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## Smart Tourism for Enhancing Tourism Experience: Prospects and Challenges for Africa

Randhir Roopchund

### 1 Introduction

Tourism is one of the biggest and rapidly growing and promising sectors in the world, triggering growth, creating jobs and also helping to reduce global poverty. According to the UN World Tourism Organisation (UNWTO 2017), the tourism sector accounts for 10 per cent of global GDP, 10 per cent of total employment worldwide and 7 per cent of the world's exports equivalent to USD 1.4 trillion. However, the tourism industry is currently dealing with a number of challenges such as climate change, sustainability and digitalisation which will shape the future of the industry. Digitalisation and tourism success are inherently and intrinsically linked (Tralac 2018). The rapid progress in Information and Communication Technology (ICT) is fast developing the tourism sector creating both opportunities and challenges.

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R. Roopchund (✉)

Université des Mascareignes, Port Louis, Mauritius

e-mail: [roopchund@udm.ac.mu](mailto:roopchund@udm.ac.mu)

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Tourism arrival in Africa has increased by 8 per cent (63 million USD) for the year 2017 and tourism receipts increased by 8 per cent (USD 37 billion dollars). This shows that the tourism sector represents huge opportunities for growth. There are signs of recovery in Northern Africa and very good performances from countries such as Kenya, Cote D'Ivoire, Mauritius and Zimbabwe (UNWTO 2018). Matema (2018) is of the view that limited use of technology by the tourism sector within Africa presents various business technology opportunities for tourism in Africa. He further claims that investing in smart technology innovations is said to be the solution that will raise the African tourism industry to a world-class tourism level. The current use of technology in tourism is mostly within static websites but does now allow for improving customer engagement and interaction (Matema 2018). It should be noted that Africa has more than 1.1 billion Internet users which represents a great potential for growth.

## 2 Smart Tourism Concept

The Smart Tourism destination (STD) idea is attracting a lot of interest from researchers and may be considered as a significant development in the tourism field (Jovicic 2016). The hypothetical development is still limited and the “destination concept” is complex, evolving, socially-developing and multi-layered, as reflected in the literature (e.g. Pearce 2014; Saarinen 2004; Saraniemi and Kylanen 2011). Smart destinations are largely influenced by some earlier conceptualisations, for example, ‘e-Destinations’. E-Destinations stress the usage of ICTs to provide data and to end up an instrumental part of all transactions along the value chain (Buhalis 2003). In smart destinations technology is centrally embedded in all elements thanks to new developments such as the Internet of Things (Koo et al. 2015).

Many countries are under increasing pressure to realise Smart Tourism in order to influence their economic growth and development. In Asia there are more collaborative efforts to drive the Smart Tourism agenda forward. Governments in China and South Korea are supporting initiatives to develop the technological infrastructure that supports Smart

Tourism (Hwang et al. 2015). In Europe many of the Smart Tourism initiatives were born out of Smart City projects and, as a consequence, Smart Tourism destinations are increasingly making an appearance in the European tourism landscape. The focus in Europe is about developing smart end-user applications that support enriched tourism experiences using already existing data combined and processed in new ways and based on innovative approaches (Lamsfus et al. 2015; Boes et al. 2015a, b). In the Mauritian context, the government is encouraging Smart City schemes for building intelligent buildings to improve the sustainability of the economy. There are a number of Smart City projects that have been developed across the island—Medine Smart City, Moka Smart City and that of Beau Plan amongst others. In 2015, the Finance Minister proposed the creation of eight Smart Cities and five “technopoles”, with an overall investment of Rs. 120 billion and requiring 7000 acres of land. In Australia, the emphasis has shifted to smart governance and the use of open and big data. Based on the discussion, the transformative power of smart technologies is being universally accepted not only in terms of economic potential but also within the social and experiential dimensions.

## 2.1 African Smart Tourism

The *East African Magazine* (2016) outlines that Africa may reap many benefits from Smart Tourism. Estelle (2016) who is the co-founder of [Jovago.com](http://Jovago.com) explains that technology has reduced the costs for the industry. The site is an online platform with over 200,000 bookings and offers customers significant discounts. African tourists are also making increasing use of Trip Advisor to review customer feedback for making their decisions. Jackson (2016) reports that smart and innovation cities such as Hope City in Ghana and Kenya’s Konza Technology City herald good potential for hotel developments. “The travel industry is likely to reap the benefits of technology startups with increased domestic, regional and international business travel to a variety of countries in Africa,” the report said. Business air arrivals are expected to post a compound annual growth rate (CAGR) of five per cent for South Africa and six per cent for Kenya over 2014–2019, according to Euromonitor International.

The Mauritian government aims to position the country as a leading ICT destination, and to become the model in Africa that supports the new e-global age. There are 600 ICT companies operating in Mauritius in different business activities ranging from software development to business process outsourcing. There are some major players such as Microsoft, IBM and Accenture amongst others. The drive to emerge as an ICT-BPO (Business Process Outsourcing) hub has resulted from a plethora of factors such as the changing global economic environment, changing government policies and the Mauritian bilingual population.

Mauritius is a small island with a population of around 1,280,000. However, we have an Internet penetration rate of 63 per cent (the highest in Africa). Some 720,000 people use different social media such as Facebook, Instagram and Twitter. There are 1.74 million subscribers to mobile services indicating that we have more mobile phones and Sim cards than the actual population size. In addition, around 48 per cent of mobile phone users are active mobile social users. These statistics clearly demonstrate that Mauritius is poised to emerge as a Smart Economy where technology plays a key role in economic growth and development. The government has also adopted an e-government initiative whereby it plans to digitalise different ministries for improving effectiveness and efficiency.

## **2.2 Zambia as a Smart Tourism Destination**

The Zambian government has also embarked on the Smart Zambia project with the signing of an agreement during President Edgar Lungu's visit in China in 2015. The project was agreed with Huawei being the main supplier for the project. The project is named "The National ICT Development Project" and aims to build a national Cloud Data centre, and also the development of an ICT training centre. Huawei provided the Zambian National Data Centre with a reliable solution that included: A Three-Data-Centres-in-Two-Cities (3DC) solution that ensures the security and continuity of government services and data; a Huawei cloud solution with services such as government and enterprise cloud hosting;

and Huawei energy solutions to guarantee safe operation of devices in data centre equipment rooms.

According to Zambia's 7th Five-Year Development Plan, ICT has been identified as an important catalyst for socio-economic development and a driving force for good governance. In order to fulfil this mandate, Zambia needed to create a national programme to train ICT talent. The Zambia government expects that the expansion of educational opportunities for ICT managers and technicians will increase the employment rate nationally and lower the costs of operation for Zambian ICT enterprises. In addition to supplying the technical infrastructure, Huawei has also provided an advanced ICT training solution that includes modern multi-media classrooms and labs, course materials, and on-site training. The resulting high standard for training and certification ensures that a qualified workforce is available for data centre operations and business activities both inside and outside of Zambia. Dr Banda (2018), the Minister of Tourism, claimed that the tourism sector relied a lot on the use of technology for transforming data into value propositions. He also added that ICT can help to bring sustainable economic development to the country. The government is adopting a range of Smart Technology initiatives at all levels of public management of the country.

## 2.3 Understanding the Prospects of Smart Tourism

Smart Tourism helps tourists get information at any stage of the interaction in the hotel value chain. Tourists are now able to obtain information on the Internet, and tourists can also enjoy an experience of the tourist destinations by applying three-dimensional virtual reality software. In this way, they can get to know about different information about tour destinations, receive electronic coupons and make various reservation confirmations at intelligent terminals.

The new era of ICT has also opened up a wealth of new tools for the tourism industry. Nowadays, tourism destinations face a set of new challenges arising from changes in both consumers and the environment as influenced by the emerging technologies. In order to deal with these challenges, first of all destinations have to recognise the kinds of changes that

have occurred, and then proactively respond (Soteriades 2012). From a tourism perspective, ICT could contribute in terms of generating value-added experiences for tourists, while also improving efficiency and supporting process automation for the related organisations (Werthner 2003 as cited in Gretzel 2011). Thus, the development of the Smart City could also encourage the formation of Smart Tourism Destinations. With technology being embedded within the destinations environment, it can enrich tourists' experiences and enhance destination competitiveness.

## 2.4 Tourism Applications in Smart Tourism Destinations

Recognizing the economic importance to mitigating the challenges was high on the agenda during the 2017 World Tourism Conference held in Rwanda earlier this year. Many African leaders discussed how to maximize opportunities and also reviewed the needs of the sector to reach its full potential. Different ministers and tourism stakeholders such as tour operators, travel agents, hotels and airlines attended the conference. Different opportunities and challenges were discussed for achieving the tourism objectives.

Table 9.1 shows a number of opportunities for Smart Tourism in Africa. It is important for tourism providers to collaborate to improve the consumer experience to achieve competitive advantage. Buhalis and Wagner (2013) are of the view that destinations should implement those technologies that will achieve higher levels of competitiveness. In addition, earlier references in this article show that the African continent is taking several initiatives to improve the image of Africa as a Smart Tourism destination (Boes et al. 2015a). It is important for Africa to harness its resources to achieve this vision. McCabe et al. (2012) suggest a scenario-based design (SBD) that has proved to be a useful approach to engage diverse tourism stakeholders in collaboration to overcome technological knowledge barriers and to generate new ideas for transforming tourists' experience of the city. A similar technique was applied by Ronay and Egger (2013) to investigate the Near Field Communication (NFC)

**Table 9.1** Applications of Smart Tourism

Applications	Utility (Buhalis 2000)	Dimensions (Smart Tourism) Cohen and Cohen (2012)	Destination components
1 Augmented reality (AR) enables visitors to experience digital recreation of tourism sites and time travel (Chillon 2012)	Interpretation	Smart people	Attractions
2 Vehicle tracking system provides a real-time information of transport network and could be distributed to end-user devices (Arup 2010)	Planning	Smart living	Accessibility
3 Hotel should be able to predict energy demands for building and performing energy audits based on their environment management (Metric Stream 2013)	Sustainability	Smart environment	Amenities
4 A multi-languages application that provides a range of services such as electronic travel guides which also offer numbers of available packages for tourists (Jordan 2011)	Guidance	Smart people, smart mobility	Available packages
5 Tourists are able to register their complaints through a Complaints Management System that is supported by various ICT channels such as SMS or mobile applications which could directly route them to appropriate officials (Metric Stream 2013)	Feedback	Smart living	Ancillaries

Source: The authors

Smart City concept and how plausible future scenarios for implementing such a concept in tourism destinations might look.

The study by Buonincontri and Micera (2016) shows that innovative technologies improve the overall experience of co-creation. They used two European Smart Tourism destinations to provide insights and to assist in decision-making. The authors are of the opinion that the use of

smart technologies may have a positive influence on the co-creation of the tourism experience. Tourists are now able to engage and share their views about their experiences at any point in the value chain through different technological platforms.

Pearce (2015) suggested the integration between concepts to create tourist destination. Pearce (2015) suggests an incorporation of the geographic dimension (space and place), mode of production (structure, behaviour and actors) and dynamic dimension (structure and leadership), in an organised system that comprises the whole that is a tourist destination (Pearce 2015). Richards (2014) defines tourism as a “consumer of spaces”, with the idea of “isation”—to transform a space according to the given activity practiced—thus, a place is characterised according to the activities that take place in it. Consequently, to the author, the tourist activity itself creates a destination or tourist space.

### 3 Research Methodology

The research approach used for the purpose of this study is exploratory, setting the groundwork for understanding the prospects and challenges of Smart Tourism for African economies. Consequently, a qualitative research approach is used as the study does not intend to generalise its findings. The content analysis has been applied by analysing websites, newspaper articles in Africa and government reports to make the case for Smart Tourism. The analysis has been carried out at both at the macro and micro levels so as to obtain sufficient information about the current state of affairs in the African continent. In addition, to make the analysis objective some important indexes such as the ICT index for tourism for some selected countries will be used. The current research also uses case studies at the macro and micro levels to demystify the current trends of Smart Tourism. The choice of the case studies and websites for inferences relates to the following research questions:

- a. Does it relate to the concept of Smart Tourism?
- b. Does the content help in understanding Smart Tourism in Africa?
- c. Is the source of information valid?
- d. Does it help to assess the prospects and challenges in Africa?



Content analysis is a method of analysing written, verbal or visual communication messages (Cole 1988). Content analysis is a research method for making replicable and authorised inferences from data to their context, with the purpose of providing knowledge, new facts, a representation of data and a realistic lead to action (Krippendorff 1980).

Content analysis has been described as a family of analytical approaches from “impressionistic, intuitive, interpretive analyses to strict textual analysis” (Rosengren 1981), who further states that the kind of content analysis used depends on the research field of the researcher. Mayring (2000) detaches content analysis from any quantitative allusions by conceiving of it as a systematic, rule-governed and theory-driven analysis of fixed communication.

## 4 Findings

### 4.1 Smart Tourism Challenges

There are many challenges to making African countries into Smart Tourism destinations. Though there is a promising growth in African tourism, the emergence of Smart Tourism needs investment in terms of technology, but also the adoption of ICT-oriented tourism at all levels of customer interaction in a hotel. In the first instance, African economies still suffer from a lack of Internet connectivity and poor bandwidth as a barrier for the emergence of Smart Tourism. In addition, the concept of Smart Tourism also relies on the need for Smart Tourists who are willing to interact and use technology for enhancing their own customer experiences. There are other challenges such as the impact of Smart Tourism on traditional economic sectors, the need for tourist guides and cultural tourism.

### 4.2 The African Challenge: Improving ICT Infrastructure and Connectivity

Unfortunately, despite these promising ICT statistics, African countries still have very low ICT Development Index (IDI) scores. All African

countries have either a medium or low IDI (ITU 2011 International Telecommunication Union) with those in North Africa (Algeria, Morocco and Tunisia) and Southern Africa (South Africa, Mauritius and Botswana) having relatively higher scores. Abdoukarim and Rugege (2013) report that the highest-ranked African country is in the seventieth position globally out of a total of 155 countries. There is a need to improve the overall ranking by engaging in more ICT for development (ICT4D) projects in Africa. The Secretary-General of the ITU Dr Hamadoun had the following to say about the need for transformation:

*ICTs are truly transformational. With the power of technology, we can educate every African citizen, right across the continent. With the power of technology, we can open new opportunities and create new well-paid jobs for our people. With the power of technology, we can deliver healthcare services to every African citizen, even in the remotest villages. And with the power of technology we can empower African women and leverage the fantastic energy and passion of young Africans. This is not just a pipe-dream: this is real.*

Although ICT has an important role to play in enabling a better life for all on the African continent, challenges to the realization thereof remain. African countries should work on the improvement of ICT infrastructure and connectivity to harness the potential of Smart Tourism for Africa.

### 4.3 ICT Literacy in Africa

As the number of tourists is increasing in Africa, it is important that tourism operators enhance their overall competitiveness through the use of technology. However, another challenge to the use of technology for Smart Tourism lies in the lack of ICT readiness. A study by Mahakata et al. (2017) identified several bottlenecks for a successful ICT strategy in tourism, including the lack of skilled and trained people in the field of ICT. The ICT readiness index is about 1.93 for Africa as compared to 6 for Europe and 4 for the world at large. The eTransform Africa report clearly spells out that “the most prevalent challenges across the continent

to fully move forward in these business areas are infrastructure, energy constraints and the ICT skills gap (compared to other parts of the world), which impacts users as well as the pool of available, skilled labour for firms wanting to do business in Africa.”

#### **4.4 Policy and Regulations**

Mahakata et al. (2017) also point to the lack of appropriate policy regulations for promoting Smart Tourism or adoption of technology by tourism firms. They take the example of the lack of political will in Zimbabwe, as clearly indicated by the absence of ICT regulation/legislation to promote the use of ICT and to deal with legal issues that emanate from ICT. The support of the Mauritian government towards e-government has also boosted the Smart Tourism perspective. For example, the Mauritius Tourism Promotion Authority has worked for the informationisation of services such as applications for permits and many other services. The government also organised an international conference on digitalisation and sustainability to support the Smart Tourism perspective.

#### **4.5 Cashless Payments in Africa**

With 94 per cent of retail transactions still in cash, there is a real need to displace cash given the countless benefits for consumers to shift to cashless behaviour. Additionally, cashless behaviour will benefit the retail sector and overall economy. Digital payments are far safer, and although in Africa the need still remains to have some cash available, it is important to develop a wider acceptance network that includes hotels but also tourist hot-spots. It is also important to make appropriate use of data to understand tourists’ travelling behaviour, spending behaviour and preferences. Mastercard is leading the way in data analytics, with products and services that combine the power of data and insights. For instance, our Tourism Insight Platform provides data on spending as well as natural

language processing sourced from social media and search engines like Instagram, Google and Amadeus.

## 4.6 Data Protection and Privacy Concerns

Another important challenge for African tourism operators is to respect the data piracy and protection issues. The success of Smart Tourism relies considerably on the participation of enough tourists with technology enhanced services. Gretzel et al. (2015) are of the view that the digital footprint of a smart tourist is huge and data comes at a cost. Data management and sharing have to be institutionalised, which can be hard within a fragmented industry like tourism that is mostly based on micro-businesses. Tourism enterprises that are already lagging behind in digital developments might fall even farther behind when Smart Tourism is implemented at their destinations. The necessary knowledge/technology transfer and training are currently not discussed in the context of smart tourism.

## 4.7 Case Studies of Smart Tourism in Africa

### 4.7.1 Use of Tourists Maps

Map areas can be downloaded to a phone for offline viewing. Tourists can open Google Maps and use a smartphone's GPS as well as the saved maps to view their location. If Google Maps is queried for directions while on a WiFi connection and then goes offline, tourists can continue to follow directions and view the location on the map completely offline.

### 4.7.2 iCamp Kenya

A mobile solution called iCamp Kenya was implemented to provide campers with a platform to locate camps in Kenya and get reliable camping information such as accommodation prices, highly rated camps, useful camping tips while planning a trip, transport options, directions to

the camp and contact information. Quantitative research methods such as questionnaires were used to test the implemented system and collect primary data. The sample size for this population was 136 Vagabond Travels club members. The findings of the research show that users found the application was fully functional and easy to use. They were able to find their desired camps easily and were satisfied with the useful information that assisted them in planning their camping trip.

### 4.7.3 Social Media and Marketing in Africa

A destination risks losing opportunities by ignoring the value social media presents, whether the benefit is directly quantifiable or not. Currently, travellers communicate more on social media and spend much of their online time browsing different social networks. If a destination does not take an active front, competitors are bound to reach out to their target market. Gaining the trust of the public is critical to gaining business. In Africa, social media rankings do not have a direct correlation to a flourishing tourism sector, due to the sensitive nature of the tourism industry. Tourism is affected by geographic, social, economic and political factors that are complex and have a direct effect on tourism, making social media a distant variable (O'toole 2016).

## 4.8 Policy Implications

The research shows that there are a number of opportunities for Africa to tap into Smart Tourism through the use of innovative technologies. A number of Smart Tourism practices in different countries are provided to highlight the potential for application in the tourism sector. However, it is observed that there is some reluctance to adopt innovative tools due to the challenges outlined in the research. Some of the challenges are poor Internet connectivity, lack of collaboration and policy discussions between African member states, and the low level of ICT literacy amongst others. However, these barriers are not overwhelming and could be dealt through the right determination of African leaders. Industry 4.0 is the

current trend of automation in the manufacturing sector using various technologies such as Internet of things, cloud computing amongst others. Tourism operators should also use social media tools to engage in co-creation and customer engagement. There should be an ongoing dialogue between the different policy-makers so that the right regulations and laws are enacted. This will also ensure that African tourism operators are geared towards achieving sustainable economic development through the use of green practices and smart technologies. However, it is observed that Smart Tourism has been used mostly in those African countries which are more economically and technologically advanced (South Africa, Kenya and Mauritius). The Zambian government is working with Huawei to provide smart solutions in the tourism sector.

## 4.9 The Future of Smart Tourism

Digitalisation represents an exciting opportunity for the travel and tourism industry, with the opportunity to tap \$1 trillion for the next decade (Deloitte 2018). The use of technological platforms such as Airbnb and Uber have changed the approach to doing business, enabling small entrepreneurs to compete with bigger firms. Travel agencies are now able to tap up-to-date information to provide more customised offerings. The Deloitte report has identified four key themes for the transformation of the tourism industry through digitalisation:

- Living travel experience: With technology it will be possible to get customised offerings and customers may easily share their experiences with other customers. In time, travel will become frictionless, blending seamlessly with other everyday activities.
- Enabling the travel ecosystem: The travel ecosystem will further improve with the possibility of greater collaborative networking and sharing of information. It is expected that the next generation of customers in hotels and airlines will have different consumer buying behaviour.
- Digital enterprise: Digital technologies that revolutionize manufacturing, optimize the real-time use of assets and eventually augment the

industry workforce will transform operations. Innovations such as 3D printing, AI, IoT, VR and digital platforms will enable flexible working and changes to core operational processes.

- Safety and security: There will be increasing emphasis on data security and information management. The tourism sector should improve its cyber security measures and also protect the confidential data of customers in order to maintain trust. It is expected that more digital technologies (e.g. biometrics such as facial recognition, IoT, crowd analytics and video monitoring via AI) will be used to create a ubiquitously secure environment.

## 5 Limitations of Research

The research paper is conceptual in approach seeking to analyse the potential of Smart Tourism in Africa. One of the main limitations of the research is that the analysis lacks empirical evidence as it is qualitative in approach. Another concern has been the lack of statistics and research papers related to the theme in the African context. The statistics were available mostly for Kenya and South Africa. However, this limitation may be bridged by proper networking with different institutions.

## 6 Conclusion

It is obvious that tour operators, travel agencies, airlines and other stakeholders in the tourism sector may benefit if the countries are able to emerge as Smart Tourism destinations. The pathway may seem long but it is surely linked to the overarching goal of achieving sustainability. Government and other operators should address the key challenges with a clear roadmap as the global tourism sector is expanding. However, there is need for parallel growth and development in terms of infrastructure, air access policy and also tourism sites to make Smart Tourism a reality. The African countries can also benchmark globally in terms of technology and resources to deal with the challenges. As a final remark, it is said that the “the journey of 1000 miles starts from the first step we make.”

## References

- Abdoulkarim, S., & Rugege, A. (2013). Africa's ICT development challenges and opportunities. Retrieved October 14, 2014, from [http://au.int/en/sites/default/files/Final\\_ITU-ATU\\_2013ICTWEEK\\_Presentation\\_v12.pdf](http://au.int/en/sites/default/files/Final_ITU-ATU_2013ICTWEEK_Presentation_v12.pdf) [Google Scholar]
- Arup. (2010). *Smart Cities: Transforming the 21st Century City Via the Creative Use of Technology*. Arup.
- Banda, C. (2018). Government appreciates ICTs role in Tourism Development, Retrieved from <https://www.lusakatimes.com/2018/11/10/government-appreciatesicts-role-in-tourism-development/> (Accessed on 15th Nov 2019).
- Boes, K., Borde, L., & Egger, R. (2015a). The Acceptance of NFC Smart Posters in Tourism. In I. Tussyadiah & A. Inversini (Eds.), *Information and Communication Technologies in Tourism 2015* (pp. 435–448). Heidelberg: Springer. Google Scholar.
- Boes, K., Buhalis, D., & Inversini, A. (2015b). Conceptualising Smart Tourism Destination Dimensions. In I. Tussyadiah & A. Inversini (Eds.), *Information and Communication Technologies in Tourism 2015* (pp. 391–403). Heidelberg: Springer.
- Buhalis, D. (2003). *eTourism: Information Technology for Strategic Tourism Management*. Pearson (Financial Times/Prentice Hall).
- Buhalis, D. and Spada, A., (2000). Destination management systems: criteria for success—an exploratory research. *Information Technology & Tourism*, 3(1), 41–58.
- Buhalis, D., & Wagner, R. (2013). E-destinations: Global Best Practice in Tourism Technologies and Applications. In *Information and Communication Technologies in Tourism 2013* (pp. 119–130). Berlin; Heidelberg: Springer.
- Buonincontri, P., & Micera, R. (2016). The Experience of Co-creation in Smart Tourism Destinations: A Multiple Case Analysis of European Destinations. *Information Technology & Tourism*, 16(3), 285–315.
- Chillon, P. S. (2012). *From Vacation Spots to Smart Destinations: Technology and Tourism, QR, Apps and Augmented Reality for Cities*.
- Cohen, E., & Cohen, S. A. (2012). Current Sociological Theories and Issues in Tourism. *Annals of Tourism Research*, 39(4), 2177–2202.
- Cole, F. L. (1988). Content Analysis: Process and Application. *Clinical Nurse Specialist*, 2(1), 53–57.
- Deloitte. (2018). Moving the Global Travel Industry Forward. Retrieved March 19, 2019, from <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Consumer-Business/deloitte-wttc-moving-global-travel-industry-forward.pdf>.
- East African Magazine. (2016). Retrieved April 20, 2019, from <https://www.theestafrican.co.ke/magazine/434746-434746-d8f1vr/index.html>.



- Estelle. (2016). Interview: Jovago Leans Local Tourism to Grow in East Africa. Retrieved April 18, 2019, from <https://moguldom.com/128092/128092/>.
- Gretzel, U., & Kang, M. (2011). Measuring ongoing travel information search. In M. J. Gross (Ed.), Proceedings of the 21st annual conference, council for Australian university tourism and hospitality education. Adelaide, SA: University of South Australia.
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart Tourism: Foundations and Developments. *Electronic Markets*, 25, 179–188.
- Hwang, J., Park, H. Y., & Hunter, W. C. (2015). Constructivism in Smart Tourism Research: Seoul Destination Image. *Asia Pacific Journal of Information Systems*, 25(1), 163–178.
- ITU (2011). Measuring the Information Society. Retrieved from <https://www.itu.int/net/pressoffice/backgrounders/general/pdf/5.pdf> (Accessed on 10th Jan 2019)
- Jackson, S. (2016). Prediction, Explanation and Big(ger) Data: A Middle Way to Measuring and Modelling the Perceived Success of a Volunteer Tourism Sustainability Campaign Based on ‘Nudging’. *Current Issues in Tourism*, 19, 643–658.
- Jordan, B. (2011). Corbin Ball Associates. Retrieved July 18, 2013, from [http://www.corbinball.com/articles\\_technology/index.cfm?fuseaction=cor\\_av&artID=8591](http://www.corbinball.com/articles_technology/index.cfm?fuseaction=cor_av&artID=8591)
- Jovicic, D. Z. (2016). Key Issues in the Conceptualization of Tourism Destinations. *Tourism Geographies*, 18(4), 445–457.
- Koo, C., Gretzel, U., Hunter, W. C., & Chung, N. (2015). The Role of IT in Tourism. *Asia Pacific Journal of Information Systems*, 25(1), 99–104.
- Krippendorff, K. (1980). *Content Analysis: An Introduction to Its Methodology*. Newbury Park: Sage.
- Lamsfus, C., Martín, D., Alzua-Sorzabal, A., & Torres-Manzanera, E. (2015). Smart Tourism Destinations: An Extended Conception of Smart Cities Focusing on Human Mobility. In I. Tussyadiah & A. Inversini (Eds.), *Information and Communication Technologies in Tourism 2015* (pp. 363–375). Heidelberg: Springer.
- Mahakata, S., Tsokota, T., Mugfiga, P., & Chikuta, O. (2017). A Framework for Enhancing Information Sharing and Collaboration Within the Tourism Industry in Zimbabwe. *African Journal of Hospitality, Tourism and Leisure*, 6(3), 1–24.
- Matema, M. (2018). Technology Development in the African Tourism Sector. Retrieved March 9, 2019, from <https://www.nomadafricamag.com/technology-development-in-african-tourism-sector/>.
- Mayring, P. (2000) Qualitative Content Analysis. Forum Qual. Soc. Res. Retrieved from <http://nbnresolving.de/urn:nbn:de:0114-fqs0002204> (Accessed on 10 September 2019).

- McCabe, S., Sharples, M., & Foster, C. (2012). Stakeholder Engagement in the Design of Scenarios of Technology-Enhanced Tourism Services. *Tourism Management Perspectives*, 4, 36–44.
- Metric Stream. (2013). Smart Cities Solutions. Retrieved July 17, 2013, from [http://www.metricstream.com/solutions/smart\\_cities.htm](http://www.metricstream.com/solutions/smart_cities.htm).
- O'Toole, C. (2016). *Africa Travel & Tourism Social Index*. VENDS.
- Pearce, G. D. (2014). Toward an Integrative Conceptual Framework of Destinations. *Journal of Travel Research*, 53(2), 141–153.
- Pearce, D. G. (2015) Destination management in New Zealand: Structures and functions. *Journal of Destination Marketing & Management*, 4(1), 1–12.
- Richards, G. (2014). *Tourism Trends: The Convergence of Culture and Tourism*. Breda, The Netherlands: Academy for Leisure NHTV University of Applied Sciences.
- Ronay, E., & Egger, R. (2013). NFC Smart City: Cities of the Future – A Scenario Technique Application. In *Information and Communication Technologies in Tourism 2014* (pp. 565–577). Cham: Springer.
- Rosengren, K. E. (1981). Advances in Scandinavia Content Analysis: An Introduction. In *Advances in Content Analysis* (pp. 9–19). Beverly Hills, CA: SAGE.
- Saarinen, J. (2004). Destinations in Change. The Transformation Process of Tourist destinations. *Tourist Studies*, 4(2), 161–179.
- Saraniemi, S., & Kylanen, M. (2011). Problematizing the Concept of Tourism Destination: An Analysis of Different Theoretical Approaches. *Journal of Travel Research*, 50(2), 133–143.
- Soteriades, M. (2012). Tourism Destination Marketing: Approaches Improving Effectiveness and Efficiency. *Journal of Hospitality and Tourism Technology*, 3(2), 107–120.
- Tralac. (2018). Mauritius Declaration on Digitalisation and Sustainable Tourism. Retrieved April 18, 2019, from <https://www.tralac.org/news/article/13096-mauritius-declaration-on-digitalisation-and-sustainable-tourism.html>.
- UNWTO. (2017). UNWTO Tourism Highlights. Retrieved March 18, 2019, from <https://wedocs.unep.org/bitstream/handle/20.500.11822/19525/UNWTO2015.pdf?sequence=1&isAllowed=y>.
- UNWTO. (2018). UNWTO Tourism Highlights. Retrieved June 25, 2019, from <http://marketintelligence.unwto.org/publication/unwto-tourism-highlights-2018>.
- Werthner, H. (2003). Intelligent systems in travel and tourism. In IJCAI'03 Proceedings of the 18th international joint conference on Artificial Intelligence, 1620–1625. San Francisco, CA: Morgan Kaufmann Publishers.