourist demand (Cvetkovic & Jovanovic, 2016). GIS is also applied in tourism to show the inventory of recreational capacities, management of tourism resources, visitor impact assessment, evaluation of conflicts between recreation and environment mappings, creation of tourist information management system, and in decision making (Eboy, 2017).

2.4.2: The Application of GIS on the Side of the Tourist Offer

The success of tourism in any country depends on the ability of the country to successfully develop, manage and promote tourist resources and processes. The tourism organizations can use GIS to provide tourist information on the tourist offers in their destinations, carry out a census of the tourist resources available in their destinations in order to properly manage tourism and tourism developments, as well as provide information about tourist offers on the internet (Chandel & Kanga, 2018). In this case, GIS can be used to integrate, store and manipulate different types of data, qualitative and quantitative, spatial and non-spatial. Tourism, mostly, uses GIS as part of a broader process of tourism planning to determine the suitability of sites for tourism development. With the help of GIS, it is easier to define locations' capacity and quality, accessibility, and possible locations for organizing tourist activities (Cvetkovic & Jovanovic, 2016). GIS technology is also important in the documentation of data and the possibility of thematic mapping in a quick and efficient manner; the production of maps of different scales according to the requirements of different users; easy and quick change of information on maps; and presentation of the results in the cartographic, statistical and tabular form.

2.4.3: The Role of GIS in Tourism Marketing

GIS technology is considered a major component of marketing with the role of combining technology and elements of the marketing mix, throughout market planning and decision-making process, leading to new marketing strategies (Spatial Sciences Institute, 2019). This technology is used as a tool for investigation and identification of new markets with biggest potential and development of marketing strategies to guarantee the development of new products and services (Schwertner, 2017). It is also important in tourism marketing and is commonly used for customer segmentation based on location, evaluation of locations of certain facilities and identification of places that have the best profit potential.

Location has always played an important role in marketing and the spatial component of marketing and advertising has grown even more critical in the digital age (Spatial Sciences Institute, 2019). Advertising and promotion strategies need to become more precise and more relevant and using GIS in marketing effectively will be essential to ensuring the right people see the right messages. Since the main role of GIS is spatial data management, tourism marketers can gain rich spatial insight into marketing data with a greater potential for the visualization of marketing analysis. Marketing through GIS therefore, requires good management and clear plans to deal effectively with the continuous changes in both international and local markets.

2.4.4: The Application of GIS in Tourist Demand

The integration of GIS techniques with the internet has many applications in the area of tourism marketing in both demand and supply of tourism (Al qeed et al., 2010). Tourists use GIS to search for tourist information which assists them in travel planning, determining optimal locations for a visit and accommodation and in making decisions about travel to a tourist destination (Jovanović & Njeguš, 2013). The key advantages of GIS for tourists are: visualization of tourist destinations and places via maps, digital images and video contents, valuable information about tourist sites, selective information and special activities, such as route planning, accommodation information, cultural events, special attractions and many more (Cvetkovic & Jovanovic, 2016). The most common use of GIS on the side of tourist demand is linked to the Web GIS which facilitates viewing map information through a Web browser for the viewers. One of the factors that contribute to the good positioning of tourist destinations is a quality web-site that is based on the application of GIS technology with a high degree of interactivity (Baviskar, 2017).

2.4.5: Using GIS in the Monitoring and Analysis of Indicators of Sustainable Tourism Development

The complex structure of the tourism system imposes the need for a multidisciplinary approach in the planning process for sustainable tourism development. The issue of monitoring the impacts of tourism, managing the movement of tourists, tourism marketing, participatory planning, management of cultural resources and the development of systems to support the decision-making process are the most current topics that occupy the attention of many tourism development planners at the destination (Mason, 2015).

The use of GIS in planning of sustainable tourism development at the destination and the process of implementation of plans requires the development of specific indicators which measure the degree of sustainable development of tourism at the destination, and their monitoring implies the use of numerous and diverse information (Boers & Cottrell, 2007). This helps with planning at the national level on tourist patterns to tourist attraction, in this way; it is possible to monitor the impacts of tourism on the environment on the different types of natural attractions, and any future negative impacts can be prevented.

The application of GIS for tourism has been diverse, including the systematic inventory and audit of tourism resources and conditions; identification of potential development; simulating and modeling spatial outcomes of proposed developments through visibility analysis; and simulation modeling to facilitate monitoring and management of visitor flows (Thecla & Odum, 2014). GIS is thus considered a decision support system involving spatially referenced data in a problem-solving environment and can be used as an approach for sustainable tourism infrastructure planning in protected areas (Boers & Cottrell, 2007).

2.4.6: The Role of GIS in Protected Areas

The development of information technology has received extraordinarily high importance in the field of biodiversity, as well as in the establishment and management of protected areas. The use of GIS is vital in terms of documenting information and the development of the management model not only at the local level, but also in the national level. Protection of natural resources has always benefited from the use of maps for example a map of

species distribution, of distribution of the reserve or a map of plant and animal communities (Cvetkovic & Jovanovic, 2016). The importance of GIS lies in the fact that it can produce "one-off" maps that can be used to solve current problems, as well show the interactivity of GIS.

When it comes to tourism in protected areas, the ability of GIS to store and use multi-layer data enables the connection of information about the suitability of habitat for some plant and animal species with data on recreational uses or spatial preferences (Jovanović & Njeguš, 2013). In this way it is possible to identify where these data layers overlap and what potential conflict areas are. In addition to demonstrations of GIS, it can also be useful to tourism where by mapping locations via GIS is performed for a sustainable development of paths in the protected area by overlapping layers which show the possibility for visitors and the carrying capacity of the area, taking into account all the components and interconnections of the tourist system (Thecla & Odum, 2014). Thus, developing a framework for infrastructure planning for sustainable tourism; and to integrate the sets of sustainability criteria such as development goals, the expectations of visitors, carrying capacity, and impacts on resources.

2.4.7: The Role of GIS in the Analysis and Management of Cultural and Historical Heritage

Cultural heritage sites are threatened from a variety of natural and anthropogenic factors. Innovative and cost-effective tools for systematic monitoring of landscapes and cultural heritage sites are needed to protect them (Agapiou, et al., 2015). GIS technology has multiple roles in managing cultural and historical resources and in locating, interpretation and preservation of historical sites. The technological achievements of space technology, RADASAT, laser technology in combination with digital photography offers new opportunities for protecting the current heritage sites and for future archaeological discoveries (Tapete & Cigna, 2017). In the same way, GIS can be used to establish an information system that integrates plans, maps, texts, pictures, video and other multimedia content (Cvetkovic & Jovanovic, 2016). This database can be used for virtual tourism, enabling anyone with Internet access, to explore, and experience tourism destinations. In order to enhance digitization of the tourism industry in Kenya, mapping of tourism resources is important.

2.4.8: GIS application in Tourism in Kenya

This project will determine the spatial quantity, capacity, quality, status and distribution of tourism attractions, amenities, activities, accessibilities and ancillary services around the country that will be accessible across the world. The ultimate goal is to create an Integrated Tourism Management System with updated content from all the stakeholders. This will ultimately increase the country's market share and assist with product diversification. The content will also improve the country's competitiveness index, which currently stands at position 82.

This project will apply GIS in tourism in the following ways:

- Information on tourism resources location
- Provision of selective information such as planning accommodation, cultural events and special attractions

2.4.9: Mapping Project Objectives

i. Visualization of tourist georeferenced tourism sites through digital images and videos of the quantity, capacity, quality and status of tourism resources (attractions, amenities, activities, accessibilities and ancillary services) around the country.

ii. To set up and develop a spatial distribution map of tourism resources

iii. To find out gaps and determine the need to stimulate investment, movement and development of appropriate tourists' facilities around the country to address the gaps.

iv. To identify potential to develop County Flagship tourism opportunities.

v. To apply the georeferenced data for tourism planning, product interpretation and online marketing.

2.4.10: Methodology

A combination of methodologies will be used to achieve the desired results. These include;

i. Review of existing literature

ii. Conduct a site visit to the various destinations in 47 counties and gather information on the tourism products available using GPS co-ordinates and GIS collector which is an app that is installed in mobile phones and can collect data through use of images and pre-designed questionnaires

iii. Compile a report on the visit to various regions

iv. Map this information in desktop and online platforms

v. Develop story maps and other presentation documents

vi. Three CCTV observation cameras will be mounted in three location in the Maasai Mara National Reserve, beach and marine sites to provide live streaming of tourism attractions that will be connected to the internet.



2.5: Fight against the Spread of Disinformation

There should also be mainstream digital and social media efforts being made to counter evolving negative information. This could be spearheaded by a specialist section of the Kenya Tourism Board.

Table 1. Digitizing Travel and Tourism Industry in Kenya Strategies Implementation Matrix

Strategies in digitizing travel and tourism in Kenya		Implementation	Responsibility
1.1 Knowledge and Experiences Capturing and Sharing for Kenya Tourism Industry			
1.	Capturing, packaging and sharing knowledge from all forms of travel and tourism	1. Knowledge identification 2. Capturing 3. Validation 4. Formatting 5. Packaging	• TRI • Academia • KTB • Private Sector
1.2 Interpretation of the tourism product			
2.	Visitors Centre/ Discovery Centre (Digital and human)	Visitor Centers typically act as the starting point for people looking to explore the destination. They should be located where visitors can access information easily	• KTB • Private Sector
3.	Guided Tours/Walks (Digital and human)	Sightseeing, educational/interpretive and other guided tours and walks should offer rich content to visitors.	• Private Sector
4.	Signage/ Bulletin Boards (Digital and static)	Signage forms one of the most cost-efficient forms of management advertising in a destination. Provision of travel information, i.e. the facilitation of easy movement visitor safety.	• Private Sector
5.	Information Brochures (digital and paper) e.g. flash disks	• Visitor brochures should be issued to visitors in destination sites. • The brochures may focus on the education of tourists regarding their impacts on the environment, outline how tourists may enhance their experiences at the destination and educate tourists more about the destination in general. • The brochures could be translated into foreign languages, which make them a useful tool for educating international visitors.	• Private Sector
6.	Media (Television, Videos, Radio, Books)	• These could be used to acquaint visitors with the characteristics of the destination and educate them through the use of visual and audio aids. • Package and disseminate content on website and social media for international and domestic tourists - Repackage tourism product with local market interests and air adverts on local media to change attitude towards travel and tourism	• KTB • Private Sector

7.	**Others**: Exhibits in wayside displays/shelters, Formal talks, Slide program, Dramatization, Demonstrations, Audio tours, Interactive computer programmes	All these could be set up at agreed sites with rich information for visitors with special features such as group discounts, special packages, incentives such as free added products for consumers such as bonus meals, sightseeing, and entry to attractions and Documentaries on destinations	• Private Sector
1.3 Digital Marketing			
8.	• Social Media Marketing • Content marketing • Email marketing • Search engine marketing (SEM) • Search engine optimization (SEO) • Pay-per-click advertising (PPC) - a model of internet marketing in which advertisers pay a fee each time one of their ads is clicked • Affiliate marketing	Content from GIS maps, interpretation and knowledge and experience capturing could help in ranking the destination website continuously favorably online through the provision of quality content and using relevant investments. • Sharing interesting and relevant content • Engaging audiences in conversations • Using social media for customer service, including answering questions and addressing complaints • Using social media advertising to reach new audiences and convert prospects • Building brand recognition and loyalty through engagement, commenting and sharing • Collaborating with influencers to reach out to new markets and increase recognition and trust • Analyzing data to better understand the needs, wants, and behaviors of customers and prospects • Gathering user-generated content to share • Connecting with audiences on a more personal level and building relationships Using these marketing techniques, the destination will create and distribute valuable, relevant and consistent content to attract and acquire a clearly defined audience – with the objective of driving profitable customer action through **Infographics (**graphics that include statistics, charts, graphs, and other information); **Webpages, Podcasts and Videos.** Customer relationship management and loyalty or reward programmes Creation of an Integrated Tourism Management System that is georeferenced	• KTB • Private Sector

1.4 Geospatial presentation of Tourism resources in Kenya			
9.	Creation of digital tourism resources	i. A report will be compiled on tourism resources in Kenya. This will be distributed using books, brochures, CDs, magazines and Flash disks. ii. Maps on tourism in Kenya will be developed in desktop and online platforms iii. Story maps and other presentation documents will be developed on the online platform. iv. Live streaming of tourism resources on the internet platforms v. Provide information on tourism resources for the development of a fully functional and digitized Tourism Information Centers across the country vi. Provide information on tourism resources for establishment of electronic display books/brochures/catalogues vii. Provide information on tourism resources for development of proper signage, including displays and information booths in major cities viii. Provide information on tourism resources for Mobile app for tourism in Kenya.	• TRI • Academia • KTB • Private Sector
1.5: Fight against the spread of disinformation – Media -		**KTB**	



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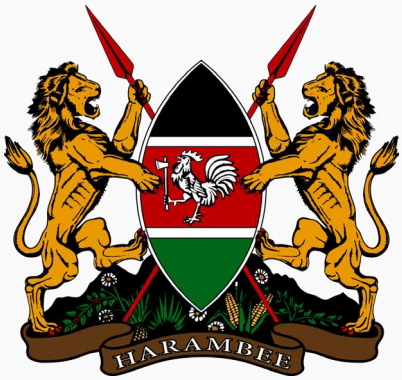
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