

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Tropical AgriSciences



Czech University of Life Sciences Prague

**Faculty of Tropical
AgriSciences**

**Using social networks to analyse tourists'
perceptions and expectations regarding national
reserves in Senegal**

BACHELOR'S THESIS

Prague 2020

Author: Fatima Beye

Supervisor: Ing. Petra Chaloupková, PhD.

Declaration

I hereby declare that I have done this thesis entitled “**Using social networks to analyse tourists’ perceptions and expectations regarding national reserves in Senegal**” independently, all texts in this thesis are original, and all the sources have been quoted and acknowledged by means of complete references and according to Citation rules of the FTA.

In Prague 13 May2020

.....

Fatima Beye

Acknowledgements

First, I would like to thank my supervisor Ing. Petra Chaloupková, Ph.D. for the precious advices, time and constant support offered during the redaction of this thesis and all my former teachers from the Faculty of Tropical AgriSciences for the knowledge acquired during my bachelor's studies.

Finally, I am giving special thanks to my family and friends for all the support they gave me.

Abstract

The ecotourism industry is constantly expanding. More and more tourists are traveling worldwide, including in Africa which is the second fastest growing destination. The democratisation of the Internet has made that more and more people use social networks, including tourists who share their experiences with destinations. They share their satisfaction as well as their disappointment. Therefore it is important for businesses to include the online reviews in their management decisions, as they have the potential to increase or decrease the number of tourists, hence the incomes. The study analysed the tourists' expectations and perceptions toward three natural reserves in Senegal using TripAdvisor's online reviews. A total of 932 reviews were gathered, then categorized and classified. The oldest review was published in 2010, the newest one was from January 2020. It was found that the determinant factors were the popularity of the animal, the diversity and density of the animals, the interaction with animals, the quality of the customer service, the quality of the food served, the attractiveness of the physical environment, the knowledgeability of the guide, the price, the type of activities offered, the animal conservation, the participation of the local community as well as the online information available. The research revealed that the best evaluated reserve was Fathala and the least evaluated was the National Park of Niokolo Koba. Ecotourism has a vital role to play because it generates incomes to help preserving critically endangered species.

Key words: Social networks, satisfaction, experience, ecotourism, Bandia, Fathala, Niokolo Koba, TripAdvisor, reviews.

Contents

1. Introduction	1
2. Literature Review	2
2.1. Importance of social networks.....	2
2.2. Traditional marketing versus social network marketing	4
2.3. Social networks in tourism	4
2.4. Advantages and disadvantages of social networks	7
2.4. Usage of social networks in Senegal	9
3. Aims of the Thesis.....	12
4. Methods	13
4.1. Research design	13
4.2. Data collection tools	13
4.3. Study Sample.....	13
4.4. Study Site.....	14
4.5. Data analysis.....	16
4.6. Limitations of the research	17
5. Results.....	18
5.1. Tourists’s experience in Bandia reserve.....	18
5.2. Tourists’ experience in the Fathala reserve	24
5.3. Tourists’ experience in Niokolo Koba National Park	31
5.4. Satisfaction and Animal Preferences	35
6. Discussion	38
6.1. Recommendations	41
7. Conclusion	43
8. References.....	44

List of tables

Table 1: Sociodemographic characteristics of the respondents (%)

Table 2: SWOT analysis of the Bandia Reserve

Table 3: SWOT analysis of the Fathala Reserve

Table 4: SWOT analysis of the Niokolo Koba Reserve

Table 5: SWOT table comparisons of three reserves in Senegal

List of figures

Figure 1: Percentage of adults using social media per country during spring 2017

Figure 2: Location of Bandia reserve, Fathala reserve and Niokolo Koba National Park

List of graphs

Graph 1: Country Origin of tourists visited Bandia reserve (%)

Graph 2: Languages spoken by tourists visited the Bandia reserve

Graph 3: Country Origin of tourists visited the Fathala reserve (%)

Graph 4: Languages spoken by tourists visited the Fathala reserve (%)

Graph 5: Country Origin of tourists visited the Niokolo Koba (%)

Graph 6: Languages spoken by tourists visited the Niokolo Koba (%)

Graph 7: Tourists Satisfaction from the Bandia, Fathala and Niokolo Koba Experience (%)

List of the abbreviations used in the thesis

USAID: United States Agency for International Development,

UNWTO: United Nations World Organisation,

NKNP: Niokolo Koba National Park

UNESCO: United Nations Educational, Scientific and Cultural Organization.

WEF: World Economic Forum

PARFOB: Autonomous Project for the reforestation of Bandia Forest

Sonatel: National Society of Telephony

1. Introduction

Social networks since their rapid growth in users for the past 20 years have tremendously impacted today's world. They've changed the way people communicate with each other. In the tourism industry, social networks have also an impact: tourists now share their experiences about destinations through social networks. According to Di Pietro & al. (2013), many tourists consult online reviews before choosing a destination. They share there their satisfaction as well as their disappointment. Thus, businesses in the tourism industry should take social networks into consideration as they have the potential to increase or decrease the number of visits (Alonso-Almeida & al. 2019). The interest in ecotourism is constantly growing (Acikgoz Altunel & al. 2019). Africa is the first destination for wildlife viewing because it is the only continent with tropical Asia to have retained intact its megafauna's diversity from the Pleistocene (Owen-Smith 1989).

Using customer feedback like online reviews on TripAdvisor can give an insight on tourists' expectations towards natural reserves in Senegal. Understanding and ensuring tourist's satisfaction is an advantageous factor in the tourism industry because satisfied clients have loyalty and will recommend the place to other people. An increase in the number of visits will maximise the incomes thus better help conserve critically endangered species and bring awareness. Ecotourism has also a great economic potential. It would be beneficial for Senegal knowing that the tourism sector was 6% of Senegal's GDP and employed 100,000 people in 2018. Due to the lack of data on eco-tourism in Senegal (MTTA 2016) and generally in West Africa (Loubser & al 2001), it would be beneficial to make other studies regarding the conservation of wildlife in Senegal and in West Africa.

2. Literature Review

2.1. Importance of social networks

Social networking is a term which refers to all "virtual" means used to link natural or legal persons together. With the advent of the Internet, it covered web applications known as "online social networking services", more commonly referred to as "social networks" in the media (Pempek et al. 2009). They are virtual communities where people interact with people based on share interests (Griffiths & al. 2014).

Social networks may also contain categorized relationships (former friends, co-workers, relatives, schoolmates, clients, sellers etc...), means to connect friends (with a self-made profile), or recommendations for planed event. Some of the most popular social network since the last 5 years are Facebook (2,375 billion users), Twitter, YouTube, Google+, Pinterest, Instagram, Reddit, Flickr, Tumblr, Snapchat, WhatsApp (Clement 2019) In the tourism sector there is TripAdvisor with 315 million of monthly users (Font & al. 2018).

Created in 2004 Facebook is now the largest and most popular social network on the Internet with 2.50 billion monthly active users as of December 2019 (Clement 2019). Over 1 million businesses and small businesses were reported to be on Facebook in 2018. From promoting businesses, to peer to peer interactions to social revolutions, it is undeniable that Facebook has had a great impact on today's world and continues to make a great impact.

Founded in 2006 in California, Twitter users interact by sending limited texts of less than 140 characters called "tweet" where they express their thoughts or share breaking news. The limit was doubled to 280 on 7 November 2017 (Raamkumar & al. 2018). Its popularity is due to its unlimited resource of information, the possibility of its users to follow real time situations and events as they unfold, and also follow the latest opinions and emotions of people with hashtags. Businesses can use Twitter because of the easiness to find new people and to communicate with them. Businesses can find new consumers there, build a relationship with them and also target specific users with specific advertisement (Noori & al. 2018).

WhatsApp is a platform that allows users to share messages, photos, videos, calls and video calls to each other, the conditions being the need to enter a phone number, both

users must have Internet connection and the app installed on their devices. It is a popular communicating tool due to the ability to communicate with people from Internet connection without paying any fees (Yang & al. 2015). Launched in 2010 it was bought by Facebook for 19.3 billion (Reuer & al. 2019). Now over 1 billion people use it daily to communicate with acquaintances or with business partners (Meiselwitz 2017).

Founded in 2011, Snapchat counted 187 million daily active users in 2018 (Kozinets 2019). It offers the possibility for users to interact with each other by sending creative pictures and videos modified with virtual stickers and augmented reality objects. Unlike Facebook that is primarily focused on a text-based sharing, Snapchat focuses on picture and video sharing. One of the principal features of Snapchat is that the pictures and videos sent to the recipient stay for a short time and then disappear. Young people like this fact so they avoid having a stock of publications like in Facebook. It is more popular amongst young people because young people tend to like the fact that Snapchat is only accessible for close friends and not general acquaintances like Facebook.

Communication through social networks, unlike in the early ages of Internet, allows users to interact with each other. It has the ability to build online communities and is based on a user driven content. With the arrival of the 4G and the democratisation of the access of Internet the number has significantly increased and so did the number of blogs. The democratisation of the Internet, the increase of people with a higher revenue particularly in developing countries has increased the growth of tourism blogs who are now counted in billions. Travel plans, destinations, hotels reviews, tourist guides, suggestions for restaurants or exhibitions are all the new things that now define the new form of tourism, the Travel 2.0 (named by Philip C. Wolf an American entrepreneur and executive known for his work in the travel, tourism and hospitality industry, founder and former CEO of travel industry research firm PhoCusWright) (Miguéns & al. 2008). The impact of social network on our every day's life is phenomenal and less and less avoidable. Not only it gives the opportunity for people who live far away to stay in contact, it also allows users to share entertaining, informative or educative things. From political decisions to news to the consuming of goods social networks now influence the life of a lot of users. It gives the opportunity for businesses to show their products and engage with customers. For example, the revenue of worldwide online booking in 2017 was 361,840 million USD, 397,704 million USD in 2019 and is expected to consistently grow to 551,762 million

USD in 2023, therefore a 6.2 % increase in revenue. The user penetration in the Online Travel Booking segment is expected to increase to 33 % in 2023 (Nöldeke 2019).

2.2. Traditional marketing versus social network marketing

Marketing is “everything a company does to place its product or services in the hands of potential customers.” (Todor 2016). In order to achieve it they must know the characteristics of their customers, know what they need and how eventually they can create a need in them. According to Todor (2016), the digital marketing is “The practice of promoting products and services in an innovative way, using primarily database-driven distribution channels to reach consumers and customers in a timely, relevant personal and cost-effective manner”. Digital marketing is the marketing of the 21 century, the marketing 2.0. Digital marketing uses websites, social networks pages to attract, maximise the number of customers, and interact with them. At the difference of the former, social network marketing costs less time and less money.

Companies need to maintain a good and durable relationship with their customers and must know how to incite an envy from customers for their products or services (Russel 2008). The nowadays focus of marketing is to look and maximise the profits on customers, increase the number of new customers, while maintaining a relationship with the existing client, not take the customers as a group but take into consideration the specificities and needs of each client.

Blending these two different forms of marketing with each their advantages should be taken into consideration by companies to increase the brand’s awareness and maximise the number of customers, especially in a time that is more and more dependent on the Internet and more and more people are connected and have access to the Internet (Todor 2016).

2.3. Social networks in tourism

Due to the above-mentioned importance of social networks and differences in term of traditional and social network marketing, social networks can have a significant impact on tourism and ecotourism. According to Bindu & al. (2018), Internet, social networking sites and commercial websites are beneficial to the promotion of ecotourism products and

services. Review sites and blogs in particular are used by tourists to share with others their experiences, but also to acquire information about their travel location.

The top five countries who have the most tourism expenditures are China with 277 billion USD followed by the United States of America with 144 billion USD, Germany with 94 billion USD, the United Kingdom with 76 billion USD and France with 48 billion USD (Lock 2019).

Because tourism heavily relies on advertisement (Salehi & al. 2014), it is linked to new information and communication technologies. It is why it became important for companies in the tourism sector to have a better understanding of these technologies to maximize the number of their customers. Traditional operators are now facing a customer that can quickly share his/her reviews and influence other customers, promote a product and make it “viral”. The old customer seller model is shifting into a more peer to peer model in the information sharing (Parameswaran & al. 2001). Suppliers are therefore more pressured into valuing referred travellers’ reviews, preferences because they influence other fellow travellers (Tang & al. 2014). With the user generated content, customers experiences influence potential decision making, whether the experience was positive or negative. Consumers tend to trust more other users’ experiences than the words of the companies because they have tested the service (Tan & al. 2018). Nonetheless, vigilance should be observed because sometimes some companies write or pay customers to write fake positive reviews of the service (Fontanarava & al. 2017).

The most prominent form of Travel 2.0 tourism is TripAdvisor (Headquartered in Needham, Massachusetts). It is the largest social travel website with 730 million users reviews and opinions in 2019 (Feldbauer-Durstmüller & al. 2019) and covered 212,000 hotels, over 30,000 destinations, and 74,000 attractions, restaurants and other travel-related businesses worldwide in 2017 (Dinnie 2011).

Founded in 2000, TripAdvisor is free and is built on the idea that the users plan their trip based on other travellers’ reviews or at least help in their decision making (who to book the hotels, the attractions, etc.). It is possible to book also the hotels or the restaurants via trip advisor, so there’s a business connection, partnership between TripAdvisor and the hotels that are listed in the network. In 2019, TripAdvisor contained 859 million travel reviews and opinions (Lock 2019).

Unlike Facebook that is based on real relationships, TripAdvisor connects people who did not necessarily know each other before but are interested in the same thing, and they can exchange their opinions, discuss in forums and publish reviews. To show the impact of these travel 2.0 blogs, a survey in hotel and restaurant industry in Europe in 2007 showed that 80% of UK consumers search online before booking a hotel and half of them did not chose a hotel because of a bad review of a specific hotel listed in social travel site (TripAdvisor 2014). It is possible to add multimedia content (photo, videos, and maps), users have to register and in doing so they enter precious information about them that companies can later use to better understand their needs. A new feature of TripAdvisor available since 2007 allows users to add their acquaintances via Facebook, LinkedIn, Google or other social platforms so they can plan their trips together, individuals can expand their own traveller network. TripAdvisor users are separated into authors and advisors. Authors are those who are interested in visiting the place and ask for information. Advisors are those who are from the place, locals or people who have already visited the destination.

According to Miguéns & al. (2008), users prefer to express their experiences in text rather than posting photos and videos. His study also found that the advisors participate more in the forum on trip planning than the authors. He also found that advisors tend to live more within the geographic region of the destination while the authors are people looking for information or advice, live outside the area of the destination even in another country or another continent. Most of the TripAdvisor users are from USA or United Kingdom. He also concluded in his research that the website's ratings of the hotels he analysed on TripAdvisor follow closely the traditional star classification.

2.4 Advantages and disadvantages of social networks

As described previously, social networks occupy an important place in today's society. Even though they possess several advantages, social media also have some disadvantages. The advantages of social networks will first be cited according to the available literature before reviewing the disadvantages.

In regards to the general advantages of social networks, Drahošová & al. (2017) stated that the biggest advantages are the exchange of information and communication between users, fast and easy sharing of data, education on a multitude of topics, a facilitated teamwork with the possibility of working from home and increased services.

Social networks also have several benefits regarding marketing and advertisement. Indeed, according to Madjene & al. (2018), social network marketing has the advantage of transforming the relationship with the client by making it more human through bilateral communication. Associated actions are usually more cost-effective than traditional marketing and allow real-time easily measurable results. With social networking strategies it is possible to compete with large companies in large markets, with a little influence of the size of the company and its marketing budget; this point is a major advantage in traditional marketing where brand visibility is strongly linked to the financial means implemented. Franco & al. (2016) add the idea that the main advantage of social networking sites in regard to marketing is the breaking down of barriers between the organisation and the world, implying that organisations that uses social networking sites for diverse purposes such as communicating with customers and receiving feedback on the service experience an increased satisfaction of clients and possess an overall better quality of services. Si (2016) also cite as benefits of social networks the fact that they are low cost resources, but also the high probability of revenue creation. Social media marketing gives to marketers the opportunity to present goods to customers, but also to pay attention to their need, expectations and suggestions. The cost of this opportunity is less expensive than traditional marketing. His study showed many advantages in social media marketing such as increasing the visibility of the goods and the company, increasing the volume of traffic/subscribers, building new economic partnerships and increase the sales.

Concerning the advantages of social networking sites in regards to traveling and the tourism industry, Kacetl & al. (2019) cited eight main benefits as well as some limitations that are going to be reviewed further on this chapter. Those benefits are their ability to address a big number of global travellers at relatively low costs and higher level of efficiency; to build and maintain a community of interest; to guaranty operations regardless of the time or location; to post and present travellers' current photos, videos, opinions, experiences; the fact that they are a valuable source of word-of-mouth recommendations; their importance in building brand equity; the feedback they provide for destination management organizations and the reactivity they provide to businesses to react to emerging trends.

Regarding the disadvantages of social networking sites, the most predominant one appears to be addiction. Indeed, Drahošová & al. (2017) found Internet addiction, the lack of security on social networks, information overload and loss of social contact in that order to be the biggest inconvenient of social medias. Hao & al. (2017) proposed several disadvantages such as the low quality and lack of reliability of online information. The latter is usually a major problem in the healthcare industry where a lot of dangerous misinformation is shared by non-professionals to people in search of a diagnostic online for a certain condition (Gagnon & al. 2014). Information might equally be incomplete, informal or not referenced, which makes more difficult to identify the reliability of the information. The study also found as a disadvantage the distractions and interruptions that can experience workers during their work obligations.

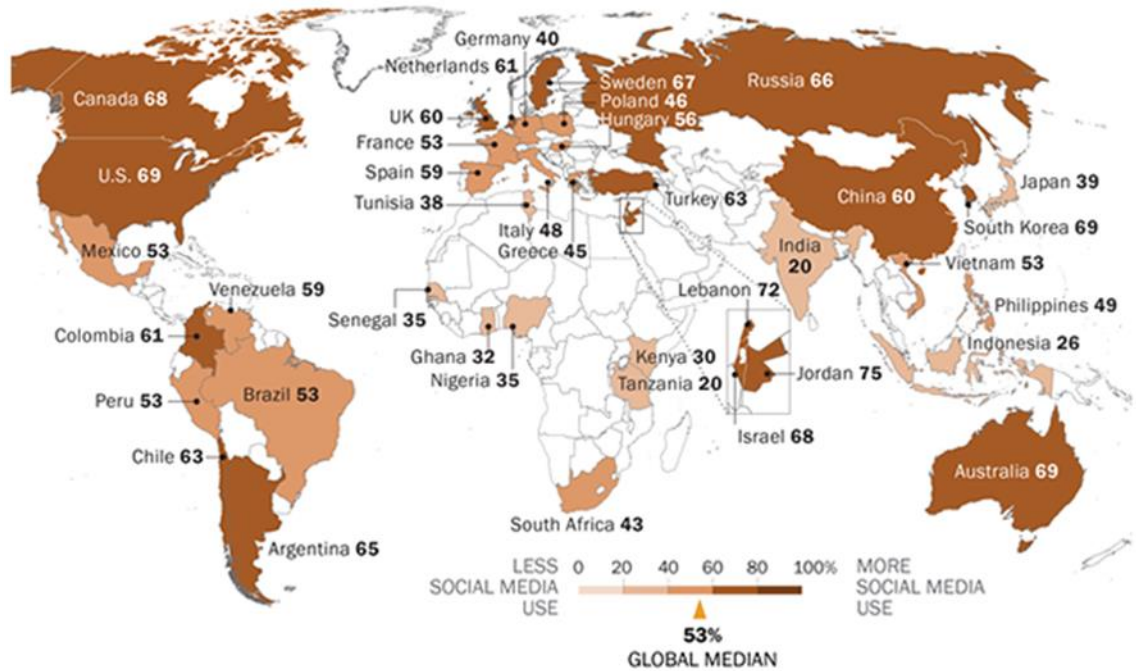
In relation to the disadvantages of social networking sites concerning the travel and tourism industry, Kacetl & al. (2019) expressed several limitations. The first limitation is the fact that a negative review of a specific destination can spread among users at a rapid pace. The credibility, objectivity, usefulness or sources of the information is not required, therefore they can be used and abused by travellers. An employer's trade secrets, or business proprietary information can also be exposed by reviewers. The difficulty to navigate among all the various platforms and messages has also been addressed, as well as the lack of control over the word-of-mouth.

2.4. Usage of social networks in Senegal

In Senegal, social networks have become a primary source of information and entertainment. From the static webpages that it was in the 90's, it has become a powerful communicating tool since the beginning of the 2000 with a rapid increase especially in the five past years, due to the democratisation of the Internet. According to Sonatel (2019), this democratisation is due to the price reduction of the volume of gigabit that now costs less than 1 dollar and places Senegal in the top five African countries where mobile Internet is the least expensive. From 2016 to 2018, the price of Internet mobile in Senegal has lowered of 50%. Concerning the fixed Internet, the price offer has been reduced by 21% on ADSL, the Internet fiber and Flybox. Internet Orange fiber's megabit price has between 2016 and 2018 lowered by 79%. Indeed Sonatel, which is the biggest private telecommunications company in Senegal has constantly increased the level of its high-speed Internet while maintaining the same price, and even lowered it. Also, the company covers 66% of the population in 4G network, included the regional capitals. A recent benchmarking study of the office OpenSignal placed Senegal first country over 4G availability in front of Morocco and South Africa. In 2018, 222 municipalities were covered by ADSL lines in 43 of the 45 departments which is a 96 % coverage rate (Sonatel 2019).

Just like West African countries nowadays, Senegal cannot escape the new technologies, including Internet. In 2015, 23% of Senegalese adults used social networking sites compared to 35% in 2017 (Poushter & al. 2018). It is bigger than India where 14% used social networking sites in 2015 compared to 20% in 2017. The following Figure 1 indicates the percentage of social media use among adults across countries around the world in spring 2017 (Poushter & al. 2018)

Figure 1: Percentage of adults using social media per country during spring 2017



Source: Poushter & al. 2018

Senegal experienced a significant growth of cell phone users with 88% of mobile subscriptions in 2012 compared to 46% of mobile subscriptions in 2008 (Sall 2017). According to Poushter & al. (2018), in 2015, 23% of Senegalese adults possessed a cell phone compared to 35 % in 2017. Mobile phones are not just to make a call or send text messages nowadays, but it is a way to interact with each other and visualize fun content. Sall (2017) stated that digital communication is spreading throughout the whole Senegalese social tissue, the universities, the workplace, etc. Before the 21st century people only relied on the traditional media (television, newspapers, radio) for information. His study showed that Senegalese between 12 and 32 are the best users of social networks in Senegal. In 2017, 57% of Senegalese adults in the age of 18-36 use Internet or are reported to have a cell phone and there's 30% of users older than 37 (Poushter & al. 2018). The main Internet users in Senegal are therefore young people. It is still a low percentage compared to developed countries. For example, according to the

previous mentioned study, in Canada, 99% of people aged from 18-36 use Internet occasionally or are reported to have a cell phone compared to 84% of people over 37.34% of Senegalese were reported to own a smartphone, 46% were reported to own a mobile phone and 21% were reported to not own a phone compared to a developed country (Australia) where 82% were reported to own a smartphone, 12% to own a mobile phone and 6% without phone. In Tanzania, 13% were reported to have a smartphone, 62% with a mobile phone and 25 % without phone (Poushter & al. 2018). According to a recent sampling in Senegal, 25% of adolescents connect on Facebook or WhatsApp more than 10 times a day, 75% of children have mobile phones, and 30% use them for social media, 54% use them for chatting, and 24% use them for instant messaging. Senegalese children connect on Internet almost every day and interact with each other, play games, or watch educative or entertaining content. 43% of Senegalese men use social networks compared to 28% of women. In the USA, 65% of men use social networks compared to 78% of women in 2019 (Poushter & al. 2018).

3. Aims of the Thesis

The main objectives of this study are to analyse tourists' perceptions and expectations towards natural reserves, as well as the online information at their disposition. The data gathered were collected on TripAdvisor from the first review posted (September 2010 to the last reviews posted in January 2020). The TripAdvisor reviews collected are of Bandia reserve, Fathala reserve and Niokolo Koba National Park. This thesis examines the importance of textual data in online reviews applying text mining tools and visual data representations like SWOT analysis and word counting, focusing on wildlife tourism industry in West Africa. These findings can be used by businesses oriented in conservations areas management in West Africa, particularly in Senegal, to establish competitive actions.

The aim of the thesis is to document and analyse tourists' perceptions and expectations regarding conservation areas in Senegal.

The specific objectives are:

1. To analyse the sociodemographic characteristics of the respondents,
2. To determine the SWOT analysis of Bandia, Fathala and Niokolo Koba parks,
3. To find out the general satisfaction and the animal preferences of the reserves.

4. Methods

4.1. Research design

Different types of data were collected for the research. Primary and secondary data were collected for research purposes. To reach the objectives of the study and to have a better understanding of tourist's expectations towards natural reserves and parks in Senegal, a combination of qualitative and quantitative data was collected. Primary data was mainly collected from reviews from the social network TripAdvisor. Secondary data were obtained through different sources. The most important sources of information were scientific papers, international organisations such as the United Nations World Tourism Organisation (UNWTO), the United Nation Educational Scientific and Cultural Organization (UNESCO), the Worldwide fund for Nature (WWF), the World Economic Forum (WEF), the World Bank, the Fathala and the Bandia reserves official websites and the Senegalese government official webpages.

4.2. Data collection tools

The data collection tools used were the data available on the websites of TripAdvisor. The data collected were oriented towards three points: the tourist's reviews, the ratings of the reserves, and the socio-demographic data of the respondents. The ratings were ranked from very satisfied, satisfied, ok, dissatisfied, to very dissatisfy. The sociodemographic characteristics of the reviewers are composed of the gender, the age group, the traveller type, and the year's period in which they travelled.

4.3. Study Sample

The study was based on a sample of 932 international reviewers who mentioned that they visited the reserves between 2010 and 2020. The reviews were collected from the TripAdvisor pages of Bandia, Fathala and Niokolo Koba reserves.

4.4. Study Site

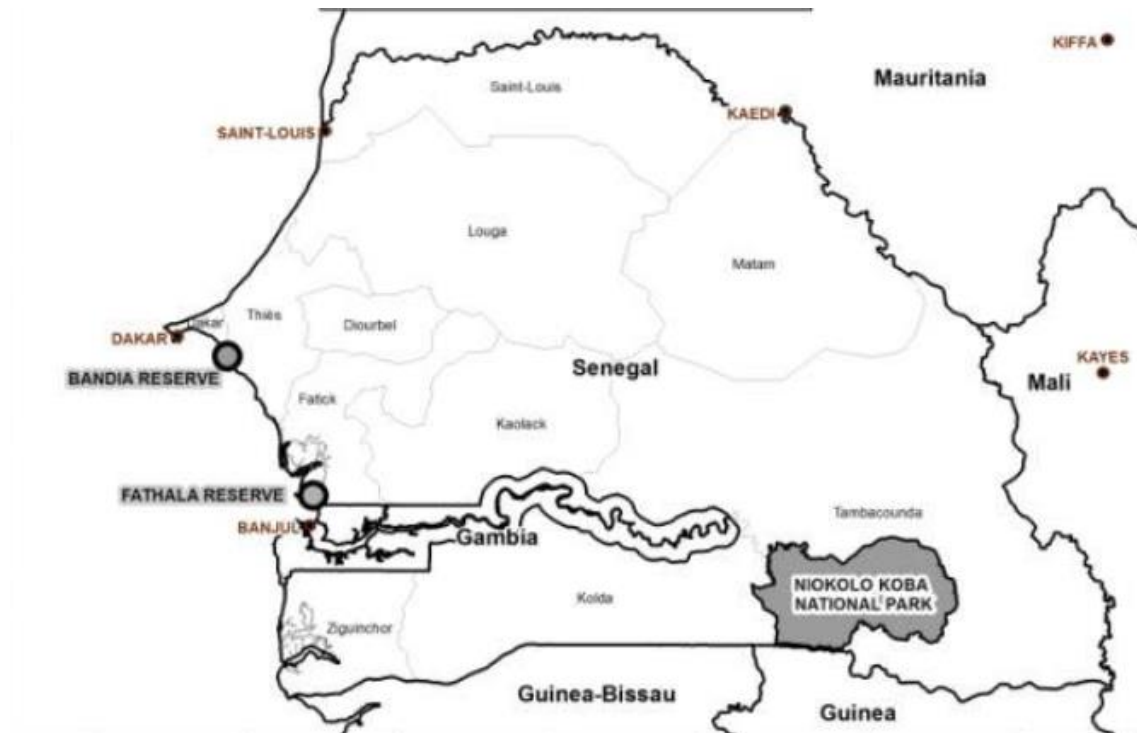
The study sites are respectively the reserve of Bandia, the reserve of Fathala and the national park of Niokolo Koba (Figure 2). The reserve Bandia is located in the forest of Bandia not far from the capital Dakar (65 km) and close to the western seaside part of Senegal. The foundation of the Bandia reserve starts in 1981 with the project PARFOB (Autonomous Project for the reforestation of Bandia Forest) that had the objective of reforesting the forest of Bandia (World Bank 2020). Financed by the United States Agency for International Development (USAID) it was first a partnership between Senegal and the United States, but later the United States withdrew from the project. It was continued and finished in 1986. In 1990 it was bought and made a private reserve, which covers 35km² of natural vegetation (baobabs, red acacias, etc.). The animals present there are: antelopes (derby elands, cobs, waterbucks, etc.), buffalos, rhinoceros, giraffes, hippopotamuses, jackals, monkeys, ostriches, turtles, warthogs, zebras, and 120 bird species. The only enclosed animals are the crocodiles who are the only predators. On arrival, there is a choice between visiting with own vehicle, or rent a safari car (Reservedebandia.com). Apart from animals, tourists can see historic constructions like burial mounds and a giant baobab which used to be a cemetery. The reserve has a bar, a restaurant and an artisanal shop where tourists can buy souvenirs.

The second site is the reserve of Fathala. It offers a safari game drive, a lion walk and recreational activities (trip to the island, trip to the mangrove and trip to the local village). It offers luxurious tented suites as accommodations, with each suite having an outdoor shower, an indoor bathtub, air conditioner, coffee/tea amenities, etc. Fathala's facilities include accommodations, a lounge, a bar, a restaurant and a swimming-pool (fathala.com). One of the highlights of the reserve is the lion walk where tourists and guides take a walk with free lions. The reserve covers 60 km² of West Sudanian savannah. Animals like rhinoceros, giraffes, zebras, antelopes, warthogs, ostriches and birds are present (Fathala.com).

The third study site is the national park of Niokolo Koba. Niokolo Koba is a national park, it is managed by the Senegalese government. It has an authentic vegetation made of gallery forests and savannah of 9,130 km² (UNESCO 2015). The park is located at 650 km east from Dakar (Google maps), in the South East of Senegal close to the Guinean border. It is crossed by the Niokolo Koba river and the Koulountou river that are

tributaries to the Gambia river. The park is relatively flat with an altitude from 16 to 311 m, with the mount Assirik being the apex. The scenery of the park is a mixture of immense lowlands who get marshy during the rainy season, and hills who are not taller than 200 m. The scenery gets rockier going to the south where are the Fouta Jalon mountains. These mountains form a natural border between Senegal and Guinea. The fauna is composed of around 80 species of mammals: lions, leopards, wild dogs, monkeys, buffalos, diverse antelopes (derby elands, cobs, waterbucks, etc...), hippopotamus and some elephants. It is also composed of reptiles: crocodiles, turtles and 330 species of birds: The flora is composed of over 1,500 species of plants and trees (UNESCO 2015). The last Senegalese elephants are in Niokolo Koba (Blanc & al. 2007). After years and years of poaching, encroachment, and logging the animal population of Niokolo Koba is reducing (Rabeil 2015). The largest population of derby elands in the world is at Niokolo Koba (Zemanova & al. 2015).

Figure 2: Location of Bandia reserve, Fathala reserve and Niokolo Koba National park



Source: Brandlova & al. (2013)

4.5. Data analysis

The research follows a text mining approach. The data were collected by extracting reviews on TripAdvisor, then they were pre-processed, the unnecessary words were filtered. The keywords were then categorised and classified into attributes on Excel. TripAdvisor contains for the reserve of Bandia 540 reviews, for the Fathala reserve and lodge 365 reviews, for the Niokolo Koba park 27 reviews, all together it is 932 reviews from period of 2010 to 2020. A SWOT analysis was prepared based on the provided comments. The SWOT analysis is a strategic analysis tool of the company, which allows to obtain a synthetic vision of a situation. The term SWOT means Strengths, Weaknesses, Opportunities and Threats (Hay & al. 2006). The internal diagnostic is composed of the strengths which are the internal factors that give the company an advantage over competitors, and the weaknesses, which are the negative internal factors that can be harmful to the organization in regard to the competition and need to be improved. The external diagnostic is composed of opportunities that are external situations, specific to

the environment in which the company operates and that can provide a competitive advantage to the company and upon which the company should be built on. The other part of the external diagnosis are the threats which are external unfavourable situations that can negatively influence the performances of a company (Gurel 2017). Finally, we analysed the tourists' animal preferences for each reserve and counted the word frequency with a word cloud. A word cloud is a popular tool in customer review analysis, it gives the word's frequency and encode the frequency into the word's font size. They are often used by news websites to summarize news report in keywords (Wang 2012). The software used in this study is WordArt.

4.6. Limitations of the research

The limitation of the research is that some reviews were not in English so maybe we will not be able to understand the deep insight of some words. However, the translation was done via Google translation. Another limitation is that TripAdvisor does not ask for an identity proof to verify if they really were at the reserve, so we base the study only from what the reviewers say. The third limitation that challenges the study is that some companies can write themselves or pay people to write positive reviews that puts their products in a good light, pay people to write unpleasant reviews about other competing companies. These reviews can be very effective, especially when they are produced in a significant quantity (Lappas & al. 2016). This is one of the most important challenges that face TripAdvisor or any review network (Menendez & al. 2019). For example, in 2014 TripAdvisor was condemned by the Italian authorities to pay half a million euros for not firmly preventing fake reviews on the website. It was the first time that such a conviction was announced (Harris 2018).

5. Results

5.1. Tourists' experience in Bandia reserve

Regarding Bandia, there was 540 reviews published between December 2012 and January 2020. The majority were males followed by females (Table 1).

Concerning the age group, the most frequent is the 35-49 group, followed by the 50-64 group, then the 25-34 group, followed by the 65+ group the least frequent is the 18-24 group .

The majority of the tourists who visited Bandia came with family. 13% mentioned that they came with children. In second the tourists came as Couples, followed by those who came with Friends, followed by the tourists who came Solo and the minority came because they were doing Business.

The majority of the tourists came during the dry seasons of December to February first, then March to May, followed by the rainy seasons of September to November and the least popular is from June to August.

Regarding the nationalities of tourists who visited Bandia , for Europe France is the first country, followed by Belgium, Spain, Italy, Netherlands, Germany, United Kingdom, Portugal and the remaining 5% regroups the other European countries who have each less than 1% visitors (Austria, Croatia, Czech Republic, Finland, Greece, Hungary, Malta, Poland, Russia, Slovakia, Sweden, and Switzerland) (graph 1) . For the African countries Senegal is first (7.1%), followed by other African countries (Cameroon, Equatorial Guinea, Morocco, Mozambique, Namibia, Nigeria, South Africa, Zimbabwe). For the American countries USA is first (3.8%), then Canada and other American countries (Brazil, Canada, Hawaii and USA). The least present continents are Asia (India, Japan, Nepal, Singapore, South Korea, Thailand and Vietnam) and Oceania (Australia, New Zealand).

The given bar chart indicates the total number of visitors (in percentage) at the Bandia reserve from December 2012 to January 2020.

Graph 1: Country Origin of tourists visited Bandia reserve (%)

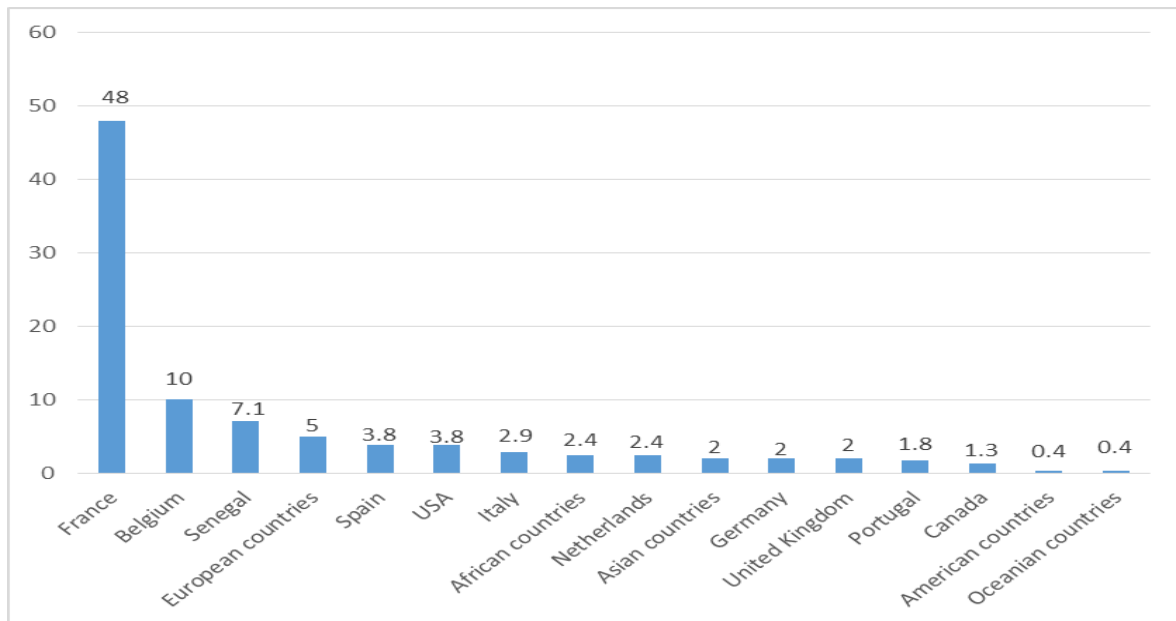


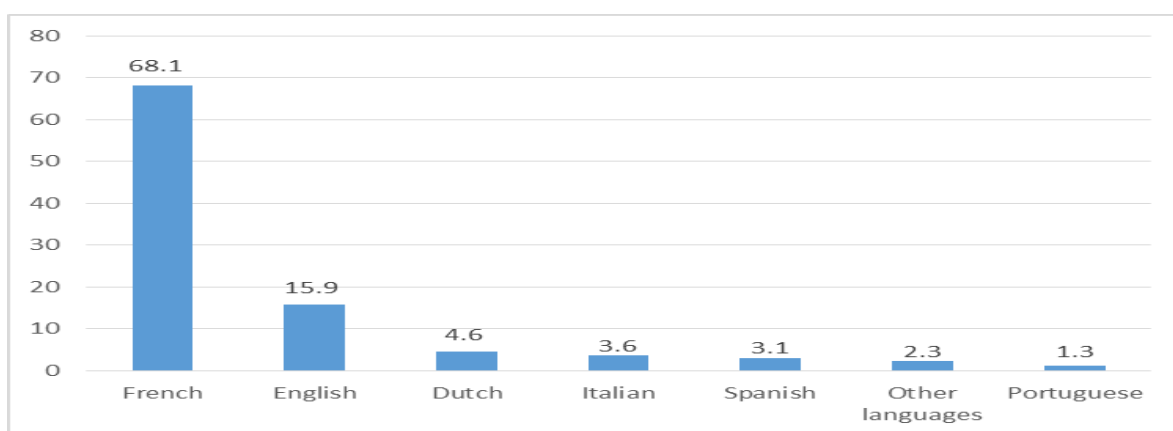
Table 1: Sociodemographic characteristics of the respondents (%)

Characteristics	Total Frequency (%)	Frequency Bandia (%)	Frequency Fathala (%)	Frequency Niokolo Koba (%)
Gender	100	100	100	100
Male	55.1	58.9	45.5	53.3
Female	44.9	41.1	54.5	46.7
Age	100	100	100	100
18-24	1.4	1.7	1.2	0
25-34	12.4	9.9	19.2	25
35-49	38.5	43.1	34.9	16.7
50-64	34.7	35.8	34.9	50
65+	12.9	9.4	9.6	8.3
Traveler's type	100	100	100	100
Families	34.6	37.1	32.3	20.8
Couples	35.7	28.5	45	33.3
Friends	22.7	27.4	15.9	33.3

Solo	5.9	5.4	6	12.5
Business	1.2	1.6	0.8	0
Time of year	100	100	100	100
March-May	30.6	29.6	24.3	22.2
Jun-Aug	18	18	13.1	14.8
Sept-Nov	25.9	19.5	29.1	14.8
Dec-Feb	37.7	32.9	33.5	48

The chart graph below shows the languages spoken by tourists (in percentage) at Bandia from December 2012 to January 2020

Graph 2: Languages spoken by tourists visited the Bandia reserve (%)



The majority of the tourists were French speakers, followed by English speakers, then Dutch speakers, followed by Italian speakers, Spanish speakers, followed by Portuguese speakers. The remaining 2.3% are European language speakers (2%) and Japanese speakers (0.3%).

Concerning the Strengths of Bandia, it is the safari that they appreciated the most: 38.5% liked that the animals were in liberty and 25.7% appreciated the diversity of animals. Tourists appreciated that animals circulate freely through the park unlike zoos and that they could get closer to the animals than in zoos. 38% appreciated the customer service

mentioning feature such as friendliness, professionalism, helpfulness, hospitality as positive factors, for the guides in addition to these features, the knowledgeability about the animals, the vegetation, the history, the culture of the locality was desired. However, for 5% of the tourists, the customer service was bad, citing the lack of knowledge from the guides or a lack of attention from the personnel. For 15.4 % the food served was good, and in an adequate quantity, compared to 0.5% who said that the food was not good, not qualitative enough or fresh. They considered the availability in the menu of rare meats such as eland or zebus as a plus.

11.7 % of the tourists found the physical environment attractive. Bandia was well set, nicely decorated, well maintained and clean, 13.7 % mentioned that the crocodiles' pond was wisely located near the restaurant and it was an interesting sight to watch them while eating. They also found the experience more entertaining with the monkeys (12.2%) roaming freely around them and sometimes stealing their food. They appreciated the close proximity to the crocodiles and the interaction with the monkeys. 7 % mentioned the welfare and found that the animals were well fed, looked healthy and relaxed.

For 4.4 %, the conservations efforts were important and they appreciated the conservation of endangered animals like the Derby eland, who is the largest antelope in the world (Kolackova & al. 2011). 3.1 % appreciated that there was an artisanal shop where they could buy souvenirs. 2.9 % appreciated that they could watch the animals in their natural habitat. For 2.7% the overall prices at Bandia were not expensive specially compared to the Eastern and Southern African safaris.

For the weaknesses 22% found it expensive, they said that the entrance fee, plus the mandatory guide's fee plus the rent of a vehicle was very expensive, especially for people coming in large groups. 17.6 % found that there were not enough animals and that the reserve was too small (35 km²). They also complained that the animals were not visible (0.7%), In particular they complained that they could not see the only 2 rhinoceros. 3.7 % did not appreciate that some animals were not native (like for example some antelopes in the reserve that never have existed in West Africa. 9.4% complained about the lack of predators, except the hyenas and the crocodiles and 5.4 didn't appreciate that they (hyenas and crocodiles) were in an enclosure. They complained that the lion was not present. 3% found the reserve too artificial and not as authentic as famous eastern and southern safaris

because the predators were enclosed and the animals were fed. They wanted to see the iconic African animals including the big five. Some illustrative comments are:

“It's a good park for what it is. Mostly antelope and herbivores, definitely great for kids but the feeding troughs were a little off putting.”

“There were a few reviews about how they spotted almost all Big five and even some said lions. But here's the truth (after confirmation with our safari guide), the only 2 predators you can find in the park are the hyenas and crocodiles. They are however kept in separate enclosed area to avoid them from hunting down other animals. Hence, you will not find any lions or leopards from the Big five.”

For the opportunities, they considered as an advantage the authentic vegetation (17%) and the historical background of the locality. Among the history they particularly mentioned the visit to the baobab cemetery and the stories about the locality told by the guides. 8.3 % percent liked that Bandia was close to the capital, including the airport. Concerning the threats, 0.2 % said that the Bandia reserve's vegetation is threatened because the forest of Bandia is shrinking due to the exploitation of limestone mines for the cement plant near the reserve.

Table 2: SWOT analysis of the Bandia Reserve

Strengths	Frequency (%)	Weaknesses	Frequency (%)
Animals in liberty	38.5	Expensive	22
Animal diversity	25.7	lack of diversity and animals	17.6
Good customer service	38	Lack of feline predators	9.4
Good food	15.4	Caged animals	5.4
Crocodile pond	13.7	Bad customer service	5
Monkeys at the restaurant	12.2	Not local animals	3.7
Good setting	11.7	Safari too artificial	3
Animal welfare	7	Animal abuse	1.5
Conservation efforts	4.4	Animals not visible	0.7
Artisanal shop	3.1	Food not good	0.5
Animals in their natural habitat	2.9	Reserve badly managed	0.03
Prices not expensive	2.7		
Opportunities	Frequency %	Threats	Frequency %
Vegetation	17	Far	0.5
Not far from capital	8.3	Local cement plant's pollution	0.2

5.2. Tourists' experience in the Fathala reserve

At Fathala, 365 tourists mentioned that they visited the reserve between April 2014 and January 2020. Among three it is only at Fathala where the frequency of females was higher than males. Regarding the age, two equally most frequent group were the 35-49 group and the 50-64 group, followed by the 25-34 group, then the 65+ group while the least present group was the youngest group, the 18-24 (Table 1).

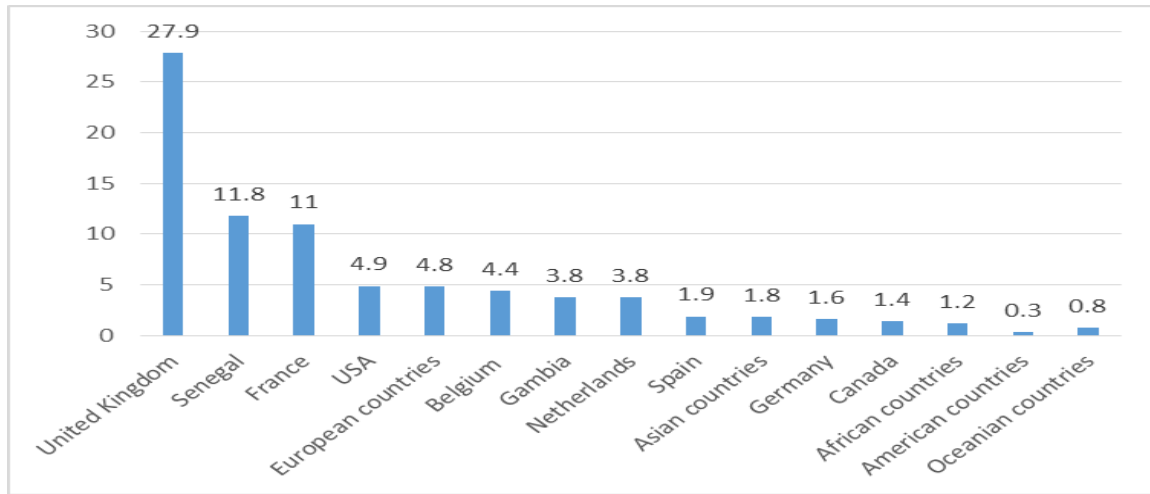
The majority came as couples, followed by families, then friends, followed by those who came solo, and the least represented group came because of business.

Most of the tourists came between December to February, followed by September to November, followed by March to May. The least preferred period was from June to August.

Regarding the country of origin the majority were, for Europe, the United Kingdom first, followed by France, Belgium, Netherlands, Spain, Germany, and less than 1% each for every other European countries (Italy, Luxembourg, Russia, Poland, Norway, Austria, Czech Republic, Finland, Greece, Slovenia, Switzerland and Sweden)(graph 3). For the African countries, Senegal is first, then Gambia and less than 1% for every other African country (Reunion Island, Nigeria, Ethiopia and South Africa) (graph 3). For America the United States are first, then Canada, the remaining 0.3% are the Bahamas. The Asian countries (Lebanon, Saudi Arabia, Jordan, Japan, Indonesia, India) followed the American countries and the Oceanian countries were the least represented with only Australian tourists present.

The bar chart below is a representation (in percentage) of the country origin of tourists who visited the Fathala reserve between April 2014 and January 2020.

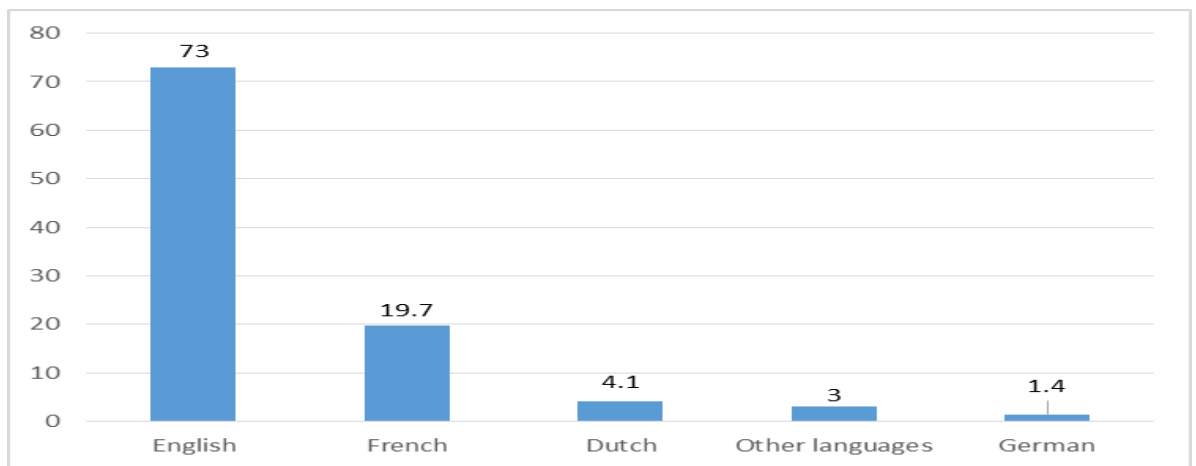
Graph 3: Country Origin of tourists visited the Fathala reserve (%)



The majority were English speakers, followed by French speakers, then Dutch speakers, German speakers and the remaining 1.6% were Spanish, Polish, Portuguese, Italian speakers and Norwegian Speakers.

The chart bar below represents the languages spoken (in percentage) by tourists who visited the Fathala reserve from April 2014 to January 2020.

Graph 4: Languages spoken by tourists visited the Fathala reserve(%)



The SWOT analysis showed that the strengths category of Fathala was the most quantitative (88.1%) compared to the strengths of Bandia and Niokolo Koba. the remaining 10.1% were the weaknesses, 1.7% were for the threats, and 0.1% were the opportunities.

Among the strengths, the most advantageous attribute mentioned was the good setting of the reserve (78.4%), they were attracted by the fact that the reserve was a high standard lodge (table 3). They were sensitive to the fact that it was well maintained, clean, nicely decorated, including the facilities. In summary, they found the physical environment of the reserve attractive. Another competitive advantage was that the reserve offered accommodations for tourists who wished to spend the night, contrary to Bandia. They appreciated the combination of the authentic African savannah outside and the luxurious comfort inside the tents.

The second feature that had a positive influence on tourist's satisfaction is the customer service with 71.8% saying they appreciated it. The terms used by the tourists to describe a good customer service were friendly, helpful, welcoming, and professional. Specifically, for the guide the desired characteristics were to be knowledgeable and friendly. Visitors consider it as a plus if the personal can speak their language. Some illustrative comments were:

"The guides were so incredibly knowledgeable and keen to answer questions about the animals and the area". "Our stay at Fathala Wildlife Reserve was absolutely wonderful. All of the staff were very friendly and helpful. From being greeted in the lobby with cold towels for our hands and faces to placing a chocolate on our pillows, we were treated very royally."

The following frequent feature in the reviews is the appreciation of the food served with 51.2% saying it was good. Words used to describe the good food were: good, healthy, tasty.

The further appreciated feature was the lion walk (49.3%). The lion walk is a 45 minutes stroll with lions tamed at an infant age (localguidesconnect.com). Tourists walk very closely with them, accompanied by security. Being so close and interact with them seemed to positively affect their satisfaction.

The following appreciated point of interest is the safari and the animal diversity with 43,1% who said that there was an animal diversity and density. They appreciated to see local animals as well as imported animals. Here are some illustrative comments:

"A small reserve, part of the West Derby Eland Breeding project with other savannah animals in close proximity."

“Amazing place to stay, getting up so close to the wildlife was magic”

The other advantageous point according to the tourists is the sight of the animals drinking at the waterhole (7.3%). They are also intentionally fed there so that the tourists can see them. The waterhole was set at the centre of the reserve so that tourist can see them from any area, so they see the animals come drink throughout the day. They liked that the animals they missed to see during the safari because they were hiding, could eventually be seen when they came to drink. Some illustrative comments were:

“Absolutely magical. You can take safari-like trips, or even better sit by the swimming pool and watch the animals come to you as the watering hole is in front of you.”

The following competitive advantage for Fathala to the contrary of Bandia and Niokolo Koba is that they propose recreational activities such as organized trips. Tourists are offered to make trips to the mangrove (9.3%), to the island (5.8%) or to the local village (2.2%).

Finally, another appreciated point is the conservation efforts for the animals (2.5%), including the Derby eland’s conservation. Some comments were:

“There are animals whose natural habitat this is, there are those whose natural habitat this was (the eland) and they are conserving them. There are others, who were here many years ago and they are monitored more carefully, so you will not see lions taking down zebras.”

Regarding the weaknesses, the most important one is the perceived expensive cost of the reserve (11.5%). They said the drinks and food were expensive, they complained about having to pay extra money for basic things like the Internet, and to have to pay also for the extra activities like the lion walk or the trips.

“They charge \$10 for Internet for your entire stay- they provide a modem that you have to carry from your tent to the dining area-my local Internet (Orange) wasn't working at the lodge. I found this nickel and diming since Fathala isn't cheap and what hotel charges for Internet now a days?”

“It is of course pretty expensive - a two-night stay for two with breakfasts, lunch and dinners and drinks and three excursions will cost you about 800'000 francs CFA. Drink and food are very overpriced. “

Fathala replied to the comments, saying that when they do their pricing they have to take their cost into consideration.

Some tourists were however willing to pay the expensive price because of the services offered: *“Expensive but definitely worth every penny. Wow! “*

The following weakness (5.5%) according to the tourists is that the diversity and density of the animals is too low, the animals are also not visible. Tourists compare the lack of animals of Fathala to the populated famous western and southern African reserves. They seem to be the standard of what tourists expect from a safari. They were disappointed that some animals of the big five were not present. For example:

“Fathala Wildlife Reserve is a 6,000-hectare fenced reserve and not open like Kruger or Serengeti. You will not see the Big 5 (lion, leopard, rhino, elephant or buffalo) but you will see various types of birds, giraffes, zebras, rhino (if you are lucky because there is only 1) and the Eland Antelope which can only be seen in Senegal.”

“To describe this as a "safari" destination is a breach of the trades descriptions act in my opinion. Wildlife is very limited.”

5.2% found that the food was not good. They complained about the lack of diversified menu like vegetarian and children meals, other said it was not fresh or the wine was of bad quality.

“The food was good but if you are a fussy eater the dinner choices are limited so be aware”

Next the tourist found the reserve too artificial (3%). They did not appreciate the lack of predators except the lions, whom they did not appreciate were enclosed (1.1%) and that the animals were fed by humans. Some tourists understood that it was due to conservation efforts or that the reserve is too small for the animal to reproduce typical natural behaviour. For example:

“Have Realistic Expectations before your visit. Fathala Wildlife Reserve is a 6,000-hectare fenced reserve and not open like Kruger or Serengeti. You will not see the Big 5 (lion, leopard, rhino, elephant or buffalo) but you will see various types of birds, giraffes, zebras, rhino (if you are lucky because there is only 1)”

The following weakness (1.6%) is that tourists think that the incomes generated by the reserve are not redistributed back to the local community.

Next comes the animal abuse (1.1%) with some tourist thought that the lions were forced to do the lion walk.

Regarding the opportunities of Fathala, its natural authentic vegetation. (0.8%) was considered advantageous.

Concerning the threats, 6.6% said the reserve is far and difficult to reach, the trip is especially more difficult for tourists who come from Dakar because it is far. One illustrative comment is:

“A road trip from Dakar is not as easy as one would hope with narrow roads, speed bumps and dozens of slow tracks on the way. An advice, if travelling from Dakar or Mbour, take the ferry at Foundiougne instead of driving through Kaolack (extremely bad roads).”

Table 3: SWOT analysis of the Fathala Reserve

Strengths	Frequency %	Weaknesses	Frequency %
Good Setting	78.4	Expensive	11.5
Good Customer Service	71.8	lack of diversity and animals	5.5
Food good	51.2	food not good	5.2
Lion Walk	49.3	Bad customer service	3.6
Safari	43.1	Safari too artificial	3
Waterhole	24.7	Animals not visible	1.6
Mangrove trip	9.3	No Redistribution to the local community	1.6
Beach Trip	5.8	not a lot of activities(boring)	1.1
Conservation efforts	2.5	Animal Abuse	1.1
Trip to the local village	2.2	Caged animals	1.1
		Not Native animals	0.3
Opportunities	Frequency %	Threats	Frequency %
Vegetation	0.8	Reserve is difficult to access	6.6
Reserve is easy to access	0.3		

5.3. Tourists' experience in Niokolo Koba National Park

Regarding Niokolo Koba, there was 27 reviews published between September 2010 and January 2020. The majority were males followed by females.

Concerning the age group, the most frequent is the 50-64 group, followed by the 25-34 group, then the 35-49 group, the least frequent is the 65+ group, and there was no people from the youngest group, the 18-25 (Table 1).

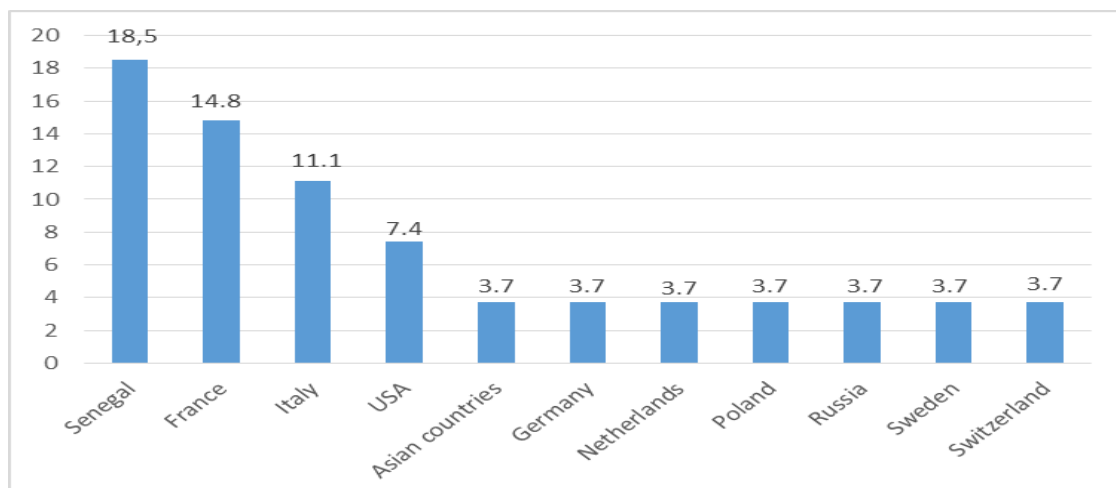
Most of the tourists came during the dry periods of December to February, followed by March-May, which shows that they respected the recommended periods to visit a safari which is during the dry season (Barkspear 2008). There was an equal number of tourists who visited the park during the rainy seasons which are from June to August and from September to November.

Regarding the Traveller type, the groups Couples and Friends were equally the majority followed by Families.

In regards to the nationalities, the majority are from European countries with France being the majority, followed by African countries (with only Senegal present), followed by American countries (with only the USA present) (graph 5). The least present tourists were from Asia (with only Israel present) and there was no tourists from Oceania.

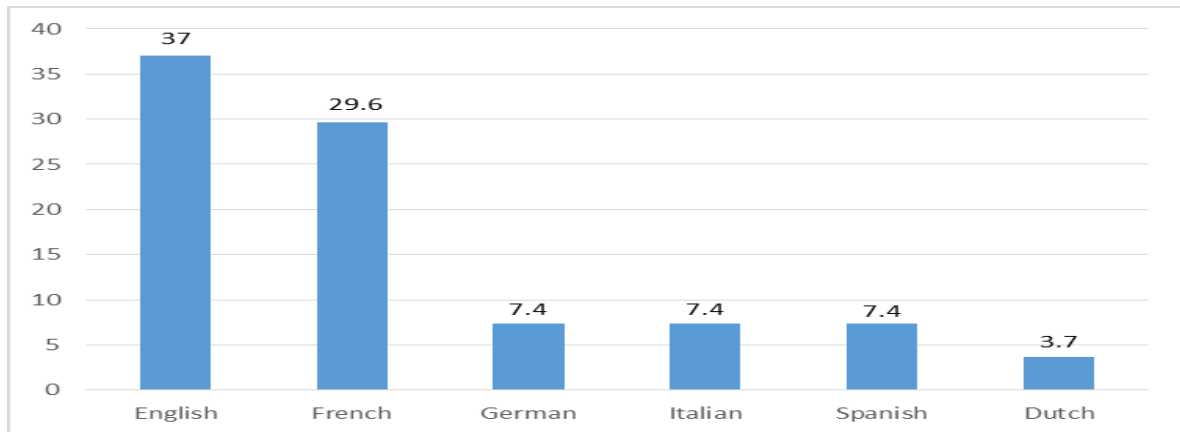
The graph below is a representation of the nationalities of the tourists who visited the Niokolo Koba National Park between September 2010 and January 2020.

Graph 5: Country Origin of tourists visited the Niokolo Koba (%)



The majority were English speakers, followed by French speakers, followed in equal number by Italian, Spanish, German speakers, and finally in equal number were Polish and Russian speakers (Graph 6).

Graph 6: Languages spoken by tourists visited the Niokolo Koba (%)



Regarding the SWOT, the most important strength was the safari (40.7%)(table 4). They said they appreciated the diversity, density and they liked that all the animals were in their natural habitat (25.9%). They also appreciated that the park was large enough (9,130 km²) for the animal to have natural behaviours like predators hunting preys. 11.1% considered the presence of feline predators (lions, hyenas, leopards) as an advantage and were satisfied.

However, 17.8% said that the animals were not visible. They said the elephants are not visible. It is understandable because there is only a few located in the mountains (Forget, 2011), which are hours drive from the park's main entrance. They are the last elephants in Senegal (Eugenie 2019). They also blamed the tall grass especially during the rainy season, but some tourists understood that because of the size of the park the animals hide far in the forest from the humans. The tourists also noticed a decrease in the animal population through the years. However, they noticed that during the dry season the animals were more visible because the water points dry out and they gather around the remaining water points.

The following weakness is that tourists mentioned that the park lacks marketing and online visibility (8.9%). They said it is a pity considering its potential due its large size (9,130 km²), its animal diversity and density.

7.4% said the park was well organized against 48.1% saying it was badly organized. They complained that the infrastructures were old and not maintained, also that there was electricity and water shortages at certain hours at the hotel. Some illustrative comments are:

“The setting is nice but it is completely abandoned”.

“Lamentable accommodation without water and electricity (and it is cold at night 12 °)”.

The following strength is that 11.1% said the customer service was good compared to 20% saying it was bad. They considered bad customer service the lack of knowledge from the guide and the lack of motivation from the personal.

The third strength is the good food (11.1%) compared to 4.4% saying it was not good. They said it was expensive for the quality served and that the menu was not diverse. Some illustrative comments were:

“At meal times no choice, the dish is imposed and really not great”

Concerning the opportunities 3.7% said it was easy to access, 51.9% appreciated the 9130 km² of natural forest, which they said is an advantage compared to the 35km² of Bandia and the 60 km² of Fathala.

Regarding the threats, the majority of tourists (74%) stressed the difficulty to access, because of the distance from the capital, including the airport. Niokolo Koba is at 491 km distance from Fathala, 547 km from Bandia, and 650 km from Dakar (google maps).

Table 4: SWOT analysis of the Niokolo Koba Reserve

Strengths	Frequency (%)	Weaknesses	Frequency (%)
Safari	40.7	Bad infrastructures	48.8
Animals in their natural habitat	25.9	Bad customer service	20
Good customer service	11.1	Animals not visible	17.8
Good food	11.1	Not enough publicity	8.9
Presence of predators felines	11.1	Food not good	4.4

Good setting of the reserve	7.4		
Opportunities	Frequency %	Threats	Frequency %
Vegetation	51.9	Reserve is difficult to access	74
Easy to access	3.7		

5.4. Satisfaction and Animal Preferences

In regards to the ratings and the SWOT analyses Fathala is the best evaluated. It has the best ratings with 96.1% of satisfaction and 1.9% of dissatisfaction, in second comes Bandia with 83.1% of satisfaction and 4.8% of dissatisfaction (graph 7). Niokolo Koba had the least satisfaction (47.8%) and the highest dissatisfaction (33.3 %). Regarding the SWOT, Fathala had the highest frequency of strengths (88.1%) (table 5), compared to 64.6% for Bandia and Niokolo Koba had the least frequency of strengths with 26.6%. Niokolo Koba had also the highest weaknesses (41.3%), compared to Bandia who had 25.5% and Fathala who had the least weaknesses frequency (10.1%).

Regarding the opportunities Niokolo Koba benefits the most 13.8% from its environment due to its size, animal density and natural vegetation, Fathala is the least to benefit from its environment (0.1%).

Concerning the threats, Niokolo Koba is the most exposed with 18.3% of threats (mostly due to its distance), and Bandia has the least threats in its environment (0.3%). Regarding the responses to the comments on TripAdvisor, only Fathala responded to the comments, and it responded to the majority of the comments.

The Graph 7 shows that Fathala has the highest level of satisfaction and the lowest levels of dissatisfaction, while the Niokolo Koba National Park had the highest levels of dissatisfaction and the lowest levels of satisfaction.

Graph 7: Tourists Satisfaction from the Bandia, Fathala and Niokolo Koba Experience (%)

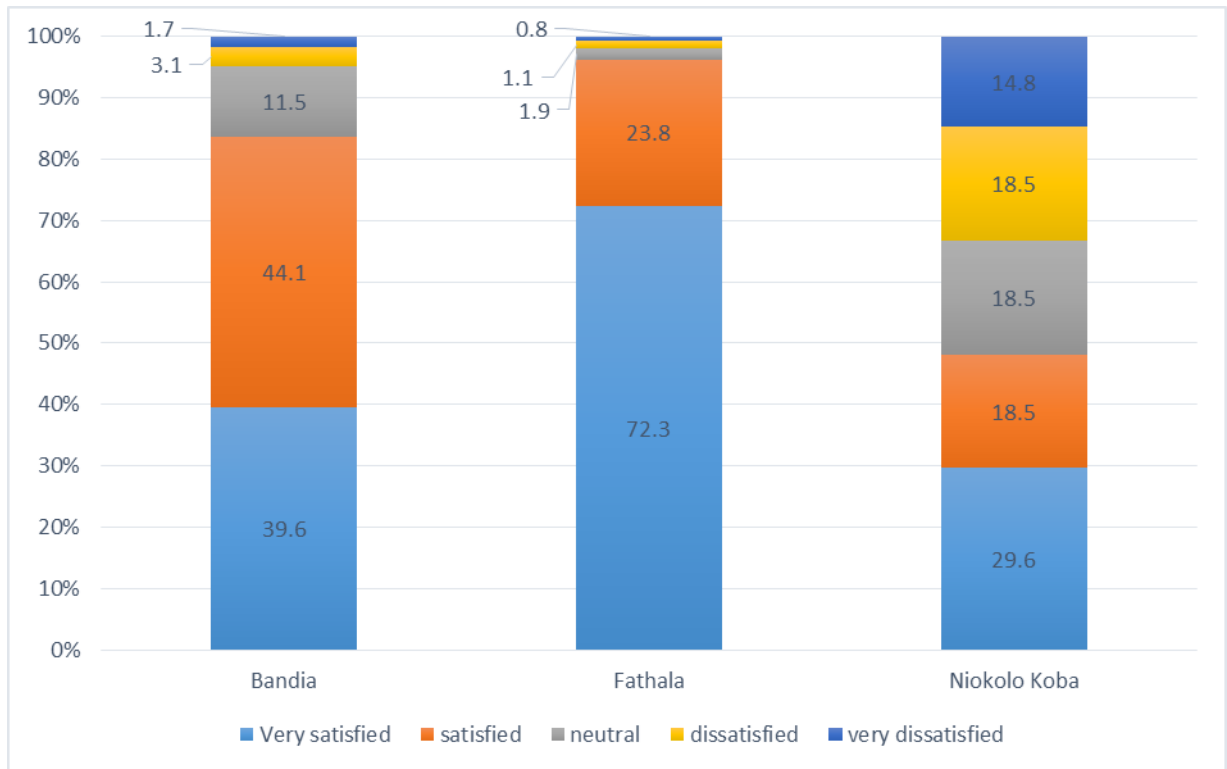


Table 5: SWOT table comparisons of three reserves in Senegal

SWOT	Frequency Bandia 100 (%)	Frequency Fathala 100 (%)	Frequency Niokolo koba 100 (%)
S	64.6	88.1	26.6
W	25.5	10.1	41.3
O	9.3	0.1	13.8
T	0.3	1.7	18.3

Regarding the animal preferences for Bandia, the most frequent animals mentioned in the comments were: monkeys (55), rhinoceros (47), giraffes (41), zebras (35), crocodiles (31), antelopes (25) (Derby elands 7 + impalas 7 + other antelopes), buffalos (24), ostriches (21), birds (15), lions (10), hyenas (10), warthogs (9), elephants (6), and turtles (5).

In regards to Fathala, the most frequent animals were: lions (216), rhinoceros (107), giraffes (51), monkeys (37), antelopes (40) (Derby eland 30 + waterbuck 7 + roan 3 + other antelopes), warthogs (35), zebras (34), birds (15) buffalos (12), crocodiles (9) and Elephants (3).

Concerning Niokolo Koba, the most frequent animal cited were: lions (20), monkeys (9), elephants (7), crocodiles (6), hippopotamuses (6), antelopes 6 (Derby elands 3 + cobs 3 + waterbucks 2 + other antelopes), wild dogs (5), warthogs (5), birds (4), panthers (2), honey badger (1), hyenas (1), rhinoceros (1), jackal (1) and buffalos (1).

6. Discussion

In this study, we attempted to determine the attributes that affected tourists' satisfaction regarding the reserves of Bandia, Fathala and Niokolo Koba, based on the reviews posted on TripAdvisor, the most popular social network for travel advice (Ramos & al. 2019). Through text mining and content analysis of three reserves, several interesting insights were unearthed with regards to the tourists' met or unmet expectations. The results of the study were in general agreement with the existing literatures. We will first define the terms experience and satisfaction. According to Larsen (2007), the tourist experience is a past travel related event which was significant enough to be stored in the long-term memory. The outcome of the experience will then be judged through satisfaction or dissatisfaction (Ryan 2002). According to Oliver (1980) satisfaction is the feeling of fulfilment that occurs when traveller expectations are matched or exceeded.

The results showed that the majority of tourists liked to come in groups: families, couples or friends represented 93% of the tourists' visits. It concurs with Slabbert & al. (2011) who said that tourist mainly come to park to relax and spend time with family and friends. According to the results, most tourists came from Europe. The presence of Europe is understandable, because Europe counts many countries with the United States and China where the residents travel the most (UNWTO 2018). It is also due to its relative physical proximity with Africa compared to the other continents according to Zuckerman (2002). Nicolau & al. (2006) went further and stated that the geographic distance between a tourist's place of residence and a destination plays an important role in the spatial distribution of tourists. The fact that there were less African tourists than European can be explained by the visas. Indeed, according to Africa Visa Openness Index, on average, Africans need visas to enter 55% of states within the continent.

The attributes can be classified into categories in a decreasing order of importance based on their frequency in the comments. The categories are: "safari and the animals", "the customer service and food", "the physical environment of the reserve", the "price fairness", the "recreational activities offered", the "conservation of animals and the participation of the local community", and finally "the online visibility and the availability of information".

Concerning the 'safari and animals' category there were four factors influencing the satisfaction: the popularity of the animal, the diversity and the density of the animals, and finally the level of interaction and proximity between the animals and the tourists. Concerning the degree of popularity of the animal, the word frequency showed that the most sought-after animals are the famous large safari animals. The study concurs with Lindsey & al. (2007) who found that tourists are attracted by iconic wildlife animals of large body size (charismatic megafauna animals), it includes the big five. What distinguishes a wildlife attraction and makes it stand out from others relates to the charisma of the wildlife being viewed. Charismatic animals include gorillas and all great apes, large marine creatures such as whale sharks and whales, and the African "Big Five" (lions, leopards, elephants, Cape buffalos and rhinoceros). When large megafauna are not present in an area such as rainforests, attractions include monkeys, lemurs and large flocks of colourful birds, such as macaws (IFC 2004). The mention in the reviews of non-existing charismatic animals at some reserves like for example at Bandia the elephant and the lion, at Fathala the elephant, at Niokolo Koba the rhinoceros and the giraffe and is also revealing about the envy for tourists to encounter the famous African safari animals. Hence it is important for the reserves to promote large mammals as flagship species. In this context the Derby eland would be an appropriate flagship specie, knowing it is the largest antelope in the world (Kolackova & al. 2011).

Concerning the diversity, the results have shown that the visitors who were lucky to spot and observe a great number of different animals during their safari tended to be highly satisfied with their experience while those who complained about the shortage of animals in the park were generally dissatisfied with their experience. This finding concurs with Valentine & al. (2004) who said that tourists are attracted by areas with a large number of animals and a high diversity where many different species may be seen.

In regard to the interaction between animals and tourists, we found that the animals with whom tourists were in closer proximity and interacted the most with were on top of the list. For example, at Bandia the monkeys and the crocodiles, at Fathala tourists enjoyed walking at a close proximity and interact with the lions. At Bandia, tourists enjoyed interacting and playing with the monkeys, while they were having have lunch. The tourists enjoyed being at a close proximity from the crocodiles while having lunch. The satisfaction resulting from proximity and interaction with animals was also found by

Cong & al. (2014), according to whom the tourist's satisfaction increases with the proximity and interaction with animals. Getting an opportunity to get closer to the animals is one factor that contributes to tourist enjoyment and satisfaction with the wildlife tourism experience (Davis & al. 1997). Hence the level of proximity is very determinant, but reserve managers must take into account the animal's welfare.

Regarding the physical environment of the reserve, it was found that tourists were satisfied if the physical environment of the reserve was attractive, clean, and well maintained, they would be disappointed if it looked unattractive, abandoned or not maintained. These results concur with Githiri (2016), who found that the attractiveness and maintenance of the physical environment influences the satisfaction.

Concerning the vegetation, tourists complained that the tall grass made the visibility of animals harder. This concludes with Arbieu & al. (2017) according to whom the lack of visibility has a negative impact on tourist's satisfaction.

Having an accommodation was found to also increase the satisfaction. The attractiveness, the quality of the furniture, the comfort and the amenities seemed to positively influence the satisfaction. Tourists tended to prefer more luxurious accommodations. These results corroborate Carev (2008) who stated that the quality of the accommodation has an influence on the satisfaction.

Concerning the price, the price's fairness also influenced the satisfaction. Tourists wanted a balance between the quality offered and the prices asked. It corroborates Asadi & al (2014) who found that price fairness has a significant influence on satisfaction.

Concerning the services offered, it was found that tourists were sensitive to attributes of the staff such as friendliness, helpfulness and professionalism. From the guide it was additionally expected the knowledgeability about the animal's species, the flora, the history and the culture of the locality. Concerning the food, the satisfaction was high if the food was qualitative, healthy and fresh, if the menu was diversified. Tourists were dissatisfied if the menu was not diverse. Similar results were found by authors such as the influence of good service quality on satisfaction (Yee & Al. 2010), the influence of food on guests' satisfaction (Nadji & al. 2018).

Concerning the knowledgeability for the guide, the envy for tourists to learn concurs with Moscardo & al. (2004), who found that a strong educational component to wildlife safari

can enhance visitor's experience and significantly influence their biodiversity conservation attitudes (Apps & al. 2017). Thus, tour guides can have a significant impact on tourist's satisfaction (Huang & al. 2015).

The study has shown that the presence of recreational activities for example at Fathala (organised trips) besides the safari had an influence on the satisfaction. Mutanga & al. (2017) also found that recreational activities besides safaris in parks positively influenced tourists' satisfaction. It is also corroborated by Kruger & al. (2010) who found that the tourists' motivations to come to the Kruger Park were learning about nature and participating in recreational activities. Thus, reserves should diversify the activities to attract more tourists.

Concerning the conservation of the animals and the participation of the local community, tourists saluted the efforts of reintroduction of endangered animals such as the Derby eland. However, they complained that the local community was not benefiting from the reserve. According to Grunova & al. (2017), the local community should be more involved because conservation strategies depend largely on their participation.

Finally, concerning the availability of information, the results found that the Bandia's webpage was displayed only in French and attracted mostly French speakers while Fathala's website who was displayed only in English attracted the most English speakers. So, there's a link between the language of the advertisement and the language spoken by the tourists visiting. This is corroborated by Noriega & al. (2008) who said that the language in which the information is displayed attract the most the people who speak it.

6.1. Recommendations

Based on the findings, we would like to suggest the following main recommendations to increase the number of tourists visiting natural reserves in Senegal.

- Increase the visibility, the diversity and the number of animal species.
- Bring the popular, charismatic megafauna animals to attract more tourists.
- Increase the interaction between tourists and animals, however respect the animal's welfare.
- Avoid putting put the animals in cages.

- Improve lesser-known species online visibility including Derby eland's advertisement.
- Make sure the physical environment of the reserve is attractive (landscape management, cleanliness, decoration, maintenance, etc.).
- Provide an accommodation for tourists who want to stay.
- Improve service quality with friendly professional staff.
- Select knowledgeable guides that will provide information about animals, flora, culture, history of the locality.
- Diversify the food menu.
- Propose recreational activities besides safari to increase visits.
- Adjust the prices so there is a balance between the quality provided and the prices given.
- Provide to tourists who come in large groups discounts because they are the most frequent visitors.
- Provide information online so the tourists know the animals present and the prices to not come and be disappointed.
- Translate online information in multiple languages to attract more tourists.
- Managers should use online reviews as customer feedback and consider them when taking management decisions.

7. Conclusion

The study sought to establish the expectations of tourists towards national parks in Senegal. The attributes which were found to impact tourists' satisfaction were regarding the animals: the diversity, liberty and the density of the animals, the popularity of the animal, the proximity and the level of interaction with the animal. The attractiveness of the physical environment was also determinant for the tourists' satisfaction, they preferred a clean, well maintained, well decorated and well-located environment where they can appreciate the beauty of nature. The quality of the service was also a factor of satisfaction with tourists being sensitive to a friendly and professional service, for the food they expected quality food, enough portions and a diversified menu choice. The price fairness was also found influent. The accommodation was also influent with a preference for higher standard, comfortable, rooms. Proposing recreational activities besides the safari like for example trips was also found to positively affect tourists' satisfaction. Regarding the conservation efforts and the participation of the local community, the tourists saluted the reintroduction of critically endangered species like the Derby eland however they deplored that the local community does not benefit enough from the incomes generated by reserve. This is important knowing that the participation of local community is one of the bases of ecotourism.

Concerning the visibility of information, a translation of the information in a maximum of languages is recommended because tourists are more attracted to the information when it is displayed in their language. The information about the animals present and the prices given should also be displayed online, so they know what to expect.

Overall, Fathala was the best evaluated reserve. It had the best ratings, the most strengths and the least weaknesses, so it is a good example for companies interested in the management of conservation areas in Senegal. Further studies can be done to compare the tourist's expectations between other West African reserves.

8. References

- Acikgoz Altunel T, Erkan Buğday S. (2019). Revenues from Ecotourism Activities in the World. *Asian Journal of Social Sciences & Humanities* **1**: 7-13.
- Alonso-Almeida M.D.M, Borrajo-Millán F, Yi L. (2019). "Are Social Media Data Pushing Overtourism? The Case of Barcelona and Chinese Tourists," *Sustainability, MDPI, Open Access Journal* **11**: 1-17.
- Apps K, Dimmock K, Lloyd D.J, Huveneers C. (2017). Is there a place for education and interpretation in shark-based tourism? *Tourism Recreation Research* **42**: 327-343.
- Arbieu U, Grünewald C, Schleuning M, Böhning-Gaese K. (2017). The importance of vegetation density for tourists' wildlife viewing experience and satisfaction in African savannah ecosystems. *PloS one* **12**: e0185793.
- Asadi A, Pool J, Jalilvand M.R. (2014). The effect of perceived price fairness through satisfaction and loyalty on international tourists' price acceptance of Islamic-Iranian art products. *Education, Business and Society: Contemporary Middle Eastern Issues* **7**: 201-215.
- Bindu I. (2018). Role of Social Media in Ecotourism Development. *International Journal of Research in Social Sciences* **8**: 134-141.
- Blanc J.J, Barnes R.F.W. (2007). African Elephant Status Report 2007: An Update from the African elephant. IUCN.284 p.
- Brakspear. (2008). On safari in Africa: 101 things to know when you go. *Passion for Africa*. 463p.
- Brandlová K, Mallon D, Regnaut S, Jůnková Vymyslická P, Fedorova T, Žáčková M, Brandl P, Ndiaye S. (2013). Western Derby eland (*Taurotragus derbianus derbianus*) Conservation Strategy.
- Carev D. (2008). Guest satisfaction and guest loyalty study for hotel Industry. Thesis, Rochester Institute of Technology.
- Clement J, 2019. Number of monthly active Facebook users worldwide as of 4th quarter 2019. Available at <https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/>: Accessed 2019-12-12.

- Cong L, Wu B, Morrison A.M, Shu H, Wang M. (2014). Analysis of Wildlife Tourism Experiences with Endangered Species: An Exploratory Study of Encounters with Giant Pandas in Chengdu, China. *Tourism management* **40**: 300-310.
- Davis D, Banks S, Birtles A, Valentine P, Cuthill M (1997). Whale sharks in Ningaloo Marine Park: Managing tourism in an Australian marine protected area. *Journal of Tourism Management* **18**: 259–271.
- Dinnie K. (2011). *City Branding: Theory and Cases*. Palgrave Macmillan. 239 p.
- Di Pietro L, Pantano E. (2013). Social network influences on young tourists: An exploratory analysis of determinants of the purchasing intention. *Journal of Direct, Data and Digital Market Practice* **15**: 4–19.
- Drahošová M, Balco P. (2017). The analysis of advantages and disadvantages of use of social media in European Union. *Procedia Computer Science* **109**: 1005-1009.
- Egresi I, & Prakash T.G.S.L. (2019). What makes wildlife tourists happy and what disappoints them? Learning from reviews posted on Tripadvisor. *Geojournal of Tourism and Geosites* **24**: 102-117.
- FAO. Politique Forestière Senegal. Available at <http://www.fao.org/forestry/15131-03dde88ae32d1657437f33244f16c1126.pdf> : Accessed 2020-01-05.
- Fatajo Y. (2019). Fathala Wildlife Reserve Experience in Senegal. Available at <https://www.localguidesconnect.com/t5/General-Discussion/Fathala-Wildlife-Reserve-Experience-in-Senegal/td-p/1824852> : Accessed 2020-03-02.
- Fathala. Fathala Wildlife Reserve. Available at <https://www.fathala.com/> : Accessed 2020-12-03.
- Feldbauer-Durstmüller B, Mayr S. (2019). *Controlling im Brennpunkt von Digitalisierung und Nachhaltigkeit*. Springer. 534 p. Available at <https://www.springer.com/gp/book/9783658277222> : Accessed 2020-03-01.
- Fontanarava J, Pasi G, Viviani M. (2017). Feature Analysis for Fake Review detection through Supervised Classification. *IEEE International Conference on Data Science and Advanced Analytics*: 658-666.
- Font X, McCabe S. (2018). *Marketing for Sustainable Tourism*. Routledge. 198p.

- Franco M., Tursunbayeva A., Pagliari C. (2016). Social Media for e-Government in the Public Health Sector: Protocol for a Systematic Review. *JMIR Research Protocols* 5: 1-10.
- Gagnon K, Sabus C. (2014). Professionalism in a Digital Age: Opportunities and Considerations for Using Social Media in Health Care. *Physical therapy*. **95**: 406-414.
- Githiri M.N, (2016). Influence of Physical Environment on Customer Satisfaction and Return Intention in Kenyan Rated Restaurants. *Asian Journal of Social Science Studies* 2: 11.
- Griffiths M.D, Kuss D.J, Demetrovics Z. (2014). Social Networking Addiction: An Overview of Preliminary Findings. *Behavioral Addictions: Criteria, Evidence, and Treatment*, 119-141.
- Grunova M, Brandlova K, Svitalek J, Hejcmanova P. (2017). Environmental education supports conservation action by increasing the immediate and long-term environmental knowledge of children in West Africa, *Applied Environmental Education & Communication* **16**: 3-16.
- Gurel E. (2017). Swot analysis: a theoretical review. *Journal of International Social Research* **10**: 994-1006.
- Hao J, Gao B. (2017). Advantages and Disadvantages for Nurses of Using Social Media. *Journal of Primary Health Care and General Practice* **1**: 1-3.
- Harris C. (2018). Decomposing TripAdvisor: Detecting potentially fraudulent hotel reviews in the era of big data. *IEEE International Conference on Big Knowledge*: 243-251.
- Hay G.J, Castilla G. (2006). Object-Based Image Analysis: Strengths, Weaknesses, Opportunities and Threats (SWOT). *Computer Science*.
- Huang S, Weiler B, Assaker, G. (2015). Effects of interpretative guiding outcomes on tourist satisfaction and behavioural intention. *Journal of Travel Research* **54**: 344-358.
- Huemer C, Lops P. (2012). E-Commerce Technologies: 13th International Conference. *EC-Web* **123**: 124–136.
- IFC. (2004). *Ecolodges: exploring opportunities for sustainable business*. World Bank Group.

- Jones E, Haven-Tang C. (2005). Tourism SMEs, Service Quality and Destination Competitiveness. CABI. 392 p.
- Kacetl J, Klimova B. (2019). Social Network Sites in Travel and Tourism: Benefits and Limitations. *Journal of Engineering and Applied Sciences*. **14**: 10544-10548.
- Kolackova K, Hejzmanova P, Antonínova M, Brandl P. (2011). Population management as a tool in the recovery of the critically endangered Western Derby eland *Taurotragus derbianus* in Senegal, Africa. *Wildlife Biology* **17**: 299-310.
- Kozinets R.V (2019). *Netnography: The Essential Guide to Qualitative Social Media Research*. USA: SAGE. 539p.
- Kruger M, Saayman M. (2010). Travel Motivation of Tourists to Kruger and Tsitsikamma National Parks: A Comparative Study. *South African Journal of Wildlife Research* **40**: 93-102.
- Lappas T, Sabnis G, Valkanas G. (2016). The Impact of Fake Reviews on Online Visibility: A Vulnerability Assessment of the Hotel Industry. *Information Systems Research*. **27**: 940-961.
- Larsen S (2007). Aspects of a Psychology of the Tourist Experience. *Scandinavian Journal of Hospitality and Tourism* **7**: 7-18.
- Lindsey P, Alexander R, Mills M, Romanach S, Woodroffe R. (2007). Wildlife Viewing Preferences of Visitors to Protected Areas in South Africa: Implications for the Role of Ecotourism in Conservation. *Journal of Ecotourism* **6**: 19-33.
- Lock S. (2019). Countries with the largest international tourism expenditure in 2018 (in billion U.S. dollars). Available at: <https://www.statista.com/statistics/273127/countries-with-the-highest-expenditure-in-international-tourism/> : Accessed 2019-12-15.
- Lock S. (2020). Number of user reviews and opinions on TripAdvisor worldwide from 2014 to 2019. Available at <https://www.statista.com/statistics/684862/tripadvisor-number-of-reviews/>: Accessed 2020-03-02.
- Loubser G.J.J, Mouton P.F.N, Nel J.A.J. 2001. The ecotourism potential of herpetofauna in the Namaqua national park, South Africa. *South African Journal of Wildlife Research* **31**: 13-23.

- Madjene S, Bennour H. (2018). L'impact des réseaux sociaux sur le comportement des consommateurs touristiques Algériens. Algeria: Mouloud Mammeri University.
- Meiselwitz G. (2017). Social Computing and Social Media. Applications and Analytics. Springer. 436 p.
- Merwe P, Saayman M. (2008). Travel Motivations of Tourists Visiting Kruger National Park. *Journal of Ecotourism* 14: 21.
- Merwe P, Slabbert E, Saayman M. (2011). Travel Motivations of Tourists to Selected Marine Destinations. *International Journal of Tourism Research* **13**: 457 – 467.
- Miguéns J, Baggio R, Costa C. (2008). Social media and Tourism Destinations: TripAdvisor Case Study. *Advances in Tourism Research*. 26-28.
- Ministère du Tourisme et des Transports Aériens. (2016). Etude sur la mise en valeur de l'offre écotouristique dans les régions de Fatick et Tambacounda. MTTA, Senegal.
- Moscardo G, Woods B, Saltzer R. (2004). The Role of Interpretation in Wildlife Tourism. *Wildlife tourism: Impacts, management and planning*: 231-251.
- Mutanga C, Vengesayi S, Chikuta O, Never M, Gandiwa E. (2017). Travel motivation and tourist satisfaction with wildlife tourism experiences in Gonarezhou and Matusadona National Parks, Zimbabwe. *Journal of Outdoor Recreation and Tourism* **20**: 1-18.
- Nadji C, Ping Y, Sebata E. (2018). Chinese Tourists' Perceptions of Service Quality in West African Hotels: A Case Study of Senegal. *Journal of China Tourism Research* **14**: 1-10.
- Nicolau J, Más F. (2006). The influence of distance and prices on the choice of tourist destinations: The moderating role of motivations. *Tourism Management* **27**:982-996.
- Nöldeke G, (2019). Number of users in the Online Travel Booking market worldwide* from 2017 to 2023. Available at <https://www.statista.com/forecasts/891342/number-of-users-in-the-online-travel-booking-market-worldwide>: Accessed 2019-12-10.
- Noori M, Maktoubian J. (2019). Business Improvement Approach Based on Sentiment Twitter Analysis: Case Study. EAI Endorsed Transactions on Cloud Systems.
- Noriega J. (2008). Advertising to Bilinguals: Does the Language of Advertising Influence the Nature of Thoughts? *Journal of Marketing* **72**: 69-83.

- Oliver R.L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research* **17**:460–469.
- Owen-Smith, N (1989). Megafaunal Extinctions: The Conservation Message from 11,000 Years B.P. *Conservation Biology* **4**, 405–412.
- Parameswaran M, Susarla A, Whinston A. (2001). P2P networking: An information-sharing alternative. *Computer*. **34**. 31 - 38.
- Pempek T, Yermolayeva Y, Calvert S. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*. **30**, 227-238.
- Poushter J, Bishop C, Chew H. (2018). Social Media Use Continues to Rise in Developing Countries but Plateaus Across Developed Ones. Available at <https://www.pewresearch.org/global/2018/06/19/social-media-use-continues-to-rise-in-developing-countries-but-plateaus-across-developed-ones/>: Accessed 2019-12-04.
- Quinlan Cutler S, Carmichael B. (2010). The dimensions of the tourist experience. *The tourism and leisure experience: Consumer and managerial perspectives*: 3-26.
- Raamkumar A.S, Erdt M, Vijayakumar E, Rasmussen E, Theng Y.L, (2018). “Understanding the Twitter usage of humanities and social sciences academic journals”. *Proceedings of the Association for Information Science and Technology* **55**: 430–439.
- Rabeil T. (2015). Inventaire de la grande faune du parc Niokolo Koba du Sénégal. UNESCO.
- Reserve de Bandia. Available at: <http://www.reservedebandia.com/animals.html> Accessed 2019-12-02.
- Reuer J.J, Matusik S.F, Jones J. (2019). *The Oxford Handbook of Entrepreneurship and Collaboration*. Oxford Handbooks. 864 p.
- Reyes-Menendez A, Saura J.R, Filipe F. (2019). The importance of behavioural data to identify fake reviews for tourism businesses: a systematic review. *PeerJ Computer Science* **5**: e219.
- Rodger K., Moore S.A., Newsome D. (2007). Wildlife tours in Australia: Characteristics, the place of science and sustainable futures. *Journal of Sustainable Tourism* **15**: 160-179.
- Russell B. (2008). Marketing and Envy. *Envy: Theory and research* **12**:211-226.

- Salehi H, Farahbakhsh M. (2014). Tourism advertisement management and effective tools in tourism industry. *International Journal of Geography and Geology* **3**: 124-134.
- Sall O. (2017). The Impact of Social and Digital Medias on Senegalese Society. *Studies in Media and Communication*: 5.
- SI S. (2015). Social Media and Its Role in Marketing. *Business and Economics Journal* **07**: 01-05.
- Sonatel (2019). SN 2025 : Acte 4 de la démocratisation de l'Internet au Sénégal par Sonatel Orange simplifie ses offres et baisse ses tarifs pour une expérience client incomparable de l'Internet à la Maison. Available at <https://sonatel.sn/sn-2025-acte-4-de-la-democratisation-de-linternet-au-senegal-par-sonatel-orange-simplifie-ses-offres-et-baisse-ses-tarifs-pour-une-experience-client-incomparable-de-linternet-a-la/> : Accessed 2019-11-06.
- Tan H, Lv X, Liu X, Gursoy D. (2018). Evaluation nudge: Effect of evaluation mode of online customer reviews on consumers' preferences. *Tourism management* **65**: 29-40.
- Tang, T, Fang E, Wang F. (2014). "Is Neutral Really Neutral? The Effects of Neutral User-Generated Content on Product Sales". *Journal of Marketing* **41**: 41– 58.
- TODOR R.D. (2016). Blending traditional and digital marketing. *Bulletin of the Transilvania University of Brasov Economic Sciences* **9**: 51-56.
- TripAdvisor (2014). Eighty percent of TripAdvisor users read at least six to 12 reviews before choosing a hotel. Available at <https://tripadvisor.mediaroom.com/2014-02-11-Eighty-percent-of-TripAdvisor-users-read-at-least-six-to-12-reviews-before-choosing-a-hotel> : Accessed 2019-12-02.
- UNESCO. (2015). Niokolo Koba National Park. Available at <https://whc.unesco.org/en/list/153/>: Accessed 2020-01-12.
- Valentine P, Birtles A. (2004). Wildlife Watching. *Wildlife, tourism: Impacts, management and planning*. Common Ground Publishing: 15-34.
- Wang J. (2012). Clustered Layout Word Cloud for User Generated Online Reviews [Msc]. USA: Virginia Tech University. 194 p.

Worldbank. (2020). Etude d'Impact Environnemental et Social des Opérations de Dragage en Vue du Rechargement en Sable des Plages de Saly. Available at : <http://documents.worldbank.org/curated/en/542581583390235506/pdf/Etude-dImpact-Environnemental-et-Social-des-Operations-de-Dragage-en-Vue-du-Rechargement-en-Sable-des-Plages-de-Saly.pdf>: Accessed 2020-02-01

Yang S.F, Li L. (2015). Emerging Technologies for Librarians: A Practical Approach to Innovation. Chandos. 300p.

Yee R, Yeung A, Cheng T.C.E. (2010). An empirical study of employee loyalty, service quality and firm performance in the service industry. *International Journal of Production Economics* **124**: 109-120.

Zemanova H, Cerna Bolfikova B, Brandlova K, Hejcmanova P, Hulva P. (2015). Conservation genetics of the western Derby Eland in Senegal: integration of pedigree and microsatellite data. *Mammalian Biology* **4**: 328-332.

Zuckerman J.N. (2002). Principles and Practice of Travel Medicine. Wiley. 676p.

