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The use of social media big data within South African hotels and lodges

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A Thesis submitted in fulfilment for the requirement of the degree of
Masters: Tourism & Hospitality Management

**School of Tourism and Hospitality, College of Business
and Economics, University of Johannesburg**

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2019

DECLARATION

I certify that the *minor dissertation/dissertation/thesis* submitted by me for the degree *Masters of Tourism and Hospitality Management*, at the University of Johannesburg is my independent work and has not been submitted by me for a degree at another university.

Sebastian Gutfreund



DEDICATION

To my family and friends

“Family and friends are hidden treasures, seek them and enjoy their riches.”



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ABSTRACT

Big data is a revolutionary and disruptive technology that is used to identify behavioural patterns and track customer preferences. It has several advantages for the hospitality industry, where customer loyalty is integral for brand performance. However, big data is greatly underutilised. Therefore, a study was conducted to look at the use of social media big data within South African hotels and lodges

The aim of this study was to focus on the general understanding of big data and the link it shares with social media. There was a further focus on the analytical tools that hotels and lodges make use of, as well as the benefits and challenges which social media big data elucidates for these sectors. This information provides an overall image of how South African hotels and lodges are wielding this technology, giving a future viewpoint on the progression and improvements that need to be undertaken. A comparison concerning the key similarities and differences between the lodge and hotel sector was also provided. This gave an overall picture on how South African hotels and lodges are using this technology, thus giving a future outlook on the progression and improvements that need to be taken into consideration. In order to fully grasp and appreciate big data, a literature review was provided in order to understand the relationship big data has with social media, and the impact it has within the hospitality industry, playing closer attention to hotels and lodges.

The methodological approach of the study focused on the qualitative research method, where ten participants in total were interviewed - five being marketing managers in hotels and five marketing managers in lodges. The key findings of the study revealed that the South African hospitality industry is presently only at the genesis when it comes to the use of social media big data. This was revealed through the marketing manager's generic understanding of the phenomenon. Furthermore, the data predominantly illustrated that only basic analytical tools were used, which indicates that there is a shortage of internal specialists who are capable of handling more advanced tools to further their findings. However, the benefits established were primarily related to the identification of behavioural patterns and preferences of both future and current customers, as well as the marketability of certain promotions that are placed on various platforms. In summary, the data is essentially used to enhance the guests experience through targeting their likes and dislikes. The primary challenges within both sectors of the industry emphasised areas such as education and training, the lack of advanced technology, and the security and privacy concerns pertaining to guest data.

It was made clear that there was a limited amount of scholarly publications available that considered this area of research, therefore more research should be undertaken in order to improve the use and understanding of social media big data within South African hotels and lodges, especially concerning vital areas such as education and technology. If the gaps are closely identified, and new measures and frameworks are implemented, it will allow for the local industry to grow and be on par with international standards and trends.



LIST OF ACRONYMS

Acronym	Explanation
AI	Artificial Intelligence
BD	Big Data
ETA	Estimated Time of Arrival
OTA	Outsourced Travel Agency
PwC	PricewaterhouseCoopers
SMM	Social Media Marketing
STEM	Science, Technology, Engineering, Mathematics
US	United States



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CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

Schwab (2016) the founder and executive chairman of the World Economic Forum stated that humanity will be impacted by a new wave of technology by the year 2025, which will be known as the fourth industrial revolution. The main source of technology in the fourth industrial revolution is expected to be artificial intelligence (AI), robotics, nanotechnology, 3D printing, quantum computing, big data, and the Internet of Things (Effoduh, 2016:81). Artificial Intelligence refers to the performance of seemingly intelligent behaviours by computers or machines (Reyfine, 2017). Thus, AI can be considered a human machine that grows and develops in knowledge throughout its life (Porecca, 2017). The fourth industrial revolution will generate huge concern for global economies, especially with regards to labour due to the lower and semi-skilled workforce that could easily be replaced by technology (Oesch, 2017). Therefore, countries would need to prepare themselves, by introducing Science, Technology, Engineering, and Mathematics (STEM) courses in their curriculum, which will help the new generation cope with future jobs that have not yet surfaced or been created (Gray, 2017). Companies would need to provide training programmes and skills development for their staff in order to learn the basics of what is to come and what will be required of them in the future (Shank, 2016).

Technology is fast growing, and it is believed that even students studying a degree related to technology in university will have difficulties (Oesch, 2017). Therefore, the education system is not equipping the new generation with the required skills that will be essential to succeed in the work environment - now and in the future (Hattingh, 2016). The main skills that will be necessary by 2020 will include computational thinking, virtual collaboration, and technological literacy and technical entrepreneurial skills (Hattingh, 2016). Even though the revolution is currently happening, researchers are apprehensive and unsure as to how this will impact the future business environment.

A very important and clear aspect that needs to be looked into, and was the primary focus of this study, is the use of social media big data within the hospitality industry, specifically the hotel and lodge sector. Big data can be identified as a large volume of scientific data used for visualisation that is difficult to store, process, and analyse with the traditional methods of database technologies (Cox & Ellsworth, 1997). Big data is divided into a structured and

unstructured format, whereby 80% to 90% of the world's data is unstructured and for the most part stems from social media platforms (Hattingh, 2016).

The hospitality industry has numerous sectors that have used this to their advantage by providing promotions and allowing customers to ask questions and give feedback from their previous visit (Lanz, Fischhof, & Lee, 2010:7). Through big data, companies and businesses alike can track customer behaviour in order to give the customer the best experience possible. It also begs the question as to whether traditional marketing methods will be relevant, or if the new digital methods will be more efficient and less costly for companies to proceed for the years to come through Social Media Marketing (SMM).

It is well known that data-driven companies perform better by reaching their respective financial and operational goals (McAfee, Brynjolfsson, Davenport, Patil & Barton, 2012:64). This is mainly due to data being inexpensive to use, thus companies that are not as data-driven may lose the opportunity to connect with their customers, as the preferences and behaviours will not be properly investigated. However, big data also poses several challenges such as breaching privacy concerns, having a variety of structured and unstructured data (Hattingh, 2016), the volume being too large to process (Kaisler, Armour, Espinosa & Money, 2013:996), and not having the right specialists and analytic tools to analyse these datasets (Lohr, 2012).

When looking from the perspective of the hospitality industry, the data that is extracted and analysed from social media can assist in many avenues in order to improve certain areas and reach prospective goals (Tirosh, 2017). This is a preference for many sectors as it will assist them to improve certain measures in their marketing function and understand their current and potential customer base. Therefore, it is important to note how social media big data is used within the South African hospitality industry, and in particular for lodges and hotels.

1.2 Motivation and background of the study

The world has undergone multiple changes and advancements, particularly in regards to the advancement of technology. There are three known industrial revolutions that required economies and society to adapt; the first industrial revolution began around 1760 and ended in 1840, whereby water and steam power were used to mechanise production and equipment (Hatzakis, 2016). The second industrial revolution started around 1870, and used electric power for mass production as well as for the division of labour (Pritsker, 2016). Lastly, the third industrial revolution began in 1969, where a new era of technology was introduced in the form

of computers, electronics, and the Internet, which was used to automate production. This was mainly demonstrated in 2004, at the first Web 2.0 conference where O'Reilly (2005) stated that the early 2000s had seen the development of a new type of Web, which is currently known as Web 2.0. The introduction of social media was showcased, which formulated a new opportunity for companies to take advantage by interacting with customers more quickly and efficiently (McCarthy, Stock & Verma, 2010:10). This opportunity was further elaborated on when the new phenomenon of big data was introduced. This demonstrated a major link between social media and big data, as information regarding customers (behavioural patterns and preferences) were researched, which allowed many industries to grow and get a better understanding of their consumer base (Blythe & Martin, 2019:78). When looking at it from a hospitality industry standpoint, social media big data has been present but not understood or used to its fullest potential.

Social media big data is clearly a game changer in all industries. The opportunity it showcases is endless, whereby hotels and lodges can use this to their advantage in order to improve on certain decisions by exploring their consumer base and social media. When specifically looking at the hotel and lodge industry, it will not only assist in the establishment of better relationships with consumers when promotions and specials are set based on their likes and dislikes, but hotels and lodges can learn from their customers and reach out to a new customer base that they did not believe they could target (Saravanakumar & SuganthaLakshmi, 2012:4444). Even though this is a form of technology that has been lagging within the hospitality industry in South Africa, a sense of awareness is there. This motivates the study to be performed, as different perspectives and understanding regarding the use of social media big data has been given. There is a clear gap that needs to be investigated, and most importantly be researched in order to see which direction the industry is heading. The lodge industry within South Africa is of vital importance in regards to the tourism sector, however, it is rarely understood and researched, and therefore it is important to note how this sector of the industry uses social media big data to their advantage as well as the numerous challenges that are faced. The results that were generated helped identify differences as well as similarities between the two sectors (hotel and lodges).

The South African Tourism and Hospitality industry is continually growing, therefore this will also help the hospitality sector meet international rating standards by using social media big data by integrating it into their strategy. This will target certain consumers and help understand the targeted base and what their preferences are. This can have a positive and long lasting

effect, and if businesses ignore the impact that social media big data has in the years to come, it could cause a vast amount of potential to be lost. Therefore, it is imperative to ensure that there is awareness of the future of social media big data and how this new form of technology can be used as an essential tool within the hospitality industry's hotel and lodge sector.

1.3 Research problem

South Africa is considered to be a “follower” (Davis, 2016) as the country still lags in the utilisation of technology. This is especially true for the hospitality industry that is considered to be at the beginning phase regarding the use of social media big data. The industry can be greatly impacted by not having the necessary technological resources to stay competitive. Social media big data provides new avenues with customers and guests, and if that is not followed through or understood properly, no form of development will be achieved, and the hotel and lodge industry will be lagging in comparison to international standards. It is essential to use big data that is extracted and analysed from social media in order to find the best way possible to be on par with the standards expected by the guests, as well as the standard of other competitors within the industry.

1.4 The purpose of the study

The purpose of the study was primarily to identify the use of social media big data within two distinctive sectors within the hospitality industry, namely hotels and lodges. The use, understanding, and the benefits and challenges social media big data may provide in the two sectors of the industry were identified. A comparison was made to distinguish the similarities and differences they share. The research investigated the use of social media big data and the importance that it may play in each sector of the industry, as the guests, experience, size and type of the property, and area differentiated from one another. This also looked at what forms of social media big data is chosen and analysed in order for the different classified hospitality groups to stay competitive over their rivals. This concentrated on key areas as to whether or not they are aware of big data and the potential it may afford, as well as the challenges and implications it may have on the business.

The project gave an overall understanding on the different sectors marketing function within the hospitality industry, and whether certain improvements needed to be made in order to attract more customers. This study helped the numerous participants involved to understand social media big data in more detail and the key purpose it has for the establishment of a relationship

with guests by analysing the data that has been provided to them. This can be a game changer for the hospitality industry in South Africa because currently social media big data is rarely utilised.

1.5 The objectives of the study

Primary objective: The study aims to investigate the use of social media big data within South African hotels and lodges.

Secondary objectives:

1. To determine the understanding of the concept of big data and the link it has to social media in hotels and lodges.
2. To identify the social media big data analysis tools that are used by hotels and lodges.
3. To identify the benefits and challenges of social media big data in hotels and lodges.
4. To draw a comparison between the hotels' and lodges' use of social media big data.
5. To establish the manager's proposals and suggestions on social media big data going forward.

1.6 The significance of the study

Technology has changed over time and it has shown to be a key concern for the future. This is due to the rapid advancement of technology that will impact particular industries in regards to how they will function and the new form of workforce that will be required (Bankseta's The Account Magazine, 2016). The significance of the study is based on the different viewpoints included, whereby it focused particularly on the hospitality industry and their awareness of social media big data. Even though numerous companies on a global basis utilise this concept as a method to improve customer satisfaction, it has yet to be researched in the hospitality environment in South Africa. Due to the fact that the bulk of the lodging industry has unique characteristics such as being located in a game reserve and exploring wildlife, the data that is extracted from social media can highlight the guest experience in a more personal manner. This will allow future guests to be exposed to a different experience that is not present in other sectors of the industry. Therefore, this form of data could be used in order to expose the uniqueness of this sector. This helped generate an understanding as to how extensively the hospitality industry uses this particular method and whether or not they are aware of the benefits and challenges that are provided. In the end, different sectors in the industry were investigated and compared. Through this study, a clear view was given in order to make hotels

and lodges aware of the importance of the data that is provided to them from social media, and the answers that can be found from potential and current guests.

1.7 Research design of the study

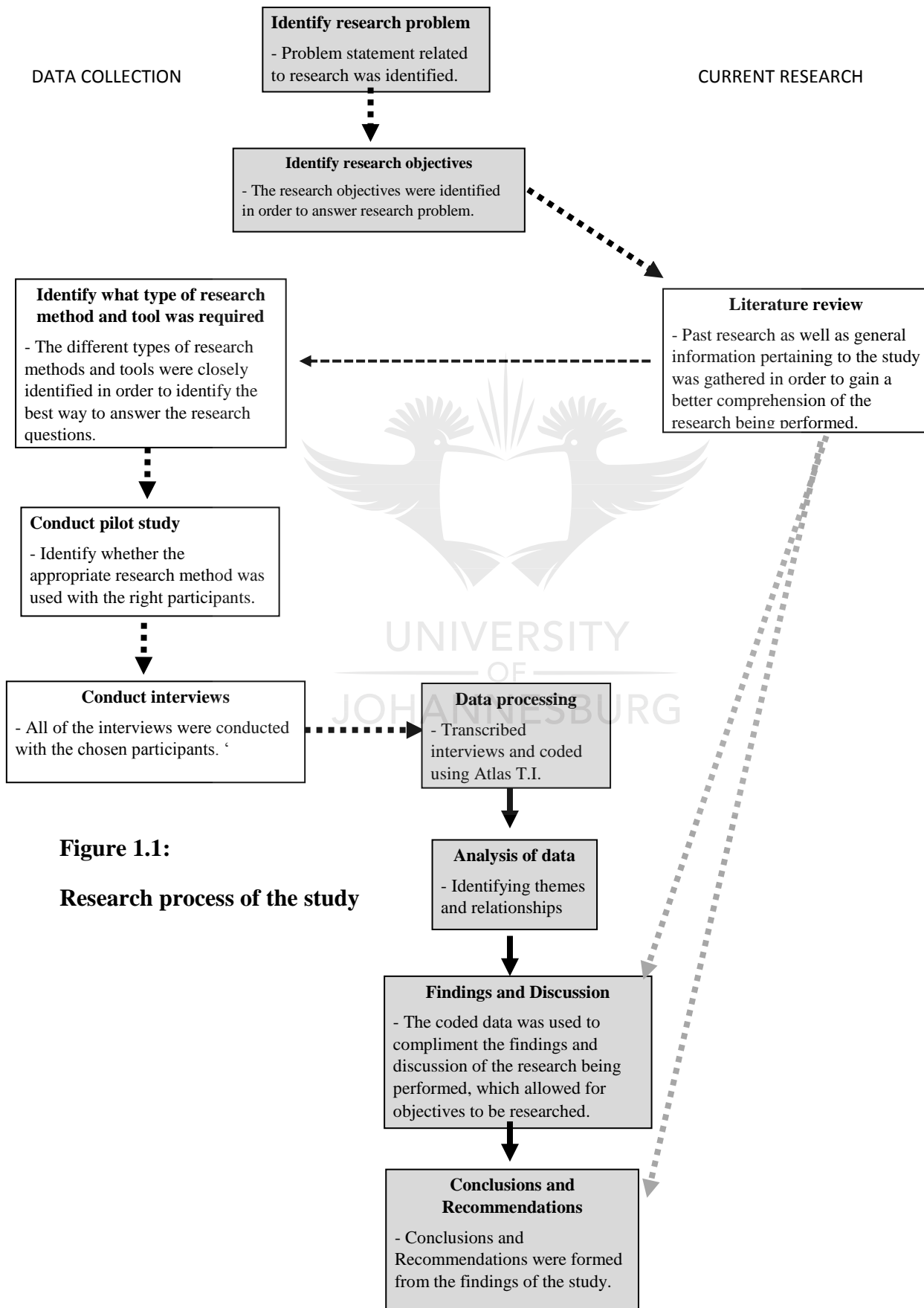


Figure 1.1:
Research process of the study

1.8 Outline of the chapters

Chapter One (Study orientation)

The introductory chapter of the thesis comprises of an introduction to the research topic as well as both the background and research problem. It also showcases the motivation of the study, the primary and secondary research objectives, and the significance of the study. These aspects will help generate a sense of understanding for the research topic.

Chapter Two (Literature review)

Chapter Two is dedicated to developing a literature review. This section provides extensive information regarding big data, social media and the link it has to the hotel sector. The benefits, challenges, and analysis tools will also be shown in order to enhance the general understanding of the particular research topic.

Chapter Three (Research methodology)

Chapter Three showcases the process of the collection of data. It also provided information pertaining to the research questions that need to be reached in the study as well as the study design, the sampling population, data collection method and the data analysis tool that will be used for the data that has been collected.

Chapter Four (Findings and discussion)

The prominence of the fourth chapter is to look at the results that have been obtained through the use of the research methodology that has been indicated in Chapter three. This chapter provides a discussion of the results and whether or not the particular research objectives have been achieved.

Chapter Five (Conclusion and recommendations)

The final chapter includes final concluding remarks of the research as well as further recommendations that can be generated from the results that have been found in the previous chapter.

1.9 Chapter summary

This chapter introduced the concept of social media big data and the significance this phenomenon has by focusing on the South African hospitality industry, paying closer attention

to hotels and lodges. This form of research has hardly been investigated, thus it is of vital importance, especially when looking at it from a hospitality industry standpoint. In the following chapter of the study, literature is presented which further elaborates on big data and the link it has to social media.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, a literature review has been broken down into various sections. This further elaborates on dynamic areas of the research that was conducted. Firstly, the growth and potential of the tourism and hospitality industry within the continent of Africa was introduced, mainly focusing on the direction South Africa is heading. A brief definition of big data has been provided thereafter, which includes a historical overview and link towards cloud computing. A detailed summary of the different characteristics of big data, as well as the numerous analytical tools that can be used in order to manifest the information that big data delivers was also provided. Various examples have been given regarding how big data is utilised in many industries, paying close attention to the impact within the hospitality industry.

The next section that helps introduce the topic of big data looks at both the challenges and benefits of big data. Due to the fact that big data has a strong link with social media, a detailed explanation of social media is provided. This includes examples of social media marketing and how it is used within the hospitality industry, particularly the hotel and lodge sector. Once the link was established, social media big data was introduced, with the analytical tools that can be utilised as well as its impact within the marketing function. A previous study was provided in order to help identify similar issues of the research being performed.

The fourth industrial revolution was showcased in order to identify the link it has to big data and how South Africa and the hospitality will be impacted by this phenomenon. A final conclusion was provided in order to summarise all the sections, as well as giving a synopsis of the relevance of social media big data for the research being carried out.

2.2 PricewaterhouseCoopers hotel outlook: 2019-2023

The PwC conference is held annually and usually gives an indication of the previous year's growth within the tourism and hospitality industry, as well as future predictions within the continent of Africa. When looking at South Africa, major growth was demonstrated within the tourism and hospitality sector with an increase of 0.5% in revenue and an increase in the average room rate by 1.2% (PWC, 2019). However, there has been a drop of 1.7% in foreign tourism and a significant drop in occupancy rate, which was mainly felt in 2018 and early 2019 due to the water crisis in Cape Town (PWC, 2019). The country demonstrates major potential

within the four to five star hotels, but the lower class hotels are struggling to compete, which is an indication of the lack of technology that is embraced within the sector, such as the use of big data (PWC, 2019).

2.3 Big data definition

According to Royle and Laing (2014:66) “Evolving technologies continually present new opportunities and challenges for industry practitioners, education, and academic research”. The widespread use of social media in marketing has improved the relationship between the providers and consumers, where a better form of communication has been introduced in order to receive feedback and answer certain queries (Simmons, 2008:303).

Big data has been a controversial and debatable topic since 2011 and there are a number of definitions that were introduced. Below are some often cited definitions of big data:

- Chen and Zhang (2014:314) define big data as, “a collection of very huge data sets with a great diversity of types so that it becomes difficult to process by using state-of-the-art data processing or traditional data processing platforms.”
- Arthur (2013:43) defines big data as, “a collection of data from traditional and digital sources inside and outside of your company that represents a source for ongoing analysis.”
- Fox and Do (2013:740) define big data as, “the automated collection and analysis of high volume data.”

When looking at the above definitions, it is clear that it is predominantly focused on the characteristics of big data, paying closer attention to the high volume that is associated with it. George, Haas and Pentland (2014:323) argued that big data mainly comprises data from mobile transactions, user-generated content, social media, and sensor networks such as sales and purchase queries. When looking at the rise and popularity of big data since 2011, the main purpose of big data is known to be data storage (cloud computing) and analysis (Hadoop MapReduce) to handle the huge volume that data provides (Ward & Barker, 2013).

When classifying big data one looks at three main characteristics that make up big data and those are volume, velocity and variety (IBM, 2015). These are important to consider when dealing with big data, and will be further discussed at a later stage in the literature section.

As argued by George, *et al.*, (2014) big data comprises from different high volume sources such as:

- *Public data:* Is typically held by governments such as energy use, healthcare and transportation.
- *Private data:* Generally kept by private companies that hold information on their customers' transactions.
- *Data exhaust:* This is the type of data that is collected to be combined with other data sources to create new sources and value. A prime example would be data related to information-seeking behaviour, which mainly focuses on people's needs and desires.
- *Community data:* This is mainly unstructured data (social media platforms), that mainly focuses on consumers' reviews of products.
- *Self-quantification data:* Are types of data that are revealed by the individual by quantifying certain actions and behaviours. An example of this would be wristbands that measure how many steps a person takes a day.

Big data has been clearly proven to be significant, and for companies to maintain a competitive advantage, they need to embrace big data instead of deeming it as some technological hype. Big data provides major benefits, such as understanding one's consumer base, which is of vital concern within the hospitality sector. However, when handling huge amounts of big data, it can lead to privacy and security concerns (Taylor, 2017), the difficulties of processing and analysing the data, and having the right experts and the technology to do so (Bankseta's The Account Magazine, 2016).

2.3.1 Historical overview of big data

During the early 2000s era, a minimum amount of one-quarter of all the globe's warehoused data was digital, while the rest of the data was either stored on preserved paper, film, and other analogue media (Cukier & Schoenberger, 2013). Due to the fact that digital data has been expanding so rapidly (amplifying around every three years), less than two per cent of all stored information was considered non-digital (Cukier & Schoenberger, 2013). This new form of data can be put to unbelievable new uses with the support of low-cost computer memory, powerful mainframes, smart algorithms, clever software, and math that derives from statistics (Cukier & Schoenberger, 2013).

Big data has shed a new light for the future, mainly due to the fact that data construction will be 40 times greater in 2020 than in 2009, and that every single day, 2.5 quintillion bytes of data is produced. This is 90 percent of the world's data that was created in the last two years

(Kearney, 2013). These figures show that big data has come very far in terms of technology and digitisation, in comparison to the past where everything was stored on paper.

When looking at the rise of big data through the use of new information systems and social media, new job demands have been demonstrated in various industries. These specialists are known as data scientists. It is already said that America would need 140,000 to 190,000 more workers with deep analytical thinking that can master the skills of both a statistician and software programmer (Lohr, 2012). Even though this job is one of the most important jobs in the current generation, there is noticeably a huge limitation because of skills shortages. This is of grave concern because data scientists are a necessity in many industries. Big data is used in various industries, and it is integral to note that it showcases better outcomes because of getting an understanding of the company's consumer base (Kearney, 2013).

The use of big data promises to be transformative, due to the substance of computing resources constantly evolving, and the use of advancing technologies is helping companies handle the complexity of data, and reap its benefits through the use of big data analytics (Kearney, 2013). Many companies and sectors have been embracing big data, where most companies are required to at least have one big data initiative to rise in the corporate sector such as finance, retail, IT, and other service firms.

2.3.2 Cloud computing

In order to further understand big data, a discussion of cloud computing and its link to big data was essential. Mell and Grance (2011) stated that cloud computing can be defined as a model for allowing universal, convenient, and on-demand network admission to a number of constructed computing resources (e.g., networks, server, storage, applications and services). Cloud computing is a fast-growing technology that has shaped itself in the following generation information technology (IT) industry (Hashem, Yaqoob, Anuar, Mokhtar, Gani & Khan, 2015:102). Cloud computing gives reliable software and hardware that is delivered on the Internet and remote data centres. Many companies IT departments have opted to store and analyse large amounts of datasets where they would use cloud computing for large-scale computing tasks from storage to application services. When looking at the roles of cloud computing, one looks at three different entities. Firstly, the cloud provider is the company that delivers and possesses cloud-based IT resources (Marston, Bandyopadhyay, Zhang & Ghalsasi, 2011: 182). The cloud consumer is the user of the cloud service provider, and lastly the cloud service enablers are the intermediate between the cloud provider and consumer (Marston *et al.*,

2011:183). Cloud computing has numerous characteristics, these are service-oriented, technical, economic, and user experience. Cloud computing can be both public, and private, where the public cloud provides more security and privacy concerns (Chong, 2019:2).

Chong (2019:1) argued that a major concern when dealing with cloud computing in the past years was the challenges of security that have affected the adoption of cloud computing. In 2018, security and cloud spending have been key challenges faced by organisations (Chong, 2019:2). Even though big data focuses on tackling huge amounts of data, and cloud computing provides computer services, the link between the two have is that one can deploy big data solutions on the cloud through different cloud services, which benefits companies that have a large amount of datasets that need to be stored. Big data exploits scattered storage technology based on cloud computing, rather than local storage connected to a computer or electronic device (Liu, 2013). Cloud computing does not only allow facilities for the computation and processing of big data but also serves as a service model. There are several big data cloud platforms that can be considered, from Google's cloud services, to Microsoft Azure, and Amazon's S3 (Hashem, *et al.*, 2015:103).

2.4 Characteristics of big data

Big data can be characterised in many ways. If these characteristics are not met, one cannot classify something as big data. Figure 2.1 below depicts the 3 V's of big data.

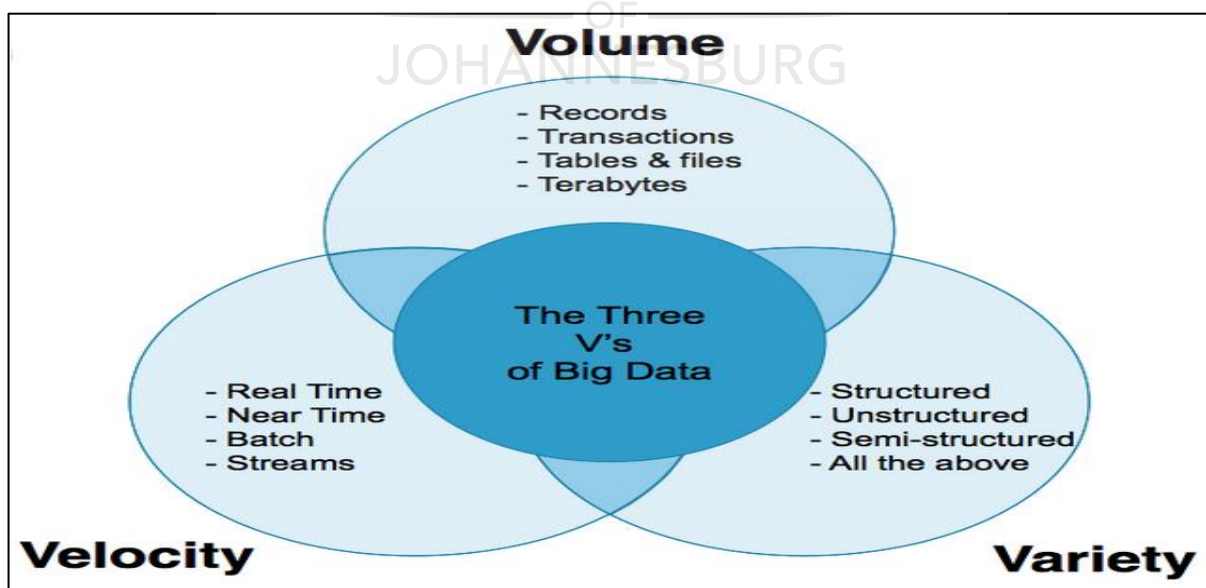


Figure 2.1: 3 V's of big data (Source: Al-Khour, 2013)

Figure 2.1 gives a clear indication of what the 3 V's stand for. The volume looks at the amount of data, the variety focuses on the type of data that has been collected, and the velocity the time in which the data has been collected. A more detailed description of the 3 V's from Figure 2.1 and the additional V's identified in literature are provided below.

2.4.1 Volume

It is estimated that 6 billion people have cell phones, whereby 2.5 quintillion bytes of data are created each day (IBM, 2015). Data volume is the primary attribute of big data (Russom, 2011:6). The volume of data refers to the amount of all types of data that is generated from different sources and how they continue to expand. The benefits of gathering a large amount of data includes the creation of hidden information and patterns through data analysis (Hashem *et al.*, 2015:100). In the end, the more comprehensive a manager's integrated view of the customer and historical information they have, the more insight can be extracted (Vijayan, 2015). In the context of the hospitality industry, large volumes of data are generated on a daily basis, especially when looking at social media platforms. This is where these volumes of data can be used to enhance the guest experience and reach certain guest expectations as their preferences will be closely identified (Blythe & Martin, 2019:78).

2.4.2 Variety

Hashem, *et al.* (2015:100) and Russom (2011:7) have argued that there are different types of data that have been collected via sensors, smartphones or social networks. These can be in the form of video, image, text, audio, and data logs. There are different formats of data: it comes in a structured, semi structured, and unstructured (human language) format (Taylor, 2017). Most of the data sets from mobile applications are considered unstructured such as text messages, blogs, and social media. Unstructured data can help companies gain a better understanding of their customers, products, and services (Vijayan, 2015). Companies would need to make both structured and unstructured data work if they desire a sound strategy. However, unstructured data is considered to be very difficult to categorise, as it comes from many different sources (Russom, 2011:7). A prime example as to how impactful the variety of big data is, is the estimated over four billion hours of videos that are watched on YouTube per month and the 30 billion pieces of content that are shared on Facebook daily (IBM, 2015). Data variety is also considered to be an important characteristic, due to the numerous formats it comes in. A more complex overview of the structured and unstructured formats and how they are analysed are given as follows:

2.4.2.1 Structured data

Structured data is often managed by SQL tools such as Microsoft Excel. Experts believe that structured data is somewhere between 10%-20% of the world's data (Hurwitz, Nugent, Halper & Kaufman, 2013). There are two main categories that structured data consists of and that is: machine-generated data such as financial and sensor data, and human-generated data that looks at input, sensor, and clickstream data (Hurwitz *et al.*, 2013). Structured data is easy to input, query, store, and analyse. Examples of such data includes numbers, words, and dates (Hashem *et al.*, 2015:102).

2.4.2.2 Unstructured data

This form of data mainly consists of text messages, location information, videos, and social media data, whereby this form of data does not have a specific format. In the study being conducted, this form of data is of prominence within the hospitality sector, as social media is considered a huge format of unstructured data. Unstructured data can be allocated as human-generated unstructured data, which primarily focuses on mobile data, text files, social media, email, and communications data, as well as machine-generated unstructured data such as sensor and scientific data (Taylor, 2017). Due to the fact that this data comprises of 80% to 90% of the world's data (Hurwitz *et al.*, 2013), it is considered to grow in size. This means that this type of data is difficult to analyse and understand when using basic analysis tools (Hashem *et al.*, 2015:102). Therefore, experts as well as advanced analytic tools would be required in order to get a clear view of what the data means and entails.

2.4.3 Velocity

The velocity of big data looks at the speed of data transfer, where data is growing and changing in a rapid way (Benjelloun & Lahcen, 2015:301; Russom, 2011:7). One can think of this as the frequency of data group or the regularity of data transfer (Russom, 2011:7). The content of data always changes because of the absorption of complementary data collections, overview of previously archived data or legacy groups, and streamed data arriving from multiple devices (Berman, 2013). To see how this has dramatically evolved, examples show that over 18.9 billion network connections were available by 2016 and that the New York stock exchange captures one terabyte of trade information during each trading session (IBM, 2015). It is also important to note that the more rapidly the business can process information into data and analytic platforms, the easier it is to get answers to questions via queries, and reports (Mohanty, 2015:5).

2.4.4 Value

The value of data looks at how certain queries are run against data that is stored, therefore one can extract important results from the filtered data obtained and can rank it according to the dimensions required (Katal, Wazid & Goudar, 2013:404; Georgakopoulos, Zaslavsky & Perera, 2012). The value can therefore help organisations and businesses to look at certain statistics, events, and correlations over a certain period of time, allowing them to make important decisions based upon the historical data from the past (Demchenko, Ngo, de Laat, Membrey & Gordijenko, 2013:90). Big data researchers consider the value as an essential feature, as somewhere in the data, one is extracting high-value data (Georgakopoulos *et al.*, 2012).

2.4.5 Veracity

Veracity looks at increasingly complex data structures and inconsistencies, which focuses primarily on understanding the data, as there are various discrepancies in almost all of the data that has been collected (Sivarajah, Kamal, Irani & Weerakkody, 2017: 269). Veracity is directly linked and related to big data security and includes two important features: data consistency and data trustworthiness. Big data veracity ensures that the data is trusted as well as authentic and protected from unauthorised users, where the data is secured during the entire lifecycle with the use of trusted sources and facilities (Demchenko *et al.*, 2013:90).

2.4.6 Variability

Variability is often confused with variety, but is also an essential feature. It is most commonly used for sentiment analysis, for example when looking at Twitter, the same word in the tweet can have a totally different meaning (Demchenko *et al.*, 2013:90). Advocates use algorithms from the use of sentiment analysis to decipher the word as well as the meaning behind the tweet (Sivarajah *et al.*, 2017:273). Variability looks at the inconsistencies of the data flow. Due to the fact that data loads become challenging to maintain, especially when there is an increased usage of social media, which causes peaks in data loads when certain events occur, it is significant to determine inconsistencies in the data (Katal *et al.*, 2013:404).

2.5 Data analytics

Big data analytics plays an important role when trying to further understand the concept of big data, therefore further investigation on the tools and process of analysis is required. Big data analytics is the procedure that firms use to store and analyse big data through different software

such as Hadoop MapReduce and IBM's Watson. This section covers the various analytical approaches that companies use, the data mining and storage process, as well as numerous examples of what technological tools are popular to ensure the best results with the big data that was given to the data scientists and analysts.

2.5.1 Illustrative analytical approaches

There are four illustrative analytical approaches that companies have used, and they are described by Banerjee, Bandyopadhyay and Acharya, (2013:4) as follows:

- *Descriptive analytics*: The purpose is to merely distinguish what materialised or modifying what is going to happen.
- *Diagnostic analytics*: Evaluates as to why something occurred. This involves experimental data analysis of the present data, or supplementary data using tools such as visualisation techniques, in order to expose the source of the problem.
- *Predictive analytics*: This method helps forecast future outcomes, clarifies drivers of certain phenomena using statistical or data mining methods. An example would be to foresee sales of a product for the subsequent month.
- *Prescriptive analytics*: This form of analytics primarily focuses on what courses of action may be taken in the future to accomplish the objectives of the business. In simple terms, this means it links to decision alternatives with the prediction of results, where tools such as optimisation and simulation are used.

2.5.2 Big data technologies

Before introducing the procedure as to how data is processed and stored, one should consider the technology that is used in order to deal with the large amounts of data that companies need to develop and analyse.

2.5.2.1 The old: Apache Hadoop's MapReduce

Apache Hadoop was first introduced in 2005 by the Apache Software Foundation (Marr, 2015). MapReduce is a software design that processes and generates large amounts of data (Dean & Ghemawat, 2010:73) and is one of the most important analysis tools that is used in companies. Programming in MapReduce looks at adapting an algorithm to two-stage processing models, Map and Reduce (Marr, 2017). Programs written in this form of style are automatically parallelised and executed on computer clusters (Glushkova, Jovanovic & Abello, 2019:32). In the first version of Hadoop, the programming prototype of MapReduce and the resource

management were tightly connected, whereas in the updated version an improvement was made and YARN (Yet Another Resource Negotiator) was introduced and changed the entire architecture of Hadoop (Glushkova, *et al.*, 2019:33). It decouples the programming models from the resource management infrastructure and delegates many scheduling functions to per application components. Marr (2015) stated that due to the flexible nature of Hadoop, many companies can modify their data systems that required change, as this is a rather inexpensive and handy tool to use in order to process and store data.

2.5.2.2 The new: Apache Hadoop's Spark

Even though Apache Hadoop's MapReduce has been a leading programming tool when processing big data, Spark has become more popular (Marr, 2015). Even though Spark works 100 times faster and can handle innovative processing responsibilities such as real time stream processing and machine learning, this tool does not have its own distributed storage system, which is something that is mandatory in order to store big data projects in multi-petabyte datasets across virtually an infinite number of everyday computer hard-drives (Marr, 2017). In other words, this means that Spark requires its own system from categorising files from a third party. Spark does have the edge on MapReduce due to its speed, which decreases the amount of time interpreting and writing from slow mechanical hard-drives (Marr, 2017). When comparing the two forms of analysis tools, it can already be designated that Spark is a newer and improved model that more businesses will utilise over the older applications such as MapReduce.

2.5.3 Procedure of analysing big data

When analysing the data that companies have, two forms of procedures are done. These are data storage and processing that help decipher, understand, and extract the relevant data that can be used in order to generate certain strategic decisions.

2.5.3.1 Storage of big data: databases and data warehousing

The first task that companies need to perform with the data they have obtained is storage. The traditional methods of structured data storage is the use of databases, data marts, and data warehouses (Elgendy & Elragal, 2014:217). The data is uploaded to the storage of the operational data stores using Extract, Transform, and Load tools to extract the data from outside sources, and to transform the data to fit the operational needs, and thereafter load the data into

a data warehouse. This means that the data has been cleaned, transformed, and catalogued before being accessible for data mining (Elgendy & Elragal, 2014:217).

Non-relational databases such as NoSQL were developed in order to manage and store unstructured data. This tool enables one to simplify the data, and focus on massive scaling, and data model flexibility. These databases mainly focus on high performance scalable data storage, whereby they separate data management and storage (Elgendy & Elragal, 2014: 217).

2.5.3.2 *Big data processing: MapReduce*

The next step is processing the data. According to He, Lee, Huai, Shao, Jain, Zhang & Xu (2011: 1202), when processing the data there are four major requirements:

- Fast data loading, which assists with the reduction of the data's loading time
- Fast query process is there to fulfil the necessities of heavy workloads as it is important to answer certain queries quickly.
- The extremely resourceful application of storage space.
- The flexibility to extremely dynamic job patterns.

As explained earlier, Hadoop MapReduce is an analytics tool that use “Map” and “Reduce” language. The idea of MapReduce is to break down tasks into different stages and execute these stages in order to decrease the time of the required task (Glushkova, *et al.*, 2019:33). The first function of MapReduce is to input map values to set a key as output, whereby the “Map” function breaks huge tasks into smaller ones and designs them with the right key. The “Reduce” function performs the collection of the output, by combining all of the values which share the same key value, to deliver the concluding outcome. The MapReduce function starts with the Job Tracker nodes, which are nodes in charge of allocating the mapper and reducer functions into Task Tracker nodes. The Task Tracker nodes run the jobs and bring the results to the Job Tracker (Elgendy & Elragal, 2014: 217).

2.6 **Costs of big data analytics**

The cost of big data technology is subdivided into three categories: hardware, software, and human resources (Cooldata, 2014). Due to new big data tools such as Hadoop that have already been introduced, it has become more affordable for companies to operate the amounts of data they have stored using cloud services from Google or Amazon (Bauer, 2017). Big data

outsourcing has also become a popular and easier method for smaller businesses, mainly because they might not have the infrastructure themselves but still want to use the technology.

There are numerous experts that are required when having to deal with big data. Cooldata (2014) argued that one requires an Extract, Transfer, and Load developer, data engineer and analyst, a dashboard expert, and a Python developer. This can be a costly expense for companies that want to be able to use the data to the best of their capabilities.

This shows that companies that want to develop in the industry will be required to find the proper tools to analyse the data, have the proper storage facilities, as well have a leading team of experts that can handle and understand the data that has been developed and sourced. This can be deemed as very problematic, as not every industry has the budget to hire these types of specialists, therefore it would be best to use basic analytic tools to handle the data.

2.7 Benefits of big data

When using the term big data, one can look at both the benefits and challenges that it provides. In this particular section, how big data is beneficial for companies will be indicated, including how it is best utilised in order to achieve a competitive advantage.

Big data is known to create “value”, where the value arises from the ability to analyse the data and develop the data into valuable information (American Institute of Physics, 2010). According to Kaisler, *et al.* (2013:998) there are five generic ways as to how big data can support value creation:

- Creates transparency by creating big data so that it is openly accessible for business analysis (improves quality, lowers expenses, and reduces time to market).
- Supporting investigational analysis for individual’s locations that can trial results or methods, such as specific market agendas.
- Assisting based on the customers information by narrowing down the market segment.
- Assisting with present examinations.
- Enabling computer-assisted modernisation in products grounded on product instruments, which supports customer answers.

There are numerous ways in which big data can benefit a business. One important measure to look at is cost reduction. Even though it is costly to handle a large amount of big data, there are a few big data analysts that organisations can hire externally to process and manage the

company's data for them (Lohr, 2012). This is beneficial for the business as hiring outside companies comes across as less costly. Another function would look at the reduction of marketing costs, as the business can focus on their target audience and the best way to catch their attention, instead of spending a vast amount of the budget on promotions that will not necessarily catch the target market's eye. Through the increased use of social media, companies, lodges and hotels alike are using big data to understand their customer base. This can be done in the form of promotions and social media websites, where companies can give appropriate feedback to their customers, as well as observe their interests and preferences. This can also help increase the decision-making process. Companies can adapt and look at customer profiles, which can give them a competitive advantage over other companies (Lohr, 2012). Hagen, Khan, Ciobo, Miller, Wall, Evans and Yadav (2013:7) argued that through big data, social product innovation techniques are possible, which allows the data analytical tools to transform large quantities of social media data (unstructured data) into insights on products and services.

Big data can generate customer intimacy. This is where organisations are flooded with customer data from websites and online communities (Hagen *et al.*, 2013:4). Social media websites such as Facebook generate ample amounts of data through social media feeds (Kaisler *et al.*, 2013:998). When looking at Facebook alone, the platform has over 2 billion active subscribers, primarily Generation X and Baby-boomers, with Millennials being predominantly active (Khoros, 2018). This showcases the data that is present and needs to be extracted which ranges from demographic information (age, gender, and race) to likes and dislikes. This can help break down potential customers into targeted audiences (Goldberg, 2018). Through advanced analytical tools, faster, more effective, and less costly processing methods can be established in order to create new information from the developed data. For online businesses, big data can help with customised offerings, such as Amazon that displays products in a "customers who also bought this item, also bought" area (Hagen *et al.*, 2013:6). These methods could end up demonstrating a market niche that the business was never fully aware of or invested in.

Another important outlook in a study that was conducted, is that respondents believed the most important outcome they would want out of big data is the customer-centric ones, but also see operational optimisation, and financial management as significant (Yin & Kaynak, 2015). This shows that big data can create potential for industries to strive in their operational areas,

improve their relationship with their consumer base, as well as use analytical tools to generate insights on products and services that they have released.

2.8 Challenges of big data

In this section, varied challenges of big data have been presented.

Table 2.1: General big data issues (Source: Kaisler et al., 2013:998)

Term	Issue
Big data characteristics	<i>Data Volume:</i> as data volume increases, the value of different data records will decrease in terms of quantity, age, and richness. <i>Data Velocity:</i> this measures the speed of data creation, therefore the management is much more than a bandwidth issue, it is also an ingest issue. <i>Data Variety:</i> due to the different forms of data, this can cause inconsistent data semantics that can lead to analytic sprawl.
Transport and storage	Due to the increased volume of data, new storage mediums need to be created. However, certain storage facilities have their limits. If too much data is being processed on a single computer system, the access can overwhelm current communication records.
Management issues	This issue mainly concerns with whether management understands the data being processed and what to do with it. There is also another concern because there are not many specialists out there that can interpret the data, and the few that can are a costly expense.
Processing issues	Due to the ample amount of data that exists, processing could take many years to complete, due to the many type of data analytics that exist (prescriptive and descriptive), and the different types of data sets (structured and unstructured data) that is found on social media platforms.

As seen in Table 2.2, the predominant challenges of big data look at the main characteristics of big data and how the volume, velocity, and variety cause major issues. The size of big data is difficult to analyse, while the speed and different forms of data cause problems to determine the important datasets that need to be looked at (Kaisler *et al.*, 2013:998). The transport and storage is also a weakness, as there limited storage mediums that can retain all the data.

Table 2.2: Challenges of big data storage in cloud computing (Source: Hashem *et al.*, 2015:103)

Term	Challenge
Scalability	Is the ability of storage to handle increasing amounts of data in an appropriate manner that is usually done through cloud computing.
Availability	Refers to the resources of the system that are accessible on demand by an authorised individual, where in a cloud environment the biggest concern for cloud service providers is the availability of data stored in the cloud.
Data integrity	This means that data can be modified only by authorized parties or the data owner to prevent misuse. The main challenge is to ensure accuracy of user data in the cloud.
Transformation	Transforming data into a suitable analysis is a huge obstacle on its own. Data sets can either be transformed from structured or unstructured data.
Data quality	Big data comes from a variety of sources, which also results in poor data quality in the cloud.
Privacy	Since a lot of personal information can be saved in the cloud it can cause problems which can lead to personal information being stolen.

2.8.1 Big data security challenges

Abawajy, Kelarev, and Chowdhury (2014:363) stated that big data security is an ongoing concern for many industry's IT departments. There are new threats to data each and every day, due to the value of information that is growing at a very fast rate. It is of utter importance to protect the confidential data that the company owns, as well as to stay ahead of the competition, in order to not lose competitive advantage (Tykheev, 2018:17).

One of the main challenges is to build a combined procedure of data security. There are three main stages: data input, data storage, and data output. It is vital that a company's data has to be properly secured from outside (Tykheev, 2018:18; Taylor, 2017). There are numerous processes of guarding one's data, due to the fact that data comes from a large amount of different sources and databases (structured or unstructured), which makes it more difficult, as there are a vast amount of addressees (Abawajy *et al.*, 2014:360).

Data analytic tools are also new and constantly evolving, where data scientists and programmers use the latest technology in order to create security measures for the new software that has been introduced (Taylor, 2017). Developers of the solutions usually create their own security tools, but it is of utmost importance that they must ensure that the security software is well suited for the company's data platform (Tykheev, 2018:17). There are five main technologies for data security: encryption, centralised key management, user access control, intrusion detection and prevention, and physical security (Taylor 2017). A prime example of recent events looked at a very famous hotel brand. A rough estimate of 383 million guests' data has been breached, which gave personal information of credit card details and passport numbers (De Valle, 2019). This indicates that a lot of trust given to companies to secure the data of their clientele, and most importantly, the impact and volume of consumer data that actually exists.

2.8.2 Data lifecycle

As seen above, challenges of big data were given by focusing on the general challenges of big data, the storage and processing issues as well as the security concerns that big data provides. As seen in Figure 2.2, a more summarised view was given from the challenges of big data which is subdivided into three categories: data challenges, process challenges, and management challenges. This demonstrates that during the big data life cycle there are varied challenges that may occur that not only relate to the characteristics of big data but also to the processing and management of it.

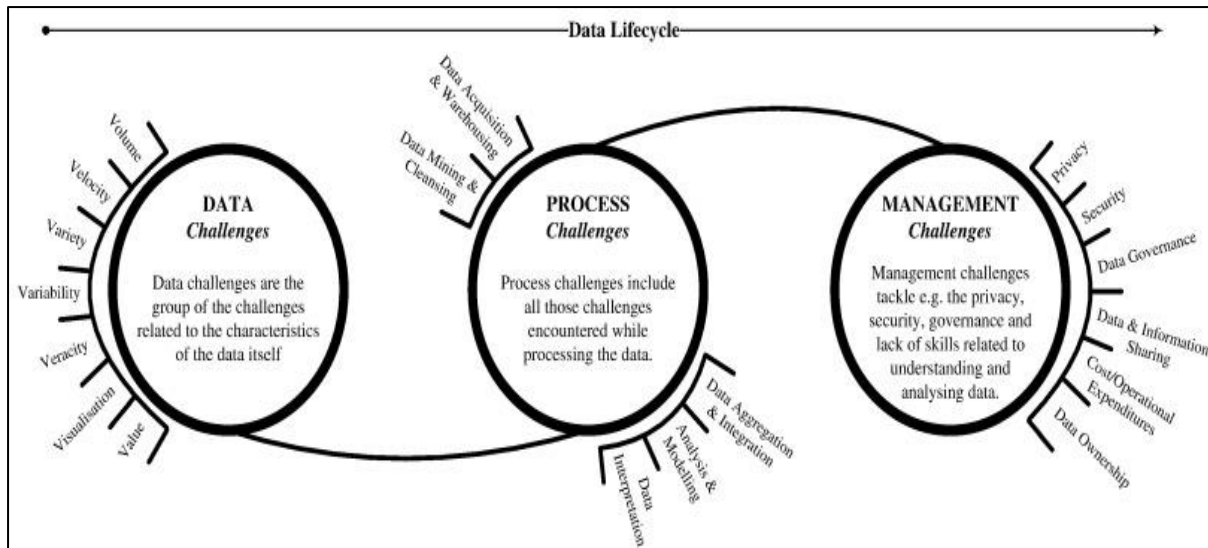


Figure 2.2 Conceptual classification of big data challenges (Source: Sivarajah *et al.*, 2017:265)

2.9 Big data in major industries

A study was conducted by the MIT Centre for Digital Business, where around 330 piloted structured interviews with executives across North American companies on their organisational and technology management were done. Not all companies embraced data-driven decision-making, however, the more companies that considered themselves data-driven, the better they performed on objective and financial measures. They had 5% more productivity and were 6% more profitable than their competitors (McAfee *et al.*, 2012:64). Different examples of numerous industries in overseas countries are provided below. This is vital to understand because it will demonstrate the barrier and how far behind the hospitality industry is in regards to this form of technology in comparison to other larger sectors on a global level.

2.9.1 Healthcare industry

The healthcare industry is known to have an ample amount of stored data, relating to record keeping, compliance and regulatory requirements, and patient data (Raghupathi & Raghupathi, 2014:5). It is important to note that the current trend is to convert the hard copy formats into digitised records. This method can expand the quality of healthcare delivery, while reducing costs, where these massive amounts of data hold the capacity to improve a wide range of medical functions such as clinical decision support and disease surveillance (Ragupathi & Ragupathi, 2014). The key benefit of using big data in healthcare is that physicians in different healthcare facilities can detect diseases at an earlier stage where they can be treated more easily, thus managing the population's health more effectively. An example is Google Flu, where

algorithms were used on Google searches to detect how many people in the population may have influenza-like outbreaks through the terms that they use on Google during the peak season of disease outbreaks (Lazer, Kennedy, King & Vespignani. 2014:1203). There are also both security and privacy concerns when dealing with big data in this particular industry.

Prime examples as to how big data analytics is benefiting healthcare institutions is that Premier, a US healthcare alliance network that has thousands of members, physicians and health care centres have improved 330 hospitals, saving an estimated 2900 lives and reduced healthcare costs by \$7 billion (IBM, 2013). In Italy Rizzoli Orthopaedic Institute used big data analytics to help get a granular understanding of certain patients and their symptoms, which has helped reduce annual hospitalisation by 30% (IBM, 2013).

2.9.2 Airline industry

A prime example of a data-driven company would be PASSUR Aerospace. The US Airline would rely on ETA's (estimates that are done by pilots), however in 2001 PASSUR Aerospace implemented its own arrival time service called RightETA. This new form of measurement calculated the time by combining data on weather, flight schedules, and local data on aeroplanes in the sky. It was later enhanced in 2012, where it collected data every 4.6 seconds on every plane it sees. Big data leads to better predictions, and better predictions yields better decision making (McAfee *et al.*, 2012:64). Even though this particular company used a new method of data analysis, others find a simpler way through the forms of big data.

2.9.3 Retail industry

In this particular industry, big data can be beneficial in many ways, as it will help provide information of customers' buying habits through methods such as loyalty cards, online searches where cookie data can be provided on certain websites, as well as analysing customers in the store itself, by looking as to how long a customer stays in a certain area and what catches their eye. This method is generally far-fetched, because customers believe that this goes against their right to privacy (Lovelace, Birkin, Cross & Clarke, 2016:62). Traditionally fashion retailers produce more clothing in order to avoid being out of stock, which could result in overstock which will need to be discounted. This results in a loss of revenue (Tykheev, 2018:43). Big data allows companies to anticipate trends more precisely, by analysing previous seasons and customer data (Costa, 2016).

There are numerous ways in which the retail industry can benefit from data based on their customers. A prime example would be a German retail giant Lesara, that uses big data to predict current fashion trends as well as trying to minimise production and decreasing the time of the start of the design and the sale (Costa, 2016). They look at numerous trends through social media platforms and fashion bloggers. This demonstrates that this retail giant uses big data to their advantage to predict fashion trends, and in turn remains ahead of their industry competitors. Another example would be Macy's that uses big data to create customer-centric assortments. This looks at the best time to sell a certain product looking at the location, time, and profitability (Hagen *et al.*, 2013:7).

2.9.4 Manufacturing and natural resource industry

Due to the increased demand in natural resources such as oil, minerals, and gas, there has been a noticeable increase in the volume and velocity of data. In this particular industry, big data allows for predictive modelling to support decision making by integrating large amounts of data in geographical areas, which can solve certain manufacturing and resource challenges such as the untapped areas of large volumes of data (Gaitho, 2018). When utilizing big data, this will allow for improved quality, energy efficiency, reliability, and better profit margins (Gaitho, 2018). This will also allow for improved product research and quality analysis to ensure the products are of value and quality (Hagen *et al.*, 2013:4). Therefore it is important to note that this industry should employ big data because it contains 20 petabytes worth of data, which can improve certain areas such as social media and manufacturing equipment (Perrons & Jensen, 2015:118).

2.10 The use of big data in the hospitality industry

The industry has a vast amount of potential to leverage the beneficial use of big data in many ways (Johnson, 2018). Even though big data is a relatively new concept, hotels and lodges are already embracing the new technology, and demonstrated ways as to how they can gain a competitive advantage over other industry competitors. Due to the fact that there are different customer segments, one needs to implement the use of big data in ways that are appealing to the targeted consumer base.

2.10.1 Accommodation definitions guideline

Before discussing the value of big data within the hospitality industry, the different classifications need to be discussed, which played a leading role in this study. When looking

at the research being conducted, hotels and lodges have been investigated. The hotels vary in groups, as they have different star features to inform about the standard the hotel has to offer. The focus of this study is the four to five star hotels. In total, five participants within this category have been interviewed within South Africa that deal with the social media and big data for the marketing department. The other five participants were within the lodge category. Each lodge was graded with four or five stars by the Tourism Grading Council (Siyabona South Africa, 2019). Numerous game reserves are in charge of a fair amount of smaller lodges within their vicinity. Each lodge caters for different clientele, for example, the luxurious lodges focus more on honeymooners and the bush lodges can associate itself with being more family orientated (Siyabona South Africa, 2019). In total, ten participants were chosen for the study.

2.10.2 Big data and personalising the type of guest experience

When looking at the different types of guests that the hotel may have, one can look at three in total, where each individual's needs differ from the other. Firstly, there is the budget hotel seeker. This type of guest prefers quick-service restaurants, as well as the fact that they relocate to different areas due to business. When identifying this form of guest, the industry has the opportunity to use this form of data to improve the guests stay (Johnson, 2018).

The next category are midscale hotel seekers. These are a combination of both leisure and business travels. Business travellers have heavy interest in conferences and events for the business crowd, while family and vacation packages, as well as recommending and organising trips for the families is of importance to leisure guests. The number of business travellers are increasing every year, and it predominantly showed that they have a huge interest in local sports, car rentals, and dry cleaning, which can help the hotel personalise their experience and thus offer them laundry and drink packages (Johnson, 2018).

Lastly, there is the luxury hotel seeker, which are usually newlyweds or honeymooners, where the hotelier can offer exclusive packages such as spa treatments, room service, as well as turndown service for the guests. These type of guests generally focus on the healthy lifestyle as well, where the hotel can outsource certain ingredients of quality in order for the guest to feel appreciated and taken care of (Johnson, 2018). This demonstrates that the hotel can use the data that has been analysed in order to understand their consumer segment and provide the best personalised service possible.

This tends to differ in a lodge environment as many guests have given certain queries and information about themselves prior to the stay. This relates to certain eating habits, type of animals they would like to come across, as well as any special occasions that are going to happen. A more personalised service is experienced in this environment as there are less guests to deal with, and a more modified service can be tailored.

2.10.3 Big data in the Hilton Hotel Group: a global view

The hotel industry is data rich and captures huge volumes of different types of data, but the data is under-used and under-appreciated because hoteliers only keep loyalty information and do not necessarily have the analytical tools to understand their customer base (Dragosavac, 2017). Previous research has been conducted concerning the reliability of big data analytics from certain hotel review websites, however research concerning big data within the hospitality industry has been limited (Xiang, Du, Ma & Fan, 2018:57). There are certain hotel chains that do use this data for their own benefit, a prime example is the Hilton hotel group. Hilton is a multinational hospitality company that was founded in 1919, and has a portfolio of over 5000 hotels in 110 countries (Spillar, 2018). The data that is used helps the hotel sell rooms, and improve the guest experience by looking at setting up processes for the room rate and make predictions for a particular season. The marketing department can use the data to ensure that they can launch their marketing strategy to gain repeat business (Tirosh, 2017). Due to the fact that the Hilton has fourteen brands in various categories, which is complex for their marketing measurement, they split their budget accordingly (Waite, 2017). The group focuses on which brands perform very well without the extensive use of marketing, where others require the boost for improved brand awareness, and this measure is mainly made through big data (Waite, 2017). In this particular hotel group, it can be seen that they use the benefits of big data in both their financial and marketing operations. This demonstrates that big data is relevant in the hospitality industry, especially in a hotel environment that can use this form of data to improve and enhance the guest experience (Blythe & Martin, 2019:78).

2.10.4 African hospitality industry's potential use of big data technology

When looking at the hospitality industry on a global scale, there are not a lot of sectors within the hospitality industry that do embrace big data. Only franchised hotel groups such as the Hilton, Marriott, and Hyatt have started taking advantage of this form of technology (Tirosh, 2017). Big data is spreading fast in the continent of Africa, especially within the hospitality industry, however this phenomenon has not been extensively studied as this area is a relatively

new concept to many African countries (Shereni & Chambwe, 2019:4). However, discussions regarding growth were presented by Achim Schmitt at the Tourism, Hotel Investment and Networking Conference (Smith, 2018). The main focus, in order to validate growth, is to appreciate the trend of big data and technology within the industry, as it is important to understand one's consumer base. However, there was a gap discovered in this area because of the lack of education and training programmes (Smith, 2018). Even though the industry itself generates huge potential, there must be an appreciation for big data and technology, as in 20 years' time certain jobs within the industry can be replaced by technology (Smith, 2018). This shows a major argument in the study that is being conducted, as the continent is behind certain technological advancements within the hospitality sector.

2.10.5 Benefits of big data in the hospitality industry: technological advancement

Even though big data has its fair share of challenges in the hotel industry, there are indications that it is essential to use this new form of technology. Big data, as mentioned in the above sections, can help tailor the guest's needs, and allow one to gain an understanding of each individual client's preferences and dislikes (Johnson, 2018). The use of big data can also improve revenue management and marketing strategies, which is of importance in this particular industry, as it will help save upon costs and focus on more targeted audience (Comcast, 2017).

Revenue in the marketing department can be cut by targeting or appealing to a certain consumer segment, instead of wasting their marketing revenue on other trivial marketing programs (Comcast, 2017; Johnson, 2018). Operations can also be improved, especially in back-office where hoteliers can use the technology to streamline process such as check-in/check-out and make more meaningful decisions on their operational activities such as staffing, maintenance, and inventory control (Comcast, 2017). By utilising big data analytics in the hotel accommodation sector, it can be essential as it can use feedback given by past guests that either found their stay pleasant, or deemed it as unsatisfactory due to the room or service that was given. This can help the hotelier determine where certain improvements need to be made. The data can also find out a more targeted audience and market niche (Siteminder, 2019). This can be very important to both lodges and hotels, as both sectors within the industry cater for varied guests. Within the lodge industry, the most predominant guests are international, as they would like to experience the wildlife that game reserves have to offer. Therefore it is a more personalised experience when being in a private lodge, in comparison to hotels that have

clientele that vary from business to leisure guests. Therefore, the data that is extracted differs from one another, but still allows focus on a targeted audience.

It is important to focus on one's regular customers, especially when looking at the service given in a restaurant and the food that has been provided. Big data can help analyse certain repeat customers' orders, which can assist the restaurant to either suggest something new to the customer, or send promotions to ensure loyalty (Ravindra, 2017). Another measure as to how big data can improve the restaurant function, is how many items are voided and rung up, which can help look at the popular choices for customers, and facilitate the buying of required stock to avoid certain items not being available or perishable items being thrown away.

Hotels and lodges need to be aware as to how big data is changing the world and the consumer base, therefore they need to consider the use of big data analytics to improve performance in the industry, as well as the level of guest satisfaction and loyalty to outperform new tech savvy companies such as Airbnb.

2.10.6 Challenges of big data within the hospitality industry

International hotels have lagged behind the use of technology in comparison to other industries, therefore the industry needs to master the balance between looking after customer preferences with the use of technology and keeping a human touch with their consumers (Kapoor, 2018; Thornton, 2015). When utilising the data, hospitality companies can improve marketing practices, improve operational efficiency, and increase their revenue (Kapoor, 2018). The bulk of the new clients are millennials, which are generally tech savvy and expect tailored services. With the rise of digital enterprises such as Airbnb, hotels are being required to meet the customer's demand by adding a personal experience. Therefore, the best way to tackle this particular issue is to get external strategic partners such as app developers and technology providers, to get an understanding of the consumer base and stay ahead in their respective industry (Thornton, 2015). The hotel industry may be lagging behind, however, there is potential for the industry to embrace both technology and big data to appeal to the right group of consumers just like major industries such as retail, manufacturing, and finance. A few hotel groups such as the Hilton, Hyatt, and Marriott have already implemented a few key measures with technology from IBM to improve the guest experience with the use of big data (Tirosh, 2017).

When focusing on the lodge sector of the industry, it is known to have unique characteristics, mainly due to the fact that a fewer guests are present, which means that a more tailored experience is demonstrated through service and the surrounding wildlife (Meintjes, Niemann-Struweg & Petzer, 2011:234). Even though big data can benefit this unique sector of the industry by highlighting the guest experience and looking at their preferences, it can cause difficulties, due to the volume of data being limited in comparison to larger hotel groups. This causes a potential barrier of big data usage as the advanced analytic tools will not be worthwhile, due to the cost that is associated with it as well as the small quantities of data that is available (Tozzi, 2018). This demonstrates that certain data plays of a lesser importance, as there is not enough data to base a certain decision on, whereby lodges will need to find the more prominent data from the small data sets (Turnbull, 2016).

2.11 Future use of big data technology

Big data has already started playing a vital role for numerous businesses. Even though many believe that it has not reached its peak yet, this section indicates the ways big data will be used in the future and how it will be both fruitful and generate challenges for the individuals using it. There points were argued by Marr (2016) as follows:

- *Data volumes will carry on growing:* There is no doubt that the volume of data will increase at a huge rate due to the devices (hand-held and Internet-connected) that are growing exponentially.
- *Big challenges concerning privacy:* There are new policies that have been executed by the European Union, where 50% of business ethic violations will link to big data.
- *Staffing (expert) shortages:* There will still be a huge gap and demand for data analysts, scientists, and experts in data management.
- *Business advancement:* Many businesses are starting to incorporate big data in order to have a competitive advantage and develop strategic plans in accordance to the data that is found.
- *“Fast data” and “actionable data” will replace big data:* Big is usually not necessary when it comes to data, it is important that businesses are asking the right questions and make use of the data they do have.
- *Software for big data will improve:* Free-of-charge software such as Hadoop can be used, as well as the evolution of a software tool called Spark.

2.12 The use of social media

In order to appreciate the link between social media and big data, this particular section further elaborates on the use of social media. The discussion firstly identifies the different eras of social media and when it became prominent, and how social media is associated with marketing. The opportunities and threats it provides for any industry are then discussed. Due to the fact that social media is a widely used tool, it was important to understand that there are industries that either outsource an agency or have an internal marketing team. The section concludes with the use of social media within the hospitality industry, paying closer attention to the hotel and lodge sector that were the primary sectors for this study.

2.12.1 The evolution of the Web and social media

The third industrial revolution introduced the matter concerning the evolution of new technology, be it in the advancement from computers, to the use of the Internet. Even though it all started with Web 1.0, where multimedia platforms became known as the World Wide Web, this has changed immensely with the presence of social media, also known as Web 2.0 (Berthon, Pitt, Plangger & Shapiro, 2012:261). Web 2.0 was considered a phenomenon, as many industries made their presence known through the use of social media. This changed when Web 3.0 came into existence (Lassila & Hendler, 2007:90).

Web 1.0: the beginning

Web 1.0 introduced data in a fixed way, being categorised by low users relation with the content, for instance leaving remarks, influencing or creating content of a website, and familiarising smaller areas such as email (Aquarela, 2015; Berthon *et al.*, 2012:261). That group of the Web was noticeable by the attentiveness of the content creation, such as portals (like AOL) and directories (like Yahoo) where the user was accountable for its own triangulation and the documentation of significant content, having a primarily unreceptive part in a procedure (Aquarela, 2015).

Web 2.0: introduction to social media

In 2006 Time magazine awarded the Man of the Year Award to none other than the modern virtual consumer. “Web 2.0 is a collection of open-source, interactive, and user-controlled online applications expanding the experience, knowledge, and market power of the users as participants in business and social processes” (Constantinides & Fountain, 2008:232). The

term Web 2.0 has been around since 2005, and has created controversy because Web 2.0 applications are largely based on content that is generated by users often being anonymous and lacking qualitative credentials. Many businesses started using this new form of Internet application to expand their marketing ventures towards customers, which was a cost-effective way to increase business and gave individual customers a new form of power through the use of social media marketing (Barassi & Trere, 2012:1271).

Web 3.0: the advancement of technology and the fourth industrial revolution

Even though Web 2.0 played a significant role for both businesses and consumers, a new wave of technology will be introduced through the fourth industrial revolution and Web 3.0. The concept of Web 3.0 is often associated with the Semantic Web, which was first introduced by the World Wide Web creator Tim Berners-Lee in 1999, where he saw the likelihood of empowering machineries to connect with one another (Barassi & Trere, 2012:1272; Aquarela, 2015). This new model is introduced by the circumstances that industries and computer appliances are developing progressively small and mobile applications that will connect the cooperation of masses on various databases (Aquarela, 2015).

There is already a lot of work going into the idea of a Semantic Web, which is a Web where all data is characterised and stored in such a way that a computer can understand it as well as a human (Nation, 2018). Apple and IBM are just a few companies that have been investing in Web 3.0 technologies, for example, a prime investment would be Google Inc. In the past decade Google Inc. has made several procurements of companies in the Semantic Web area, such as Applied Semantics, and Metaweb Technologies, Inc. (Aquarela, 2015). Even though Web 3.0 is a controversial topic to many academics, the fourth industrial revolution is heading closer and can change both businesses and consumers drastically.

2.12.2 Essentials in marketing

Blythe and Martin (2019:23) define marketing as “the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchange and satisfy individual and organisational objectives.” When looking at marketing, there is a vital link to social media. This can be in the forms of online promotions and campaigns. It is also important to note which target market the company has set in mind, in order for the marketers to get an understanding as to how the company should communicate their services and products with their selected audience. This can be beneficial for the company as successful campaigning

can bring in revenue and improve the image of the brand. In this particular section of the literature, the market segmentation process and the communication process to reach out to consumers in forms of promotions and advertising will be described.

2.12.2.1 Market segmentation

In order for a particular company to understand their target market, they need to perform market segmentation. This method divides the market into various sections that include geographic, behavioural, psychographic, and demographic (Blythe & Martin, 2019:78). This method is prominent, especially in the new era of online marketing, as companies will get an understanding of certain age groups using social media platforms, and through analysing their audience they can reach out through certain promotions and campaigning strategies that will appeal to the target market. When looking at the hospitality industry, each hotel or lodge appeals to a different market, therefore this method will help determine which type of guests are interested and visit the sector, which will help generate revenue and decrease the marketing costs as they will promote to a focus group of travellers such as leisure or business. The hotels have a completely separate budget in comparison to lodges, therefore the focus must reach out to the correct and intended audience, as first impressions matters. When promoting products and services that appeal to the target audience, the hospitality industry can improve and evolve drastically in this area (Blythe & Martin, 2019:79). This is where social media marketing is important.

2.12.2.2 Communication process

The communication process mainly identifies the campaigns that the company uses to attract their consumer base. There are different campaign messages that a company has that are directed to their customers, therefore it is important to be aware of which target audience the company has in mind (Blythe & Martin, 2019:239). The older methods mainly focus on advertising through billboards, television, and newspaper, however a new form of campaigning has arisen, which looks at the use of social media. In the end it is vital to understand what message the company wants to address to their consumers, and need to be aware about what appeals to them (Blythe & Martin, 2019:240). Successful campaigns and advertising are attractive to consumers and catch the consumer's attention (Blythe & Martin, 2019:242). The product and service needs to be demonstrated in such a manner that would make the consumer want to know more about the brand.

2.12.3 Social media marketing

In the past, the marketing strategy mainly focused on word of mouth and the 4 P's (price, place, promotion, and people) whereby the only measure to reach out to the guest was done telephonically with feedback written on surveys or questionnaires. Now social media has become a critical tool for both businesses and the global population. In 2012, an estimated average of 96 minutes is spent on social media by an individual, which has increased drastically to 118 minutes per day (Asano, 2017). There are a total of 3.48 billion social media users worldwide where the top three social media platforms are Facebook, YouTube, and Instagram (Hainla, 2018). Due to this figure alone, companies have taken notice of the presence and popularity of social media sites, and started increasing their presence as well as activities in order to reach out to the general public in the form of advertisements and promotions. This new venture allows companies to create a global brand for themselves and appeal to a wider audience. Due to this being a new form of marketing, there needs to be a focus on the new generation of marketers as to the importance of social media marketing (Royle & Laing, 2014:66).

“Social media describes online resources that people use to share content, videos, photos, images, texts, ideas, insights, humour, opinion, gossip, and news” (Drury, 2008:274). These resources are categorised by Constantinides and Fountain (2008:233) into the following:

- *Blogs*: Online journals that can be combined with podcasts that include digital, audio or video content that is streamed or downloaded on to portable devices.
- *Social networks*: Applications that allow users to build a personal website that is accessible to others for the exchange of personal content and communication
- *Communities*: websites organising and sharing different types of content.
- *Forums/bulletin boards*: These are generally sites that allow for the exchange of numerous ideas and information based on a specific subject.

2.12.4 Digital marketing

The widespread adoption of digital marketing techniques that include social media has been a major contribution to marketing where the providers of goods and services consistently communicate with their consumers by giving them feedback on a one to one basis. The digital era, however, poses challenges to all industries alike (Royle & Laing, 2014:69). Digital marketing can be defined as “a sub branch of traditional Marketing that uses modern digital channels for the placement of products e.g. downloadable music, and primarily for

communicating with stakeholders e.g. customers and investors about brands, products, and business progress” (Smith, 2008). However, a major issue is the skills gap that can be seen in many communication industries as marketers would require marketing, theoretical, and academic knowledge in this area (Bankseta’s The Account Magazine, 2016).

2.12.5 In-house versus outsourcing social media management

As mentioned above, social media is vital for any business. This section questions whether or not it would be best to do the social media marketing in-house or pay an outsourced social media agency. When looking at outsourcing a social media agency, there are a fair number of considerations to make to decide if this will be the most suitable approach for the business. The benefits of using these types of agencies is that they have a certain amount of expertise and experience, which can help promote and target the required audience at the right time (Tlhoale, 2019). The following are further elaborations on the benefits of using a social media marketing agency made by Tlhoale (2019):

- *Knowledge of useful tools:* A professional in SMM will continuously have the correct tools to introduce their cooperation on the digital map. These organisations have the necessary software that manages the content, design, and writing.
- *Content:* These form of managers are acceptable at introducing interactive ideas to listeners on social media in a way that they can understand and acknowledge the content that is provided.
- *Reliability:* In order to judge an agency, one has to identify their quality of work and availability. It is important to understand the agencies line of work in order for the business to grow on social media.

Outsourcing to an agency may give a few bumps in the road as the company would need to constantly communicate in order for the agency to understand the brand, as the company and their employees know the brand the best. The outsourced agencies have experts in marketing that assist with numerous aspects of the marketing function, from social media to analysing the data of potential clients, however these measures are more costly in comparison to hiring a specialist internally for the business (Saige, 2019). The agency also might not understand the authenticity of the company, therefore the agency needs to be educated about the industry, as the responses and posts can be delayed due to the lack of knowledge of the industry as a whole (Wood, 2019). It is important to understand which route would be most suitable for the business

and the growth it wants to achieve, therefore the benefits and challenges need to be weighed before making such a decision.

2.12.6 Opportunities of social media

McCarthy *et al.*, (2010:12) argued that the most popular examples of social media platforms include Twitter, LinkedIn, and Facebook. When comparing traditional marketing and marketing with social media, a major difference can be seen. The traditional form of marketing included newspapers, television, and news websites primarily focused on delivering a message, whereas social media is about building a relationship and conversation with one's audience (Drury, 2008:275). Many companies use social media as a new form of communication with their consumer base. This can improve the company's brand immensely as it is building a brand relationship with consumers where marketers can interact regularly with their consumers (Turri, Smith & Kemp, 2013:203). Social media marketing can also help build exposure for the business, build new partnerships, reduce marketing expenses, and increase subscribers (Neti, 2011:6). This will end up increasing sales tremendously which will offer marketers an increase in return on investment (ROI) in order to reach a larger audience at a lower cost (Hainla, 2018). Marketers also have the opportunity to understand their consumer base, find a targeted niche, and get a general eye for international trends (Sterkenberg, 2017). Social media also allows the company to see which promotions are moving at a fast or slow rate. What is vital for any social media page at the end of the day is the content and visuals it provides (Llowellyn, 2019).

The rise of online purchasing is immense, especially within the hospitality industry where hoteliers have the opportunity to reach out to thousands of customers at the push of a button (Roches, 2018). This can shift the buying trends of customers to making a booking directly with the hotel or lodge instead of through a travel agency (Roches, 2018). It is important to note that the hotels would prefer to increase their direct bookings as it will come across as cheaper, however, the current generation of guests favour going through an online travel agency as they would rather read reviews and compare prices prior to their booking (Loxleyhotels, 2019). This is a major leap from the traditional methods of marketing, and companies would need to use this new era to improve their business ventures and gain a competitive advantage.

2.12.7 Threats of social media

However, using social media as a marketing tool can be hurtful towards the brand. This can be in forms of negative reviews and star ratings, which are predominantly used within the hospitality industry (Brown, 2019). This shows that employees and marketers need to be prepared and trained for these occurrences in order to resolve this in the best way possible before it causes damage (Brown, 2019). Social media can also be very time consuming as the marketer needs to research and understand the companies and consumer base, as well as respond to queries and comments quickly (Ramey, 2013). Social media allows the business to sell and promote certain products, but too much self-promotion can decrease the interest of consumers and damage the brand (Ramey, 2013).

2.13 Social media marketing in the hospitality industry

A major impact in the hospitality industry, is looking at the information and communication technologies. The recent advances of new technologies radically reshaped the tourism industry (Buhalis, 2003) changing both the way of communicating with potential tourists and the way of purchasing tourism goods (Cantoni, Kalbaska and Inversini, 2009:149). This new form of technology, which encompasses of the internet (social media) and the Information and Communication Technologies, is pragmatic to learn for industry practitioners in hotels and lodges, as this technology will benefit the industry by identifying guest preferences and needs (Cantoni, 2009: 150). This is where the hospitality industry has started to learn and adapt to the new technology that has been provided, especially on a marketing standpoint (Buhalis, 2003). The website remains the core digital strategy where online bookings are the second largest sales item. However, hoteliers are realising that both social media and Internet distribution channels are starting to be a great game changer when dealing with customers, as customers find it easier to make bookings on social media, as that is a more convenient method (Inversini & Masiero, 2014:274). Even though the industry is very reluctant to change and adopt new technologies, hoteliers need to start to embrace the shift towards a technology-driven management and promotion of their facilities (Inversini & Masiero, 2014:274).

The hospitality industry is caught between their effort to meet international standards and the need to comment on social media platforms (McCarthy *et al.*, 2010:8). This is where social media marketing comes into play, where the marketing professionals should be trained in a way that can attract customers to gain a major profit for the group. This is why hospitality

businesses need to stay ahead by using digital mediums with their customers, instead of aged campaigns that do not attract anybody (McCarthy *et al.*, 2010:10).

The trend is a measure that needs to be followed. When looking at popular online platforms such as Facebook, Instagram, Twitter, and Snapchat one can reach out to a wider audience. This can promote the industry in a way like never before, in forms of interacting with previous guests by uploading their experiences. This can create a good brand image and more followers, as it is more personalised than an advertisement depicting unrealistic standards. The more positive and interactive one is, the more opportunities will occur to reach out to a larger target market (Leung, Law, van Hoof & Buhalis, 2013:8).

Tourism and hospitality have been one of the most important components in the online commerce world, where new forms of market dynamics and customer behaviour have appeared (Milano, Baggio & Piatelli, 2011:473). In the digital world it is important to make connections more than impressions. This is due to the fact that most of the guests are communicating with friends, family, and colleagues online by organising, sharing, and searching their travel stories on blogs and microblogs (Leung *et al.*, 2013:6). This is where social media has changed the way the industry does business and are drawing attention as to how one can attract and retain a loyal customer base (Lanz *et al.*, 2010:8). This can also be seen that a lot of the customers use TripAdvisor, as well as online reviews before making a booking, therefore hotels and lodges need to embrace and identify the consumers prior to the booking process (Anderson, 2012:5). This data will help determine numerous attributes of the customer as well as the improvements that need to be made in order to increase revenue and occupancy (Anderson, 2012:7). The most prosperous groups will create brand advocates by creating social marketing tools and channels to grab the attention of new visitors and try to maintain a loyal customer base (Lanz *et al.*, 2010:8).

2.13.1 Social media practices in hotels and lodges

There are numerous social media practices that hotels and lodges can utilise in order to stand out from other groups and to be successful with potential customers. Below demonstrates a few practices made by (Webrezpro, 2017):

- *Pay to boost content:* A majority of social media platforms offer targeting tools like custom audiences, which allow businesses to reach customers who are more likely to

convert. Social media advertising offers an excellent ROI, attaining high reach at a relatively low cost.

- *Sharing user generated content:* This will help highlight a more personalised experience of the guest by sharing their experience on social media platforms. This is of a major advantage in lodges, as wildlife and tailored experiences can be highlighted.
- *Augment Customer Service through Messaging Apps:* Due to the fact that social media platforms have become a popular component in this era, it is of importance to make use of this by allowing customers to contact the hotel or lodge through these channels. It will not only help the customer communicate through social media but allow them to book directly through the platforms social media page.

2.13.2 The use of social media in the hospitality industry: a global view

Studies that have been conducted concerning practitioners and their understanding of social media have suggested that harnessing a newly developed media in business requires a solid understanding of its function and nature (Goeldner & Ritchie, 2009). Practitioners have proven to understand the concept of what social media is and recognise its capabilities as a channel for promotions relating to products and services on offer, as stated by Ayeh, Leung, Au and Law (2012:9) who investigated hotelier's perceptions and strategies of social media. The practitioners focused more on connecting and building relationships with existing consumers, where the strategies mainly focused on understanding customer's needs and influencing the customer's decision making process (Ayeh *et al.*, 2012:8). This was different to a study conducted by Sigala (2011:667) where the organisations studied are trying to balance the value between firms and customers. These studies demonstrate that social media strategies are dependent on the group and targeted customers. There are numerous measures as to how hoteliers are embracing the change. Listed below are a few examples of hotels using social media to their advantage which was discussed by Lanz *et al.*, (2010:7):

- *Starwood Hotels and Resorts:* Starwood was one of the first hotel companies to introduce a social media networking website. After they had their \$6 billion makeover, their biggest brand Sheraton gave away 2100 free nights at 86 newly renovated hotels where users had to share their travel experiences online in order to participate in receiving free accommodation at one of their luxurious properties.
- *Hyatt Hotels and Resorts:* Hyatt launched a special online community for gold card members that offered expert insight on trips from local Hyatt concierges in more than

40 destinations worldwide as well as frequent advice to customers. They also have a Facebook page that has over 9000 fans.

- *Wyndham Hotels and Resorts*: Wyndham has opted for a different approach with “Women on Their Way.” This micro-site offers a brand advantage in the form of female-friendly packages and provides valuable insights about their guests.

2.13.3 The use of social media in South African hotels

As mentioned in the previous section, the importance and benefits concerning social media were classified. The South African hospitality industry, paying closer attention to hotels, has a lot of potential to grow, especially in terms of the use of social media. In a study conducted by Matikiti, Kruger and Saayman (2016:8) it was determined that hotels have both market related benefits and financial benefits when introducing social media marketing properly, however the full potential has not been utilised and there has been a clear gap within the accommodation sector. Due to the diversity of hotels in South Africa, social media is mainly derived from platforms such as Facebook, Instagram, and TripAdvisor (Matikiti *et al.*, 2016:11). There are five known phases of social media marketing activity that has been introduced by Au (2010) and they include: attracting, engaging, retaining, learning, and responding to customers. Within the concept of South African hotels, attracting guests is the most prominent phase. The sector also largely focuses on increasing business exposure, creating a loyal consumer base, and creating partnerships (Matikiti *et al.*, 2016:12). This was confirmed by a study conducted by Lange-Faria and Elliot, (2012:193). However, the industry is starting to establish an understanding concerning the use of social media and the benefits and challenges it may provide, but still does not use it to its full potential.

2.13.4 The use of social media in South African lodges

Within the South African hospitality industry, lodges are considered to be of importance as it grants a different experience for foreign guests to enjoy the wildlife as well as getting the most personalised service possible. Most of the more upscale and luxury lodges are located within the Mpumalanga province, where the Kruger National Park is one of the key destinations for these visitors (Meintjes *et al.*, 2011:234). A fair amount of private and public lodges give the opportunity for guests to go on game drives, which is a new and different experience. When looking at the luxury lodges, many guests go through a journey in order to find the best suitable price by going on TripAdvisor, the website, or social media platforms. Through the use of the Internet, a lot of key features can be demonstrated to market the intangibles of the website.

This can be done through measures of attractiveness and the information that is given on the website (Meintjes *et al.*, 2011:235; Zucchi, 2018).

The use of social media marketing, even for lodges is of significance, where the use of Facebook, Instagram, Twitter, and LinkedIn is used (Tourism Marketing, 2019). The reason as to why social media platforms are relevant within the lodge sector is because these platforms allow the guest experience to be greatly highlighted, due to the personalised and tailored service. There are numerous important measures as to how lodges can embrace the use of social media marketing the best way possible. The lodge will need to know their audience from millennials, families, and adults. When finding the required target audience, the marketing strategy can look at tailoring to that particular group's needs and creating high quality content for them (Q4Launch, 2019). An online presence is vital on social media, as the lodge can sell the guest experiences by uploading certain images of their stay, which in the end helps personalise the stay of guests as well as showcases the amenities on offer (Q4Launch, 2019). When using Facebook, packages and promotions can be introduced as well as experiences of the safari rangers that upload stories on their blogs to update previous guests at the lodge, whereas Instagram allows for beautiful images of the wildlife to be posted (Zucchi, 2018). This comes to show that even lodges have the opportunity to harness social media marketing the best way possible.

2.14 Social media big data

Big data and social media work hand in hand. This was discussed in the above sections, which demonstrated their close connection. To explain this further, big data currently shapes the population's lives through social media platforms such as Facebook and Twitter, and when combining both social media and big data, social media mining is established (McCourt, 2018). Social media mining is known as the process of representing, analysing, and extracting valid patterns that are found through social media data (McCourt, 2018). The collected user information on social networking platforms permits marketers to have a better understanding of customer behaviour, which means that big data on social media within the digital marketing spectrum can be classified as micro-targeting and brand analytics (Ivanov, 2018). Micro-targeting is used via social media by helping marketers to target their specific group through the use of data that has been analysed (Kahle, 2018). Another noticeable aspect is how big data is used via social media analytics. This mainly focuses on how companies use different social media platforms to increase their brand awareness with their consumer base, which generates

numerous advantages (Ivanov, 2018). In this particular section, varied social media analytic tools were identified. The use and prominence of social media big data within marketing was also distinguished, whereby a comparative study within the retail sector concerning a similar approach to the current research was introduced.

2.14.1 Social media big data analytic tools

There is a vast amount of data that is available for businesses when dealing with social media, therefore it is applicable for them to use analysis tools to gather usable information from the datasets found in social media. A very popular digital analytical tool that is free of charge to use is the Google Analytics tool. This tool allows a company to analyse in-depth detail about the visitors on their website and how the customers got there in the first place, be it through adverts or travel agencies (Thakur, 2017). This helps a business shape a better marketing strategy for the business and allows the website to be more organic by identifying non organic traffic. The main benefits of this tool is that it is free to use, there is an automatic collection of data, the business can create customized reports, it has easy integration with other tools and platforms, it has the ability to measure internal search, and lastly it gives a description as to why certain individuals leave the website of the particular business (Thakur, 2017). This is more of an affordable method than more advanced analytic tools, as it is simple to handle and does not require outsourced analysts (Thakur, 2017). This would cater better for smaller industries that would like to get more of an understanding of their consumer base as well as keeping to their budget.

Even though the Google Analytics tool is a popular device that is used, the list below demonstrates more in-depth tools regarding the analysis of social media content that can be used by any company or business:

- *Alterian - SM2*: This tool was launched in 2007. It is a business intelligence product that provides visibility into social media. SM2 uses sentiment analysis by using sets of technologies such as word parsing and Natural Language Processing (Stavrakantonakis, Gagiou, Kasper, Toma & Thalhammer, 2012:55).
- *Brandwatch*: This tool was launched in 2007. It is a social media monitoring tool which focuses on gathering, analysing, presenting and cleaning the data. As argued by Skute (2014), this is considered a great social media analytics platform that offers superior depiction and access to extensive social media analysis. This evaluates everything that is being said about the brand on many social media sites (Vermeren, 2015). It also helps

the brand to collect feedback from customers, thus evaluating various trends (Post, 2014).

- *Buffer for Business*: This tool allows detailed analytics on what is effective and what is not. An example would be when it is the most suitable time to post something on social media at a certain geographical region (Lee, 2016). This platform also allows one to steer traffic to the company's social media sites, thus increasing customer engagement (Ntefang, 2016).
- *Hootsuite*: This platform gives a single dashboard to manage over 35 social media accounts such as Facebook, Twitter and Instagram (Zimmermann & Sahlin, 2015). This also allows users to schedule posts and manage social media content (Alton, 2013). Hootsuite has partnered up with Brandwatch to increase the reach of analytics (Koetsier, 2013).
- *Converseon*: Converseon was founded in 2001 and it often tailors solutions in the field of social media monitoring, whereby it mines relevant data in the social media sphere (Stavrakantonakis *et al.*, 2012:56).
- *Talkwalker*: This tool offers advanced technologies that offer actionable social media insight in real time (Whitwick, 2016). This helps marketers to test the value of their social efforts, which can increase the rate at which precise marketing decisions can be made (PR Newswire, 2016). This social intelligence platform provides and monitors an analysis of dialogues in more than 187 languages and has over 1500 servers to process 500 million posts from 150 million websites each day (Talkwalker, 2017).

2.14.1.1 Importance of using social media big data analytics tools

Rowena (2018) stated that when using big data analytics in social media it can impact the marketing strategies immensely, especially by analysing the demographics of social media platforms. This is where the most effective platform can be identified and how the business should format their advertising for their target market decided.

Social media is mainly comprised of unstructured data (Taylor, 2017) whereby many believe this is the most important information that companies should use when wanting to analyse their consumers. There are three important measures as to how social media data can benefit business when using social media data analysis tools argued by Sahatiya (2018:190):

- *Cost reduction*: When using these social media analysis tools, it will bring important price benefits once it involves storing massive amount of knowledge of the consumers.

- *Faster, higher cognitive process:* With the speed of these tools, combined with the flexibility to investigate new sources of knowledge, businesses are able to analyse the data and build choices as to what they have learnt.
- *New products and services:* With the flexibility to measure the clients desires and satisfaction through analytics comes the facility to offer what the clients want and fulfil their needs and wants.

2.14.1.2 Social media big data analytic tools challenges

In the era of big data, there are numerous challenges, mainly due to the vast amount of information being processed. Certain technological tools (analysis tools) are still being improved and are rather immature, because each day the amount of data increases, and new tools need to be established in order to cope and process the ample amount of data (Kumari, 2016:437). This gives marketers a huge disadvantage when wanting to use technology to the best of its capabilities (Kumari, 2016:437). As mentioned in the above section of big data challenges, there are a vast amount of security and privacy concerns when dealing with social media data as well, because of the fear of exposure of valuable and private information from the online consumers (Hashem *et al.*, 2016:103; Abawajy *et al.*, 2014:362). This is of major concern as the hospitality industry has an ample amount of data available in order to determine guest preferences through various platforms.

The digital content that social media data provides may not exist in many years to come, due to the software being outdated or no longer available (Kahle, 2018). Another main concern is that there are still a lack of marketers that have the proper skill set to work with the data being generated, as digital marketing is a relatively new field of study.

2.14.2 Social media big data in marketing

Big data impacts marketing through measures such as new forms of marketing via social media, which can influence both the operational and strategic decisions of the business. Companies would need to adapt how marketing should be utilised through social media platforms, which can be both beneficial as well as damaging towards the business. Therefore it is wise to note who the target audience is and be careful as to what the company will post on social media.

2.14.2.1 Social media big data: improving the decision making process

One of the many reasons as to why big data should be used in marketing is because there will be an improvement in the decision making process. There are two main types of decisions in marketing and these are the strategic and operational decisions (Maheshwari, 2014).

Strategic decisions: marketing mix (5 P's)

This area of marketing is generally focused on the marketing mix framework, which can further be explained as the 5 P's: Product, Price, People, Place, and Promotion (Fan, Lau & Zhau, 2015:8). As one can see in Figure 2.3 below, it demonstrates each characteristic (the 5 P's) by showcasing the data that is extracted, the method as to how the data is analysed, and lastly how it is applied. In many cases, a company's strategy is not clear from the start, therefore the outcome of the decisions will only be noticed at a later stage. Both past decisions and new ideas may be beneficial, however in the strategic decisions of the company, new ideas can be generated through pattern recognition (Tykheev, 2018:25).

	People	Product	Promotion	Price	Place
Data	<ul style="list-style-type: none"> Demographics Social Networks Customer Review Click Stream Survey Data 	<ul style="list-style-type: none"> Product Characteristics Product Category Customer Review Survey Data 	<ul style="list-style-type: none"> Promotional Data Survey Data 	<ul style="list-style-type: none"> Transactional Data Survey Data 	<ul style="list-style-type: none"> Location-based social networks Survey Data
Method	<ul style="list-style-type: none"> Clustering Classification 	<ul style="list-style-type: none"> Association Clustering Topic Modeling 	<ul style="list-style-type: none"> Regression Association Collaborative Filtering 	<ul style="list-style-type: none"> Regression Association 	<ul style="list-style-type: none"> Regression Classification
Application	<ul style="list-style-type: none"> Customer Segmentation Customer Profiling 	<ul style="list-style-type: none"> Product Ontology Product Reputation 	<ul style="list-style-type: none"> Promotional Marketing Analysis Recommender Systems 	<ul style="list-style-type: none"> Pricing Strategy Analysis Competitor Analysis 	<ul style="list-style-type: none"> Location-based Advertising Community Dynamic Analysis

Figure 2.3: A marketing mix framework for big data management (Source: Fan *et al.*, 2015:9)

When looking at the five main categories of the marketing mix, they can all be facilitated by using both internal and external data. Big data can help further extract this information to get a better understanding of the businesses consumer base through the market segment that they are focusing on, the different products that can be released and promoted, as well as the price and the place where the product can be distributed. All these factors are vital in the strategic decision making process, therefore the unstructured data from social media platforms should be analysed and used as much as possible. All these factors are vital in the strategic decision making process, therefore the unstructured data from social media platforms should be analysed and used as much as possible.

Operational decisions: past data

Operational decisions mainly use past data (Tykheev, 2018:25). Generally, a classification model is created by using past data and instances. This new model can improve the operational decisions in the future (Maheshwari, 2014). A task in the marketing department looks at evaluating prospects, whereby these prospects can help distinguish certain patterns, and these patterns can help predict future outcomes on certain projects and increase its effectiveness.

2.14.2.2 Social media big data: a marketing strategy

There are three key areas stated by SAS (n.d.) as to how a proper marketing strategy with big data could improve a business, and they are as follows:

- *Customer engagement:* Big data can help get a better understanding of a customer. The amount of data companies have gathered over the years is substantial. Past data mainly focused on who the people are buying the product and who may be turned into customers. In today's world, the new form of data allows a company to access information based on the customer's location, buying habits, and preferences that can be gathered from social media or having a loyalty card with the said company.
- *Customer retention and loyalty:* It is also important to form a relationship with the customer, and when a relationship has already been created, the company can gather more information about that customer to analyse their data to see what impacts their decision.
- *Marketing optimisation and performance:* Proper analysis can help cut numerous costs in the marketing operations. These costs can deal with advertisements, promotions, and the amount of stock that needs to be produced.

2.14.3 Challenges of social media big data in marketing

There are new challenges big data brings, especially in the area of marketing. Some of these challenges have been previously discussed in section 2.9, however the primary focus is based on the marketing department.

One of the first challenges stated by Demchenko *et al.*, (2013:90) is the variety of information. Due to the fact that there is a large amount of data, especially unstructured data from social media platforms, it is difficult for marketers to distinguish between the relevant and unnecessary data.

When looking within certain company's marketing department, big data is a relatively new term that isn't deemed as central to their business plan. Thus, they do not reap the benefits that is provided to them. This demonstrates a major gap within the department, especially when looking at experts that understand the use of this relatively new phenomenon (Bankseta's The Account Magazine, 2016).

Everyday technology changes, when it comes to smart devices such as phones, to robotics and Artificial Intelligence (A.I.). When looking at these forms of possibilities, they are seen as endless. When considering big data in marketing, there are analysis tools already available to help process the data. However, the volume of big data increases on a daily basis, which makes it difficult to continuously master the tools that are available. Company leaders need to find new ways to integrate departments as the proper use of data comes from different forms of information such as the product design and manufacturing of the product (Tykheev, 2018:30).

2.15 Comparative study: social media big data in the retail sector

There have been numerous studies conducted regarding the utilisation of big data and social media within the marketing department in a certain business sector. One of these studies that showcases similarities to the current study is the "Use of social media big data by African retailers to support marketing decisions." The study was a Master's dissertation completed in 2017. Qualitative research was carried out, whereby 13 marketing managers within the South African retail industry were interviewed. The interview questions were predominantly based on social media marketing decisions and how they provide both benefits and challenges within the retail industry. The use of thematic analysis was applied in order to analyse the data that has been collected (Mahlangu, 2017).

The findings of the study showed that big data is still an innovative concept to South African marketing in the retail sector. A majority of the respondents gave an indication that they are still in the premature phase of utilising social media big data for decision-making (Mahlangu, 2017). The areas of marketing where this form of technology is used, looked at customer service, and dealing with customer complaints, pricing, promotions, and place. Further findings of the study showed that retailers are taking several endeavours to ensure that social media big data is adequately understood and used, such as providing staff with training benefits, but at the same time get a comprehension of the major challenges faced when using social media big data (Mahlangu, 2017). This gave an understanding as to how South African retailers are still

grasping and understanding the concept of social media big data in order to fully use the tool the best to their capabilities.

2.16 The fourth industrial revolution: global impact

As stated by Schwab (2016) the founder and executive chairman of the World Economic Forum, humanity will be impacted by a new wave of technology by the year 2025, which will be known as the fourth industrial revolution. This new form of technological advancement will mainly focus on robotics, A.I, and big data. It is also vital to understand that the uses of A.I, robotics, and big data will play important roles within the hospitality industry in order to increase guest satisfaction and loyalty. Therefore numerous tools that are available should be utilised in order to give the best service possible, which is plausible with the technology that is available in today's society. When looking at the industry on a global level, many jobs will be replaced by technology, therefore the population has to be prepared by focusing on courses and jobs that cannot be replaced by technology. This is where numerous jobs will be lost, but a lot of potential and opportunity for new jobs will be available (Oracle Hospitality, 2017:7).

2.16.1 Big data's link to the fourth industrial revolution

Big data is indelibly linked to the fourth industrial revolution, especially concerning the data that needs to be analysed and the specialists that are required. When looking towards the future, many skills that are required today will change drastically in the years to come. 35% of skills that are deemed important today, will change within the next five years, as well as 50% of jobs being replaced by new technology globally (Bankseta's The Account Magazine, 2016). This new set of skills will mainly focus on data scientists and analysts, who are the employees that develop and make use of big data in order to gain a competitive advantage over other businesses. This is of grave concern for many economies, as many countries do not have these specialists or the proper courses available to further grow certain industries by using big data technology (Bankseta's The Account Magazine, 2016). In order to remain competitive, the industry needs to embrace the new found technology and the data that is given to them. There have been start-up companies such as DataRobot that want to make machine learning simple so that a business analyst with basic training can run predictive models. This will help decrease the gap of data scientists and analysts that are needed to analyse big data (D' Onfro, 2019).

2.16.2 Africa's future and growth with the fourth industrial revolution

In the World Economic Forum Conference that was held in South Africa in 2019, president Cyril Ramaphosa, told business leaders in Cape Town that the country stands ready to embrace the new age as a solution to unyielding concerns such as inequality and unemployment, which presently affects a quarter of the working-age population (Allen, 2019). Nigeria, Ghana, Mauritius and Kenya are at the forefront in regards to the fourth industrial revolution, with state-of-the-art technology already being used to transact business, and STEM courses being taught in schools and universities.

However, for all the attraction of the World Economic Forum's prerogative that the fourth industrial revolution could generate three million more jobs across Africa by 2025, the surge to digitise comes with prospective consequences and vulnerabilities that make the continent predominantly unprotected to data manipulation and cyber-attacks, even before a fully automated revolution such as the internet of things and artificial intelligence become a daily reality (Allen, 2019). These vulnerabilities have far-reaching magnitudes, not just for banks and industry's in emerging economies, but also for personal privacy and issues of human security.

By 2022 it is anticipated that there will be an estimated half a million new Internet users in sub-Saharan Africa, joining 211 million that are already online. Many are connected via mobile phones. The technology has vividly transformed lives, granting access for rural farmworkers to new markets and saving lives through telemedicine (Allen, 2019). A prime example on the future of A.I would be that the Rwandan government planned construction of an "Innovation City", an African answer to Silicon Valley, and the formation of a drone system for the delivery of life saving medical supplies in isolated areas (du Pleez, 2019). However, high value fields with global industry tenders like A.I and machine learning still have a restricted footmark in Africa (du Pleez, 2019). Additionally, Africa has a long-lasting scarcity of critical skill sets. Skills shortages have throttled the progressive potential of many African nations, therefore STEM courses need attention in order for the continent to be prepared for the future of the fourth industrial revolution, as many of these jobs, especially within the hospitality industry will be replaced (du Pleez, 2019).

2.16.3 The fourth industrial revolution: the South African hospitality industry's future

South Africa is a country that has the potential to use the fourth industrial revolution to its advantage. Even though there is a high unemployment rate, both Cape Town and Johannesburg have a booming infrastructure and entrepreneurs that can make a difference. However, South Africa is seen as a “follower” according to the World Economic Forum, where the country is deemed underprepared for the fourth industrial revolution (Davis, 2016). The economy suffers with gaps regarding education and technology. As an example, the cost of data and the lack of facilities that certain educational institutions have, which cannot readily prepare the younger generation for the future are key inhibitors of growth in this area (Tshabalala, 2017).

When looking at the cost of data within the hospitality industry, it causes major concerns for international guests because they are used to cheaper data prices and uncapped Wi-Fi (Payi, 2019). This could hinder certain tourists to share their experiences, as they are limited with the use of data (Payi, 2019). This demonstrates that there is a major gap when it comes to South Africa, especially the lack of technology demonstrated in hotels and lodges that can be beneficial in many ways such as improving service quality and the guest experience. In order for South Africa's hospitality industry to compete on an international scale, a few changes need to be made, especially regarding technology, as many leading hotels globally embrace it and use the technology to stay ahead of its competitors (Schwab, 2016).

2.16.4 The impact of artificial intelligence in the hospitality industry

The hospitality industry can be severely impacted by the fourth industrial revolution, especially restaurants within the food and beverage sector where service and efficiency is prominent to the functioning of the industry. Many restaurants globally have started with the implementation of technology within their restaurants and hotels because it saves on costs and enhances the level of service to the customer. The Hilton hotel in Virginia has an A.I robot called Connie that is a concierge which can adapt to various languages and help guests with advice on nearby attractions (Brendon, 2017).

Another major factor in hotels is that there are self-help kiosks that can automatically check the guest in by just providing certain details. This also demonstrates an advancement in technology where no receptionist is required. This form of technology can help with focusing on more important tasks of making the guests experience as pleasant as possible, without being concerned with trivial duties. This also showcases the strength that big data provides as all of these features are stored and analysed (Oracle Hospitality, 2017:5).

This begs the question as to whether guests will be content when served by technology that has replaced employees, or if they will prefer the traditional method of service. This also observes factors regarding whether or not low skilled staff should be educated and trained to meet the set standards of the sector. When looking at the hospitality industry, social media big data can be used to increase performance.

2.17 Chapter summary

In this section, the literature review provided an understanding of big data and its relevance in the hospitality industry. Certain key points as to how it impacts marketing and social media have been given, and the benefits and challenges that come with it. These demonstrate the objectives of the thesis, by elaborating the big data terms and its various functions. It is important to make reference that big data is relatively new and is not used as much in the industry, however it is clear that big data must be recognised in order to have a competitive advantage over other industry competitors. The next chapter presents the key findings that were obtained from the interviews that were conducted with the ten participants involved in the study.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter of the study, the methodological approach has been discussed. This looked at the research design of the study that also includes the sampling, the method of data collection, and the analysis of the data that was extracted from the transcribed interviews. This gave a clear indication as to why these were the most suitable methods for the study that was being conducted in order to reach the required objectives.

3.2 Research questions

Main research question: How is social media big data used within South African hotels and lodges?

Sub-research questions:

1. What are hotels and lodges understanding of the concept of big data and its link to social media?
2. What social media big data analysis tools do hotels and lodges use?
3. What are the perceived benefits and challenges of social media big data in hotels and lodges?
4. What are the differences between hotels and lodges use of social media big data?
5. What are the manager's proposals and suggestions on social media big data going forward?

3.3 The research design

The study looked at the qualitative research method, whereby the grounded theory research design was used. Glaser and Strauss are recognised as the founders of grounded theory (Chun Tie, Birks & Francis, 2019:2), where the design can be defined as, "Grounded theory sets out to discover or construct theory from data, systematically obtained and analysed using comparative analysis" (Chun Tie *et al.*, 2019:2). Grounded theory in a study are communicated as a set of concepts, related to each other in an interrelated whole, and focusing on a phenomenon that has been rarely researched (Chun Tie *et al.*, 2019:2).

Within the study, interviews were chosen as a tool. This permitted the researcher to obtain an in-depth understanding of the research being led, as the interviews were done with participants working within the marketing sector in the industry, which played of prominence as social media and big data are important components within the hotel and lodge sectors. This is the main reason why marketing managers were chosen, as they deal with social media as well as the relevant data that is extracted from social media platforms. A study performed by Mahlangu (2017) focused on thirteen participants within Johannesburg, whereby a qualitative approach was also used, as the participants were marketing managers within the retail sector. This allowed for rich data to be extracted, thus the same method was used for the current research being conducted. Tesfaye (2017) argued that the research methodology is the process used to collect both information and data that will be analysed and allow for a conclusion to be drawn. It is important to note that a researcher should state why a particular method was introduced to the research, and how the results are more achievable and analysed based on the chosen methodology (Kothari, 2004). In this case, the qualitative research approach was the more accurate method as the data that was required looked for an in-depth understanding of social media big data within the hospitality industry, focusing on both the hotel and lodge sector.

In total ten participants were interviewed from lodges and hotels in the hospitality sector. The participants alternated from employees within the marketing department but mainly focused on marketing managers that have the knowledge and experience. These interviews were done face to face or via telephone at a chosen time and date that suited both parties.

3.4 Pilot study

A pilot study was conducted in order to get an understanding of the topic and whether the research objectives, participants, and the interview questions asked were in relation to the study and gave the appropriate results and were not ambiguous. This helped determine whether the research design of the study was appropriate. In total, two participants were interviewed for the pilot study, whereby both were front of house managers in their respective hotel. Through the pilot study being conducted with the two front of house managers, the researcher received an understanding of the research being performed on the use of social media big data within the industry. This was vital for the study because the initial focus looked at the areas of front of house, marketing, and the finance department, but through the interviews being performed, it became clear that the emphasis should be on the marketing department. Certain criteria of the study have been changed in order to reach the respective research questions and objectives,

which made the pilot study beneficial as new insight was given and allowed for new ideas to come to light.

3.5 Rationale for qualitative research and grounded theory

The study method that was used was the qualitative research method which helped achieve an in-depth knowledge about the problem at hand. Qualitative research is used to capture the complexity of the study, whereby you look at multiple perspectives from various individuals or experts (Leedy & Ormrod, 2013:139). When using a different approach such as quantitative research, the required detailed information that is important to the research being conducted will not be obtainable by means of questionnaires or surveys. Therefore, the strength of using qualitative research is that it gives detailed descriptions of the study that is being conducted in smaller sample sizes (Leedy & Ormrod, 2013:143).

The use of qualitative research methods usually emphasises on both observations and interviews, where the how and why questions associated to the study are given. This gives the researcher no pre-conceived concepts on what is needed to be discovered. The main intention of this form of research is to encourage original hypotheses or to recognise a phenomenon (Baarda, 2010).

The social constructivism primarily focuses on the importance of social interaction and processes in order to create knowledge on a new phenomenon (Mabaso, 2017). This is where the recording, analysing and uncovering of the deeper meaning and relevance of human behaviour and experience, including contradictory beliefs, behaviours and emotions is taken into consideration. Guba and Lincoln (2005) stated that qualitative research is mainly associated with a considerably small number of participants, due to the fact that methods such as in-depth interviews, are generally time consuming and labour-intensive. Thus, it ends up simplifying the portrayal and the analysis of data in terms of the study's findings, which is because a large number of participants are not required for the purpose of the statistical analysis involved. Therefore, this research approach was best suited for the study, as it allowed for a deeper understanding of this new area of research.

3.6 The sample population, size, and procedure

When looking at questionnaires, surveys, and interviews, it is important to identify how many participants should be involved in the study and why they were chosen. When looking at this study and the qualitative approach that was used, interviews were chosen as a primary tool.

These involved ten participants in total, whereby five participants were from hotels and five from lodges.

3.6.1 Sampling population

There are two types of sampling that can be used, non-probability and probability sampling. For the purpose of this study, non-probability sampling was selected, where the elements within the actual population does not have any probabilities attached to their chosen sample subjects. The specific method that was used within the non-probability sampling was quota sampling.

“Quota sampling is a non-probability sampling technique wherein the gathered sample has the same proportions of individuals as the entire population with respect to known characteristics, traits or focused phenomenon” (Explorable, 2009). The reason as to why the researcher decided to use quota sampling is because it allows sample groups to be chosen for the study which allowed the researcher to investigate each characteristic and relationship of each subgroup (Explorable, 2009).

Within the study, the groups that were focused on are within the hospitality industry, that concentrated on both hotels and lodges that have a four to five star property rating. The reason behind the chosen star ratings was because these properties have more of a social media presence and are prone to using data that is presented from customers in order to improve upon certain areas of the hotel or lodge. Three of the lodges are situated within the Mpumalanga province, and two within the Limpopo province. One of the chosen lodges is not a part of a game reserve, whereas the other four are located in private game reserves. A game reserve usually consists of more than one lodge, therefore the marketing managers are in charge of more than one lodge. This allowed for a different perspective, as each lodge varied, thus the collection and the use of social media big data differed from one lodge to the next. The main reason as to why these areas were chosen was because a large amount of four to five star lodges are situated in those provinces within South Africa, especially ones that are surrounded by hectares of bush and wildlife, and provide a unique and personalised service (Meintjes *et al.*, 2011:235; Zucchi, 2018). Each lodge accommodated between ten to twelve guests, between a wide ranges of lodges. When looking at the location of the interviews that were conducted, three of them were held in head offices that are located in Gauteng, one was a telephonic interview in Limpopo, and one privately owned lodge with no head office was also interviewed via telephone within the Mpumalanga province.

When looking at the interviews conducted with the hotels, four of the hotels are situated in Gauteng with their respective head office and one is located in the Western Cape. The main reason as to why hotels were chosen in the study was due to the fact that they were larger in size and have different characteristics than lodges, which allowed for differentiations to be established, which was one of the objectives of the study. Hotels also demonstrate a major impact in the tourism and hospitality industry. This totalled to five marketing managers in lodges and five marketing managers in hotels. Both hotels and lodges varied in size, ownership, and service that allowed for a more detailed outlook at the study being performed.

3.6.2 Sample selection

The sample selection looked at marketing managers within hotels and lodges across South Africa. These individuals are exposed to the marketing function within the industry, thus they have a generalised understanding on the research that was performed as the research focused on both social media and the data that is extracted from it. Each of the participants were asked questions related to the research, allowing the research questions and objectives to be reached. Asking different individuals that deal with marketing and had a significant understanding of it, allowed for numerous perspectives to be given as well as a general appreciation of both social media and big data within their industry's environment. The main reason as to why two different sectors of the industry were chosen is because hotels and lodges play an empirical role within the South African tourism and hospitality sector, whereby the data gathered would help identify certain gaps. It was important to clarify that there were three franchised hotels interviewed where the marketing managers were in charge of numerous hotels' marketing functions. The other two hotels were considered to be smaller in size and privately owned, which had one representative in charge of the hotel's sales and marketing division. There were also four lodges that are located in a game reserve, which means that the marketing managers are in charge of various lodges' marketing departments for a particular reserve. There was also one privately owned lodge where the owner is in charge of the marketing and social media of the lodge.

3.6.3 Sample size

Due to the fact that different sectors of the industry were looked at, such as four and five star hotels and lodges, there are usually different types of employees that are involved in the marketing function within the chosen hospitality sector. However, in this case the marketing

managers were the primary source of the study. Thus, the sample size was ten participants in total.

Five participants in the study work within the marketing function of lodges, which is considered an entirely different classification within the hospitality industry. These lodges are privately owned, whereby some are allocated according to region (private game reserve) and have a head office that deals with sales, marketing and social media of various lodges. The marketing managers within the lodge sector are in charge of more than one lodge, due to the fact that a game reserve accommodates a wide variety of lodges. This was the main reason as to why five participants were chosen, as certain privately owned game reserves only required one marketing manager in that area. This was different to the five participants that work in hotels because even though the lodges are privately owned, a head office deals with more than one lodge within the region, where some have an outsourced company that handle their marketing and social media strategy. Due to the fact that most lodges are located in the province of Mpumalanga and Limpopo, the head offices were either based in Gauteng, Limpopo, or Mpumalanga. This required the research to be done through telephonic interviews with some of the participants involved in the study. The other five interviewees were from the category of hotels, which ranged from larger franchised hotels (three participants), to privately owned boutique hotels (two participants).

The participants in the study received the same set of interview questions in order to gain a perspective as to how each individual understood the term social media and big data, as well as how they saw it as a benefit or a challenge within their sector. This allowed for the understanding from different sectors and how they effectively use social media big data, which was beneficial to devise the recommendations for the study. Table 3.1 demonstrates how each participant was classified, whereby five marketing managers in each sector were interviewed.

Table 3.1: Sample selection

Participants in Hotels	Participants in Lodges
Participant 1A	Participant 1B
Participant 2A	Participant 2B
Participant 3A	Participant 3B
Participant 4A	Participant 4B
Participant 5A	Participant 5B
N=5	N=5

3.7 Methods and tools used for the collection of data

There are two different types of research methods that can be performed in a study:

3.7.1 Field research method

Tesfaye (2017) argued that field research is any activity aimed at collecting primary data, which is divided into both qualitative and quantitative research methods. Certain studies also allow for mixed methods to be conducted, which introduce and combine the qualitative and quantitative qualities. This process is generally a quota that allows for small samples, where the outcomes are not measurable and quantifiable (Tesfaye, 2017). This is a technique where there is no scope and the participants involved in the study can give their responses freely. This is best suited for the study because big data has not yet been further researched within the hospitality industry in South Africa (Property24, 2015). Most of the information from previous studies and journal articles gave information relating to in-depth theory based on big data and how it can be utilised with the different analysis tools but does not discuss the essence of what the current research is about, namely social media big data within the hospitality industry.

3.7.2 Desk research method

This method looks at the collection of data from secondary sources, generally data that has been collected by other researchers, which mainly include: published articles, research papers, published books, prior research, relevant papers or journals, and magazines (Kumar, 2010). When questioning the reliability and validity of the study, one can associate that with how valuable and reliable the data being collected and analysed by the researcher is (Tesfaye, 2017). This is important to the research being conducted because it allows the research questions and objectives to be answered through the help of both the literature being provided from previous journal articles and the research being performed by academics. This allows the establishment of interview questions best suited for the study (Saunders, Lewis & Thornhill, 2009).

In this study, interviews were chosen, as they were the best method to gain as much of a detailed understanding of the research being conducted as possible. The questions that were asked are linked to the literature that was provided in Chapter Two, as well as being based on the objectives and research questions that needed to be answered.

3.7.3 Interviews

In the research that was conducted, semi structured interviews were used. This type of interview is mainly used in qualitative research, whereby predetermined questions are developed in order to seek clarification as well as to collect the data accordingly from all participants involved (Doody & Noonan, 2013:29). The most common used questions are open

ended questions which create a form of flexibility where the researcher can focus primarily on the main issue in the study (Doody & Noonan, 2013:29). The open ended questions allowed the participants involved in the study to express their opinions freely. This also allowed the researcher to ask follow up questions in case certain answers from the interviewees were not met according to the study being performed.

In total, ten interview sessions were conducted with five hotels and five lodges, three of which were via telephone and seven were face-to-face. The reason for the telephone interviews was due to the fact that these three participants were not in the Gauteng province, therefore the easiest way to conduct the interview was through telephone. Notifications with the participants involved in the study were given through emails and phone calls, to ensure the interview time was met. The average interview was roughly thirty minutes to an hour, where each interview was done separately.

During the interview, the interviewee was presented with questions regarding social media and big data, and the use of it within their respective sector within the hospitality industry. The interview guide is provided in Appendix B. These questions helped answer the objectives of the study, which looked at the different participant's use of social media big data, as well as how that particular hotel and lodge reaps the benefits and deals with the challenges. This also permitted for a differentiation of the two sectors within the hospitality industry to be made. The participants involved in the study were from different sectors within the industry, which allowed for numerous opinions on the questions being asked. The number of interviewees were enough to allow for an in-depth understanding of the topic, which gave the research a significant amount of data to analyse.

3.7.4 Procedure for collecting the data

The procedure of data collection primarily focused on interviews that were conducted with the chosen participants within the study. As mentioned above, the interviews were conducted with marketing managers that work in either hotels or lodges. After each interview session, the interviews were transcribed word for word and analysed. This method helped to get an overall picture of the studies objectives and how to answer the research questions that were chosen.

3.8 Credibility and Dependability in research

Validity and reliability are mainly used in quantitative research, therefore Credibility and Dependability was further discussed as it is primarily associated with qualitative research.

Credibility in the qualitative research method is of vital importance, as it allows for the degree to which the research represents the participants (Mahlangu, 2017). When looking at the reliability of a study, it mainly focuses on ensuring that the methods of data collection utilised will lead to trustworthy results. To explain it more precisely, reliability looks at how stable a researcher's capacities are (Cook & Campbell, 1979) and the credibility of the research, to the degree to which the research can be repeated while obtaining the same results (Bell, 2010; Quinlan, 2011) if the study were to be repeated under the same conditions. Thus, the main reason as to why reliability is used, is to obtain a more precise image of the truth of the current research being conducted (Kothari, 2004). Therefore it is important to make it clear that the research methods involved in the study are thoroughly explained in order to get the best results possible.

The dependability mainly encompasses the participant's evaluation of the findings and recommendations of the study, so that it is supported by the data that is received. If this is properly interpreted, future studies can be made if the research design and methodology provided enough data (Mahlangu, 2017). When one looks at the analysis being done within the study from the data that has been collected, the researcher ensured that the outcome of each interview that was carried out was properly checked. This was done after every interview session, where a summary was made based on the responses of the interviewees, and follow-up questions were asked if certain queries were not met or properly understood. Due to the participants being marketing managers within their sector, it allowed for reliable data to be gathered from the performed interviews.

As stated by Pedharzur and Schulkin (1991), validity refers to the point to which a study precisely replicates, or evaluates, the explicit theories that the researcher tries to measure, while, in distinction, reliability is concerned with the truthfulness of the actual measuring instrument, or procedure (William, 2006). Validity is generally concerned with the study's objectives by assessing what the researcher sets out to measure and to ensure that the selected topic is researchable, and that it has the backing of the literature review. Therefore, it means that the validity mainly comprises of whether the research measures out as to what was said. When looking at the data, it should be both logical and truthful, whereby the responses should be associated with the research question(s) in the study. In order to follow the guidelines properly, the researcher ensured that an editor observed the accuracy of the recordings. The correctness and usefulness of the data was also documented in relation to the research questions in the study. The above was done to warrant that the data fulfilled the statements of the author,

and also that the interpretations supported the claims of the author. When looking at the research being performed, it was determined that there was enough theoretical and practical input given based on social media big data within the hospitality industry that allowed for the researcher to get a clear link of the two concepts that ended up indicating that the data within the research was valid. This was also highlighted with the participants involved in the study, as they were marketing managers within their sector of the industry, in areas that have a vast amount of tourism activity as well as a social media presence.

3.9 The method of data analysis

The process of data analysis followed a method that was proposed by Miles and Huberman (Tesfaye, 2017). This form of method is sub-divided into three stages: data reduction, data display, and conclusion drawing. In this particular study, the data was analysed using this method. When analysing data, the process begins by extracting the data on the research being conducted. Numerous categories were created through the terms that were found, which lead to the relationships they have shared but most importantly to see the link it has by focusing on the problem within the research (Boeije, 2012). The data was later transcribed to get a vigorous understanding of the data that has been found (Cooper & Schindler, 2003).

After the interviews that were typed out and transcribed, the data was reduced. This particular method of data reduction looks at an ample amount of qualitative data that has been found through the interview transcripts, whereby they are organised based on the relevance towards the study by either coding, writing summaries, or removing irrelevant data (Huberman, 1994). It is important to note that data display helps draw a conclusion, and a good display of data in the form of tables and graphs is essential for the research to be deemed as acceptable (Huberman, 1994). Through this measure, themes were found more easily. The final stage within the analysis process looked at drawing a conclusion. The conclusion was compared to the literature that has been provided in Chapter Two, which categorises both big data and social media individually in order to demonstrate the link that was shared to generate the term social media big data. There are various tools that can be used to analyse data. In this particular study Atlas T.I. was used as it allowed for an ample amount of data to be easily categorised and themed according to the research being done and the hotels and lodges that were interviewed.

3.9.1 Atlas T.I.

Qualitative content analysis, as stated by Hsieh and Shannon (2005:1278), is “a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns.” The data analysis tool that was used is called Atlas T.I. The tool used the data from the transcriptions (interviews) that converted the information into charts and graphs by using excel to help the researcher decipher and extract the meaning that is linked to the topic that the research entails (Cooper & Schindler, 2003). However, other charts and diagrams were created to demonstrate the different themes that were found.

Atlas T.I. is most commonly used as a tool in qualitative research and has gained credibility for its trustworthiness, where the research is shown to be more transparent. (Ang, Embi & Yunus, 2016:1855). The only way this technique can be used is when a vast amount of information is collected and the data has been categorised accordingly (Ang *et al.*, 2016:1855). This type of tool helped analyse the information from the ten sets of interviews that were completed, in order to gain as much of an understanding as to how social media big data is used and understood and whether they demonstrate an improvement within the chosen hotel and lodge. This method helped draw a comparison for each category within the hospitality industry as well as looking at the bigger picture by comparing them with one another. This gave a specialised targeted strategy for each sector as their size, target market, type of service, and function differed. Links as well as differences were found, which allowed the research to have fruitful information that benefited the study.

3.9.2 Thematic analysis

After the transcription and the coding through the use of the research tool, thematic analysis was used. Thematic analysis can be defined as “a widely-used qualitative data analysis method. It is one of a cluster of methods that focus on identifying patterned meaning across a dataset” (University of Auckland, 2006). The method was used is an inductive way, where the coding and theme development was based on the content that has been gathered by the data (University of Auckland, 2006). This is a common tool which helped understand the various themes that were identified.

3.10 Ethical consideration

Initial ethics clearance was sought from the University of Johannesburg IREC (Institutional

Research Ethics Committee) with the ethical clearance number STH054. All ethical considerations and protection for the dignity of all the candidates were be guaranteed as follows:

- *Respect for privacy and confidentiality:* It is a very important measure to respect the privacy of the participants involved in the study. Treece and Treece (1977:12) stated that once the participant involved in the study does not want to disclose certain information, the researcher needs to respect their decision. Any information that is disclosed should be kept anonymous to protect the participants involved in the study.
- *Informed consent:* Price (1989:62) stated that the individuals should be given a choice as to whether or not they want to take part in the study. The participants involved in the study should be aware of the option to withdraw from the study at any given time and are not obliged to partake when they do not feel comfortable doing so. When conducting the interviews, a brief discussion should be given as to what the aim of the study is and to inform the interviewees of their right to privacy.
- *Protection from harm:* Leedy and Omrod (2010) advise that researchers must not subject the participants to any physical or psychological risks.
- *Honesty and transparency:* Any type of communication in relation to the research should be done with honesty and transparency, without misleading the participant involved in the study (Bryman & Bell, 2007).

3.11 Chapter summary

The current chapter has detailed the research methodology that was followed in conducting the study. This particular chapter outlined the processes that were used regarding the collection of the data. This chapter also provided an explanation on the sample size, the population and the procedure followed. The sub and main research questions were also highlighted as to how they will help achieve the objectives of the study. Due to the fact that there is a lack of research when looking at social media big data within the hospitality industry in South Africa, a research design was given to help understand the procedure when investigating this particular phenomenon. The next chapter presents the key findings that were obtained from the interviews that were conducted with the ten participants involved in the study.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

Within this chapter, the key findings of the results from the interviews have been described, elaborated and discussed in deeper detail. The sociodemographic information of the participants is discussed first, which looked at the information regarding gender, race, age, the respondents level of education, their current position within the company, the duration of employment, and lastly their role within the marketing department. Thereafter, the key findings based on the results that were derived from the interviews with the five hotels and five lodges are discussed. The discussion is further enhanced with the use of tables, which were used to provide a better understanding regarding the use of social media big data within South African hotels and lodges, as well as reaching the objectives of the study.

4.2 The objectives of the study

Primary objective: The study aims to investigate the use of social media big data within South African hotels and lodges.

Secondary objectives:

1. To determine the understanding of the concept of big data and the link it has to social media in hotels and lodges.
2. To identify the social media big data analysis tools that are used by hotels and lodges.
3. To identify the benefits and challenges of social media big data in hotels and lodges.
4. To draw a comparison between hotels and lodges use of social media big data.
5. To establish the manager's proposals and suggestions on social media big data going forward.

4.3 Sociodemographic profiles of the research participants

Mabaso (2017:43) stated that “the importance of sociodemographic profiles of the respondents lies in them painting a clear picture of the characteristics of the research participants involved”. The sociodemographic information includes variables such as gender, age, and level of education, which can play an imperative role in giving an understanding of the responses that were provided. In essence, the variables can allow for an intricate comparative analysis of the differences and similarities of the responses and the relation it may have to the interviews that

were conducted. Within the context of the current study, the present section of the findings gives an outline of the respondent's profiles linked to gender, age, race, respondent's level of education (educational qualification), the duration of their employment at their current workplace, as well as the respondent's current position within the hotel or lodge and their role within the marketing department.

Gender

In terms of gender, Table 4.1 below shows that the majority of those interviewed were female (70.0%), whereas 30.0% were men. Thus, the sample was somewhat skewed towards the female respondents. The findings therefore could give an implication that more women were employed within the marketing department within hotels and lodges in South Africa over men.

Table: 4.1 Gender of the respondents

Gender of respondents (n=10, in %)	%
Female	70.0
Male	30.0

Ethnicity

The ethnic origins of the participants are further elaborated in Table 4.2 below. There is a high percentage of white marketing managers (90.0%) as opposed to the 10.0% that were black.

Table 4.2: Ethnicity of the respondents

Race of respondents (n=10, in %)	%
Black	10.0
White	90.0

Age

Table 4.3 below summarises the data obtained pertaining to the ages of the respondents, which showed that 10.0% of the respondents fell within the age group of 20-29 years of age, followed by the predominant result of 50.0% of the respondents between 30-39 years. The next categorisation looked at the age group of 40-49 years old which amounted to 30.0% of the respondents. Lastly, only 10.0% of the respondents were 50-59 years of age. Overall, the sample revealed a situation suggesting that the marketing department within the hotel and lodge sector attract more middle aged employees that are generally employed as a marketing manager as they have experience in both the new marketing strategies of digital marketing (such as social media) as well as the traditional methods.

Table 4.3 Age category of the respondents

Age category of respondents (n=10, in %)	%
20-29	10.0
30-39	50.0
40-49	30.0
50-59	10.0

Duration of employment at the current hotel and lodge

Since the current study's focus is looking into the use of social media big data within South African hotels and lodges, it can be argued that the amount of understanding of the concerned topic could have been due to the length of employment at the participant's current workplace. On investigating the duration that the respondents had been working at the hotels and lodges concerned, Table 4.4 shows that half of the respondents (50.0%) had been working in their current job for one to four years. Additionally, 30.0% of the respondents have worked between five and nine years. It is also important to note that respondents that worked 10 years or more were at 20%. Within the marketing sector within the hospitality industry, many employees require the knowledge and skills to progress within the company and appreciate the social media big data aspect of it. A fair share of the interviewees have had experience in other avenues of the industry (70.0%) related to tourism and hospitality, which gave them an overall view of the industry requirements. Moreover, the percentages verified in terms of their level of education (see Table 4.5 below) strengthen the above argument.

Table 4.4: Duration of employment

Duration of employment (n=10, in %)	%
1-4 years	50.0
5-9 years	30.0
10 years and above	20.0

Respondent's level of education

The interview intended to determine the level of education that the respondents had. The findings in Table 4.5 revealed that 10% of the respondents had finished their matric, compared to 10% of the respondents who had completed a post matric diploma or certificate. Overall, most of the respondents have a Baccalaureate degree within marketing (50.0%), where some even obtained a post-graduate degree (30.0%). This data shows that the majority of the employees have a higher level qualification within the marketing function. The data therefore showed that the majority of employees do possess a higher level qualification that is required for them to work in their respective field. Moreover, the findings could also have suggested that having a moderately high qualification, and the right amount of experience within marketing will allow for higher positions within the sales and marketing division at a hotel or

lodge. Even though two of the participants do not have a degree within marketing, they have obtained their knowledge through experience within the hotel and lodge sector. Furthermore, being within the marketing department as a marketing manager a lot of specialised skills are required in the domain, which include overseeing and developing the marketing campaigns, analysing data and understanding the customer base, promotional activities, brand awareness, and providing financial and statistical information (Targetjobs, 2018). This goes to show that it is of utmost importance to have a certain level of qualification and experience to progress towards a higher division within the marketing department within the hotel and lodge industry.

Table 4.5: Respondent’s level of education

Respondents level of education (n=10, in %)	%
Grade 12 Matric (std. 10)	10.0
Post matric diploma or certificate	10.0
Baccalaureate degree(s)	50.0
Post-graduate degree(s)	30.0

Current position and role within the marketing department

The study focused and consisted of mainly participants that work within the marketing department within a lodge and hotel. It was predominantly seen that most of them are in higher positions within their respective department, which allowed for knowledgeable responses regarding the research being conducted. It is interesting to note that 70.0% of the participants are in charge of numerous hotel and lodge groups marketing function, whereby 30.0% are dealing with the marketing of their respective hotel or lodge. In Table 4.6, a detailed view is given of the participants of the study and their current position within the company as well as their role within the marketing department.

Table 4.6: Respondent’s current position and role in marketing

Classification	Participant code	Job description	Role in marketing
Hotel	Participant 1A	Group sales and marketing manager at a large hotel chain	- Sales and marketing
Hotel	Participant 2A	Sales and marketing manager	- Direct marketing - Communication with head office - Guidance regarding social posts and website updates - Advertising
Hotel	Participant 3A	Director of sales and part owner	- Marketing and sales
Hotel	Participant 4A	Sales and marketing manager	- Administration - Sales and marketing - Guest policies
Hotel	Participant 5A	Sales and marketing manager	- Sales and marketing

Lodge	Participant 1B	Owner and managing director of a private lodge	- Marketing manager
Lodge	Participant 2B	Owner of an external social media agency that is in charge of numerous lodges marketing and data analysis	- Social media strategist - Social media management services to lodges
Lodge	Participant 3B	Content manager	- Communications and marketing - Digital and onsite marketing
Lodge	Participant 4B	Brand manager of numerous lodges that are located at a private game reserve	- Content PR - Marketing and sales - Brand - Direct marketing
Lodge	Participant 5B	Marketing and brand manager	- Marketing manager - Managing all marketing for the company - Developing the marketing strategy for the company in line with company objectives. - Co-ordinating marketing campaigns with sales activities.

4.4 The use of social media big data in South African hotels and lodges

Big data provides high volume and rich data, especially within the hotel and lodge industry, however it is not fully understood or is generally under-appreciated (Dragosavac, 2017). This section gave an indication as to what ten of the participant's usage is in regards to social media big data within their respective sector. This was subsequently divided based on the research objectives of the study, whereby a comparison was made between the hotels and lodges after discussing the research objectives for hotels and lodges individually. Not only has this demonstrated whether social media big data is understood within the chosen industry, but it has also elaborated on major themes that were found regarding the benefits and challenges social media big data offers and the potential it has within the hospitality industry. Each section has considered both hotels and lodges separately whereby concluding remarks on the findings of each sector was further enhanced and compared.

4.4.1 The understanding of big data in hotels and lodges

The first area that was looked at when conducting the interviews with the marketing managers involved in the study was their level of understanding regarding the term "big data" which was measured by an inadequate to a knowledgeable take on the term and what they believed the link was between big data and social media. This was based on the first research objective within the study.

Big data can be classified as "a collection of very huge data sets with a great diversity of types so that it becomes difficult to process by using state-of-the-art data processing or traditional

data processing software” (Chen & Zhang, 2014:314). This is a general definition of big data, which was one of the benchmarks to get an idea of how the participants unravelled the term. The interpretation and understanding was also measured by a variety of other attributes that were questioned throughout the interview. Through the responses that were given, a universal interpretation was specified of each participant and how they understood the term. A prime example that was looked at was how big data is categorised, which considered the three V’s: Volume, Velocity, and Variety (IBM, 2016) which was introduced in Chapter 2.

4.4.1.1 The understanding of big data in hotels

The hotel sectors understanding of big data demonstrated a variety of views. One participant gave an inadequate understanding of what big data actually is by not giving any form of information regarding the characteristics and the link it has within the hospitality industry. However, two participants gave an adequate response, and the other two gave a knowledgeable argument of what they believed big data means by introducing the three V’s as well as the link big data has within the hospitality industry, paying closer attention to hotels. The most predominant V that was consistently mentioned by three out of the five interviewees was the Volume of data, which is generally considered the primary characteristic of big data (Russom 2011:6). These responses were anticipated, as it is expected for the participants to have a general outlook of the term, especially when working within the marketing department and dealing with the large amounts of guest data that are either structured or unstructured. Participant 2A gave an interesting take on the term as well as the position hotels have when dealing with big data.

“Big data is a new concept to us and the hotels data is not conducive enough to structure and operate a big data system as they are still in the beginning stages of understanding the use of big data within the industry.”

This retort to the question also indicated that the concept is relatively new to hotels and it is still at the beginning phases of being utilised, especially when looking at smaller hotel groups over the larger franchised ones. This was a key finding in the Mahlangu (2017) study that looked at the use and understanding of social media big data within the South African retail industry. In that particular study, it was determined that most of the respondents are at the beginning stages of using social media big data for their decision-making process within the retail sector but are still on the right track to fully understanding social media big data and its effects. This is of utmost importance as the hotel sector relies on big data in order to improve the decision-making process.

Social media and big data work hand in hand as big data currently shapes the populations' lives through social media platforms (McCourt, 2018). Social media and other unstructured data such as videos and images are considered to be the highest percentile of data (80%-90%), which exists in the world (Taylor, 2017). This is where the basic interpretation of the customer is recognised concerning their demographics, their behavioural patterns as well as their preferences and social media activity (Blythe & Martin, 2019:78). Therefore, it is plausible that four out of the five participants agree that there is a link between big data and social media, which further elaborates their conception of the term.

It is important to take note that Participant 2A does not believe that there is a link as most of their clientele are within the business sector and rarely make use of social media platforms but does understand the importance big data and social media provides within the industry. An interesting take on the link between the two was further discussed by Participant 1A which was as follows:

“Well, if you look at the different touchpoints that we have, from a social media perspective, so if you just look at the pictures you are posting and what they like, this is where you can aggregate that data. This information you can be used to convert sales or repost something similar to gather more likes for the business using that data segment.”

The analysis demonstrated that “Behaviour”, “Preferences”, “Insight”, “Social media” and “Big data” were the main codes that were gathered after analysis. These codes are a strong suggestion that there is a major link between the two terms and that the participants gave a clear understanding that they do work hand in hand, especially relating to how big data is found within social media, which helps recognise certain patterns from customers. This result was also found by Lanz *et al.*, (2010) that argued that social media allows companies to gather the behaviour patterns and preferences from big data.

4.4.1.2 The understanding of big data in lodges

As mentioned above, the first area that was touched on related to the general understanding of the term “big data” and the link it has to social media. This looked at a variety of factors in order to get a better understanding of how the marketing managers in lodges fully broke down the term. It was interesting to see that three out of the five participants had a knowledgeable take on the term, and one had an adequate understanding. The participants gave a continuous indication as to what the term meant relating to the three V's of big data and how difficult it is to analyse this form of data with traditional analytic tools. This works hand in hand with the definition given by both IBM (2015); and Chen & Zhang (2014:314) as both interpreted the

three V's of big data and the difficulties of analysis. The two V's that were mentioned the most were the Volume of data as well as the Variety (structured and unstructured data). Dragosavac, (2017) argued that the hospitality industry is behind regarding the appreciation and understanding of big data. As seen below, the understanding of big data was briefly discussed by Participant 2B.

“Big data is simply a term used to describe very large volumes of data and a system of data management which systematically extracts sections of data in ways that allow organisations to optimise and use data strategically.”

However, Participant 1B had very little to no understanding of what big data meant and the usage of it within the industry. The participant briefly touched on certain areas but even stated that the lodge does not fully invest their time to understanding the term due to the lack of specialists in the field and the costs of the tools that are required to use big data to the lodge's advantage as it is a small and privately owned property run by the owner who is also the marketing manager of the lodge.

Social media is generally divided in an unstructured, semi structured, and structured form when looking at it from a big data perspective (Hashem *et al.*, 2015:102). Even though there are three forms of structures, the most recognisable one is the unstructured data that mainly deals with one's social media platforms. This falls under the third V of big data (Variety) which showcases the vast amount of content that gets distributed and posted on a day to day basis. A prime example would be that over 30 billion pieces of content are shared on Facebook daily (IBM, 2015). Through this form of big data content, a lot can be understood from your consumer base, especially when looking at the behavioural patterns as well as the preferences of the consumer (Blythe & Martin, 2019:78). This literature works together with the data as all of the participants believed that there is a link between the two terms. A prime example that was argued was discussed by Participant 5B which was as follows:

“Social media is one of the largest generators of big data because there are billions of active users on social platforms daily... that create copious amounts of information that can improve marketing schemes and make the user experience better online.”

Even though Participant 1B did not fully grasp the concept of what big data actually meant, there was still a belief that social media is the primary source of big data due to the high variety of content that gets posted on a daily basis via social media platforms, which was also interpreted by Participant 5B as seen in the above response.

The prime codes that were detected when analysing the link between the two terms were “Variety”, “Behaviour”, “Preferences”, “Social media, and “Big data”. The codes propose that there is a major link between the two terms as stated by the participants, whereby it was mostly elaborated on the unstructured data (Variety) that mainly consists of social media data and other smaller, less significant data formats (Russom, 2011:7) . This is also considered to be the primary source of big data that can help find numerous customer behavioural patterns which was argued by Lanz *et al.*, (2010:7).

4.4.1.3 Concluding remarks and comparison on the understanding of big data in hotels and lodges

It was interesting to establish that the term “big data” was adequately understood by both sectors within the industry but not to the full potential. Both sectors had a variety of participants that either gave an adequate response to the term or a knowledgeable take on it.

However, there was a similarity, as one participant in each sector of the industry (Participant 4A and 1B) did not fully grasp the term and its relationship within the industry by only giving a vague answer. The reasoning behind this was further discussed by both participants that their properties are privately owned and smaller in size, where they do not handle a lot of data in comparison to larger properties within the industry or having the necessary funds to hire specialists and paying for these analytic tools.

Blythe and Martin, (2019) point out that there is a major link between social media and big data. This was further identified by nine out of the ten participants within the study, which demonstrates that both sectors in the industry do believe that there is a link between the two terms. The main codes that were derived after analysing both sets of interviews were “Social media”, “Big data”, “Behaviour”, and “Preferences”. That coincides with Lanz *et al.*, (2010) that argued that social media big data allows one to gather the behavioural patterns and preferences from current and potential customers.

4.4.2 The use of social media data in hotels and lodges

Social media was popularised in 2005, which was the era of Web 2.0 that allowed businesses to use these form of Internet applications to expand their marketing ventures towards customers (Barassi & Trere, 2012: 1271). Initially, marketing focused on the 4 P’s and word of mouth, but now social media has become a pragmatic tool for businesses to thrive, as customers spend countless time on social media platforms (Hainla, 2018). As mentioned in the above section, it

is established that social media and big data have a close link with one another. In order to properly comprehend and understand this link and the utilisation of social media big data analytic tools within the hotel and lodge sector (which is the second research objective), an outlook regarding the specific data that is looked for from these sectors social media was required. By identifying their social media uses, a general understanding regarding which data the marketers pay closer attention to and where they find their data was made clear. This is where social media data helps understand what content the customer is looking at in order for productive analysis to occur (Segal, 2018). Potential opportunities and threats of social media identified by the participants was also discussed.

4.4.2.1 The use of social media data in hotels

It is definite that the data that hotels acquire before analysis is derived from social media platforms. There are numerous social media platforms that carry rich data, not only from potential customers, but also customers that have recently visited the property. Therefore it is vital to understand which data to collect before analysis and what content each platforms holds that speaks of value to the customer through their performance (Segal, 2018).

The most popular social media platforms are considered to be Twitter, Instagram, YouTube, and Facebook (McCarthy *et al.*, 2010:8). The participants involved in the study were on par with this statistics, where all of the participants within the hotel sector use Facebook, while four use Twitter, and lastly three out of the five have an Instagram account. This demonstrates that the varied hotel groups use social media as a primary source of marketing and engagement with their customers.

However, even though these platforms are utilised, there are different generations that need to be identified, which allows for the hotels to have a better understanding as to which market they need to reach. When looking at generational cohorts and the different customers that do use social media platforms, the year the person was born is considered rather than their age. These generational cohorts are demonstrated in table 4.7 below.

Table 4.7: Generational cohorts (Source: The Center for Generational Kinetics, 2019)

Generation	Year
Silent Generation	1945 and before
Baby Boomers	1946-1964
Generation X	1965-1976
Millennials (Generation Y)	1977-1995
Generation Z	1996-TBD

This indicates that the target audience that the hotels reach out to on the various social media platforms differ from each other. When looking at platforms such as Instagram, Snapchat, and YouTube, Generation Z and the Millennials have tendencies to spend more time on these platforms, while Facebook is primarily used by Baby Boomers and Generation X (Techco, 2019). Both Participant 1A and 3A shed light on this matter by evaluating the different generations using social media. In order for proper analysis to occur, an understanding of the customer needs to be made by identifying the popularity of each social media platform, for each diverse age group. This data has the potential to influence a relationship for the future with customers when playing around with new possibilities with these platforms. A prime example would be looking at platforms such as YouTube, where hotels can advertise their brand to the targeted generation that may see the promotion or advertisement. This can help identify which audience to reach out to, as discussed by Participant 1A. This allows for hotels to reach a wide audience range and therefore understand the caution that needs to be made regarding their strategy and content that they post.

... generally your age would change, so generally older people use Facebook versus let's say younger people are using Instagram or Snapchat and I think over time big hotel chains are playing more with Snapchat because it is building their brand with the younger generation...

Table 4.8 was constructed through the interviews that were conducted with the participants within the hotel sector. This was done through measures of coding as to how each participant viewed a particular platform and linked the targeted audience, as well as the various posts that are made on these platforms as well as the intended purpose of the post on social media. When viewing in total, seven different platforms the hotels use were broken down. Many properties showcase that each social media platform does to a certain point have a different drive but a few similarities can be seen as well. This can be identified when the required data is found. Even though each platform generally has a different audience or purpose, it is vital to ensure that this form of data from the customers are considered. When looking at the key codes that were found through the analysis of the data, "Direct bookings", "Promotions", and "Target marketing" were classified as the main codes. These codes demonstrate what the interviewees believed social media can provide within their sector, and how it can further improve the business. In order for this to come to fruition, the correct data needs to be identified, which can range from new followers, comments on posts, shares and likes (Barnhart, 2018).

Table 4.8: Social media usage in hotels

Social media platforms	Target audience	Type of posts	Intended purpose
Facebook	Baby boomers and Generation X	- Images of property - General information about the property - Promotions - Communication	- To have access to more direct bookings - Advertising/promoting the establishment - Direct marketing - Communication with customers
Instagram	Millennials and Generation Z	- Promotions, images and video clips of property	- Advertising/promoting the establishment
LinkedIn	Corporate (all generations)	- Conferences	- Advertising/promoting the establishment
Pinterest	All generations	- Images of property	- Advertising/promoting the establishment
Snapchat	Millennials and Generation Z	- Images and video clips of property	- Promotional purposes - Reach a wider audience of millennials and generation Z
Twitter	Millennials and generation Z	- Promotions	- Promotional purposes
YouTube	Millennials and Generation Z	- Video clips - Promotions	- Advertising/promoting the establishment

When looking at direct bookings relationship to social media, it is more notable how customers have more possibilities to communicate first hand with the hotel group via social media platforms instead of visiting websites and sending emails. This is a much easier and cheaper method for hotels and less time consuming for consumers according to Participant 1A, as hotels will pay less to travel agencies. This was predominantly found in the literature that it is a preference for hotels to have their customers to book direct rather than going through travel agencies (Loxleyhotels, 2019). However, the problem is that more potential guest's book through outsourced travel agencies (OTA's) according to the participants. Prieto (2018) however argued that the competitiveness in the travel agency business is very high and hotels do require a relationship with them as they have the advanced technology, technical skills, customer experience, and have a wider audience and market range. Therefore, it is dually noted that OTA's are beneficial towards the sector as they provide numerous forms of expertise for a percentile of the guest bookings. This was mainly due to the fact that outsourced travel agencies are a cheaper method over marketing intermediaries and over direct bookings.

It is evident that most or all social media platforms provide promotions of the company through images, videos, and clips. Most hotels use this method to their advantage such as the Hyatt and Starwood Hotels and Resorts that on many separate occasions provided specials and promotions to customers as well as competitions that guests can enter (Lanz *et al.*, 2010). Due to the prospective variation of customers on a global level, social media can help find a targeted

niche, or a new target audience they never thought they had, thus allowing hotels to thrive in a new segment and communicating with new potential customers. Therefore, it is relevant to understand which data needs to be collected and analysed in order to promote the right information at the right time (Ray, 2016).

Social media provides opportunities for hotels to appreciate their customer base on a whole but also create brand awareness. The preferences and behaviours of the customers will be more noticeable, as it allows for better communication and engagement through the promotions that the hotel has to offer. “Preferences” and “Behaviours” were also the central codes that were grouped from the participant’s beliefs on what the link between big data and social media was, which shows consistency throughout the interviews that were conducted. Within the hospitality industry, it is preferred to make connections rather than impressions. Turri *et al.*, (2013:203) argued that social media does provide better communication as well as brand awareness for the company, this was noted by Participant 2A that stated that even though they do not use social media excessively they are aware of the benefits it provides. Social media also gives instant gratification by highlighting guest’s experiences at the hotel, whereby the customer can give honest feedback about their stay.

Participant 1A shared that the hotel would also look at which promotions are doing well and do certain changes to the particular hotel if numerous guests pinpointed a certain matter, as well as looking at which niche has posted, shared, or liked the content on the particular social media platform. This was also argued by Sterkenberg (2017) that social media does grant the opportunity to find a targeted niche, international trends, and get a general idea of ones customers. Social media is free to use, thus decreasing the marketing costs, as it comes across as more beneficial to market through social media than for example a billboard on the highway. Social media is a major leap from the traditional methods of marketing, giving more opportunities and getting a feeling on what the public truly desires (Roches, 2018). Even though social media grants a large number of opportunities, there are a few threats when not used properly. As discussed by Participant 5A, the content you post and the feedback one receives can be very damaging to the hotel group. This was highlighted by Brown (2019) that argued that marketers need to be careful as to how they communicate and deal with customers that provide negative feedback about the business.

“... It helps you understand the positive and negative feedback but you always need to be careful with the content that you post and how you approach a customer...”

Social media can also be very time consuming when not done correctly. Participant 2A and 5A demonstrated that each platform requires different posts as there are various segments to approach and that too much promotion can end up damaging the brand and the relationship with the customers. This is where the relevant data needs to be collected in order to tackle the right segment on the right social media platform. Therefore, marketers need to be careful as to how they approach certain matters and resolve them the quickest and smartest way possible, and ensure that the data that they have extracted from social media is relevant as to how the business wants to engage (Ramey, 2013).

4.4.2.2 The use of social media data in lodges

When looking at the study that was conducted, social media was a prime source due to its strong link to both big data and marketing. Due to social networks allowing users to build a personal website or video content online that is accessible through many smart devices (Constantinides & Fountain, 2008:233), lodges further use this as a tool to additionally display the guest experience as well as the beauty of the property through images and videos on these social media platforms. This is where lodges need to identify what data they are looking for in order to reach their intended purpose and audience. This is where the 4 P's are an outdated and traditional method that should not be the primary marketing strategy of the business as there are new forms of marketing that can be utilised to the best of its capabilities (Drury, 2008:275). In this section, further discussions were based on the use of social media platforms and the content that is being posted, as well as the opportunities and threats it may provide for the lodges, which will help get a view on the importance social media and big data has within this sector of the hospitality industry, and which data is paid closer attention to when analysed.

Social media platforms provide information and feedback relating to the hospitality industry. This not only provides an overview of the property but also the experiences guests may have (Segal, 2018). This is something that can damage or improve the rating of the property, therefore social media needs to advertise the best features and experiences of what the property provides as well as knowing what the guests want (Gibbons, 2017). When looking at lodges, their prime source of selling the brand is through the beauty of the property and the personalised guest experiences that are shared from all generations. The most evident and impactful social media platforms that are used by marketers at lodges are both Instagram and Facebook. These two are the most used social networks on a global basis (McCarthy *et al.*, 2010:8). This was a given response as the video and image content is the main source that lodges use to give an

insight look of the property. This is integral because the sector needs to understand their segment through the popularity of their social media platform and how it is performing (Barnhart, 2018). Other noticeable networks are Twitter and YouTube, while the two least used ones are Pinterest and Snapchat. When looking at the type of clientele that visit lodges, these range from a small portion of local guests, but are generally from overseas countries that would like to undergo a new experience in the forms of safaris, bush walks, and ambience (Isibindi Africa Lodges, 2015). Therefore, the market has already been chosen, and the lodges are aware that they need to target an audience that can afford a stay in the lodge, and the best way to do so is to promote their group on platforms such as Facebook, YouTube, and Instagram that speak to a wider group of people.

The intended targeted audience differs, however it was largely noted that the type of guests that visit lodges are mainly international. This is generally due to the fact that this is an experience that they have never ventured on before as it is a new and unique environment in nature that differs from the normal hotel experience. Participant 4B made it clear that the content being posted is not only imagery and video regarding the advertisement and promotion of the property but also highlighting the personal guest experience that is more believable. This will bring forth more potential clientele as the previous guest experience is emphasised and one feels as if one can be in the exact same shoes as them. The data that is posted is vital because it will either sell the brand or potentially lose a customer. This is where marketers in the lodge sector need to be careful to ensure that the intended audience and purpose was reached. Martins (2013) argued that less customers are trusting advertisements where the customer experience is what businesses should end up focusing on instead of spending vast amounts of money on advertisements that will not reach the customers on the intended level.

Table 4.9 was constructed by using the same approach as Table 4.8, whereby in this scenario the marketing managers in the lodge sector painted a clearer picture on the different social media platforms, as well as the audience that is targeted with the required posts and intended purpose of those.

Table 4.9: Social media usage in hotels

Social media platforms	Target audience	Type of posts	Intended purpose
Facebook	Baby boomers and Generation X	- Images of wildlife and property - General information about the property - Promotions - Communication - Blog posts	- To have access to more direct bookings - Advertising/promoting the establishment - Direct marketing - Communication with customers - Showcase previous guest experience - Stories from game rangers
Instagram	Millennials and Generation Z	- Images and video clips of the wildlife and property - Promotions - Blog posts	- Advertising/promoting the establishment - Showcase previous guest experience - Stories from game rangers
Pinterest	All generations	- Images of wildlife and guest experience	- Advertising/promoting the establishment
Snapchat	Millennials and Generation Z	- Images and video clips of wildlife and the guest experience	- Promotional purposes - Reach a wider audience of millennials and generation Z
Twitter	All generations	- Promotions	- Promotional purposes
YouTube	All generations	- Video clips	- Highlight guest experience - Promotional purposes

When considering Table 4.9, a detailed outlook is detected of six different social media platforms and the envisioned audience the lodges want to reach through these networks, the different type of content that is posted as well as the intended goal and purpose of the actual post. After observing the key codes that were found through the analysis of the data, “Direct bookings”, “Promotions”, and “Experience” was classified as the ones that gave an explicit view of what the lodges aim is when using social media platforms, which can be reached when the correct data from the customers are found. Direct bookings is what the lodge sector thrives for within this industry as customers can communicate better via the sector rather than through a travel agency that ends up costing the lodge money. Due to the rise of Airbnb it is normal that these sectors within the hospitality industry are focused on direct bookings as it is a part of the customer’s journey and is considered a cheaper method, however Bosworth (2018) argued that this is a battle that cannot be won and OTA’s are vital for the hospitality industry due to its wider market audience. It is known that promotions of any kind are used on social media platforms in order to get more customers interested and involved through competitions and other forms of content. This is a method that is used on a global scale as it is a way to engage with potential customers through being informative, fun and creative (Siteminder, 2019). When looking at lodges in particular, the target market is dominated by international

guests, therefore one of the important actions this sector has to provide is the best experience possible for the guest as it is a new journey for them. Therefore, personalised experiences through images, videos, and blogs can help boost the satisfaction of the guest and share their experience to more potential customers that obtain a glimpse of what the experience is all about (Segal, 2018).

There were a few opportunities that were demonstrated by the marketing managers regarding social media. The three most discussed themes were "Trends", "Experience", and "Brand awareness", that was mentioned by four of the participants. Other themes included "Preferences", "Engagement", and "Behaviour". Participant 2B briefly discussed the importance of social media as follows:

"... Better understanding of our guests and thus striving to provide them a tailored experience... but also give awareness about the content that we post and the feedback and responses we receive..."

Through social media, certain trends can be detected by analysing customer behaviour and preferences, therefore it is very important to be up-to-date with social media marketing tactics regarding the content that is being posted, especially in a lodge environment where the experience should be the main content on the platform (Quach, 2017). This was mainly discussed by Participant 2B and 4B because the lodge will benefit greatly by understanding the guest as well as engaging and communicating with them in a more personalised manner. This will result in creating a stronger brand awareness and more satisfied guests visiting the property. This was argued by Turri *et al.*, (2013:203) that the proper forms of communication will lead to a stronger brand image. Therefore it is wise for lodges to take the opportunities that social media provides in order to seek the likes and dislikes of customers through proper engagement to tailor a more personalised and memorable visit (Roches, 2018). It is clear that social media does provide a fair share of opportunities, however the threats behind it can damage the brand image as well.

The threats that were discussed mainly focused on the consumption of time when dealing with social media by investigating the behavioural patterns of customers, staying on par with the current trends and consistently communicating and engaging with the customers. Participant 3B even stated that one has to be careful in regards to the content that is posted, therefore the data that has been gathered needs to be considered and identified. Participant 4B informed that there are certain measures to avoid certain factors that may damage the brand through the proper training of employees and to directly contact the customer as soon as negative feedback

arises, which was also argued by Brown (2019) as to how marketers need to be cautious as to how they communicate and deal with customers that provide criticism about the business. It was also acknowledged that consistently working on these factors is a full time job and commitment, as stated by Participant 4B.

4.4.2.3 Concluding remarks and comparison on the use of social media in hotels and lodges

Due to the economy evolving in a more digital and technological manner, it is important for businesses to thrive and adapt to this new way of engaging and communicating with potential customers, instead of focusing on the traditional methods of marketing. Both hotels and lodges use social media for numerous reasons, which include the increase of direct bookings, better engagement and communication, detecting behaviours and preferences, as well as providing promotions that can attract a larger customer base.

However, it was more prominent for lodges to use platforms such as Instagram and Facebook to showcase the guest experience on the property which can be in forms of images, videos, and blog posts. The hotel sector tackles a similar method, however they look more at the promotional aspect by observing how certain promotions are performing on these various platforms, as well as looking at a new market segment that they can reach out to. The hotel sector has a different market, which mainly derives from corporate guests, which is different to lodges as they cater mostly for international leisure guests. Participant 1A and 2A stated that corporate guests do not use social media as often, therefore the data can be skewed and limited to only a few sets of international and local leisure guests. However, it was noted that both sectors in the industry look at data from social media platforms, which includes the performance of a certain post and the intended market they would like to reach. This helps the sectors with getting a generalised view of the customer and the relevant data that needs to be analysed in order to make informed decisions based on the hotel or lodge's strategy.

However, the opportunities and threats of the use of social media within both the hotel and lodge sector gave similar results. Social media provides a more efficient way of engaging with potential customers by showing previous guest experiences, in comparison to the more traditional methods. Through this new way, customers preferences and behaviours can be detected which will help with the promotional campaigns, that will help increase direct bookings. Both sectors believe that increasing direct bookings will improve the rating of the property, and will help decrease certain costs. Certain trends and target markets can be detected, which will end up decreasing the marketing cost, as social media is also a free platform to use.

Threats are mainly derived from the negative feedback to the business that can damage the brand, and due to the numerous trends that are following through on a daily basis, both hotels and lodges need to be on par with the content that they post to attract a wider audience of customers.

4.4.3 The use of social media big data analytics in hotels and lodges

It is important to take into consideration the hotels' and lodges' use of social media within their respective groups. In this section, the second research objective is further considered, introducing the concept regarding social media big data analytics. When trying to analyse social media big data, there are certain software's that are available to extract and process the vast amount of information into valuable data that can be utilised. When looking at these analysis tools, a popular software is Apache Hadoop's MapReduce (Lee & Park, 2005:148), which was introduced in 2005 and is a programming model for processing and generating large amounts of data (Dean & Gemawat, 2010:73). However, there are specific tools that are employed explicitly for social media. The most basic tools that do not require any form of assistance and are free and easy to use is your Google, Facebook and Instagram Analytics. Even though there are more expensive and complex tools available such as Brandwatch and Converseon, the most noticeable ones that were mentioned by the participants were the more cost-effective and easy to use social media big data tools, which are further discussed below.

4.4.3.1 The use of social media big data analytics in hotels

When identifying the usage of social media big data analytic tools within the hotel sector, four out of the five participants stated that they do analyse social media data using data analytic tools. This should be prominent as social media big data is rich and allows marketers to have a better awareness of customer behaviour and can therefore increase their brand awareness (Ivanov, 2018).

One of the participants explained that they do not use analytic tools as their property is reasonably small and they lack the conception of big data. Participant 2A also gave the indication that the hotel itself does not analyse the data, but their head office does, whereby they will receive the most important information that is extracted every month from their social media platforms.

“Yes... our head office analyses the social media information for the entire group and shares relevant information with the properties on a monthly basis.”

When looking at the tools and the data being processed, two out of the five participants described that they use the basic social media analytic tools which are Facebook and Instagram analytics, that are derived from social media platforms as well as Google Analytics that can help the website with identifying non-organic traffic and gives certain descriptions about customers journey to the hotels websites (Thakur, 2017). This coincides with the literature that hotels are still at the beginning stages of analysing, understanding and deciphering this form of data, and because these are free tools that do not require any form of expertise, it allows for the basics of data analysis (Thakur, 2017). However, Participant 1A that works for a larger hotel group gave a different take and notified that they are currently using a new and expensive tool to analyse social media and guest data. The participant even indicated that they have used a variety of different tools in the past but the data that was extracted was considered to be fragmented and not completely understood.

“We had a variety of different tools, and at the moment it is quite fragmented. We did not use just one tool, well now we have an expensive tool which we have recently implemented.”

The data that is extracted and processed mainly is derived from social media platforms, as previously discussed in detail in the above section 4.4.2. Examples include Facebook, Twitter, and Instagram data, as well as Google and website data that is analysed by analytic tools. This form of data was predominantly discussed by the participants, where participant 5A explained that the data that they have extracted from all of the social media platforms varies as there are diverse types of guests and customers.

“The different types of data that we look at depends on which social media platform we look at. So at the end of the day you look at the information of the customer, how they made that conversion, where they actually came from and what they commented on or liked...”

Even though it was demonstrated that two out of the four participants that use analytic tools focus on the basic analytic software's and one a more advanced tool, Participant 3A explained that they use an outsourced social media agency to analyse the data for the hotel group. For a smaller establishment that does not require an excess number of staff, this method is more cost-effective as the specialists will be able to interpret the data the best way possible by targeting the correct audience at the right time and highlighting important data from the information contained in the hotel's social media and guest data (Tlhoale, 2019). This was a main concern for Participant 3A as the hotel group wanted to build up sales and marketing in their restaurant, conferencing and accommodation areas. Having an external agency for assistance can

demonstrate benefits for a smaller hotel group that does not have the tools or proper expertise, however there can be a lack of miscommunication between the two parties as certain data can be ignored and not be considered as relevant (Wood, 2019). Thus, communication is vital and the agency does require a background within the hospitality industry.

In total, one participant uses an external agency that uses social media analytics (Participant 3A), whereas two use internal specialists (Participants 1A and 5A). Participant 2A uses a combination of both internal and the assistance of external agencies, where the head office deals with the social media data and the external agency helps with the business data. Lastly, it was clear that Participant 4A does not use any form of social media analytics as there is a lack of understanding of the concept, as well as not having the right funds and specialists to deal with this form of technology.

When looking at the internal structure of the marketing department, Participant 1A gave an interesting take and explained in great detail the staff that are required to analyse the data as well as the ones in charge of the social media. This demonstrates that only one hotel group actually has the necessary staff to analyse the social media big data and utilise it to the best of its capabilities in order to improve their marketing strategy and relationships with their guests.

“The group itself is its own internal agency that looks at data and helps decipher with the experts we have. So we have people that focus on social media and we have Google specialists and six people working on social media and analysing it.”

When looking at the various themes that were found through the benefits of social media big data analytics, the main results were “Cost-effective”, “Direct marketing”, “Communication”, “Behaviour”, and “Preferences”. When handling and grasping the patterns of the consumers, it can increase direct marketing, which means that instead of booking through a travel agency they can directly book through the hotel. This allows for better communication with the potential guest as well researching their likes and dislikes (behaviour). A prime example by Participant 3A was given which linked to all of the above codes and characteristics of the benefits of big data analytics.

“Social media data to me would mean the information we receive as a result of our better feedback that we get from our campaigns. And we take whatever response we get to see where we strike a cord and where we get a lot of likes on Facebook or where we get a lot of comments and that the enables us to individualise our approach.”

Other arguments and important views that related to the benefits of analytic tools and why hotels use it was related to the social media data that is extracted after analysis which can

enhance the marketing function in regards to the marketing strategy as well as looking at feedback from customers, which will give future indicators of what the hotel can do to enhance their performance. Sahatiya (2018:190) argued that the main benefits include cost reduction, learning and building new choices, and measuring client behaviour and satisfaction. These points were clearly shown by some of the participants being interviewed, presenting their level of knowledge and the utilisation of social media big data as well as the analytics of it within their hotel group by understanding what data they are focusing on to improve certain areas of the hotel.

4.4.3.2 The use of social media big data analytics in lodges

When trying to analyse social media big data, there is a fair share of analytics tools available when handling this amount of data. The volume of data is extraordinarily large, therefore the right tools need to be used in order to get the best data extracted (Russom, 2011:6). This will be beneficial to the sector, as the behavioural patterns of potential guests will be viewed, as well as their likes and dislikes, which will lead to a more personalised service upon arrival and a better journey through the social media platforms. The most popular analytics tools that larger firms utilise are called Brandwatch and Converseon, which focus on monitoring, analysing and cleaning the necessary data (Stavrakantonakis, *et al.*, 2012). However, due to the fact that the lodge sector is not large in scale and only deals with a certain number of guests, it can be speculated that the basic tools are considered to be more of prominence, as it is cheap to use and no form of specialist is required to analysis a large number of data, as the data is limited in Volume.

However, due to the fact that the hospitality industry is in its infancy in implementing such tools, a popular and cheaper method currently utilised is Google, Facebook, and Instagram analytics. These are not as complex as the other social media big data analytics tools, therefore there are no required specialists to use this software. A marketing manager has the right amount of knowledge to use and understand these basic tools.

When identifying the usage of social media big data analytic tools within the lodge sector, four out of the five participants stated that they do analyse social media data using data analytic tools. Due to the properties being a four to five star environment that only cater for a few guests at a time. It should be important for the marketers to analyse this form of data as it contains a lot of details regarding the preferences and behaviours of the potential guests, which will help

identify their pattern regarding the booking (Ivanov, 2018). Participant 4B stated that they use these tools mainly to increase the ROI and look at what content is performing.

“Yes, we use it to analyse what content is performing well on our social media networks and how best we can improve our ROI.”

The different tools that are utilised by the lodge sector in order to analyse the data looked at Google, Facebook, and Instagram analytics as well as Pixel tracking. Participant 3B, 4B, and 5B indicated that Google Analytics is the prime source they use as it helps with non-organic traffic. It was also presented that it is an easy to use tool that tracks the patterns of the customer when visiting the social media or website page, which was further elaborated by Participant 4B.

“... We are obviously on Google analytics, so that provides us a lot of information specifically to our website... it helps us identify where your traffic is coming from and the demographics, location, and basically the behaviour of those, and it is also a free service to use...”

As stated by Thakur (2017) this tool is considered ideal for the basics of data analytics, as there is unfortunately a skill shortage in specialists that can handle the more advanced analytic tools (Rae, 2018). However, it was interesting to learn that one of the participants use an external agency to analyse the social media content of the lodge. Participant 2B is the marketing manager of a social media analytics company that analyses social media big data for both boutique hotels and lodges, which showcases that the agency has a sense of appreciation for the industry and the requirements on a lodge level. The tool that the company uses is Pixel tracking. This can be defined as, “HTML code snippet which is loaded when a user visits a website or opens an email. It is useful for tracking user behaviour and conversions. With a tracking pixel, advertisers can acquire data for online marketing, Web analysis or email marketing. With log file analysis, long data evaluation or using appropriate analytical tools, this data can be used for different purposes, for example retargeting” (Ryte, 2019). This is a similar tool to Google Analytics, but has a slight focus on advertising as well. The main data that is analysed, which coincides with the tools being used mainly looked at social media and Google data. Even though Pixel tracking and Google Analytics have its advantages, they are still highly criticised tools as it collects personal and comprehensive data from the user without their consent (Ryte, 2019). Participant 5B was the only participant within this sector that uses a combination of both internal and external analytics. Hiring an external agency can also be beneficial as specialists will have the proper software and tools available to analyse the data and have a comprehension of what the data entails. The reason behind lodges using external

assistance is because it is more cost-effective as the required amount of staff are not available to do both the marketing and analysis of the data (Lohr, 2012).

The use of internal and external analytics was also discussed, which mainly focused on the participants that analyse their data internally or externally, a combination of both or if there is no form of data analytics being used within the sector. After analysing the transcriptions relating to the beneficial use of these analytic tools, numerous themes were demonstrated. Most importantly is that through proper analysis the behavioural patterns of the consumers were given. This helped in understanding their preferences better by tapping into their demographics. This is beneficial to see what the current trends are and which products are performing, allowing for better brand awareness and proper engagement and communication with the customer. Participant 5B stated these exact reasons as follows:

“The reason as to why we analyse data is because it creates brand awareness, track trends, educate guests of the property, and promote word of mouth marketing, and it helps as an advertising medium...”

Therefore, data analytics can be a more cost-effective method when looking at the marketing strategy by investing more into social media marketing than traditional methods. Hagen *et al.*, (2013) argued that analytical tools, can allow for faster, more effective, and less costly processing methods in order to create new information from the developed data.

4.4.3.3 Concluding remarks and comparison on the use of social media analytics in hotels and lodges

When looking at the social media big data analytic tools that are used within the lodge and hotel sector, four participants in each sector use analytics to analyse the data. These also include the sectors that acquire external assistance. As mentioned above, Participant 4A and 1B do not grasp the concept and do not use these tools as they do not have the funds, understanding, or specialists to deal with this form of data. It can be seen that the main form of analytic tools primarily focused on the basic and free to use ones. These consisted of Google Analytics, Facebook and Instagram Analytics, as well as one participant (Participant 2B) that uses Pixel tracking. In total, three participants within the lodge sector utilise the basic tools, and two within the hotel sector. It was interesting to identify that Participant 1A uses a more advanced tool in comparison to the other hotels. Two of the participants (Participant 3A and 2B) use an outsourced agency to handle their data and social media, whereas Participant 2A and 5B use a combination of both internal and external analytics. However, it can be assumed that larger

hotel groups require more advanced tools as there is a higher volume of guest data, in comparison to lodges that do not handle such large amounts of guest data at a time. Therefore, lodges only required to use the basic analytic tools in comparison to hotels. In regards to the hotel sector, it can be speculated that they are only at the beginning phase regarding the use of these tools, as stated in previous journals pertaining to the hospitality industry not being on par with other industries, as they are not utilising a variety of advanced tools that would best suit their sector or do not use these tools to begin with. It was indicated that both sectors marketing managers mainly use these tools to identify customer's behavioural patterns, looking at certain trends and promotions, as well as seeking out their preferences.

4.4.4 The beneficial use of social media big data in hotel and lodge marketing functions

Social media big data is mainly associated within the marketing department. The results that were extracted and processed from the social media data allows for improved decisions within the marketing strategy such as the buying trends of guests and further identifying one's target market and a potential niche. The various changes and decisions that influence marketing within the hotel and lodge sector was further discussed in this section, which allows for a closer focus on the use of social media big data by further elaborating on objective three of the study.

4.4.4.1 The beneficial use of social media big data in hotel marketing functions

Hotels need to identify the type of guests that they need to cater for, therefore it was interesting to understand which target market or guests the participants' hotel groups focused on. Participant 1A and 3A stated that they have a variety of corporate and upper market clientele within their hotel groups that come from all areas of the world in comparison to Participant 2A that purely deals with corporate guests. Lastly, Participants 4A and 5A have more leisure guests in the middle class region. When looking at the structure of the South African hospitality industry, most of the hotel guests are corporate in contrast to leisure. This makes it challenging for hotels to emphasise their social media and data on this type of clientele because as discussed by Participant 1A and 2A in the previous section, these type of guests do not communicate or use social media platforms, and account for roughly 80% of guests within the hotel.

When associating with the buying trends of customers, it can be defined as, habits or behaviours currently widespread among consumers of goods or services. Consumer trends track more than simply what people buy and how much they spend. Data collected on trends may also include information such as how consumers use a product and how they communicate about a brand

with their social network (Business Dictionary, 2019). This was intriguing to examine as it permitted more marketers to accentuate the patterns and behaviours of the consumers on social media and analyse that data accordingly. Three out of the five participants believe that the buying trends are impacted, whereas the other one does not. Due to the fact that Participant 4A does not have the adequate understanding or does not make use of social media big data, their answer was not included in this section. Participant 5A stated that the buying trends affect the data, which will allow for the new content to target the buyer's decision. This will therefore impact marketing decisions on a more personalised level with the customer (Mahlangu, 2017).

Due to the fact that social media is used on a day to day basis, the data that is gathered from these platforms will allow for certain trends to be detected and analysed, which will then be utilised for the targeted clientele (Roches, 2018). It will also help with finding the sentiment of the market through the social media big data, and be more engaged and gain insights on the current trends which will in future affect the buying habits with the customer (Dave, 2018). A prime example is that customers are more health conscious and want to also be environmentally friendly, when hotels use this data they can target this type of niche (Participant 1A and 5A).

The marketing strategy is the business's overall game plan for reaching people and turning them into customers of the product or service that the business provides (Barone, 2019). The marketing strategy of a business is not directly visible at the start, therefore it takes time for it to develop (Tykheev, 2018: 25). When asked, all the participants agreed that social media does affect the marketing strategy of the company. The participants however could not disclose certain information regarding their marketing strategy but briefly discussed how it has impacted the data they have gathered from social media. Through analysing the data, they established that their strategy should be focusing on being cost-effective through advertisement and promotions on social media (digital marketing), as it can help build the brand and give clarification on the products and services they have on offer. Therefore, the approach should be digital, cost-effective, and engaging with the potential customers by being more intertwined with the trends. However, the traditional forms of marketing were also discussed as a widely used method in hotels, which shows that they use a combination of both marketing strategies. As argued by SAS (n.d.) there are three key areas as to how the marketing strategy with big data can improve the business, namely customer engagement, loyalty, and marketing optimisation and performance that looks at cutting certain marketing costs. This links with the participant's responses as they believe that social media big data can benefit the strategy by looking at decreasing costs and improving customer engagement.

From a marketing standpoint that is run digitally, the data that is presented from social media helps decipher what to post on which social media platform at the most convenient time to the right market segment. This is where social media big data measures the strategies success on each platform through the engagement of customers (Patel, 2018). Therefore, the hotel has the opportunity to determine a marketing strategy that is most suitable for the group and help impact the customers decisions process (Ayeah *et al*, 2012:8). This was mainly discussed as a benefit by Participant 1A and 3A, whereby the hotels can save on marketing costs when they are fully aware of the performance of their social media posts on varied platforms.

When looking at the data, three out of the five participants stated that it helps them figure out a niche within the market. Even though the hotels are aware of who their primary target market is, they still use the data to figure out whether there is a new niche that the hotel can promote and engage with. Participant 1A explained that the hotel group itself found a niche through the likes, posts, and shares from a certain group, which allowed them to invest some of their marketing budget to this group to grow the popularity amongst them and familiarise themselves with that specific niche.

“...Who gave the most likes, who is the most likely to come to us, then we would target that demographic. In order to advertise, so exceptional value. That is why social media does so well because they give us, the marketers that data. So the more data us marketers have on information the more we can see on ways to spend our money. So if I know that I can get a particular market that is probably going to spend R2 or 3 million, so I will focus on them versus doing a big advertisement where I will have no idea what is going to happen....”

It can be verified when social media big data is investigated properly, that this can profit hotels through understanding their guests and target market more precisely. This will also help by looking at the behaviours and patterns of the customers in order to better engage and communicate with them. The marketing strategy will therefore be shaped according to the data that is provided from social media and guests, which will allow for a more strategic and cost-effective strategy.

4.4.4.2 The beneficial use of social media big data in lodge marketing functions

It is important to understand which type of guests one is catering for. Even though social media big data provides the opportunity to identify a certain market segment or niche, the marketing managers from the lodges are fully aware as to which market they are trying to reach. Three out of the five participants predominantly focus on international clientele, and a small portion of local guests. The reason as to why the emphasis is on these type of guests is because this is

an experience that is not generally available within their country and it is affordable in comparison to South African guests visiting a lodge. However, Participant 1B and 5B have a variety of both types of guests. The participants did state that they have found certain niches within the market through the analysis of behavioural patterns, whereby it will allow them to reach out to the right audience. Participant 3B gave a prime example that it does not help with finding a target market but rather looks at the purchasing habits of potential guests.

“Rather than target our market based on social media trends and data, we target social media based on the purchasing habits and data captured by our sales and reservations teams.”

When looking at the buying trends of the customers, it was questioned whether or not social media big data has an impact on it. The buying trends generally look at the customer's habit and behaviour towards a particular product or service, which tracks what is being bought and how much is spent. This ends up helping the business to get an understanding as to how a certain brand is performing (Business Dictionary, 2019). Through understanding the buying trends of the customers, the marketing managers at lodges can easily identify these patterns and analyse the most relevant data accordingly. It can be seen that three out of the four participants believe that social media big data impacts the buying trends of the customers. Unfortunately, Participant 1B was not included due to their lack of usage and understanding of social media big data. Participant 2B does not believe that the buying trends are affected and will increase the likelihood of more bookings being made but rather focus on the preferences and tailored experience of the guest which will provide more bookings. An interesting take was made by Participant 3B that stated that the data analysed from the guests is utilised at a later stage, which will then affect the buyer's decisions.

“I think it's a cyclical process. The buying trends of guests/customers effects the data. This data is analysed to then target content in a new way which may affect buyer decisions.”

This notes that the content that is analysed from the social media big data will help identify certain trends among customers, which at a later stage will help review the content that is being posted and distributed to the intended audience. In the long run, the buying trend will therefore be affected.

The marketing strategy offers a blueprint for achieving marketing objectives. It is the building block of a marketing plan and is premeditated after detailed market research. A marketing strategy helps an organisation to deliver services and products that are profitable and can create

an edge on one's competitors (MSG, 2019). Four out of the five participants stated that the marketing strategy of the lodge does get impacted by social media big data. Even though certain strategies could not be given, the impacts of social media big data to the marketing strategy were provided.

It was identified that the main approach towards the marketing strategy was digital, which refers to the use of the Internet (social media and website). The use of social media marketing, even for lodges is of significance, where the use of Facebook, Instagram, Twitter, and LinkedIn is used (Tourism Marketing, 2019). This method for the marketers at the lodges was a more cost-effective approach as the use of social media is free, and it provides better brand awareness, and communication and engagement with current and potential guests. This was further elaborated by Participant 4B showcasing the importance and impact social media and big data has for the marketing strategy.

“I do because I think you can make more educational decisions on how you would send out your marketing message. The more information you have on the persona and the people that you would like to frequent your establishment without that data it would really be a mass advertising as with radio by pushing a message out there hoping that somebody responds. With social media it needs to be more targeted, it needs to be more specific and personal. And through big data we are able to get more specific as to who we would like to target which before that we did not have the resources to do that because it was either newspaper or radio or brochures, whatever the case may be.”

However, three of the participants stated that the approach they are using is not only digital, but the traditional marketing methods are still utilised such as through advertising campaigns, pamphlets, billboards etc. This indicates that a combination of both traditional and digital is a method used for lodges based on the interviews that were conducted. Even though traditional marketing does not allow for proper communication with the customer, which generates uncertainties with the campaign's capabilities (Drury, 2008:275), a combination of both traditional and digital are considered to be a strong marketing strategy, where the primary strategy focuses on the digital methods as it reaches a wider audience, the most prominent features are digital, and is therefore more cost-effective (Standberry, 2018). It is wiser to lean towards investing more of the marketing budget to the digital marketing strategy over the traditional. Social media big data allows this to happen as certain digital campaigns can be analysed and viewed to see whether it was successful and if the right targeted audience was reached by researching their demographics, plus it is cost-effective and allows for a better competitive advantage over other lodges (Chakrabarti, 2017). However, one of the participants

believed that the data does not affect the marketing strategy or decision making as such but helps understand if one is reaching the right target market.

Three of the participants stated that social media big data helps identify a targeted niche. Even though the marketers are well aware of who their guests are, a more detailed outlook after extracting and analysing the data helps them identify an even more detailed targeted audience. This was further elaborated by Participant 2B.

“I think ultimately it would or maybe not make changes but help you more identify if you got a niche that you have never realised you had before. So maybe if you realised you don't have enough people from Norway yet Norway is a country that has a lot of international travellers....”

Social media big data therefore is very beneficial within the marketing department in the lodge sector as it allows for the proper identification of certain trends. It was also noted that a more digital approach is used within the strategy whereby it helps with improved communication with customers and being more cost-effective as the data helps understand certain consumers and whether promotions or advertisements are reaching out to the right audience. It is also important to understand that even a combination of both traditional and digital can be a strong marketing strategy. In the end, lodges need to identify which method suits them the best regarding their marketing budget and the type of guests they deal with, be it a strong influence of digital customers or ones that are still satisfied with traditional campaigns.

4.4.4.3 Concluding remarks and comparison on the beneficial use of social media big data in hotel and lodge marketing functions

It was established that the data that is extracted from social media is mainly looked at within the marketing department of both sectors. It was therefore determined that certain aspects of the marketing strategy are based on the results of certain guest data. The types of guests differed, as hotels predominantly focus and deal with corporate clientele, and lodges on international leisure guests, therefore different forms of data are looked at. When focusing on how social media big data affects the buying trends, three participants in each sector agreed that it does, and two disagreed. This is determined as one can establish the patterns of the guests and the content they view, whereby both hotels and lodges can use this form of data to increase direct bookings. Even though both sectors understand their target segment, it was clear that it does allow for more of a detailed view of a niche in the market that may have been overlooked. However, this method was mainly discussed by hotels as they have a variety of guests, where lodges mainly look at international and local customers. This allows for certain marketing

tactics and efforts to draw this niche closer to the group. It was also determined that the main approach of the strategy looked at being digital, whereby some still use a combination of digital and traditional marketing strategies. However, the digital strategy was of importance for both sectors as this is the best way to reach out to a wider audience that will increase brand awareness as well as being a more cost-effective approach.

4.4.5 The beneficial use of social media big data in hotels and lodges

Social media big data can provide a huge amount of benefits when analysed and understood properly. This can range from cost reduction, to the proper management of the hotel and lodge data (Lohr, 2012). This has a vital link to the third objective of the study as it pays closer attention to how the social media data influences the hotel and lodge data. During the coding process, it was determined that there are two main themes that play a prominent role in the beneficial use of social media big data. This was sub-divided into two levels, one being “Level: 1 Social media data” which focused on the benefits of social media data, which was based on the marketing managers responses. This is where the most discussed codes were used. The second level looked at “Hotel data” or “Lodge data” which was also coded based on the respondents answers, by looking at the areas that were mostly discussed, and thereafter coded accordingly to highlight the more important beneficial uses of social media big data within the two sectors.

4.4.5.1 The beneficial use of social media big data in hotels

It is important to take note that there are two main themes that were derived regarding the beneficial use of social media big data in hotels. The two themes with their respective codes that were gathered looked at “Social media data” and “Hotel data” as seen in Table 4.10 below. These codes were predominately discussed by the participants in the study and how they play a vital role within their sector of the industry.

Table 4.10: The beneficial use of social media big data in hotels

Themes	Codes
Level 1: Social media data	<ul style="list-style-type: none"> - Brand awareness - Communication - Cost-effective - Social media marketing - Target market - Engagement - Performance - Feedback - Product
Level 2: Hotel data	<ul style="list-style-type: none"> - Guest experience - Guest preferences - Direct bookings - Occupancy - Personalised service - Profitability - Understanding - Revenue management

Level 1: Social media data

When looking at the first theme, it can be clear that most of the codes that were gathered after analysis work side by side with the codes in the above sections, especially when looking at “Engagement”, “Communication”, “Target market” and “Brand awareness”. This shows that the participants were consistent when discussing the use of social media big data within their hotel group.

The data that is gathered allows for the proper use of social media marketing (digital marketing) as it allows for better communication with guests on a global scale, which was further elaborated by Participant 1A and found in a study performed by Drury (2008). These findings concluded that businesses need to adapt to social media marketing over the more time consuming and costly traditional methods of marketing.

“The main benefits is to get customer insights from a variety of different countries but yes it is generally free because you are getting access to Facebook and Instagram, you know that data is free... Well, I think that it is a benefit from a more of an affordability perspective it is so much cheaper. Do not forget social media allows you to speak directly to the customer which allows you to go through...”

The participants stated that they now have the opportunity to analyse this ample amount of data to bring together their social media feeds and focus on their data from their customers. This was a predominant finding in a study conducted by Yin and Kaynak (2015) that argued as to how the participants focused primarily on the customer-centric data that was gathered from social media. Social media big data also allows for understanding the customers better, through

improving upon the communication on social media and being more engaging with the customers (Participant 1A, 2A, and 5A) instead of just throwing promotions and advertisements on the platform that may damage the brand and infuriate potential customers. Force (2016) clearly argued that customers may feel neglected and annoyed with the overwhelming promotions and advertisements provided by companies that they lose interest in the product. The marketers therefore can see which product is performing, what promotions are running at a slow pace, and how the customers are engaging with the brand (Participant 2A).

Level 2: Hotel data

It was established by the participants that the data gathered from social media will impact the data that the hotels have. Through the feedback, communication and engagement with the customers via these platforms and the data extracted from there, certain customer-centric data that may benefit the hotel became visible. This form of data gives an understanding of the guest preferences (Hashem *et al.*, 2015:99), as well as the experiences, which is generally found on the social media platforms (Q4Launch, 2019). This sort of information can help the hotel tailor and personalise service to the likings of the guests. In the long run it will generate loyalty, which will improve not only the occupancy of the hotel but also sales and profitability through the increase of the room rate. This will also raise direct bookings, as the promotions that are linked via the social media platforms can bring guests to the hotel's website to book directly. This was further elaborated by Participant 1A in the above sections that hotels would then pay less fees to travel agencies (Loxleyhotels, 2019). In the end, when the data from social media is used properly, the hotel can greatly profit from it. This can be seen in areas such as revenue, where it can be managed according to the data that has been analysed and extracted (Comcast, 2017; Johnson, 2018)

4.4.5.2 The beneficial use of social media big data in lodges

When looking at the discussions that followed with the above sections, it was clear that there are a fair share of beneficial uses of social media big data within the lodge environment. The main themes that were found after the analysis of the participant's interview transcriptions will be given in Table 4.11.

Table 4.11: The beneficial use of social media big data in lodges

Themes	Codes
Level 1: Social media data	<ul style="list-style-type: none"> - Brand awareness - Content - Cost-effective - Engagement - Feedback - Likes and shares - Personalised content - Social media habits - Social media marketing - Trends
Level 2: Lodge data	<ul style="list-style-type: none"> - Direct bookings - Guest behaviour - Guest preferences - Occupancy - Guest patterns - Loyalty - Sales - Personalised service

Level 1: Social media data

When looking at the first theme, it focuses on social media with the corresponding codes showcasing the acquired themes benefits. The codes were generated from the participant's interviews to get an overall understanding regarding the beneficial use of social media big data in the lodge sector. It can be elaborated that a lot of the codes were already introduced and discussed in the other sections of this chapter. When looking at the luxury lodges, many guests go through a journey in order to find the most suitable price by going on TripAdvisor, the website, or social media platforms, which is why social media is a predominant feature for this environment (Meintjes *et al.*, 2011:235; Zucchi, 2018).

Firstly, the social media data helps the lodge sector to not only figure out a particular audience and how the personalised content is doing, but also provides brand awareness by analysing the likes and shares of the customers. This will help understand the social media patterns, whereby certain trends can be figured out when a targeted audience has been found. Social media marketing is widely used across this sector, due to the portrayal of the guests experience, therefore the social media data that has been extracted provides beneficial use in many areas of the social media platforms of the lodges. The first level that has been established has a connection with level two. Due to the social media data that has been provided, it will impact the lodge data.

Level 2: Lodge data

When looking at the lodge sector, it was stated that they play a dominant role within the South African tourism industry, because of the nature of personalised service and experience that is provided (Meintjes *et al.*, 2011:234). It was noticed that the use of social media big data can increase the amount of direct bookings (as previously discussed), as well as understanding the guest behaviour and preferences. This was clearly stated by Participant 2C as discussed below:

“Understanding our guest preferences, knowing what and when to push content, and capturing direct bookings through the social media content that was found.”

This is vital for the lodge industry because of the small and personalised environment it has, therefore it is important to get a clear view of what the guests want (Q4Launch, 2019). This will therefore not only generate loyalty for the guests as they had a wonderful experience but it will also increase occupancy and sales for the lodge as a fair share of their needs were met through the individualised data that was extracted from social media data.

4.4.5.3 Concluding remarks and comparison on the beneficial use of social media big data in hotels and lodges

The results that were garnered regarding the beneficial use of social media big data within the two sectors were sub-divided into two levels with their respective codes. The first level associated itself with Social media data. Even though the benefits were fairly parallel, it was confirmed that the hotel sector mainly use this form of data to look at how certain promotions are performing and how they can establish a new niche, whereas the lodges focus on the engagement and providing personal content to enhance the guest experience. However, both sectors use social media to improve brand awareness, using this as a cost-effective measure within the marketing function, and understanding certain trends and habits of customers. The next theme and level looked at the hotel or lodge data. This subsequently intertwined with the social media data due to the fact that the social media data is utilised to improve upon certain decisions within the hotel or lodge. This again generated similarities as the data allows for increase in direct bookings, and a view of the preferences and behavioural patterns of customers, which allows for improvement in service, the guest experience and the occupancy of the hotel and lodge. In the end, it is a more cost-effective approach for both sectors in the industry, which will allow for the enhancement of customer loyalty.

4.4.6 The challenges of social media big data in hotels and lodges

Big data is also known to provide a fair share of challenges. The challenges become more noticeable the more a company uses big data. These can range from general big data issues such as the big data characteristics, and management issues (Kaisler *et al.*, 2013:998) to the storage in the cloud (Hashem *et al.*, 2015:103), and privacy and security concerns (Abawajy *et al.*, 2014:363). In order to determine the different challenges of social media big data in both the hotel and lodge sector, major themes were chosen from the interviews that were conducted, whereby the codes that link to that particular theme were chosen in order to elaborate as to why this particular theme plays of importance to the study In total, four main themes were found regarding the challenges of social media big data within the hotel and lodge sector, which is associated with third objective of the study.

4.4.6.1 The challenges of social media big data in hotels

Within the hotel sector, four main challenges were detected which can be seen in Table 4.12 below. One has to bear in mind that only one of the participants (Participant 1A) stated that they use an advanced analysis tool in comparison to Participant 2A and 5A that use the basic tools (Google Analytics), and one that does not use any form of analytics at all (Participant 4A). Therefore, the challenges are based on the data that was gathered throughout the course of each interview.

Table 4.12: The challenges of social media big data in hotels

Themes	Codes
Theme 1: Privacy	- Guest data - Content
Theme 2: Technology	- Cost of analytic tools - Software - Cost of internal analysts
Theme 3: Education	- Understanding - Use - Cost
Theme 4: Security	- Guest data - Content

Theme 1: Privacy

The first theme that was indicated by three out of the five participants are that there is an ongoing privacy concern regarding the data that is gathered from guests. Due to the fact that there is a lot of personal information stored, it causes major problems as this information can be stolen or lost. This was also a theme that was found by Hashem *et al.*, (2015) concerning

the issues of personal information being taken that contains content such as credit card details and residence of the guests.

Theme 2: Technology

Due to technology advancing at such a rapid speed, it is difficult to keep up with the current trends. Especially within the hospitality industry where the hotel sector is behind other industries and have not fully mastered the use and understanding of it (Kapoor, 2018). Even though using this form of technology can be taken to one's advantage, it is not 100% the case in this scenario. This was shown as only one out of the five hotels use advanced analytics tools, while two only use the basics of analytics. Even though there is a use and understanding, smaller hotel groups are lagging behind (Tirosh, 2017). Participant 4A does not use this form of technology mainly due to the lack of understanding of it but also because the cost of analytics and specialists from outsourced agencies is too high and will impact the revenue to uphold those costs (Cooldata, 2014).

Even though certain software and tools are used, it can be indicated that the hotels that were interviewed are not using more progressive tools. The basics of analytics are utilised, which showcases that the hotels are at the beginning phases of the use and understanding of social media big data, however the hotel sector has more potential to use advanced tools and the opportunity to invest in employees that deal with analytics in order to compete on an international scale and personalise the guest experience even more. This in the end will intertwine with the next theme regarding education. However, on an international scale, there are numerous franchised hotel groups that are starting to use more advanced tools (Tirosh, 2017).

Theme 3: Education

All of the participants that were interviewed within the hotel sector have a marketing background. It was shown that there was an adequate understanding of social media big data as expected of their background, however it is evident that the participants do not fully grasp the use and understanding of social media big data (Dragosavac, 2017). This could mainly be described by the software that they use, as well as going through other agencies, as the hotels are aware that they cannot handle this form of technology themselves.

Even though the data itself was not enough to generate an assumption, the results of the interviews demonstrated that the larger properties have more specialists to analyse the data in

comparison to the smaller ones that lack the knowledge and funds, therefore resorting to different measures. The tools however are enough for them to use the basics of data analytics to get the required data from guests that they need (Thakur, 2017) or going through other measures by hiring an outsourced agency to do the necessary analysis for the group (Tlhoale, 2019). Marketing managers do have the required background regarding the data, however it would be more successful to utilise specialists in the analytics field. This can however become costly for smaller properties as both experts and the required technology is not feasible (Cooldata, 2014).

Theme 4: Security

Security is a continuing worry for any IT department (Abawajy *et al.*, 2014:363). Therefore it was important to take note that four out of the five participants indicated that this is an ongoing concern because of the guest data that they have. Therefore, the hotel groups guard this form of data to ensure that it does not get taken or released. This links with Theme 1, as the data that is found on the systems are personal guest information.

4.4.6.2: The challenges of social media big data in lodges

In total, four main themes were found regarding the challenges of social media big data within the lodge sector that can be seen in Table 4.13 below. It is clear that the participants in the study do not use advanced social media analytic tools, therefore certain qualities and challenges that advanced tools provide do not interlink with the basics of data analytics such as Google Analytics.

Table 4.13: The challenges of social media big data in lodges

Themes	Codes
Theme 1: Characteristics of big data	- Volume - Veracity
Theme 2: Technology	- Cost of analytic tools - Software - Cost of internal analysts
Theme 3: Education	- Understanding - Use - Cost
Theme 4: Security	- Guest data

Theme 1: Characteristics of big data

When looking at this particular theme, the three main V's of big data were discussed as being challenges when looking within the lodge environment. Firstly, when looking at the Volume of data, especially via social media platforms it becomes very difficult to decipher and extract

the relevant data due to its content and size (Kaisler, *et al.*, 2013:998). Participant 4B gave an example that big data becomes bigger and bigger when using social media platforms, which makes it difficult to keep up with the customer and the current trends.

“...And also the algorithms and privacy terms and conditions that keep changing as well, it is also something that has to be relevant to your big data as these platforms becomes bigger and bigger and bigger, their value is that they now have.”

The speed of data transfer is considered to fall under the Velocity of big data (Russom, 2011:7). Due to the use of basic analytic tools as well as slower devices that handle the data transfer, it can be determined that this is a challenging issue for lodges, as the Volume of data cannot be controlled and extracted accordingly, especially when it is in an unstructured format of data (Variety). The three V's intertwine with one another, and if one of the functions do not work it will be problematic to process, extract, and analyse the social media data (Hashem *et al.*, 2015:102). Due to the technology lagging behind within the current industry, the three V's cannot be organised accordingly, which was a concern for the marketing managers within the lodge environment.

Theme 2: Technology

When looking at the South African concept and the advancement of technology within the country and hospitality industry, it can be determined that in comparison to first world countries and their respective industry, the country and certain industries are lagging behind (Tshabalala, 2017). This was a major concern for Participants 2B, 3B, and 4B who stated that there is still so much to learn and understand regarding the use of social media big data in the lodge sector. This will allow them to be better prepared and stay on par with international standards but at the moment the sector is still lagging behind (Kapoor, 2018). Participant 2B highlighted the concern of the lodge sector regarding which software to use when analysing data to best fit the group, which shows uncertainty pertaining to the proper use of social media big data analytic tools.

“Technology at the boutique hotel and lodge level is somewhat of a challenge, as there is a great saturation of both free and paid software for analysis, thus, businesses can feel overwhelmed and unsure at to which can reach their unique requirement.”

When looking at the analytic standpoint, the lodges are not using advanced software and analytics, which was briefly shown by Participant 1B that has a lack of understanding of the term, thus the decreased knowledge on the required tools that should be used. This was also seen by the other participants that only use Google Analytics, Pixel tracking, and social media

analytic tools. This ties with both the costs of the software, the understanding and the specialists that are required to perform the analysis (Bankseta's The Account Magazine, 2016). Even though there is a use and understanding of social media big data, the lodge sector is not on par as there are certain characteristics that the sector is not following (Tirosh, 2017). There is certain software and tools that are used, but it can be specified that the lodges that were interviewed are not using more progressive tools. The basics of analytics are utilised, which showcases that the lodges are at the beginning phases of the use and understanding of social media big data, however there is potential for the sector to use more advanced tools to delve deeper into the guests and their behavioural patterns and preferences in order to improve upon the service and guest experience as a whole.

Theme 3: Education

The participants that were interviewed within the lodge environment have a marketing background, either through their studies or experience within the industry. Besides two participants, three gave a knowledgeable understanding regarding the term and the importance of social media big data. Even though there is an excellent understanding, the sector fails to utilise better tools to analyse the given data, as well as going through other agencies to handle this form of data. This showcases that within the lodge environment, the marketing managers are the ones that are analysing the data instead of an analytics specialist. This can be due to the lack of knowledge regarding the tools itself, or the cost of hiring an internal or external specialist. It was also established that South Africa does not have the technology nor the educational background to further progress within this area (Allen, 2019).

The tools for the lodges are enough to take the basic information of guests and analyse them according to the data they require (Thakur, 2017), however it is not enough to get a deeper understanding and pattern of the guest. Even though two of the lodges get outsourced help, it is still important to have somebody that works internally as the most important findings can be distinguished and can help the marketing department to categorise everything in an organised manner. The marketing managers do have the background, however it is vital to have somebody that specialises in this particular field, with both the theoretical and practical knowledge (Tlhoale, 2019).

Theme 4: Security

Even though this theme was only briefly touched on by the participants, they did shed light that there is going to be a constant struggle regarding the information from guests. However, it was made clear that they have implemented measures in order to keep the information secure to avoid certain guest information being leaked.

4.4.6.3 Concluding remarks and comparison on the challenges of social media big data in hotels and lodges

There are a fair amount of challenges that were identified between the two sectors. The key difference between the two were that due to the vast amount of guests that hotels deal with, there is more personal information in comparison to lodges that cater for less clientele. Even though privacy and security plays a small feature for lodges, hotels have more data that needs to be collected and kept confidential. There are numerous breaches that have happened to hotels in the past, therefore the security must be up to standard. A main point that was discussed by lodges looked at the characteristics of big data. Even though the hotels deal with batches of data from guests, it was not as elaborate in comparison to lodges. The lodges further distinguished the problem of having high volumes of data that they receive, and not having the proper forms of technology to divide the relevant and irrelevant data. However, it was noted that both believe technology and education is a major challenge, especially within the hospitality industry. This distinguished that there is a lack of specialists and tools to help them with this new form of technology in order to stay on par with other industries and international trends.

4.4.7 Proposals on social media big data within the hospitality industry

To further understand the importance of big data and the link it has to social media, the participants were questioned as to how they believe social media big data will impact the hospitality industry in the future as well as the improvement it will provide within their sector of the industry. Therefore, it was important to also question how the hotels and lodges are trying to improve the understanding of social media big data by measures such as training and educating the staff. This was related to the final research objective of the study.

4.4.7.1 The future of social media big data within the South African hospitality industry

As discussed in Chapter 2, a new wave of technology is approaching the globe and that is the fourth industrial revolution (Schwab, 2016). Not only does this indicate whether countries are on par with this technology but also how each sector is handling this. Big data is considered to be a part of this new form of technology (Bankseta's The Account Magazine, 2016) as it requires specialists to deal with this form of data, which the industry has a lack thereof. Participant 3B further elaborated the concept of automation, A.I and robotics that will be introduced in the future in South Africa, whereby the industry would have to be prepared in order to cope with this new form of technology.

However, when looking at the perspective of the continent of Africa, in particular South Africa, there are certain gaps that are witnessed, especially in the areas of technology and education (Allen, 2019; Tshabalala, 2018). When looking at the perspective of the hospitality industry within South Africa, Participant 1A believes that when looking at a marketing standpoint the industry is doing well, however not to the standard of international markets. Therefore, it was imperative to see whether the participants believed that there will be a bigger impact of social media big data in the near future within the hospitality industry. Participant 2A believes that once there is an improvement in technology, the information received will help tailor customer experience and make improved decisions. Participant 2B also gave an interesting perspective, which was as follows:

“It will allow for more powerful digital/social media advertising with predictive capacity. There will also be a widespread usage of automation with better learning, adaption, and context. In the end the results should then be tailored and target customer experience.”

This coincides with the challenges the industry is facing with only being at the start of understanding this form of data, which was also indicated by both the marketing managers in the hotel and lodge sector, as they do not have the required specialists and analytic tools to analyse social media big data. The participants therefore suggest that the South African hospitality industry must therefore embrace these new opportunities provided to them or else the country will lag behind on an international level, which was further argued by Tshabalala, (2017).

4.4.7.2 Training and education of staff members

Participant 1A, 5A, and 4B work for larger groups within their sector and have further elaborated that they have implemented social media policies in the employment contracts

regarding the use of social media, whereby staff were trained in the responsible use of social media. Many brands are following through with this measure in order to avoid damage towards their reputation and the implications it may have on employees within the workplace (Jumpstart: HR, 2019). Due to the fact that big data is still a fairly new concept (Mahlangu, 2017), education and training is vital, which was clearly indicated and a concern by Participant 4A and 1B as both participants were new to the term big data. Participant 3B even stated that education is a central matter, especially when the industry wants to evolve on a technological method.

“With big data comes the Internet of things and artificial intelligence to harness and make use of such data, which is something we will see more and more of in the travel industry soon. Staff will be required to be educated about the impact of technology in the future”

When enhancing the use of big data, it can help predict the most suitable time to post content, what content intrigues customers, and ensures focus on specialised areas in marketing instead of spending money on target markets that are not connected to the group. This was clearly stated by Participant 3A and 2B that allow an outsourced agency to help them with the content that is being posted as well as the prominence of the data that is provided through social media.

“I think we have realised that we couldn't do it ourselves, so we have gone with companies that are specialised in this area. We have brought in photographers to improve the quality of what we show on social media and we have a company that does posting at least once a day whereas to when I did it, I only posted about once a week. So we are making use of people that knows what to do and when to do it for example. As our sources explained that the best time to post something is at 7.a.m. when people are waking up and looking at their phones before work, compared to 10.p.m. on a Sunday evening where you might have a moment to post something, but you will not captivate anybody at that time.”

When grasping the concept, big data can actually allow a company to stay updated on international trends and have an understanding of your target market likes and dislikes, which was further elaborated by Participant 2A and 2B. This coincides with the literature provided by Sterkenberg (2017) that stated that if marketers understand big data, they can focus more on a target market and look at international trends. Even though it was stated that the hospitality industry does not fully understand or under-appreciates big data, it was clearly indicated that there was an adequate level of knowledge regarding the concept, the link it has with social media and how they are enhancing the ability to use it. It may be at the beginning phases within the industry, but hotels and lodges are clearly aware of the importance that big data demonstrates and see the need for education and that technology must be improved in order to evolve within their sector.

4.5 Chapter summary

The results and the discussion clearly indicated a vital feature regarding hotels and lodges use and understanding of social media big data as well as the benefits and challenges it provides. The results showed that there were certain similarities and difference between the two but both sectors are clearly only at the beginning stages of understanding and using social media big data but do have an appreciation of what the future may hold regarding this form of technology. In Chapter 5, an overall conclusion was drawn by looking at each research objective individually, whereby the recommendations that were given provided a plan that both hotels and lodges can use to enhance their use and understanding of social media big data within their environment.



CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The previous chapter presented the findings and the discussion of the study with regards to the qualitative data generated from the interviews with the ten participants from five lodges and five hotels within South Africa. The semi-structured interviews were conducted with marketing managers, which looked at their views, awareness, and understanding of social media big data, the benefits and challenges it may provide and their usage of it within their respective sector in the industry. Based on the findings and the analysis of the study, this chapter draws conclusions in relation to the overall study objectives that were provided in Chapter One. In addition, the recommendations for future research, specifically in relation to social media big data within South African hotels and lodges has been highlighted. Furthermore, the study limitations have been discussed, with a summary of the entire study being provided in the conclusion of the chapter.

5.2 Conclusions based on the study objectives

The conclusions drawn in this chapter are based on the study objectives, which were initially presented in Chapter One. As a reminder, the current study sought:

1. To determine the understanding of the concept of big data and the link it has to social media in hotels and lodges.
2. To identify the social media big data analysis tools that are used by hotels and lodges.
3. To identify the benefits and challenges of social media big data in hotels and lodges.
4. To draw a comparison between hotels and lodges use of social media big data.
5. To establish the manager's proposals and suggestions on social media big data going forward.

5.2.1 *Summary of the respondents' profiles*

The study primarily focused on marketing managers either within the hotel or lodge sector. The study findings revealed the profiles of the employees that were predominantly educated with educational qualifications equivalent to a Baccalaureate degree within marketing or even a post-graduate degree. The participants also have experience within the marketing function of

either a hotel or lodge. This allowed them to have a general understanding of the research being conducted. Most of them viewed social media big data as a new form of technology that the industry is only starting to appreciate at this current time, indicating that it is at its infancy stage when looking at its usage and understanding.

5.2.2 Conclusions based on the first study objective: to determine the understanding of the concept of big data and the link it has to social media in hotels and lodges

The first objective of the study was to investigate the general understanding of the term big data and the link it has to social media. The participants were asked questions based on the term itself, as well as overall discussions throughout the course of the interview. It was interesting to note that the hospitality industry is known to have a distinct lack of knowledge regarding this form of technology (Dragosavac, 2017). This statement allowed for further investigation as to whether or not this may be the case. Even though big data is generally analysed by specialists, the ten participants did require a comprehensive outlook of the term, especially when having to make certain decisions within the marketing strategy. It was made clear that the ten marketing managers all have a background in marketing and have years of experience both inside and outside of the hospitality industry. It was presented that there was practical and theoretical expertise, however, an adequate to inadequate understanding and interpretation of the term “big data” was made by a majority of the participants. However, a reasonable sum did indicate knowledge when discussing the term, especially from an industry standpoint. It was therefore debatable as to whether the participants fully grasped the concept of big data and the importance of it within their respective sector in the industry.

Social media is an unstructured format of big data that is considered to be 80%-90% of the world’s data (Taylor, 2017). Therefore, it plays a huge role within big data itself. Even though there was a debatable understanding of the term “big data”, most of the participants agreed that it does share a relationship with social media due to the vast amount of data that is derived from it. Social media provides a variety of data that the sectors use in order to understand the behavioural patterns of potential customers as well as their preferences.

One can conclude that the participants understanding of the term is varied. This is due to the fact that there were inadequate, adequate, and knowledgeable takes on the term after analysis of the interviews. Even though heavy attention was paid when looking at it from a social media perspective, the term big data itself was not fully appreciated. This allows for the researcher to speculate that the industry is only at the beginning stages of accepting the importance and

relevance of big data within a South African context, therefore it must be motivated that most marketing managers require a more in-depth understanding of the term in order to take decisions that can benefit the sector itself, as well as being on par with international standards and trends.

5.2.3 Conclusions based on the second study objective: to identify the social media big data analysis tools that are used by hotels and lodges

Social media analytics is vital for any industry as it allows organisations to extract and analyse data from potential consumers and guests through social media platforms (Ivanov, 2018). It was identified that all of the participants involved in the study use one or more social media platforms in order to communicate with their guests, enhance the guest experience, increase direct bookings, and remain up-to-date with international trends. It was made clear that the data comes from social media platforms, and is mainly derived from these users and the posts that have been published. This allowed for a closer view of the customer and what data is vital to collect before analysis. However, before achieving these goals, the behavioural patterns, current trends, and preferences of the customers needed to be identified, which is why analytics was of importance and discussed by most of the participants.

Through the limited sample size of five marketing managers each within the hotel and lodge sector, certain speculations regarding the use and understanding of social media analytic tools were made. When identifying the use of social media analytics, it was speculated from the interviews with the marketing managers within the lodge sector, that they are the individuals that analyse the social media data, and not a data analyst. This generates an assumption as to why only basic tools such as Google Analytics are used, as the required experts are not available to use more complex tools to analyse these large amounts of data within the group, and that the volume of data is limited, which does not require a more complex tool. This was also speculated with a fair number of hotel groups, as the smaller scale groups do not have the experts in comparison to the larger chain hotels. Even though tools such as Google Analytics are free to use and easy to understand, it does have its limitations, therefore not allowing the full data and its potential to be further analysed and investigated. This is where a separate individual (expert) should be acquired to analyse the data and give feedback to the marketing manager on the social media data that has been gathered. However, there were discussions based on the fact that some hotels and lodges hire external agencies, where it can be assumed that this is due to the participants not having the required tools, expertise, or understanding to analyse the data, whereby the agencies give the marketing managers a more detailed outlook

on the customers through external specialists that analyse the respective sectors social media data. This was a beneficial measure as efforts were made to gather information on the guests via social media platforms.

It was also identified that some of the participants do not use social media analytics due to the fact that there is a lack of knowledge and required funds to afford a specialist to analyse this form of data. A speculation can also be drawn that this is due to the size of the organisation, whereby some do not use this form of technology as it will become more of an expense, thus limiting them in getting a better view of their current and potential customers, as well as hypothetically growing the business. There are however advanced social media analytic tools that are simple to use for marketing managers, thus not having to have the required additional assistance, but data analysts are required to understand the data that has been obtained from the social media platforms, which the industry lacks (Bankseta's The Account Magazine, 2016).

In conclusion, it was established that there is a diversified use of social media big data analytics, where a variety of social media analytic tools are used. Mostly, from the participants that analyse their social media data internally, only the basic analytic tools are used, where it can be assumed that some do not have the required employees to use more advanced analytics, or because of the lack of volume. Only a limited number of the participants use a more advanced tool and have the required staff to analyse this form of data, which was from the larger hotel groups. Hired outsourced companies were also prominent, especially when referring to the smaller groups that do not have the understanding or expertise. It was also noticeable that there are certain groups that do not analyse data due to the costs associated. The key is to identify what tools are needed to address the particular group, as each tool does have different features and costs. Marketers therefore need to educate themselves about the various tools that are available and why they are vital within their sector.

5.2.4 Conclusions based on the third study objective: to identify the benefits and challenges of social media big data in hotels and lodges

Social media big data demonstrates a variety of benefits, especially when looking at both the marketing function and the sector itself. In the third objective of the study, the benefits of social media big data was identified to get a greater assessment as to how the data that is provided from social media is used to its' advantage.

The marketing strategy of any business is labelled as an important measure in order to reach out to the right audience and be a cost-effective approach with the marketing budget that is

provided (Patel, 2018). When looking at the strategy itself, it has become noticeable that the marketing strategy was either digital or a combination of digital and traditional marketing methods (Standberry, 2019). The data from social media will therefore determine how certain platforms are performing and which audience to reach out to based on their comments and feedback. Therefore, it was no surprise that the social media big data is used in order to target and understand a certain audience by identifying their behavioural patterns. This allowed for a change in the buying trends of customers in cases such as booking direct, which is a prime attribute for these sectors as it is a more affordable and desirable process. The data itself also helped by identifying a new target niche that has not yet been researched upon, which will allow for further growth of the business when reaching out to a wider audience of customers.

Varied benefits pertaining to the sectors were also demonstrated, especially when looking at the social media data. The data itself can identify many areas of a business. Firstly, it has come to attention that certain promotional ventures can be closely looked at by the performance and popularity it has online, therefore being more user and cost-friendly to understand the customer base. This will be less time consuming as the intended audience has already been established. Furthermore this evaluates certain behaviours, thus a better engagement with customers can be formed by understanding assured trends and patterns. In the long run, social media big data can improve service as certain likes and dislikes of the customers can be identified, thus improving occupancy for the property. In conclusion, when using social media big data appropriately, a variety of benefits can occur, which is desirable for the hotel and lodge sector.

The challenges of social media big data were also questioned. This helped identify whether or not this coincides with the general challenges social media big data provides, as well as the ones that can occur within the industry itself. Through further investigation, numerous themes were confirmed that allowed for an overview of what the lodge and hotel sector faces when dealing with an ample amount of social media big data at their disposal.

An imperative theme that was discussed looked at the issue of technology. The main queries that identified here is that the industry lacks the use and knowledge of certain forms of technological advancements and the costs of it, consequently not allowing them to fully commit and investigate the large amounts of social media big data that is presented to them. Therefore, it has limited opportunities to enhance not only the participant's respective group, but also the industry itself. This prompted the awareness that only the basic tools of data analytics are used,

and it was also identified that outside assistance is used. A major concern was that a few marketers do not use this form of technology.

The marketing managers, as explained previously, only have a general understanding of big data, therefore specialists such as analysts are required to assist, especially when wanting to fully research the social media big data that has been provided. The marketing managers are not equipped to deal with the analysis of data, thus increasing their time on analysing the data instead of focusing on the relevant data that is extracted and can benefit the group. The basics are understood, however, an internal specialist can focus on the task of analysing data using more advanced analytic tools, which can decrease the tasks of the marketing manager, and allow for a more detailed and precise overview of the guest data that has been extracted, which only a limited amount of the participants do.

Even though it was only briefly indicated by a few of the participants, privacy and security concerns are always present. This can be due to the ever-increasing amount of guest data within the system of the group itself, subsequently having to increase certain security measures to ensure that the guest data remains safe and secure (Tykheev, 2018:17).

The three V's of big data are an important feature as they form what big data actually is, therefore it was mentioned throughout the interviews. Due to the Volume of data that is provided from social media, it may become difficult to decipher the relevant from the irrelevant data (Variety), which can only be distinguished through the use of more advanced tools. This has become difficult, especially when not having the right tools to distinguish such, and due to the huge volume of data and lagging behind certain technological approaches, it has become difficult for the sectors within the industry to remain on par and track their guest data.

Overall, the general challenges provided mainly derive from the technological standpoint of the industry due to the limited expertise and costs to implement such, which therefore decreases opportunities for the industry itself. Not identifying the variety of data demonstrated due to the huge volume of data can be a difficult task for the participants. This can mainly be identified with the lack of knowledge thereof, due to the marketing managers not having the requisite expertise regarding such software, which decreases the use of certain tools that can extract the necessary data from guests via social media platforms. Less attention was paid regarding the security and privacy risks, however it is still an ongoing concern for both sectors.

5.2.5 Conclusions based on the fourth study objective: to draw a comparison between hotels and lodges use of social media big data

Two sectors of the industry were identified in order for definite similarities and differences to be established pertaining to the use and understanding of social media big data and the benefits and challenges it may encompass. The two categories that were researched looked at the hotel sector and the lodge sector.

A noticeable difference was determined by the understanding of the term “big data” and the link it has to social media. Even though the lodge sector provided a more detailed description to not only the term big data, but also the implications it has within the hospitality industry in comparison to hotels, it can only be speculated in this instance as the sample size was limited to five participants in each sector. The participants in both sectors did demonstrate a link between big data and social media. However, even though there was an understanding of the term, the use of social media analytic tools differed. Google Analytics was a predominant tool used by the lodge sector as well as the hiring of outsourced agencies, whereas the hotel sector had a participant use a more advanced tool for the analysis of data. It can therefore be assumed that the lodge sector does not use advanced tools, as it is not of a major necessity as the volume of data is limited in comparison to larger hotel chains. However, the outstanding marketing managers from the hotel sector either used external agencies or Google Analytics as well. It was also noticeable that one participant in each sector neither use analytics nor have an outsourced agency assisting them with the data, thus decreasing the opportunity to enhance the hotel and lodge in regards to understanding guest preferences, patterns, and identifying trends.

The benefits and challenges shared were similar, whereby only a few visible differences were noted. It was assumed through the data acquired from the marketing managers in the hotel sector that it showed that the social media big data used is mainly a way to further enhance the promotional aspects as well as targeting a new market niche that has not yet been reached, compared to lodges that mainly use this form of data to highlight the guest experience and be more engaging with them. Overall, the assumption that the data is extracted from social media will end up assisting with the increase of direct bookings, identifying certain behavioural patterns from potential and current customers, and increasing the likelihood of improved service and loyalty. The challenges presented only had a fair number of dissimilarities. The hotel sector mainly stressed privacy and security of guest data as a higher concern in comparison to lodges, whereas the educational and technological themes were discussed as a current and ongoing distress for lodges and hotels alike. Even though the characteristics of big

data were discussed throughout most of the interviews, pertaining to both the Volume and Variety of data that has a crucial link to the technological foundation of a business, this was further emphasised by lodges over the marketing managers from the hotel sector.

In conclusion, many differences were distinguished between the two sectors, however it was further established that both sectors within the industry are not to the standard of other industries on a global scale, thus closer attention needs to be paid to both the educational and technological avenues of the industry in order to break out of being in the beginning phases the industry is currently in.

5.2.6 Conclusions based on the fifth objective: to establish the manager's proposals and suggestions on social media big data going forward

In the last objective of the study, the participants were questioned based on their opinions regarding the future of social media big data, particularly for the hospitality industry, as well as the improvements that can and should be made in order for the industry to grow or be on par with international standards. The participants outlined the importance of this form of technology, a few even discussing the future of automation and A.I. This further led to the matter of the hospitality industry requiring to adapt to the future in order to stay on par with other hotels and lodges alike by using this form of technology to their advantage. However, in the current scenario the industry is lacking as the proper tools and specialists are not utilised, thus decreasing the potential to fully personalise and improve the guest experience. It has become apparent that the understanding of the benefits that it may provide are clear but there is still no progression regarding this area. This could be due to the fact that hotels and lodges rely on outsourced agencies to analyse their data instead of an internal specialist that can identify certain patterns in a more precise and understandable manner using the proper tools.

Even though social media big data is not at its peak in the hospitality industry in South Africa, some of the participants have further elaborated that the staff are aware and trained on the dangers of social media. This showcases that efforts are being made to staff members within these groups in order to be trained on the proper usage thereof and the importance of the data that is provided. However, there needs to be further training in areas of social media big data. The participants clearly indicated that the only way the hospitality industry can thrive with the use of social media big data is when the industry starts appreciating the future of technology and improves certain areas and gaps concerning education. In context, the two sectors have a sensible view pertaining to the future of social media big data within the hospitality industry

and the improvements it may provide, however when it comes to embracing and using this new form of technology it was clearly indicated that there is a lack thereof.

5.3 Recommendations for industry practitioners

Based on the findings that were made in the study, the following recommendations have been proposed in relation to how social media big data can be better understood and utilised within both the hotel and lodge sector within the hospitality industry. The main recommendations focus on areas such as the educational background of the employees as well as the technology that can be used in order to increase the use and understanding of social media big data.

5.3.1 Knowledge: internal analysts

It was made clear that when looking at the understanding of the term “big data”, there was a lack of knowledge. The reasoning behind this matter could be due to the marketing managers not having the educational background that pertains to big data. Therefore, the sectors, mainly focusing on the hotel sector, require the assistance of an internal specialist (analysts) that has an area of expertise in big data, in particular social media and the required data that the lodge or hotel needs relating to the customers. When having an internal expert that understands big data, it should benefit them in areas such as the analysis of data as well. This was predominantly seen by the use of analytic tools that were utilised to extract the social media data, which were basic and limited. When integrating more advanced tools, a more personalised view of the guest can be given, especially when the relevant data is found. This is where marketing managers can work with the social media analysts to integrate new ideas within the marketing strategy of the group as a clearer view concerning the new found information from the social media data.

5.3.2 Increase the capacity of social media management and big data analysis team

It was distinguished, especially in the smaller hotel groups and the lodge sector that the amount of staff required are not present, thus increasing the workload of the marketing managers. Due to social media big data growing at an exceptional rate, it has become more challenging for marketing managers to analyse it. It is therefore recommended that the hotels and lodges enlarge this department.

5.3.3 Technological advancements: increase investment in social media big data

When wanting to further develop and adapt to the industry requirements, especially targeting a younger audience that is technologically savvy, the groups will be required to invest in such

areas in order to be on par on an international scale. This mainly has to be in areas such as technology, especially when referring to the required social media analytic tools that can be utilised. When having the required tools, the data can be gathered easier and quicker, as the important information has been collected instead of having to deal with large clumps of irrelevant data. The information acquired can be used to improve the marketing strategy, help identify certain buying trends, and evaluate the behavioural patterns and customer preferences in greater detail (Tirosh, 2017).

5.3.4 Training and education

From a lodge standpoint, due to its size and already having a target audience, it may seem redundant to employ these measures concerning specialists and tools. However, the marketers within lodges, especially the privately owned ones can further educate themselves about social media and big data in order to use it to its full potential. This will help lodges that do not have the specialists and budget for advanced tools and external assistance. The basics of data analytics (Google Analytics, Facebook, Twitter, and Instagram Analytics) that are free to use can be understood and utilised, which will help provide a generic understanding of customers without the fear of additional expenses. When looking at the larger hotel groups and the lodges that are part of a private game reserve, the marketers could educate themselves more regarding the proper social media analytic tools that suit the requirements of the particular group.

5.3.5 Conduct social media big data audit

In order to avoid concerns in relation to the quality of the data, marketing managers should conduct a social media big data audit in order to identify certain trends and patterns quicker and easier in order to improve on certain marketing decisions.

5.3.6 Monitor international hotels and lodges

It was made apparent that South Africa is lagging behind in regards to technological developments, especially pertaining to the use of social media big data. Therefore, South African hotels and lodges should monitor how the hospitality industry in other developed countries, use this form of technology and use and understand it to the best of its capabilities. In doing so, hotels and lodges locally can learn from past mistakes and will get a better understanding of the utilisation and concept of social media big data.

5.4 Future recommendations for researchers

Due to the fact that this is new research that has been conducted, especially in areas concerning the South African hospitality industry and their use of social media big data, further research in this area would be highly recommended. This is where regions of education regarding big data could be further investigated, and whether the marketing managers are aware of this concept. This will help also generate a wide range of knowledge when identifying the training in relation to the use of social media big data. Other examinations with reference to the type of data that is extracted from social media and the tools that are used, could elaborate on what technology is being utilised when extracting this data, and whether the full potential has in fact been understood and used properly. When these areas are further observed and researched, a more detailed understanding of this new concept can help give an overall view of the South African hospitality industry in comparison to the international standards and trends that are presented.

5.5 Limitations of the study

There were a fair number of limitations that were present when conducting the study, and they were as follows:

- The first limitation of the study is that there were only ten participants involved, whereby only five were from hotels and five from lodges. This small sample size contributed to the data being vague and open for interpretation, whereby no assumptions based on the understanding and usage of social media big data in hotels and lodges could have been properly formulated. This led to the researcher speculating on certain areas of the study, as no clear answer could be given with the limited amount of interviews that were conducted. Therefore, only brief discussions within the conclusion section were developed, as the data was limited to a sample size of ten participants. It would be advised in future to have a larger population size in order to get an in-depth overview of the current research being performed, whereby more detailed responses pertaining to the research can be made, which would further contribute to the industry. This will allow for future researchers and industry practitioners to get an overall understanding of the gaps within the industry pertaining to social media big data, where certain measurements can be made in order to improve on certain areas.

- Social media big data, which has started to rise in many fields and plays an important role in various industries, showcases a limitation regarding research and accredited journals within the hotel and lodge sector. Even though information from articles presented how other companies analyse data from customers online, which is social media big data (McAfee *et al.*, 2012:64), it has yet to be researched in this particular industry in South Africa. This is a major concern because it demonstrates how delayed the economy is to embrace this new form of technology. However, research will create more awareness to both the industry and academic world alike to further investigate the potential it may provide.
- Despite the fact that there are schools, colleges, and universities who are venturing to introduce this topic into curriculums, an absence of knowledge still remains as it is not a common method that is utilised within the hotel and lodge sectors. The acquisition of this information is both beneficial and key, as comparisons can be drawn in relation to other studies, whereby tools and frameworks can be ensued. Through making comparisons to other studies, new ideas and approaches which have previously not been considered, can be brought forward to assist with harnessing this new form of technology in a novel manner. Thus, future research in relation to the use of social media big data within the South African hospitality industry is essential, due to its allowance for the identification of shortcomings in areas such as education and technology. This will result in local industries having the potential to grow and be on par with international standards and trends.
- When looking at the perspective of performing the fieldwork, it generated certain challenges as a fair number of larger hotel groups that were approached did not respond to potential interview sessions as the topic was sensitive and certain information could not be disclosed. In total, twenty hotel groups were approached, whereby three in total agreed to an interview, and the rest either declined or did not respond. This caused the shift and focus of the research by introducing the lodge sector, as well as smaller hotel groups that were willing to contribute to the study. Even with the additional interviews, the sample size did not exceed ten participants. During some interview sessions, certain information regarding social media big data could not be discussed, therefore limiting certain data for the research as well.

5.6 Concluding remarks

The study focused on analysing the use of social media big data within hotels and lodges in South Africa. The study revealed the general understanding of the term and how it is used within these two sectors within the hospitality industry. This allowed for the awareness of the benefits and challenges it may provide as well as the future it may have within the industry. The study gave recommendations regarding the results that were found in order for the participants to fully understand the potential social media big data may have within their sector, mainly focusing on the educational and technological areas. This form of study has been rarely performed, especially when looking at the limited academic materials in context to the hotel and lodge sector in South Africa. This study therefore provides a benchmark for future academics to research and investigate the use of social media big data from the perspective of hotels and lodges within South Africa.



REFERENCE LIST

- Abawajy, J. H., Kelarev, A. & Chowdhury, M. (2014). Large iterative multitier ensemble classifiers for security of Big Data. *IEEE Transactions on Emerging Topics in Computing*, 2(3), 352–363.
- Al-Khouri, A.M. (2013). Privacy in the Age of Big Data, Big Data Systems. Available at: <https://www.slideshare.net/alkhouri/privacy-in-the-age-of-big-data-17219756> [Accessed: 8 April 2019].
- Allen, K. (2019). Africa should not be too quick to embrace the fourth industrial revolution. Available at: <https://www.theguardian.com/global-development/2019/sep/16/africa-should-not-be-too-quick-to-embrace-the-fourth-industrial-revolution> [Accessed: 10 November 2019].
- Alton, M. (2013). How to craft and schedule social media posts using Hootsuite. Available at: <https://blog.hootsuite.com/hootsuite-review-schedule-social-media/> [Accessed: 20 October 2019].
- American Institute of Physics. (2010). Value of big data. Available at: <https://www.aip.org/> [Accessed: 5 April 2019].
- Anderson, C. (2012). The Impact of Social Media on Lodging Performance. The Center for Hospitality Research, Cornell University, 4-12.
- Ang, C.K., Embi, M.A. & Yunus, M.M. (2016). Enhancing the Quality of the Findings of a Longitudinal Case Study: Reviewing Trustworthiness via ATLAS. *ti. The Qualitative Report*, 21(10), 1855.
- Aquarela. (2015). What is Web 3.0 and why it is so important for business? Available at: <https://www.aquare.la/en/web-3-0-important-business/> [Accessed: 1 April 2019].
- Arthur, L. (2013). Big data marketing: engage your customers more effectively and drive value. John Wiley & Sons: New York.
- Asano, E. (2017). How Much Time Do People Spend on Social Media? Available at: <http://www.socialmediatoday.com/marketing/how-much-time-do-peoplespend-social-media-infographic> [Accessed: 29 March 2019].

- Au, A. (2010). Adoption of Web 2.0 by tourism business in South Wales. Available at: https://www.en.sydney.com/Sites/SiteID6/.../Adoption-of-Web%202_Jan.pdf [Accessed: 12 November 2019].
- Ayeh, J.K., Leung, D., Au, N. & Law, R. (2012), January. Perceptions and strategies of hospitality and tourism practitioners on social media: An exploratory study. *Information and Communication Technologies in Tourism*, 1-12.
- Baarda, B. (2010). This is It!: Guidelines for Setting Up, Doing and Evaluating Quantitative and Qualitative Research. Noordhoff Uitgevers/Routledge: Abingdon.
- Banerjee, A., Bandyopadhyay, T. & Acharya, P. (2013). Data analytics: Hyped up aspirations or true potential? *Vikalpa*, 38(4), 1-12.
- Bankseta's The Account Magazine. (2016). The fourth industrial revolution: Why training matters. Available at: <https://www.compuscanacademy.co.za/fourth-industrial-revolution-training-matters/> [Date Accessed: 22 February 2018].
- Barassi, V. & Trere, E. (2012). Does Web 3.0 come after Web 2.0? Deconstructing theoretical assumptions through practice. *New media & society*, 14(8), 1269-1285.
- Barnhart, B. (2018). How to Mine Your Social Media Data for a Better ROI. Available at: <https://sproutsocial.com/insights/social-media-data/> [Accessed: 25 October 2019].
- Barone, A. (2019). Marketing Strategy. Available at: <https://www.investopedia.com/terms/m/marketing-strategy.asp> [Accessed: 18 August 2019].
- Bauer, R. (2017). Transparency in Cloud Storage Costs. Available at: <https://www.backblaze.com/blog/transparency-in-cloud-storage-costs/> [Accessed: 4 April, 2019].
- Bell, J. (2010). Doing your research project: A guide for first-time researchers in education, health and social science, (5th edn). McGraw-Hill Open University Press: Maidenhead
- Benjelloun, F.Z. & Lahcen, A.A. (2019). Big data security: Challenges, recommendations and solutions. In *Web Services: Concepts, Methodologies, Tools, and Applications*. *IGI Global*, 301-313.

- Berman, J.J. (2013). Principles of big data: preparing, sharing, and analysing complex information. Newnes.
- Berthon, P.R., Pitt, L.F., Plangger, K. & Shapiro, D. (2012). Marketing meets Web 2.0, social media, and creative consumers: Implications for international marketing strategy. *Business horizons*, 55(3), 261-271.
- Blythe, J. & Martin, J. (2019). Essentials of marketing, (3rd edn). Pearson: UK
- Boeije, H. (2012). Analysing in Qualitative Research, Thinking and Doing (Analyseren in kwalitatief onderzoek, denken en doen). The Hague: Boom, Lemna.
- Bosworth, P. (2018). Hotels are right to be obsessed with direct bookings. Available at: <https://www.phocuswire.com/Hotels-obsession-direct-bookings> [Accessed: 16 August 2019].
- Brendon, C. (2017). How Artificial Intelligence is Revolutionizing Hospitality. Available at: <http://www.hospitalityupgrade.com/techTalk/September-2017/How-Artificial-Intelligence-is-Revolutionizing-Hos> [Date Accessed: 5 March 2018].
- Brown, J. (2019). How Social Media Can Destroy Your Business. Available at: <https://www.brightlocal.com/blog/social-media-can-destroy-your-business/> [Accessed: 20 July 2019].
- Bryman, A. & Bell, E. (2007) Business Research Methods, (2nd edn). Oxford University Press: London.
- Buhalis, D. (2003). eTourism: *Information technology for strategic tourism management*. Prentice Hall: Harlow.
- Business Dictionary. (2019). Consumer Trends. Available at: <http://www.businessdictionary.com/definition/consumer-trends.html> [Accessed: 15 August 2019].
- Cantoni, L. Kalbaska, N. and Inversini, A. (2009). eLearning in tourism and hospitality. *Journal of Hospitality, Leisure, Sport and Tourism Education*, 8(2), 148-156.

- Chakrabarti, B. (2017). Digital Marketing and Its 13 Benefits to Drive Your Business Growth [Infographic]. Available at: <https://mytasker.com/blog/benefits-of-digital-marketing/> [Accessed: 18 August 2019].
- Chen, C.P. & Zhang, C.Y. (2014). Data-intensive applications, challenges, techniques and technologies: A survey on Big Data. *Information Sciences*, 275, 314-347.
- Chong, N.Y. (2019). Cloud Computing Challenges in a General Perspective. *Journal of computing and management studies*, 1(3), 1-15.
- Chun Tie, Y. Birks, M. and Francis, K. (2019). Grounded theory research: A design framework for novice researchers. *SAGE open medicine*, 7, 1-8.
- Comcast. (2017). Big data, happy guests: Using analytics to enhance hotel operations. Available at: <https://hospitalitytech.com/big-data-happy-guests-using-analytics-enhance-hotel-operations-0> [Accessed: 10 April 2019].
- Constantinides, E. & Fountain, S.J. (2008). Web 2.0: Conceptual foundations and marketing issues. *Journal of direct, data and digital marketing practice*, 9(3), 231-244.
- Cook, T. & Campbell, D.T. (1979). Quasi-experimentation: Design and analysis for field setting. Illinois: Rand McNally.
- Cooldata. (2014). The True Cost of Building a Big Data Solution. Available at: <https://www.cooladata.com/blog/true-cost> [Accessed: 4 April 2019].
- Cooper, D. R. & Schindler, P. S. (2003). Business Research Methods. New York: McGraw-Hill/Irwan.
- Costa, D. (2016). Lesara: Big Data Is the Hot New Trend in Fashion. Available at: <https://tech.co/lesara-big-data-fashion-startup-2016-04> Accessed: 4 April 2019.
- Cox, M. & Ellsworth, D. (1997). Managing Big Data For Scientific Visualization, ACM Siggraph, MRJ/NASA Ames Research Center.
- Cukier, K.N. & Schoenberger, V.N. (2013). The Rise of Big Data How It's Changing the Way We Think About the World. Available at: <https://www.jstor.org/stable/23526834> [Date Accessed: 5 July 2018].

- D' Onfro, J. (2019). DataRobot Becomes A Unicorn By Selling AI Toolkits To Harried Data Scientists. Available at: <https://www.forbes.com/sites/jilliandonfro/2019/09/17/machine-learning-startup-datarobot-raises-206-million/#1282e80a3e65> [Accessed: 17 September 2019].
- Dave, N. (2018). 4 Major Ways in Which Big Data is Impacting Social Media Marketing. Available at: <https://insidebigdata.com/2018/10/06/4-major-ways-big-data-impacting-social-media-marketing/> [Accessed: 15 August, 2019].
- Davis, N. (2016). WEF: Understanding the fourth industrial. Available at: <http://ewn.co.za/2016/01/14/understanding-the-Fourth-Industrial-Revolution> [Accessed: 5 March 2018].
- Dean, J. & Ghemawat, S. (2010). MapReduce: a flexible data processing tool. *Communications of the ACM*, 53(1), 72-77.
- Demchenko, Y., Ngo, C., de Laat, C., Membrey, P. & Gordijenko, D. (2013). Big security for big data: Addressing security challenges for the big data infrastructure. *In Workshop on Secure Data Management*, 76-94.
- De Valle, G. (2019). The Marriott hack exposed the passport numbers of more than 5 million people: The hack exposed guest information dating back to 2014. Available at: <https://www.vox.com/the-goods/2018/11/30/18119770/marriott-hotels-starwood-hack> [Accessed: 6 June 2019].
- Doody, O. & Noonan, M. (2013). Preparing and conducting interviews to collect data. *Nurse researcher*, 20(5), 28-32.
- Dragosavac, G. (2017). Big data analytics in hotel industry. Available at: <http://www.bigdatanalysis.com/big-data-analytics-in-hotel-industry/> [Accessed: 10 April 2019].
- Drury, G. (2008). Opinion piece: Social media: Should marketers engage and how can it be done effectively? *Journal of Direct, Data and Digital Marketing Practice*, 9(3), 274-277.
- du Pleez, J. (2019). The 4th industrial revolution in Africa: The next great frontier. Available at: <https://www.inonafrica.com/2019/06/24/the-4th-industrial-revolution-in-africa-the-next-great-frontier/> [Accessed: 10 November 2019].

- Effoduh, J. (2016). The Fourth Industrial Revolution by Klaus Schwab. *The Transnational Human Rights Review*. 1(3), 76-84.
- Fan, S., Lau, R.Y. & Zhao, J.L. (2015). Demystifying big data analytics for business intelligence through the lens of marketing mix. *Big Data Research*, 2(1), 1-17.
- Elgendy, N. & Elragal, A. (2014). Big Data Analytics: A Literature Review Paper. *Department of Business Informatics & Operations*, 214-227.
- Explorable. (2009). Quota sampling. Available at: <https://explorable.com/quota-sampling> [Accessed: 10 June 2019].
- Force, J. (2016). What is Social Media Overuse? Available at: <https://sysomos.com/2016/04/06/what-is-social-media-overuse/> [Accessed: 15 August 2019].
- Fox, S. & Do, T. (2013). Getting real about Big Data: applying critical realism to analyse Big Data hype. *International Journal of Managing Projects in Business*. 6(4), 739-760.
- Gaitho, M. (2018). How Applications of Big Data Drive Industries. Available at: <https://www.simplilearn.com/big-data-applications-in-industries-article> [Accessed: 1 April 2019].
- Georgakopoulos, D., Zaslavsky, A. & Perera, C. (2012). Sensing as a service and big data. In Proceedings of the International Conference on Advances in Cloud Computing (ACC'12).
- George, G., Haas, M.R. & Pentland, A. (2014). Big data and management: from the editors. *Academy of Management Journal*. 57, (2), 321-326.
- Gibbons, S. (2017). The 5 Characteristics of Social Media Websites That Go Viral. Available at: <https://www.entrepreneur.com/article/299903> [Accessed: 14 August 2019].
- Glushkova, D., Jovanovic, P. & Abelló, A. (2019). MapReduce performance model for Hadoop 2. x. *Information Systems*, 79, 32-43.
- Goeldner, C. R. & Ritchie, J. R. B. (2009). Tourism: Principle, Practices, Philosophies (11th addition). Hoboken, New Jersey: *John Wiley & Sons Inc.*

- Goldberg, J. (2018). THE DEMOGRAPHICS OF SOCIAL MEDIA. Available at: <https://blog.sellerschoice.digital/demographics-of-social-media> [Accessed: 12 July 2019].
- Gray, R. (2017). Could the fourth industrial revolution combat inequality? Available at: https://horizon-magazine.eu/article/could-fourth-industrial-revolution-combat-inequality_en.html [Date Accessed: 5 March 2018].
- Guba, E.G. & Lincoln, Y.S. (2005). Paradigmatic controversies, contradictions, and emerging influences. Thousand Oaks, CA: SAGE.
- Hagen, C., Khan, K., Ciobo, M., Miller, J., Wall, D., Evans, H. & Yadav, A. (2013). Big Data and the Creative Destruction of Today's Business Models. *AT Kearney*, 1-18.
- Hainla, C. (2018). 21 Social Media Marketing Statistics You Need to Know in 2019. Available at: <https://www.dreamgrow.com/21-social-media-marketing-statistics/> [Accessed: 20 July 2019].
- Hashem, I.A.T., Yaqoob, I., Anuar, N.B., Mokhtar, S., Gani, A. & Khan, S.U. (2015). The rise of "big data" on cloud computing: Review and open research issues. *Information Systems*, 47, 98-115.
- Hattingh, S. (2016). Skills planning for the disruptive Fourth Industrial Revolution. Available at: <http://www.usb-ed.com/WatchReadListen/Pages/Skills-planning-for-the-disruptive-Fourth-Industrial-Revolution.aspx> [Accessed: 22 February 2018].
- Hatzakis, E.D. (2016). The Fourth Industrial Revolution. Available at: https://www.researchgate.net/publication/317083578_The_Fourth_Industrial_Revolution?enrichId=rgreq-e51ffc53452770aae96ab1322f37ea9c-XXX&enrichSource=Y292ZXJQYWdlOzMxNzA4MzU3ODtBUzo0OTcyNzI1OTg5Mjk0MDhAMTQ5NTU3MDQzNDZMQ%3D%3D&el=1_x_2&esc=publicationCoverPdf [Accessed: 14 June 2018].
- He, Y., Lee, R., Huai, Y., Shao, Z., Jain, N., Zhang, X. and Xu, Z., (2011). A fast and space-efficient data placement structure in MapReduce-based warehouse systems. In 2011 IEEE 27th International Conference on Data Engineering.
- Hsieh, H. & Shannon, S. (2005). Three approach to qualitative content analysis. *Qualitative Health Science*. 15(9):1277-1288.

- Huberman, M. A. (1994). *Qualitative Data Analysis*. New Delhi: Sage.
- Hurwitz, J., Nugent, A., Halper, F. & Kaufman, M. (2013). Data environment. Available at: <https://www.dummies.com/programming/big-data/engineering/unstructured-data-in-a-big-data-environment/> [Accessed: 3 April 2019].
- IBM. (2013). Data-driven healthcare organizations use big data analytics for big gains. Available at: <https://www.ibmbigdatahub.com/whitepaper/data-driven-healthcare-organizations-use-big-data-analytics-big-gains> [Accessed: 4 April 2019].
- IBM. (2015). The 4 V's of Big Data. Available at: <http://www.ibmbigdatahub.com/infographic/four-vs-big-data> [Accessed: 11 June 2018].
- Inversini, A. & Masiero, L. (2014). Selling rooms online: the use of social media and online travel agents. *International Journal of Contemporary Hospitality Management*, 26(2), 272-292.
- Isibindi Africa Lodges. (2015). 7 THINGS TO LOOK FOR WHEN CHOOSING A GAME LODGE. Available at: <https://www.isibindi.co.za/blog/7-things-to-look-for-when-choosing-a-game-lodge/> [Accessed: 15 August 2019].
- Ivanov, I. (2018). What is big data analytics on social media? Available at: <https://locowise.com/blog/what-is-big-data-analytics-on-social-medias> [Accessed: 11 April 2019].
- Johnson, J. (2018). How hotel brands can use big data to connect with a wider range of travellers. Available at: <https://www.adweek.com/brand-marketing/how-hotel-brands-can-use-big-data-to-connect-with-a-wider-range-of-travelers/> [Accessed: 10 April 2019].
- Jumpstart: HR. (2019). Social Media Training is Essential for Employees. Available at: <https://jumpstart-hr.com/social-media-training-is-essential-for-employees/> [Accessed: 23 July 2019].
- Kahle, K. (2018). Big data and social media. Available at: <https://home.cern/about/updates/2018/06/big-data-and-social-media> [Accessed: 1 October 2019].

- Kaisler, S. Armour, F., Espinosa, J.A. & Money, W. (2013). Big data: Issues and challenges moving forward. *In 2013 46th Hawaii International Conference on System Sciences*, 1, 995-1004.
- Kapoor, V. (2018). Best Hotel Guest Experience: How to enhance your guest experience at arrivals. Available at: <https://www.ezeeabsolute.com/blog/enhance-hotel-guest-experience/> [Accessed: 10 April 2019].
- Katal, A. Wazid, M. & Goudar, R.H. (2013). Big data: issues, challenges, tools and good practices. *In 2013 Sixth international conference on contemporary computing (IC3)*, 404-409.
- Kearney, A.T. (2013). Big Data and the Creative Destruction of Today's Business Models. Available at: http://www.atkearney.com/strategic-it/ideas-insights/article/-/asset_publisher/LCcgOeS4t85g/content/big-data-and-the-creative-destruction-of-today-s-business-models/10192 [Accessed: 2 April 2019].
- Khoros. (2018). The 2018 Social Performance Guide. Available at: <https://khoros.com/resources/social-media-demographics-guide> [Accessed: 12 July 2019].
- Koetsier, J. (2013). Hootsuite adds hard-core social analytics via Brandwatch, announces new milestone. Available at: <https://venturebeat.com/2013/10/23/hootsuite-adds-hard-core-social-analytics-via-brandwatch-announces-new-milestone/> [Accessed: 14 September 2019].
- Kothari, C. (2004). *Research Methodology*. New Delhi: New Age International (P) Ltd.
- Kumar, R. (2010). *Research Methodology: A Step By Step Guide for Beginners*, (2nd eds). Pearson Education: New Delhi.
- Kumari, S. (2016). Impact of big data and social media on society. *Global Journal for Research Analysis*, 5, 437-438.
- Lange-Faria, W. & Elliot, S. (2012). Understanding the role of social media in destination marketing. *An International Multidisciplinary Journal of Tourism*, 7(1), 193-211.

- Lanz, L., Fischhof, B. & Lee, R. (2010). How are hotels embracing social media in 2010. Examples of how to start engaging. *New York: HVS Sales and Marketing Services*, 1, 1-28.
- Lassila, O. and Hendler, J. (2007). Embracing" Web 3.0". *IEEE Internet Computing*, 11(3), 90-93.
- Lazer, D., Kennedy, R., King, G. & Vespignani, A. (2014). The parable of Google Flu: traps in big data analysis. *Science*, 343(6176), 1203-1205.
- Lee, J. H. & Park, S. C. (2005). Intelligent Profitable Customers Segmentation System Based on Business Intelligence Tools. *Expert System Application*, 29 (1), 145–152.
- Lee, K. (2016). The Biggest Social Media Science Study: What 4.8 Million Tweets Say About The Best Time To Tweet. Available at: <https://blog.bufferapp.com/best-time-to-tweet-research> [Accessed: 14 September 2019].
- Leedy, P.D. & Ormrod, J.E. (2013). *Practical Research Planning and Design*, (10th edn). Pearson: Boston
- Leung, D., Law, R., Van Hoof, H. & Buhalis, D. (2013). Social media in tourism and hospitality: A literature review. *Journal of travel & tourism marketing*, 30(1-2), 3-22.
- Liu, H. (2013). Big data drives cloud adoption in enterprise. *IEEE internet computing*, 17(4), 68-71.
- Llowellyn, G. (2019). Social commerce trends in 2019. Available at: <https://www.smartinsights.com/ecommerce/social-commerce-trends-2019/> [Accessed: 20 July 2019].
- Lohr, S. (2012). The age of big data. *New York Times*, 12 Feb. Available at: <https://www.nytimes.com/2012/02/12/sunday-review/big-datas-impact-in-the-world.html> [Accessed: 20 June 2019].
- Lovelace, R., Birkin, M., Cross, P. and Clarke, M. (2016). From big noise to big data: Toward the verification of large data sets for understanding regional retail flows. *Geographical Analysis*, 48(1), 59-81.

- Loxleyhotels. (2019). Who's Winning the Direct Booking Wars Between Hotels and OTAs? Available at: <https://loxleyhotels.com/index.php/2019/03/15/direct-booking-hotels-and-otas/> [Accessed: 20 July 2019].
- Mabaso, C. (2017). Food Waste Management within a Hotel Group in Gauteng. (*Masters in Tourism and Hospitality Management*), University of Johannesburg.
- Maheshwari, A. (2014). Data analytics made accessible. Seattle: Amazon Digital Services.
- Mahlangu, P. (2017). Use of social media big data by South African retailers to support marketing decisions. (*MCom in Business management*), University of Johannesburg.
- Marr, B. (2015). Spark Or Hadoop: Which Is The Best Big Data Framework? Available at: <https://www.datasciencecentral.com/profiles/blogs/spark-or-hadoop-which-is-the-best-big-data-framework> [Accessed: 14 April 2019].
- Marr, B. (2016). 17 Predictions About The Future Of Big Data Everyone Should Read. Available at: <https://www.forbes.com/sites/bernardmarr/2016/03/15/17-predictions-about-the-future-of-big-data-everyone-should-read/#7fd91fce1a32> [Accessed: 4 April 2019].
- Marr, B. (2017). What is Hadoop - An Easy Explanation For Absolutely Anyone. Available at: <https://www.datasciencecentral.com/profiles/blogs/what-is-hadoop-an-easy-explanation-for-absolutely-anyone> [Accessed: 14 April 2019].
- Marston, S., Li, Z., Bandyopadhyay, S., Zhang, J. and Ghalsasi, A. (2011) Cloud computing - The business perspective. *Business Support Systems*, 51(1), 176–189.
- Martins, F. (2013). Important Than Advertising (Infographic). Available at: <https://www.business2community.com/customer-experience/customer-experience-important-advertising-infographic-0726258> [Accessed: 18 August 2019].
- Matikiti, R., Kruger, M. and Saayman, M. (2016). The usage of social media as a marketing tool in two Southern African countries. *Development Southern Africa*, 33(5), 740-755.
- McAfee, A., Brynjolfsson, E., Davenport, T.H., Patil, D.J. & Barton, D. (2012). Big data: the management revolution. *Harvard business review*, 90(10), 60-68.

- McCarthy, L., Stock, D. & Verma, D. R. (2010). How travellers use online and social media channels to make hotel-choice decisions. *Cornell Hospitality Report*, 10(18), 6-18.
- McCourt, A. (2018). Social Media mining: The effects of big data in the age of social media. Available at: <https://law.yale.edu/mfia/case-disclosed/social-media-mining-effects-big-data-age-social-media> [Accessed: 11 April 2019].
- Meintjes, C., Niemann-Struweg, I. and Petzer, D. (2011). Evaluating web marketing of luxury lodges in South Africa. *African Journal of Marketing Management*, 3(9), .233-240.
- Mell, P. & Grance, T. (2011). The NIST definition of cloud computing. National Institute of Standards and Technology: USA
- Milano, R., Baggio, R. & Piattelli, R. (2011). The effects of online social media on tourism websites. 471-483.
- Mohanty, H. (2015). Big Data: An Introduction. Studies. *In Big Data*, 11, 1-28.
- MSG. (2019). Competition Strategy - Dealing with the Competition. Available at: <https://www.managementstudyguide.com/competition-strategy.htm> [Accessed: 15 August 2019].
- Nation, D. (2018). Is Web 3.0 really a thing? Available at: <https://www.lifewire.com/what-is-web-3-0-3486623> [Accessed: 2 April 2019].
- Neti, S. (2011). Social media and its role in marketing. *International Journal of Enterprise Computing and Business Systems*. 1(2), 1-15.
- Ntefang, M. (2016). Exploring the effect of promotional campaigns on social media (Doctorial dissertation). Stellenbosch, Stellenbosch University.
- O'Reilly, T. (2005). What is Web 2.0? Available at: <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web20.html> [Accessed: 15 June 2018].
- Oesch, T. (2017). Developing an IT Workforce for the 4th Industrial Revolution: New Collar Jobs and Alternative Education. Available at: <https://www.trainingindustry.com/articles/it-and-technical-training/developing-an-it->

[workforce-for-the-4th-industrial-revolution-new-collar-jobs-and-alternative-education/](#)

[Accessed: 22 February 2018].

Oracle Hospitality. (2017). Restaurant 2025 emerging technologies destined to reshape our business. Oracle (online). Available at:

https://www.oracle.com/webfolder/s/delivery_production/docs/FY16h1/doc36/Restaurant-2025-Oracle-Hospitality.pdf [Accessed: 22 February 2018].

Patel, D. (2018). 7 Creative Ways to Boost Your Social Media Strategy. Available at:

<https://www.entrepreneur.com/article/311384> [Accessed: 25 October 2019].

Payi, B. (2019). Data costs still too high in South Africa. Available at:

<https://www.iol.co.za/weekend-argus/news/data-costs-still-too-high-in-south-africa-19606374> [Accessed: 20 June 2019].

Pedharzur, E.J. & Schulkin, L.P. (1991). Measurement, design and analysis. London: Earthscan.

Perrons, R.K. & Jensen, J.W. (2015). Data as an asset: What the oil and gas sector can learn from other industries about “Big Data”. *Energy Policy*, 81, 17-121.

Porecca, S. (2017). The Industrial Revolution: Hotel Transformation. The Impact of Artificial Intelligence Use in the Hospitality Industry. Available at: <https://blog.marketeer.co/wp-content/uploads/2017/06/HotelIndustryeBook.pdf> [Accessed: 21 February 2018].

Price, B. (1989). The thorny path of Nursing Research. *Nursing Times*. 85 (23), 62-63.

Prieto, M. (2018). How to Grow Hotel Direct Bookings. Available at:

<https://medium.com/traveltechmedia/how-to-grow-hotel-direct-bookings-403414842469> [Accessed: 20 August 2019].

Pritsker, K. (2016). Why it's wrong to fear the Fourth Industrial Revolution. Available at:

<https://www.weforum.org/agenda/2016/01/the-benevolent-unemployment-crisis/> [Accessed: 14 June 2018].

PR Newswire. (2016a). Talkwalker teams with Tableau. A New Way to Generate Business

Insights from Social Media. Available at: <https://www.prnewswire.com/news-releases/talkwalker-teams-with-tableau-a-new-way-to-generate-business-insights-from-social-media-300202757> [Accessed: 14 September 2019].

- Property24. (2015). SA hotels must embrace technology to stay ahead. Available at: <https://www.property24.com/articles/sa-hotels-must-embrace-technology-to-stay-ahead/21955> [Accessed: 2 September 2019].
- PWC. (2019). Hotels outlook: 2019-2023 Future resilience. Available at: <https://www.pwc.co.za/en/publications/hospitality-outlook.html> [Accessed: 27 June 2019].
- Q4Launch. (2019). How to market a lodge: strategies you need to know. Available at: <https://q4launch.com/lodge-marketing/> [Accessed: 1 July 2019].
- Quach, J. (2017). Social Media Marketing in the Hotel Industry: Trends and Opportunities in 2017. Available at: <https://www.hospitalitynet.org/opinion/4083877.html> [Accessed: 16 August 2019].
- Quinlan, C. (2011). Business research methods. Andover: Cengage Learning.
- Rae, S. (2018). Big data skills shortages – and how to work around them. Available at: <https://www.computerweekly.com/opinion/Big-data-skills-shortages-and-how-to-work-around-them> [Accessed: 19 August 2019].
- Raghupathi, W. & Raghupathi, V. (2014). Big data analytics in healthcare: promise and potential. *Health information science and systems*, 2(1), 1-10.
- Ramey, K. (2013). 5 ways social media can damage your business reputation. Available at: <https://www.useoftechnology.com/damage-business-reputation/> [Accessed: 20 July 2019].
- Ravindra, S. (2017). How big data is transforming hospitality. Available at: <https://hospitalitytech.com/how-big-data-transforming-hospitality> [Accessed: 10 April 2019].
- Ray, M. (2016). 6 Important Reasons why you Should Use Social Media Analytics. Available at: <https://iag.me/socialmedia/6-important-reasons-why-you-should-use-social-media-analytics/> [Accessed: 25 October 2019].
- Reyfine. (2017). How to use Artificial Intelligence in the Hospitality Industry. Available at: <https://www.revfine.com/artificial-intelligence-hospitality-industry/> [Accessed: 20 February 2018].

- Roches, L. (2018). How hotels can make the most of modern consumer trends. Available at: <https://www.lesroches.edu/blog/how-hotels-can-make-the-most-of-modern-consumer-trends/> [Accessed: 20 July 2019].
- Rowena, S. (2018). Impact of data and analytics on social media in 2018. Available at: <https://towardsdatascience.com/impact-of-data-and-analytics-on-social-media-in-2018-595a3bd4fb60> [Accessed: 15 April 2019].
- Royle, J. & Laing, A. (2014). The digital marketing skills gap: Developing a Digital Marketer Model for the communication industries. *International Journal of Information Management*, 34(2), 65-73.
- Russom, P. (2011). Big data analytics. *TDWI best practices report, fourth quarter*, 19(4), 1-34.
- Ryte. (2019). Tracking Pixel. Available at: https://en.ryte.com/wiki/Tracking_Pixel [Accessed: 15 August 2019].
- Sahatiya, P. (2018). Big data analytics on social media data: a literature review. *International Research Journal of Engineering and Technology*, 5(2), 189-192.
- Saige. (2019). When Should You Outsource Your Business's Social Media? Available at: <https://www.businessnewsdaily.com/11086-outsourcing-social-media-tips.html> [Accessed: 28 June 2019].
- Saravanakumar, M. & SuganthaLakshmi, T. (2012). Social Media Marketing. *Life Science Journal*. 9(4), 4444-4451.
- SAS (n.d.) Big Data, Big Marketing. Available at: https://www.sas.com/en_us/insights/bigdata/big-data-marketing.html. [Accessed: 12 April 2019].
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Harlow, England: Prentice Hall.
- Schwab, K. (2016). The Fourth Industrial Revolution: what it means and how to respond. Available at: <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/> [Accessed: 25 February 2018].

- Segal, S. (2018). The What, Why, and How of Social Media Data. Available at: <https://www.oktopost.com/blog/social-media-data/> [Accessed: 25 October 2019].
- Shank, P. (2016). The Fourth Industrial Revolution: What Happens With Employment? Available at: <https://www.td.org/insights/the-fourth-industrial-revolution-what-happens-with-employment> [Accessed: 25 February 2018].
- Shereni, N.C. and Chambwe, M., (2019). Hospitality Big Data Analytics in Developing Countries. *Journal of Quality Assurance in Hospitality & Tourism*, 1-9.
- Sigala, M. (2011). eCRM 2.0 applications and trends: The use and perceptions of Greek tourism firms of social networks and intelligence. *Computers in Human Behavior*, 27(2), 655-661).
- Simmons, G. (2008). Marketing to postmodern consumers: introducing the internet chameleon. *European Journal of Marketing*, 42(3/4), 299-310.
- Siteminder. (2019). The complete guide to hotel marketing in 2019. Available at: <https://www.siteminder.com/r/hotel-marketing-this-year/> [Accessed: 21 June 2019].
- Sivarajah, U., Kamal, M.M., Irani, Z. & Weerakkody, V. (2017). Critical analysis of Big Data challenges and analytical methods. *Journal of Business Research*, 70, 263-286.
- Siyabona South Africa. (2019). South Africa Hotel Accommodation Guide. Available at: <http://www.siyabona.com/siyabona-hotels-resource.html> [Accessed: 21 June 2019].
- Skute, I. (2014). Brand Equity and Co-Creation Potential in the Social Media Environment. An Analysis of Brand Engagement with Community Influencers. (Unpublished Bachelors research essay). University of Twente, Enscheda.
- Smith, C. (2018). Now is right time for hospitality industry in Africa to manage its growth – expert. Available at: <https://www.fin24.com/Companies/TravelAndLeisure/now-is-right-time-for-hospitality-industry-in-africa-to-manage-its-growth-expert-20180905> [Accessed: 10 November 2019].
- Smith, J. (2008). Methods for Digital Marketing. Available at: <https://books.google.co.za/books?id=MTdCDwAAQBAJ&pg=PA2&lpg=PA2&dq=a+su+b+branch+of+traditional+Marketing+and+uses+modern+digital+channels+for+the+placement+of+products+e.g.+downloadable+music,+and+primarily+for+communicating+wi>

[th+stakeholders&source=bl&ots=YfZzPDL7li&sig=R-COK8WEbVHKQD8bvFzU7tV3Gp8&hl=en&sa=X&ved=2ahUKEwjdoqui5b7cAhUFbcAKHRrADgUQ6AEwAHoECAAQAQ#v=onepage&q=a%20sub%20branch%20of%20traditional%20Marketing%20and%20uses%20modern%20digital%20channels%20for%20the%20placement%20of%20products%20e.g.%20downloadable%20music%2C%20and%20primarily%20for%20communicating%20with%20stakeholders&f=false](https://www.linkedin.com/pulse/th+stakeholders&source=bl&ots=YfZzPDL7li&sig=R-COK8WEbVHKQD8bvFzU7tV3Gp8&hl=en&sa=X&ved=2ahUKEwjdoqui5b7cAhUFbcAKHRrADgUQ6AEwAHoECAAQAQ#v=onepage&q=a%20sub%20branch%20of%20traditional%20Marketing%20and%20uses%20modern%20digital%20channels%20for%20the%20placement%20of%20products%20e.g.%20downloadable%20music%2C%20and%20primarily%20for%20communicating%20with%20stakeholders&f=false)

[Accessed: 10 June 2018].

Spillar, M. (2018). Hilton – becoming more data centric or a better customer experience. Available at: <https://hortonworks.com/blog/hilton-becoming-data-centric-better-customer-experience/> [Accessed: 10 April 2019].

Standberry, S. (2018). Digital Marketing vs Traditional Marketing: Which Produces Better ROI? Available at: <https://www.lyfemarketing.com/blog/digital-marketing-vs-traditional-marketing/> [Accessed: 18 August 2019].

Stavrakantonakis, I., Gagiou, A.E., Kasper, H., Toma, I. & Thalhammer, A. (2012). An approach for evaluation of social media monitoring tools. *Common Value Management*, 52(1), 52-64.

Sterkenberg, Z. (2017). Hotel Trends Transforming the Guest Experience: Part 1. Available at: <https://www.ambius.com/blog/hotel-trends-transforming-the-guest-experience-part-1-macro-trends/> [Accessed: 20 July 2019].

Talkwalker. (2017). Talkwalker secures euro 5M funding from Main Mezzanine Capital [Press release]. Luxembourg.

Targetjobs. (2018). Marketing executive: job description. Available at: <https://targetjobs.co.uk/careers-advice/job-descriptions/276073-marketing-executive-job-description> [Accessed: 25 July 2019].

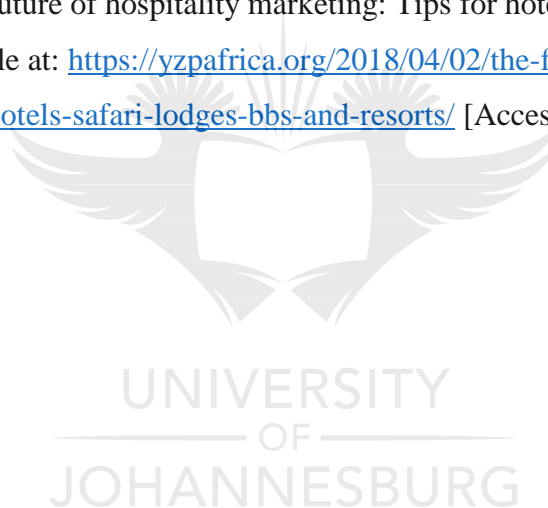
Taylor, C. (2017). Big Data Security. Available at: <https://www.datamation.com/big-data/bigdata-security.html>. [Accessed: 2 April 2019].

Techco. (2019). 4 Reasons Why Facebook Has Lost Young People Forever. Available at: <https://tech.co/news/facebook-lost-young-people-forever-2018-06> [Accessed: 10 August, 2019].

- Tesfaye, B. (2017). What is the influence or Big Data and Analytics on Management Control System. (*Masters in Economics*), Radboud University.
- Thakur, D. (2017). 10 Good Reasons Why You Should Use Google Analytics. Available at: <https://medium.com/@dineshem/10-good-reasons-why-you-should-use-google-analytics-699f10193834> [Accessed: 20 June 2019].
- Thornton, G. (2015). SA hotels must embrace technology to stay ahead. Available at: <https://www.property24.com/articles/sa-hotels-must-embrace-technology-to-stay-ahead/21955> [Accessed: 10 April 2019].
- Tirosh, G. (2017). How the Hilton, Hyatt and Marriott Can Leverage Data to Compete with Airbnb. Available at: <https://www.sisense.com/blog/hilton-hyatt-marriott-can-leverage-data-compete-airbnb/> [Accessed: 10 April 2019].
- Tlhoale, B. (2019). Outsourcing social media management: What it means for your business. Available at: <https://brandjam.co.za/outsourcing-social-media-management-what-it-means-for-your-business/> [Accessed: 29 June 2019].
- Tourism Marketing. (2019). Guest house marketing and hotel advertising. Available at: <https://www.tourismmarketing.co.za/guest-house-hotel-tourism-marketing-advertising/> [Accessed: 1 July 2019].
- Tozzi, C. (2018). The Hidden Costs of Big Data. Available at: <https://blog.syncsort.com/2018/08/big-data/the-hidden-costs-of-big-data/> [Accessed: 5 March 2020].
- Treece, E.W. and Treece Jr, J.W. (1977). Elements of research in nursing. *Nursing*2019, 7(6), 12-13.
- Tshabalala, S. (2017). South Africa in the Fourth Industrial Revolution – a new opportunity to create more jobs and a better society. Available at: https://www.dailymaverick.co.za/opinionista/2017-10-06-south-africa-in-the-fourth-industrial-revolution-a-new-opportunity-to-create-more-jobs-and-a-better-society/#.Wnl_Da6WbIU [Accessed: 5 March 2018].

- Turnbull, D. (2016). The Argument for Small Data: How Hotels Can Use Their Data Today. Available at: <https://blog.snapshot.travel/the-argument-for-small-data-how-hotels-can-use-their-data-today-demand-management> [Accessed: 5 March 2020].
- Turri, A.M., Smith, K.H. & Kemp, E. (2013). Developing affective brand commitment through social media. *Journal of Electronic Commerce Research*, 14(3), 201-2013.
- Tykheev, D. (2018). Big Data in marketing. Saimaa University of Applied Sciences. *Thesis in International Business*, 1-57.
- University of Auckland. (2006). About Thematic Analysis. Available at: <https://www.psych.auckland.ac.nz/en/about/our-research/research-groups/thematic-analysis/about-thematic-analysis.html> [Accessed: 15 July 2018].
- Vermeren, I. (2015). Marketing: How to provide great customer service via social media. Available at: <https://www.brandwatch.com/blog/marketing-provide-great-customer-service-via-social/> [Accessed: 14 September 2019].
- Vijayan, K. (2015). Solving the Unstructured Data Challenge. Available at: <https://www.cio.com/article/2941015/big-data/solving-the-unstructured-data-challenge.html> [Accessed: 12 June 2018].
- Waite, C. (2017). How Hilton's Shift to Data Obsession Has Led to Big Wins. Available at: <https://www.ana.net/blogs/show/id/mm-blog-2017-08-hilton-data-wins> [Accessed: 10 April 2019].
- Ward, J.S. & Barker, A. (2013). Undefined by data: a survey of big data definitions. *School of Computer Science*, 1-2.
- Webrezpro. (2017). 7 smart social media practices for hotels. Available at: <https://www.webrezpro.com/7-smart-social-media-practices-hotels-2017/> [Accessed: 5 March 2020].
- Whitwick, A. (2016). Social media analysis suggests Wales wants to leave the EU. Available at: <https://www.walesonline.co.uk/news/wale-news/social-media-analysis-suggests-wales-11408443> [Accessed: 14 September 2019].
- William, M.K. (2006). Qualitative Validity. Available at: <https://www.socialresearchmethods.net/kb/qualval.php> [Accessed: 15 July 2018].

- Wood, J. (2019). The pros and cons of outsourcing your social media management. Available at: <https://www.ignitemedia.co.za/pros-cons-outsourcing-social-media-management/> [Accessed: 28 June 2019].
- Xiang, Z., Du, Q., Ma, Y. & Fan, W. (2018). Assessing reliability of social media data: lessons from mining TripAdvisor hotel reviews. *Information Technology & Tourism*, 18 (1-4), 43-59.
- Yin, S. and Kaynak, O. (2015). Big data for modern industry: challenges and trends [point of view]. *Proceedings of the IEEE*, 103(2), 143-146.
- Zimmermann, J. & Sahlin, D. (2015). *Social media marketing all-in-one for dummies*. New York: J. Wiley & Sons.
- Zucchi, Y. (2018). The future of hospitality marketing: Tips for hotels, safari lodges, B&Bs and resorts. Available at: <https://yzpafrika.org/2018/04/02/the-future-of-hospitality-marketing-tips-for-hotels-safari-lodges-bbs-and-resorts/> [Accessed: 1 July 2019].



APPENDICES

APPENDIX A: Request to conduct interviews



SCHOOL OF TOURISM AND HOSPITALITY (STH)

REQUEST TO COMPLETE RESEARCH INTERVIEWS

Dear tourism practitioner,

Mr Sebastian Gutfreund is a registered student studying towards a Master's degree in Tourism and Hospitality Management at the University of Johannesburg. As part of the degree requirement, Mr Gutfreund is currently undertaking research on the use of social media big data within South African hotels and lodges under our supervision. This study is conducted with a view to providing recommendations, where necessary, regarding the understanding of social media and big data.

The purpose of the interviews is to explore how the hospitality industry deals with social media as well as the different types of data received from customers which can create both benefits and challenges for the marketing department and hospitality group as a whole. Your assistance in participating in the study through the form of interviews is highly valued. The participation will be treated as anonymous, and the data will be used for report writing only. Please feel free to opt out at any given stage of the interview, should you feel uncomfortable about answering the questions asked. Your identity and personal information will remain confidential at all times.

Should you wish to verify the authenticity of this project, please contact us using the email/phone numbers provided.

Thanks

Supervisor:

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APPENDIX B: Interview guide for marketing managers in hotels and lodges



COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF TOURISM AND HOSPITALITY (STH)

INTERVIEW GUIDE FOR MARKETING MANAGERS IN HOTELS AND LODGES

The results of this interview will form part of the data that are required for the researcher obtaining a Master's Degree at the STH, University of Johannesburg. The research is aimed at looking for the use of social media big data in South African hotels and lodges. You are kindly requested to participate in the study. The information that is provided within the interview will be strictly confidential, whereby your personal details will remain strictly protected. The data will be used for academic purposes only.

Semi-structured interview guide used for the one-on-one interviews in the study to understand the use of social media big data within the South African hotels and lodges.

Interview topic: The use of social media big data within South African hotels and lodges

Name of Interviewee:

Contact Details Provided:

Date/Time:

Category (Lodge/Hotel):

DEMOGRAPHICAL INFORMATION

This section of the interview refers to background or biographical information. Although we are aware of the sensitivity of the questions in this section, the information will allow us to compare groups of respondents. Once again, we assure you that your response will remain anonymous. Your co-operation is appreciated.

Gender

Male	1
Female	2

Age (in complete years)

20-29	1
30-39	2
40-49	3
50-59	4
60-69	5

Your highest educational qualification?

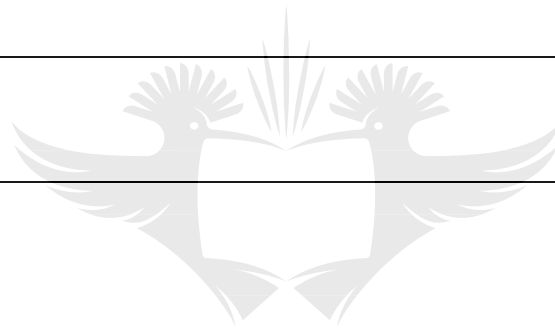
Grade 11 or lower (std 9 or lower)	1
Grade 12 (Matric, std 10)	2
Post-Matric Diploma or certificate	3
Baccalaureate Degree(s)	4
Post- Graduate Degree(s)	5

SECTION 1: BIOGRAPHICAL INFORMATION

1.1 What is your current position in the company?

1.2 What is your role in marketing?

1.3 How long have you held your current position in the company?



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SECTION 2: UNDERSTANDING OF SOCIAL MEDIA BIG DATA

2.1 What is your understanding of the term big data?

2.2 Do you believe there is a link between big data and social media? (YES/NO)
Please explain.



SECTION 3: SOCIAL MEDIA BIG DATA IN MARKETING

3.1 What type of social media platforms does the (hotel/lodge) use to attract customers?

3.2 What forms of information do you post on the various platforms?

3.3 What other method is the (hotel/lodge) use to analyse guest/customer queries?

- Questionnaires, emails, and surveys

3.4 What form of marketing strategy is used within the (hotel/lodge)?

3.5 Does social media big data assist the (lodge/hotel) to make changes in the marketing strategy? (YES/NO)

a. What are the changes are within the marketing strategy?

3.6 Who is your target market?

3.7 How does the marketing function gather what the (hotel/lodge) target market is when using data from different social media platforms?



SECTION 4: ANALYSIS OF SOCIAL MEDIA BIG DATA

4.1 Does your (hotel/lodge) analyse social media information/data? (YES/NO)

If answered either “yes” or “no”, please explain why?

4.2 What type of social media information/data do you analyse?

4.3 How do you analyse the social media big data?

- Outsourced agency or internal social media analysis tools

4.4 Why do you analyse social media big data?

4.5 Will the social media big data (the ones you just mentioned that you analyse) affect the buying trends of your guests/customers? (YES/NO)

If answered with “yes”, what are the buying trends that are affected?

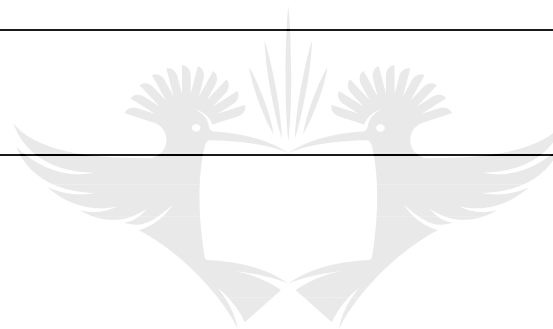
SECTION 5: BENEFITS AND CHALLENGES

5.1 What are the main benefits that the (hotel/lodge) has when using social media big data?

- Understanding the preferences of guests
-
-

5.2 What are the main challenges that the (hotel/lodge) faces when dealing with social media big data?

- Lack of understanding, education, technology, security risks
-
-



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SECTION 6: PROPOSALS AND SUGGESTIONS

6.1 Do you believe there will be a bigger impact of the use of big data and social media in the future within the industry? (YES/NO)

If answered with “yes” what do you believe the impacts will be?

6.2 What initiatives has the (lodge/hotel) used to enhance its ability to use social media information/ data?

- Probe: Training of staff

6.3 How do you think using social media information/data can improve the (hotel/lodge)?



Thank you for your time!

APPENDIX C: Certificate from the editor

Editing Certificate: Mr. S. Gutfreund

I hereby certify that I have proofread a thesis submitted to me by the corresponding author, Sebastian Gutfreund. The study title is:

The use of social media big data within South African hotels and lodges

I have corrected superficial errors in spelling, grammar, syntax and punctuation in the abstract and the body of the manuscript. I have checked the balance required between in-text referencing and end-referencing, where the one needs to be a mirror image of the other, according to referencing guidelines.

I trust that the aforementioned will meet with the examiners' approval and that the language used accurately reflects the authors' intended meaning. Furthermore, I have made every effort to ensure that the thesis is clear, reads smoothly and avoids confusion or misunderstanding. The principles of anonymity, confidentiality, accountability and reliability have been respected by all researching parties.

DISCLAIMER: The proof-reader cannot be held responsible for any errors introduced after the proofreading has been completed, due to changes being made during the corrections' process.

Should there be any questions that arise from this exercise, kindly contact me

Roxanne Piderit

(Private Editing Service)

20 November 2019

APPENDIX D: Ethics approval letter

sth

SCHOOL OF TOURISM AND HOSPITALITY

Friday, November 2018

TO WHOM IT MAY CONCERN

This letter serves to confirm that Mr Sebastian Gutfreund, 201472970, is registered Masters' student at School of Tourism and Hospitality with approved title "Tourism and big data: implications for the South African hotel industry". The study has been granted ethical clearance from the Departmental Ethics Committee of the School of Tourism and Hospitality on Thursday, 25 October 2018.

Sebastian Gutfreund's ethical clearance code is **STH054**

I trust the above is in order.



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