THE ROLE OF BIG DATA FOR MARKETING OPPORTUNITIES IN THE SOUTH AFRICAN TELECOMS MARKET

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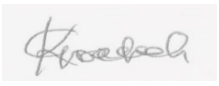

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To God and Mr & Mrs. Inoma Memberr.

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LIST OF ABBREVIATIONS

ACDCP	African Centre for Disease Control and Prevention
ARPU	Average Revenue Per User
AT&T	American Telephone and Telegraph Company
CSI	Corporate Social Investment
CSR	Corporate Social Responsibility
DFA	Dark Fiber Africa
GDP	Gross Domestic Product
GPRS	General Packet Radio Service
GSM	Global System for Mobile
IBM	International Business Machine
ICASA	International Communications Authority of South Africa
ICT	Information & Communication Technology
ISPA	Internet Service Providers Association
IT	Information Technology
JSE	Johannesburg Stock Exchange
MMS	Multimedia Messaging Service
MTN	Mobile Telephone Network
NEPAD	New Partnership for Africa's Development
NITEL	Nigerian Telecommunications Limited
NPS	Net Promoter Score
OECD	Organisation for Economic Co-operation and Development
OTT	Over-the-Top
SDG	Sustainable Development Goals
SMS	Short Message Service
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development

ABSTRACT

This dissertation engages the research question on the role of big data for discovering new marketing opportunities in the South African telecoms market, with focus on MTN and Vodacom. The focus on South Africa is premised on its developed position in comparison to other sub-Saharan African countries. The mobile telecoms market in South Africa is dominated by MTN and Vodacom, and have significant footprint in other African countries, hence the focus on these two companies. Telecoms companies in South Africa are key drivers of economic growth in the country. The changes taking place in the South African economy necessitate this research into how big data can be applied to better understand them.

Big data is an aggregate of datasets that are complex, thus overwhelming the traditional data mining tools. The growth of big data is itself driven by the growth of the digital economy. Africa is not left out of this growth as it is the home to some of fastest growing consumer markets, namely, Nigeria, Egypt, and South Africa. This rapid growth has made telecoms the second most profitable sector in the continent, after petroleum.

The South African telecoms space is most impacted by digital disruption. Most South African consumers have low purchasing power, but this gradually changing with the emergence of a new middle class. In tapping big data, Vodacom may be said to have an advantage over MTN when it comes to taking advantage of big data opportunities in service delivery, financial services, education, and network infrastructure. Both providers also have commonalities and differences in their marketing strategies that have influenced their outcomes positively and negatively.

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CHAPTER ONE: GENERAL INTRODUCTION

1.1. Introduction

In 1965, Gordon Moore came up with what is today known as Moore's Law which was based on his perception that the number of transistors on a microchip would reduce, while the price of the computers housing these chips would steadily come down (Isaacson 2011).

Many laws or trite principles in the economic and technological space have been known to accommodate exceptions. But Moore's Law stood solid for over 50 years. With each technological leap, cost of access to technology keeps dropping, enabling billions of people to take part in the benefits of the global village the world has become, notwithstanding their economic environments.

In the 90s, a Minister of Communications in a West African country, Nigeria, openly stated that poor people could not have telephones, because they were too expensive (Ugwu 2016). More than 20 years down the line, that same country, Nigeria, with a population of about 200 million people, most of whom live below the poverty line, boasts of over 216 million telephone lines. This suggests that many citizens have more than one line. The people did not become wealthier to afford phones, instead, telephones kept getting cheaper until those on lower incomes could afford them.

Telecommunications, also known as telecoms, refers to the 'exchange of information over significant distances by electronic means and refers to all types of voice, data and video transmission' (Chai & Lazar, 2020).

This telecoms sector that has levelled income divides in all countries, is the focus of this thesis. The backbone of the fourth industrial revolution is the telecoms infrastructure. Blockchain, Artificial Intelligence, Cloud computing, 3D printing,

these might be the trending terms with great promise for the future, but no application in any of these spaces can function without internet connectivity, which is itself reliant on telecoms.

The telecoms sector itself has transformed from the era of fixed telephony to mobile telephony, the current standard. As the foundation of digital technologies, the telecoms sector is the first point of contact for anyone entering the digital world. Telecoms companies' lord over access to privileged data about millions of users, their spending patterns, and much more. New technologies like Big Data hold the promise of unlocking insights trapped in this data.

This thesis seeks to explore how big data can be leveraged on to discover new marketing opportunities for the benefit of operators in the telecoms sector. To provide meaningful context to this discussion, and avoid derailing from the discourse, this paper will focus on the South African telecoms market. As a necessary foundation for this thesis, the rest of this chapter will provide the following.

a) a brief overview of the telecoms industry,
b) a discussion about how telecom can and is transforming the business sector in South Africa.
c) the changes coming to the telecoms sector.
d) and a brief overview of the players in the South African telecoms sector.

This chapter will then shift to a technical reporting of the statement of the problem, objectives of the study, limitations of the study, definition of terms, and the research methodology used.

1.2. A Brief Overview of the Telecoms Industry in Africa

A discussion of the growth of telecoms in Africa without mentioning South Africa and the role of South African telecoms companies would be like presenting a tree that has no root. The explosion in telecoms access in Africa started in the 90s when governments across the continent began to open these sectors to private sector participants. The status quo before this was to have one state owned telecoms operators whose services were typically inadequate and/or inefficient, like many state-owned enterprises at the time, such as Telkom in South Africa and NITEL in Nigeria. (Games, 2004).

The first private sector entrants into many of the opening African markets were South African operators like Mobile Telecommunications Network (MTN) and Vodacom. The period from 1995 to 2001 saw a rapid expansion of mobile telecoms infrastructure across Africa. In 1995, only 7% of African countries had mobile networks. By 2001, this number had gone up to 56%. In these countries, South African telecoms operators frequently exceeded their targets and outperformed the parent company back home. For instance, MTN started operations in Nigeria in August 2001. It set a target for 173,000 subscribers by March 2002, but by July 2002, it had over 400,000 subscribers (Games, 2004). As of August 2019, MTN had 64 million subscribers in Nigeria, making it largest mobile telecoms operator in Nigeria, taking lead amongst other Nigerian owned telecom companies (Varrella, 2020).

Vodacom experienced similar exponential growth in Tanzania where it targeted 36,000 subscribers in its first year, only to achieve 38,000 subscribers in its first eight weeks (Games, 2004). As of June 2019, Vodacom had 15 million subscribers in Tanzania making it the leading mobile provider in the country, with 33% of the market share (O'Dea, 2020)

In 2019, MTN's revenue in Nigeria grew by 12.6% and in Ghana by 22.9%, while in South Africa, it only grew by 0.4% (*MTN wants to drive Nigerian SMEs out of airtime, data business*, 2021). In the same year, AT&T revenue in the USA grew by 7%, while that of Verizon grew by 1% (O'Dea 2021). When purchasing power is considered, this might suggest that revenue sub-Saharan Africa holds great promise for telecoms investment.

The aggressive growth of the telecoms sector has shown no signs of relenting, especially with Africa's youthful population, which is projected to exceed that of India and China by 2050 (Sonnad, 2014). Although these mobile operators have done better in other African countries, it is necessary to consider the fact that the South African economy is more developed than that of most other African countries (EY Global, 2020). As such, there is less room at the bottom to fuel aggressive adoption rates and high revenues. Notwithstanding, South Africa stands as the vanguard of telecoms and tech development in Africa. Whatever starts here may spread to other parts of the continent on a larger scale considering the higher revenue figures that South African telecoms companies achieve in places like Nigeria and Ghana. As such, a study of the marketing opportunities in South Africa's telecoms market using Big Data, is by extension, a study of the wider African market.

1.3. Brief Overview of the Telecoms Market in South Africa

The fixed telecoms line market is dominated by Telkom. Fringe participants in this sector are Neotel and Liquid Telecom.

The mobile market in South Africa is controlled by 4 service providers namely, MTN, Vodacom (with a majority stake owned by the UK-based Vodafone), Cell C, and

Telkom Mobile (run by previously state-owned Telkom). In 2018, a new provider, Rain, was granted a license. This company offers data only services.

Together, MTN and Vodacom control 75% of the market (McLeod 2019). The beginnings of the telecoms as it is South Africa today started with the incorporation of Telkom as a fixed line operator in 1991. Telkom was created by the unbundling of the Department of Posts and Telecommunications into three separate entities, namely the Department of Posts and Telecommunications, Telkom SA Ltd, and the South African Post Office Ltd (*Telkom History 2021).*

In 1993, Telkom demonstrated GSM for the first time in South Africa in Cape Town. In 1994, Telkom launched Africa's first mobile network, in partnership with the UK-based Vodafone, through a subsidiary known as Vodacom (Wanjiku 2008). In the same year, MTN launched its services as a mobile operator (Muller 2020).

In 2009, Telkom sold its stake in this company in favour of floating its own mobile 3G network, known today as Telkom Mobile (Otter 2009).

In 2020, MTN; Vodacom; and Rain launched 5G network in South Africa (*MTN launches 5G network across major cities in South Africa,*2020; *Vodacom to launch 5G services in South Africa in 2020,* 2020; Tomas, 2020).

Muller (2020) reported that other operators are DFA (Dark Fibre Africa), Vumatel (fibre network operators), SEACOM (wholesale provider of fibre optic connectivity, internet, and cloud services), Afrihost (internet service provider), Metrofibre (internet infrastructure company providing managed fibre-optic broadband connectivity to other service providers), and Webafrica (internet service provider).

For this thesis, focus will be on the major mobile network operators, MTN and Vodacom, as they already have the scale to effectively leverage big data to derive insights that inform marketing strategies.

1.4. How Telecoms is Transforming South Africa

Although the growth of the South African economy has slowed over the past few years, the contribution of the telecoms sector to the country's GDP has been on the increase, with a growth projection of 3.3% annually between 2015 to 2020 (Accenture 2019, p.3). In some other African countries, the same trend is revealed with other sectors on the decline, while telecoms and ICT are on the rise. This serves to buttress the relevance of this thesis, as findings and conclusions reached during this thesis about South Africa, can easily extend to other African countries.

In Kenya, ICT accounts for 1.3% of GDP, has an annual growth rate of 10% since 2015, and accounts for 10.2% of its total service exports. In Nigeria, the tech sector is the second largest contributor to GDP with 24% after agriculture, has annual growth rates of 10%, and accounts for 6% of total service exports. Out of the 24% that technology contributes to the Nigerian GDP, 9.2% is from telecoms (International Trade Centre, 2020).

What this portends for South Africa and indeed Africa as a whole, is that telecoms and ICT holds the promise of creating a new wave of economic opportunities and prosperity, that if properly channelled, can tackle the problem of growing poverty, access to education, revamping infrastructure, and combating climate change. All these issues are covered by the UN Sustainable Development Goals (SDGs).

According to the Global Connectivity Index, South Africa is one of the countries with the most potential to use ICT to boost growth and achieve the SDGs. Some ways have been identified for telecoms companies to impact UN SDGs in South Africa as follows (Accenture 2019, p. 6):

1.4.1. Achieving SDG 1 – No Poverty

By providing financial services and affordable voice and data services, greater economic participation can be engendered.

Already Vodacom, one of the largest telecoms providers in South Africa, has been licensed by the South African Reserve Bank to offer banking services. Its financial services revolve around insurance, payments, and lending, through a service called VodaLend. With VodaLend, the process of applying for a loan is fully digitised. Small businesses can apply for loans and secure it within four hours (Carew 2020). For instance, 1.3 million customers have accessed insurance policies through VodaLend (Vodacom Now, 2020).

1.4.2. Achieving SDG 4 – Quality Education

By providing connectivity to schools, improving access to digital resources, and providing access to educational platforms and services, the gap in access to education can be reduced.

In the wake of the COVID-19 pandemic that caused many schools to switch to e-learning, one of the key obstacles that affected remote learning in South Africa was the cost of data. There are several initiatives from telecoms companies such as Telkom 1000 schools, NEPAD e-schools, Gauteng Online, Vodacom teacher centres, MTN support for SchoolNets, UkuFunda Virtual School, Vodacom e-school, and Telkom

schools, but none of them effectively tackles the challenge of high data costs (Roberts, 2020)

1.4.3. Achieving SDG 9 – Industry, Innovation, and Infrastructure

By investing in, upgrading, and expanding network infrastructure, remote parts of South Africa can be connected, and participate in the digital economy. This is critical in provinces like Limpopo, Eastern Cape, Northwest, KwaZulu Natal, Northern Cape, and Free State, where the percentage of households with internet access is lower than the national average of 62% (Accenture 2019, p. 4)

Towards closing this gap, the national government set up Broadband InfraCo, a national infrastructure company which is to provide cheap backbone network to service providers. Operators like Vodacom and MTN have moved into fixed line and the national fibre network, while local municipalities are developing their own local fibre and wireless broadband networks (*South Africa Telecoms Infrastructure, Operators, Regulations Statistics and Analyses Report 2019 – ResearchAndMarkets.com,* 2019).

1.5. Changes Coming to the Telecoms Sector

There are several changes transforming the outlook of the telecoms sector, but one central theme is the blurring of the lines that have separated telecoms, banking, retail, and media industries, as they all compete for a stake in adjacent industries. Telecoms companies are providing low-cost financial services to millions of Africans without access to the conventional banking system. Telecoms companies are setting up their own online streaming platform, in direct competition with Netflix, Hulu and Disney+.

An example of this is Airtel TV in Nigeria, which is provided by Airtel, the telecoms company.

Because of this, Deloitte (2014) has projected that there are four possible outcomes of this cross-industry competition:

1. Winner takes all as markets consolidate quicker than most operators can respond.
2. Turf wars as new and old operators battle for profitable markets and banks get involved in the race for providing mobile payment services.
3. New entrants come into these sectors offering higher value than established players, while foreign media and advertising groups leverage on telecoms as ready-made marketing channels.
4. Winning by securing the hearts, minds, and wallets of the customers, thus locking them in. Telecoms can achieve this leveraging on the foundation of access to vast customer data, connectivity, and network infrastructure. Banks can also achieve this.

As boundaries between industries increasingly blur, competition is likely to become more intense. MTN's rivals are no longer just Vodacom, Telkom, and Cell C. They will also include Rand Merchant Bank, Stanbic Bank, and Shoprite. All these companies have the objective of owning the entire customer experience. A key factor in determining who wins the prize will be vast amounts of consumer data and the ability to derive insights from it.

1.6. Statement of the Challenge

Deloitte (2014), Signe & Johnson (2018), Chiliya et al (2009), and Berman & Balde (2013) have pointed out the changes taking place at the macro and micro levels in South Africa and the rest of Africa, which directly and indirectly affect all businesses, including telecoms companies. A key driver of this change has been the spate of innovation in ICT, falling prices of devices, and the growing need to converge disparate services, all under one roof. So far, this chapter has shown that South Africa stands as a vanguard of the larger African market, as such, a study of the South African market, is concurrently, a study of the trends that can play out in other African markets.

Considering their market position and overall importance for the development of the South African digital economy, there is need for telecoms companies to invest in technologies that offer insights into how their services can be better structured and possibly, breaking into new verticals. This study is important because it seeks to explore how big data can be deployed by telecoms companies in South Africa to discover new marketing opportunities, offer new products/services, and identify threats to their business model. Little has been written about the opportunities created by big data for businesses in South Africa. The literature review revealed that there is little on the subject.

1.7. Objectives of the Study

The stated primary objective of this study is to show how big data can be utilised by mobile network operators in South Africa to discover new marketing and product development opportunities. Ancillary to this, the following secondary objectives have been identified:

- To identify the changes taking place in the South African telecoms market.
- To analyse the drivers of the changes taking place.
- To buttress the opportunities that big data presents to South African telecoms operators in understanding these changes.
- To make recommendations on how South African companies can leverage on big data to make sense of these changes and improve their business processes.
- To make recommendations on further areas of research beyond the scope of this paper.

1.8. Significance of Study

This study is significant in its goal to effectively introduce big data to the marketing and business approaches in the South African telecoms space. While there is existing literature that cover the South African telecoms market and big data applications separately, the combination of both as a research area is an unexplored niche that promises to inform novel marketing approaches, not just in the South African telecoms market, but in the larger sub-Saharan market, which has many commonalities with South Africa.

The research done shows that telecoms companies in South Africa play roles beyond their traditional domain, either because of government inefficiencies, or in a bid to build a virtuous circle of income. As such, these companies have been identified by private and public actors, as instrumental to South Africa's growth prospects.

Big data is not alien to the South African telecoms space, but mention of it picked up in 2020, in relation to initiatives put in place to curb the spread of the COVID-19 virus.

This work seeks to document some ways big data has already been used and explore how learnings from such applications can inform new verticals.

Because South Africa is the most developed economy in sub-Saharan Africa and the focus companies (MTN and Vodacom) have an extensive footprint across this region, the conclusions and findings reached at the end of this research can easily be used to understand other African markets and extending big data applications to such domains.

1.9. Scope of the Study

Every research endeavour should be manageable to ensure that it can be effectively completed. That is why this research is limited to MTN and Vodacom. This is because both companies jointly account for 75% of the South African mobile telecoms market and have significant footprint in other African countries where they are major players also. As such, these companies are well-positioned to extend lessons from deploying big data in South Africa to other African markets where they operate. Also, both companies are publicly listed on the Johannesburg Stock Exchange (JSE), thus making their annual reports accessible, towards this study.

This study is further limited to South Africa because of its relative development, in comparison to other African markets. South Africa also represents a pacesetter amongst African countries, as such, developments in the South African market can equally extended or replicated to other African markets.

1.10. Definition of Terms

For this study, the following terms are defined as follows:

- **New marketing opportunities** refers to opportunities that arise when telecommunications leverage on big data to derive insights from user data.
- **Telecommunications operator** except where expressly stated, refers strictly to mobile telecommunications companies like MTN and Vodacom.
- **Broadband** refers to internet access that offers higher speed of data transmission and access to the highest quality internet services, such as videoconferencing for telehealth (*What is broadband and why is broadband access important?* 2020).
- **Big Data** is a large collection of data that increasingly grows and is so complex that it cannot be stored or processed using conventional data management tools (*What is BIG DATA? Introduction, Types, Characteristic, Example* 2021).
- **Digital economy** refers to the economic activity that results from billions of everyday online connections among people, businesses, devices, data and processes (Deloitte, 2020)

1.11. Research Methodology

Research methodology will involve the use of case studies and consulting public records such as the annual reports of the focus companies, official statements from their C-level executives, and experts in related industries. To ensure a broad discussion, in-depth literature concerning objectives of the study will be consulted.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This work has established background to the discussion in this thesis and its relevance to the South African industry. There is a lack of literature about the application of big data in the South African telecoms market. But there is literature on key related concepts to guide this thesis.

This will ensure that this work is original in its contribution and not a rehashing of established concepts.

To this end, this literature review will consider the role of data and technology in shaping today's marketplace, the resulting market trends in South Africa, key features of the South African telecoms market, and a general overview of big data in telecoms.

These will be discussed in the following sequence:

- Impact of technology on customer/corporation relationship
- Marketing opportunities in the South African marketplace
- The development of the South African telecoms sector
- The potentials of big data in the telecoms sector for customer segmentation and niche marketing

2.2. Impact of Technology on Customer/Corporation Relationship

Increasingly large amounts of data have partly driven the growth of the digital economy. This growth has impacted the nature of interactions between customers and corporations. One consequence of these interactions has been developing the platform business models, which are used by seven of the eight top companies in the world by

market capitalisation, such as Apple, Amazon, Google, and Facebook, to name a few. Platform businesses provide the infrastructure for other businesses to reach their target market (UNCTAD 2019, OECD 2020, pg. 25). Platform businesses can either be transaction-based or innovation-based. They are defined as transaction-based if they provide a marketplace for goods and services such as Uber, Facebook, Amazon, etc.

On the other hand, innovation-based platforms provide an environment upon which other producers can develop software, applications, or create content, such as the Android Operating System or IBM (International Business Machines) Watson (UNCTAD 2019, p. 16). By this position, these platforms occupy a dominant position concerning their users. It also creates the incentive for other businesses to adopt this business model to become more customer-centric (OECD 2020, p. 9). A one-point rise in the customer satisfaction index of a firm corresponds to an average of a USD240 million increase in market value (Tan 2019). Therefore, the IT implementation priorities of a company are vital in understanding customer needs and improving service delivery in that direction. It is no longer enough to improve services; these services have to be presented, delivered, bundled, charged for, installed, repaired, ordered for, renewed, and improved in a way that maximises customer support (Tan 2019, p. 4).

Those that cannot build their platforms must rely on these platforms to reach their desired audience or risk losing a place in the market. Corporations that seek to remain relevant in the global market must then incorporate leveraging on these platforms to reach their audience. This approach is not so helpful as corporate bodies are more or less second-hand consumers of insights originally extrapolated by the platforms from user activity. To truly deliver a customer-centric experience and offer

products/services that meet the market's needs, businesses may need to take more responsibility for their data collection practices.

A customer-centred business is one that 'provides seamless integration of every area of business that serves the customer, from marketing, sales, customer services, and field support through the integration of people, process and technology (Foya 2015, p. 10).

A further challenge created by technology's increasing role is the blind spot in developing marketing strategies. A data-driven economy relies on the online activities of citizens. Although the number of people off the internet is falling globally, millions of consumers still have no digital footprint and are thus unrepresented in the information pools that inform corporate decision-making. Ohiagu (2013) has described the effects of this as a digital divide between the technology-rich (who are inundated with information from different sources) and the technology-poor individuals and societies. This divide exists not just in developing countries but also in advanced nations with a significantly illiterate population. The primary drivers of this divide are economic status and educational background.

Relevant to this paper is how Ohiagu referred to the online clusters that develop due to the internet. Chat rooms, interest-specific websites, and similar forums create an avenue for people to aggregate online based on similar interests. These clusters represent data pools from which insights can be mined to serve customers better. Also, these clusters help to shorten the feedback loop, allowing companies to get real-time consumer-side perspectives on the qualities of the product and their willingness to become repeat customers (Keil et al., 2000). The result of this shorter iteration time and quick evaluation of the effectiveness of marketing strategies to know if they

should be finetuned or reviewed, which in turn, helps to nurture and maintain mutually beneficial relationships between the company and its customers and attain long-term customer loyalty with all its attendant benefits (Foya 2015, p. 13)

The importance of Keil et al's position in this paper is primarily because of the period it was published. This paper was published in 2000, and as such, predates most of the developments it accurately predicts, developments that we now take for granted and are part of our daily lives. For instance (Keil et al. 2000, pp. 4 – 5):

- High-velocity environments give a minimal window of opportunity for exploitation, compelling industries to adjust to catch up. Today, we refer to this velocity of big data, which is one of its key features.
- The gradual convergence of industries making it difficult to determine where the competition will emerge. In Chapter One, reference was made to this where telecoms companies increasingly offer financial services, in competition with banks. This trend will be further discussed in later chapters.
- The emergence of a positive feedback loop as customers interacts with it. With social media today, it is possible to get direct customer opinions which may inform product improvements or novel marketing approaches. For example, Foya (2015) has indicated that when a customer is acquired, retaining that customer requires increased attention by improving service performance (p. 15).
- Winners will be those who build platforms and convince others to build on their platforms. This trend has already been discussed in this chapter (Platform Business Model).

Overall, the impact of technology has resulted in a reliance on gatekeepers. As a result, corporate entities must at least partially reduce their dependence and develop their platforms while taking note of significant market segments that are not represented in the digital platforms they use, which is more important in a developing market like South Africa. The next section of this review will explore this in more detail.

2.3. Marketing Opportunities in the South African Market

Africa is home to one of the fastest-growing consumer markets globally, with the epicentres of this growth being Nigeria, Egypt, and South Africa, in that order. Although most consumer spending is in the informal market, this trend is gradually shifting as more businesses move online, education levels rise, and relative social stability. One notable trend that stands out about the African consumer is the preference for low-cost goods and services, mainly due to their low purchasing power (Signe & Johnson, 2018). These low-cost goods are mostly consumables and cleaning products, which have a short shelf life.

As the continent's middle class emerges, a new sub-culture, popularly referred to as 'Keeping up with the Joneses,' (Merriam-Webster) is also growing. Chiliya et al. (2009) showed that this new segment of the consumer class is willing to spend more to reflect the social class they belong to or aspire to be. In South Africa, some black consumers are going longer distances to buy clothes and furniture in traditionally white areas, which debunks the notion that price plays a dominant role in decision making and that the consumer will always go for the cheapest. As the South African customer becomes more complex in terms of taste and cost discretion, they also demand higher quality goods and better production standards.

This new consumer class is mainly driven by rapid telecommunications, banking, services, and employees in these sectors. Consumption from this group, although small, is the key driver of the African GDP growth. Whether in Pretoria, Lagos, or Kinshasa, this new middle class prefers imported goods, considered to be of higher quality, and which confirms their desired social status. By patronising these goods and service centres that stock them, they gain some respite from the general African society (Berman & Balde, 2013). For example, in South Africa, the new black middle class has been the main driver for growth in the past decade, with a distinct taste for packaged food, imported clothing, and electronics.

As an emerging economy, South Africa's population grew 27% from 1994 (40.56 million) to 2012 (52.83 million), while employment grew by only 7% (Donaldson & Pauceanu 2017, p. 19). Considering the impact of the small black middle class on the country's economic growth, much economic growth can be achieved, if employment can match population growth numbers. Unfortunately, South Africa has been losing jobs at a pace faster than it can create them (p. 20).

Consideration of Signe & Johnson (2018) on one side, Chiliya, Herbst, Robert-Lombard (2009), and Donaldson & Pauceanu (2017), then Berman & Balde (2013) on the other side, suggests that in the African consumer market, two major consumer trends offer real value for businesses and offer real marketing opportunities which is the case not just in South Africa but in most relatively stable African countries.

On the one hand, the bottom of the pyramid is where the bulk of the population exists. To this end, there is a preference for low-cost goods. On the other hand, the individual customer might have a weak purchasing power, but the volume of this market base is where profitability lies for any business. This market segment also forms the bulk of

the blind spot mentioned in the previous section, although some have access to the internet, thanks to low-cost devices.

On the other hand, we also have a smaller segment of the population, most of whom are one generation removed from the lower end of the pyramid, primarily youthful, aspirational, and fast-moving. Individually, this market segment has a higher purchasing power and a bias for quality over quantity. Moreover, because this segment is more aware of what obtains outside Africa, they tend to prefer foreign brands or those that can offer a foreign appeal (Chiliya et al 2009). Capturing this base would thus require leveraging on the individual experience and sentiments.

2.4. Development of Mobile Telecoms Sector in South Africa

Generally, the telecoms sector in Africa is the second most profitable sector, after petroleum and ahead of mining (Pau 2011, p. 2). The mobile telecoms market in South Africa is dominated by providers such as MTN and Vodacom. MTN holds at least 40% of the South African market and has market dominance in other markets it operates in, such as Nigeria. MTN is known for its focus on telecommunications, although it has leveraged that market dominance to introduce new verticals in the payment space and renewable energy in recent years. It was the first African telecoms provider to be awarded the ISO 9001 quality standards qualifications. Vodacom also has a strong presence in the South African market with 99% 3G coverage, 95% 4G coverage, and 5G sites. The company has extended financial services to 53.2 million customers and cleared R90 billion (approx. USD63 billion) as revenue in 2020 (Vodacom, 2020).

In the beginning, mobile telecoms operators focused on delivering voice services, but gradually, profits from this service line began receding due to ever-decreasing levels of Average Revenue Per User (ARPU). However, the revenue shortfall from voice services has been compensated by increasing profit levels from data services (Benn 2005, p. 7). In this way, mobile telecom companies have shown that they can adapt to changing trends in consumer behaviour and leverage this to their benefit.

Collectively, telecom providers, apart from just providing communication services, provide the access tools for most citizens to access healthcare, education, entertainment, logistics, e-commerce, and e-government. Accenture Strategy (2019) reported that despite a general economic slowdown in South Africa, this sector is expected to record 3.3% annual growth into 2020, the bulk of this growth coming from mobile services. Accenture has identified three ways in which the telecommunications sector can help South Africa to achieve 3 of the UN SDGs as follows:

- SDG1 – No Poverty (by providing affordable connectivity and financial services)
- SDG4 – Quality Education (by providing connectivity to schools and educational platforms)
- SDG9 – Industry, Innovation, and infrastructure (by extending and upgrading telecoms infrastructure)

In recognition of the pivotal role that telecoms play in the lives of the average South African, the National Development Plan of 2011 stated that to achieve South Africa's 2030 vision,

'An overall broadband communication system will underpin a dynamic and connected vibrant information society and a knowledge economy that is more inclusive, equitable, and prosperous.'

Government commitment to its stated vision has frequently reversed mainly due to lack of continuity, despite the same party being in government. The telecoms sector has delivered innovations that have rendered some of the stated policy objectives irrelevant, such as implementing a national digital transmission infrastructure (Gillwald et al., 2018). Some of the innovations brought forth on telecoms include reduced satellites offering free-to-air services and several low-cost online content carriers. The inability of the government to play a driving role in the actualisation of its telecoms has been identified as a result of a lack of effective competitive regulation leading to market domination, the inability of the authorities to keep up with a dynamic private sector, and delays in policy implementation.

The Internet Service Providers Association (ISPA) has pointed out the national government has a long history of erratic regulation, unclear policy direction, and a distinct lack of clear leadership. Key players in the telecoms industry also point out that the government has failed to understand the link between regulatory certainty and the benefits of a 'better-regulated telecoms environment' (Pau 2011, p. 3). Where government is tepid in playing its role, it affects the capacity of South Africa to participate in the 21st-century knowledge-based economy. In a knowledge-based economy, countries with entrenched ICT usage are more likely to achieve higher growth than those without adequate ICT facilities. The faster the connectivity to ICT facilities (in other words, broadband), the faster the economic growth. In this respect, South Africa lags the rest of the world (Naidoo et al. 2005, p. 5).

Bearing in mind the lack of adequate government initiative and the opportunities in the African market, telecoms companies owe it to themselves to take advantage of tools that can help them discover new marketing opportunities, such as big data.

But this begs the question, how exactly can telecoms companies leverage on data?

2.5. Impact of Big Data on Mobile Telecoms Services

According to Nwanga et al. (2015), big data is an aggregate of data sets that are large and complex, thus overwhelming the traditional data mining tools. As more people and devices come online, vast amounts of digital data are created at unprecedented rates. As a result, telecoms with a vast customer base have access to large volumes of personal data, improving revenue via improved user-centric services. Already, telecoms companies are not unfamiliar with data and use it internally to improve their efficiency, carry out customer segmentation and increase profitability. Nwanga et al. report that with big data and analytics, communication providers have increased the effectiveness of their campaigns by 15 – 25% and reduce churn, that is, customer loss, by 8 – 12%. Using transaction data, they can also leverage transactional data to direct offer or upsell existing customers.

In the words of Khan et al. (2016), telecoms companies are sitting on a gold mine. What is lacking is the tools to properly analyse structured and unstructured data to derive insights about customer behaviour, service usage, and interests. Moreover, 80% of this data is unstructured, which poses a more significant challenge for analysis. In addition, mobile traffic has been projected to grow faster than fixed telecoms traffic. As global network traffic shifts more to mobile networks, it poses a new challenge for

network architects and a real opportunity to get deeper insights into customer behaviour, usage patterns, and real-time interests.

At Amazon, 35% of purchases are from product recommendations as a result of analysing data from consumer behaviour. President Barack Obama's re-election victory in 2012 was helped by analysing data of over 13 million voters that supported him in 2008. As encouraging as this might be, big data is mainly historical data used to predict or determine future behaviour. Big data analytics aims to find a correlative value between two or more trends in a dataset. There is the risk of a third factor that may not be included in the dataset but is equally essential (Dalen & Dahlblom, 2014). Another challenge that companies might face in leveraging big data is the shortage of necessary talent. To remedy this, Dalen & Dahlblom (2014) recommend that companies focus on retraining their existing workforce. Since most of the data that telecoms companies work with will be personally identifiable information. In analysing this data, telecoms companies will have to ensure that they comply with local and international data protection and privacy regulations.

Earlier, it was stated in this chapter that telecoms companies were able to recover reducing voice revenues from rising data revenue. But as data services go mainstream, the competitive advantage they give is gradually receding (Pastushok & Pirus, 2019). This may be due to the cannibalising impact of Over-the-Top (OTT) service providers on their services. A short-term approach might be reducing prices, which could lead to a price war if regulators do not intervene. However, not even that will prevent a continuous downward slide in average revenue per user (ARPU). But by leveraging on big data and analytics, telecoms companies can position themselves for the long term and develop a strong customer value proposition. So far, some of the telecoms companies that have adopted big data are Lebara, AT&T, CenturyLink, China Mobile,

Spectrum, Sprint, Swisscom, Telia, T-Mobile, and Vodafone, the UK-based parent company of the South African Vodacom (Pastushok & Pirus, 2019).

A telecoms operator with 8 million customers generate 30 million records daily and 11 billion records yearly (Tata Tele Business Services). With big data, an average telco can:

- Enhance call routing and optimise network traffic
- Analyse call records to detect fraudulent behaviour in real-time
- Allow them to modify subscriber plans flexibly
- Customise marketing campaigns for individual customers
- Use insights into customer behaviour to develop new products

For instance, it has been predicted that video content will account for 80% of connectivity demands in the next five years (Allen 2016). A few years ago, such a prediction might have seemed extreme. Still, with the pandemic that has forced many organisations to adopt remote policies, it seems more likely that virtual and video conferencing will be the new standard in how we communicate. However, there is a lack of study on how South African telecom companies can comprehensively adapt their infrastructure to the increased pressure or offer new data-based products and services that are video-friendly (Adapt IT).

2.6. Conclusion

This review has considered the impact of technology on the company/consumer relationship. It showed that most companies depend on intermediaries in reaching their customer base (UNCTAD 2019, OECD 2020). Technology has also created a divide between those with access to the internet and those without (Ohiagu 2013). Those lacking access to the internet constitutes a large market segment with low purchasing power (Signe & Johnson 2018). On the other hand, there is also a smaller, tech-savvy customer segment with higher purchasing power (Chiliya et al. 2009, Berman et al., 2013).

Telecom's operators already serve both significant segments. In most datasets, telecom operators in their customer base capture the blind spot (the low end of the market). Unlike other businesses, telecoms services have less reason to depend on platforms and build on large volumes of data they are already collecting. There is a need for local research to cover how South African mobile telecoms operators can and may have leveraged big data to reach their customers and improve their service delivery. The proposed project hopes to help fill this gap.

CHAPTER THREE – RESEARCH METHODOLOGY

3.1. Introduction

Having laid a foundation for this study and reviewed the current work in this field, this chapter seeks to establish the methods used in carrying out research to guide the recommendations and conclusions reached. The discussion here will cover the types of research done, data collection and analysis, tools and materials used in carrying out research, and the rationale for the chosen methods.

3.2. Research Questions

In working on this dissertation, the aim was to provide answers to the following research problems or objectives:

- How can mobile network operators in South Africa deploy big data to discover new marketing and product development opportunities?
- What changes are taking place in the South African telecoms marketplace?
- What are the drivers of these changes?
- What opportunities does big data present to South African telecoms operators in making sense of these changes?
- How can South African companies leverage big data for new business opportunities?
- What additional areas of research might exist beyond the scope of this paper?

3.3. Methodological Approach

To achieve the above, qualitative data using a combination of primary and secondary data was required. This was partly done by obtaining descriptive data reporting

observations in the South African marketplace as a whole, then regarding the telecoms industry, and then MTN and Vodacom, the focal points of this research.

The adoption of qualitative research was because it does an excellent job at bringing to the surface contextual differences in international business, especially where the study involves another country where the researcher is not based, which was the case here.

Although qualitative research is not commonly used in international business (Doz 2011), its use is primarily applicable when theories must be built to make a substantial contribution to the existing body of literature. As this work seeks to posit the potentials of big data in the South African mobile telecoms market, a combination that has not been covered, qualitative methods are the best to achieve this aim.

Participants

This research was conducted with the participation of consenting staff of MTN and Vodacom, who gave insights about the workings of both companies that served to corroborate and provide answers to the research questions.

Data Sources

Data sources included interviews with staff from focus companies, official reports of both companies, and existing research about both telecoms' companies and the South African market trends.

3.4. Research Ethics

In adopting the qualitative research approach, there were several ethical considerations, all of which were catered for. These ethical considerations included

obtaining full consent of research participants, protecting their privacy, maintaining an adequate level of confidentiality of the research data, ensuring the anonymity of research participants, avoiding any form of deception or exaggeration about the purpose of the research, disclosing any conflicts of interest, honest communication concerning the research, and avoiding misleading information.

These considerations were catered for as interviewees were fully informed of the purpose of the research and their consent obtained. The interviews were recorded and saved on only the recording device and deleted after this dissertation's final approval. Upon transcription, names and job titles were redacted to ensure anonymity.

As this research relied on both primary and secondary data, the criteria for validity and reliability differed. For the primary data, the relevant criteria include credibility, authenticity, criticality, and integrity, while the relevant criteria for secondary data were explicitness, vividness, creativity, thoroughness, congruence, and sensitivity (Whittemore et al. 2001). Primary data here included interviews with employees of MTN and Vodacom and direct reports from both companies about their activities. Secondary data here involved existing research about the South African marketplace and both companies, from a critical perspective, to balance out the information obtained from primary data for thematic analysis later.

3.5. Methods of Data Collection

In seeking to provide answers to the research objectives earlier stated, this research was intentionally limited to MTN and Vodacom, as both companies dominate 70% of the South African telecoms market, have significant international operations, and are publicly listed, thus easing the process of obtaining primary data about their activities.

To collect data, interviews were conducted, and existing data was also relied on. The interviewees were current staff of both MTN and Vodacom in South Africa. As not all staff would be competent to answer questions regarding big data and marketing operations of the company, interviewees were selected based on their job descriptions. An online search was conducted to find those staff who would be relevant for this study by their job titles. This included those working in marketing and analytics roles.

This search was carried in respect of both companies to develop a list of prospective interviewees, 11 across MTN and Vodacom, most of whom were sent emails requesting an interview and the purpose of the research. Others were contacted via LinkedIn, Twitter, and Facebook.

Three replied out of those emailed**,** and dates were scheduled with each person for an interview. As the interviewees were all based in South Africa, the interviews were either conducted remotely via Microsoft Teams and recorded or they sent their typed replies to questions. Before these interviews, questions were forwarded to each interviewee so they could prepare in advance. The questions were unique to each company, based on the studies of their activities.

I was an active participant in these interviews, acting as the interviewer. The interviews lasted for 30 – 45 minutes and were later transcribed.

To develop the questions and offset any biases in responses, the existing data in the research data was obtained, constituting primary and secondary data. The primary data here was official company reports from MTN and Vodacom, covering the financial years of 2019, 2020, and the first quarter of 2021. The secondary data was the existing papers by other researchers reviewing the South African telecoms industry and the activities of one or more companies. These reviews were chosen for a balanced

perspective, as some were commending, while others were critical. These materials were obtained from visiting the websites of both companies and relevant searches online.

3.6. Methods of Analysis

The interviews were transcribed and juxtaposed with reports and papers for thematic analysis. This involved coding the data to identify and review the key common themes. The key themes were then examined to find common threads and dissonances between the replies of the interviewees and the contents of the reports and papers relied on. The adoption of thematic analysis was premised on the fact that it eases the process of approaching large datasets by sorting them into themes.

Although there is the risk in thematic analysis to miss nuances in data due to subjective analysis, this was avoided by comparing interpretations with the conclusions of prior researchers. To further minimise the risk of personal subjective bias affecting conclusions, a semantic approach was adopted, focusing on the explicit content of the data.

The inductive analysis was carried out deductively with predefined themes derived from studies of reports and papers to see if they would confirm or contradict the existing knowledge

3.7. Justification of Methodological Choices

This dissertation sought to combine expert and industry opinions to make a case for the adoption of big data by South African telecoms companies. This aim could be better achieved by adopting qualitative research methods which are more people-oriented and deriving insights from their opinions.

Qualitative research provides the tools for defining problems in key themes and learning opinions and beliefs. While a Quantitative research assumes a statistical and measured approach, not suitable to the fulfilment of this research.

Also, this research involved a significantly small sample size by focusing on just two companies. There was thus no need for quantitative research methods, which is best suited for statistical analysis and larger datasets.

CHAPTER FOUR: RESULTS AND FINDINGS

4.1. Introduction

The main research objective in carrying out this research project was to determine the how mobile network operators in South Africa can deploy big data to discover new marketing and product development opportunities. Relying on a methodological analysis of qualitative data sources previously reported, four key themes have been extrapolated which will inform the format of the discussion in this chapter. Each theme will be discussed in succeeding headings, with respect to how interview responses and other data sources line up with it.

The themes are as follows:

1. Changes taking place
2. Adaptation to market changes
3. Leveraging big data
4. Big data opportunities
5. Marketing strategies and outcomes

Interviewees were anonymised and tagged using the words V and M – V for interviewees related to Vodafone and M for interviewees related to MTN.

4.2. THEME 1: Changes taking place

Data collected from existing studies showed that digital disruption was the biggest change coming to the South African telecoms space, with one of the key consequences being falling voice revenue. It was noted by Accenture Strategy (2019) that younger customers were more willing to switch network providers, compared to older customers, if their expectations were not met. Pau's (2011) research suggests that these

expectations may have been fuelled by improvements in network capacity and performance that reduce the cost of operations but have not been transferred to subscribers in terms of quality of service, connection speeds, and tariffs. This has fuelled demands for cheaper bandwidth and faster speeds by South African customers.

This was further substantiated by a survey carried out in the Gauteng province of South Africa, where respondents complained about the high rates, they considered unjustifiable. Subscribers were generally of the opinion that prices should be down, especially the peak interconnection rates. This complaint cut across all network providers, not just MTN and Vodacom. South Africa has one of the highest telecommunications service rates in the world (Okharedia 2013, p. 106).

SMS as a marketing tool has been on the decline in terms of utility, according to V1. 'We send close to 1 million SMS, and we will get less than 1000 responses', said V1. But these customers have a higher response rate on digital platforms.

This constitutes a response to the research question with respect to the changes taking place in the South African telecoms marketplace. A consideration of Accenture Strategy (2019), Pau (2011), Okharedia (2013) and the responses of V1 show that the key change taking place is digital disruption which is redefining communication channels. It also answers the question about the driver of these changes, which is a younger customer demographic with higher expectations in terms of service delivery.

4.3. THEME 2: Adaptation to market changes

One notable trend in the South African marketplace is low purchasing power. To adapt to this and serve the lowest end of the market, South African producers have taken to breaking large products into smaller sizes and packages, a practise known as

'sachetization', making it affordable (Chiliya 2009). Currently, the major telecoms providers in South Africa (MTN and Vodacom) have leveraged defensive strategies to protect their market dominance, reducing competition and general innovation in the telecoms space. For instance, both providers offer massive discounts for on-net calls up to 100%, based on factors like location and time of day (Mondiwa 2016). The result of these practices has been to discourage investment into new market entrants who do not have the existing large subscriber base of the major providers.

Gillwald (2018) describes this as a virtuous business cycle that positions them to be at forefront of adopting key technologies. They have the liquidity to keep on reinvesting in their network, extending their coverage and improving the quality of their offerings, leading to higher customer acquisition, higher revenue that can be used for buying more spectrum and enhancing the quality of their network.

Another example of the defensive strategy adopted by major network providers has been to lobby against the creation of a right of access to telecoms services by the South African Parliament (Pau 2011). However, MTN was found to be more defensive, compared to Vodacom. Vodacom was the first major operator to adapt to the gradual market shift to data services over voice plans by expanding its broadband network to accommodate the increased demand. MTN, however, tarried by trying to defend its voice market revenues (Gillwald et al. 2018, p. 60).

MTN has also been found to been less competitive. Compared to Vodacom, its major rival and smaller operator, Cell C, MTN lacks in price competition than these two providers and its pricing packages are considered more confusing (Realista 2016, p. 15). This has led to a decline in their subscriber base, with providers like Cell C benefiting from this. It has been recommended that to improve their long-term market

position, they should focus on data revenue, handset sales, and new spectrums to improve network quality (p. 16). V2, who works in the Artificial Intelligence & Automation division of the company, shed more light on this. They said that Vodacom aims to be a big brother to other networks by being a carrier of carriers, responsible for carrying the data of existing mobile operators. This strategy is also adopted in other markets the company operates like Cameroon and Ghana.

According to V1, SMS has been a key component of Vodacom's marketing strategy for years. But lately, people tend to read SMS less as attention shifts to social media and online search. Vodacom has shifted towards these to reach customers while retaining SMS. 'But it (SMS) is not as effective as before', said V1. The company's commitment to SMS was defined as a challenge by V1, despite its diminishing returns. Building on this, V2 stated that the company has the goal of fully digitising its services.

M1 said that returns on online platforms have been on the increase (as opposed to offline platforms). Just like Vodafone, MTN focused heavily on bulk SMS for marketing, without regard to differences in customer demographics, according to M1.

The research question about the changes taking place, implies the further question about any possible measures that may be adopted in reaction to these changes. In this respect, studies show that the adaptive measures of MTN and Vodacom both converge and diverge. They converge with respect to market defensive strategies that stifle competition and lobbying efforts to limit right of access to internet. They however diverge in terms of how each company is wholly committed to this strategy. From Gillwald (2018) and V1, we learn that Vodacom was more proactive in shifting its focus from voice to data services, and adopting digital platforms for reaching its customers, considering falling returns from conventional marketing tools like SMS.

4.4. THEME 3: Leveraging big data

In adoption of big data generally, Vodacom seems to have an advantage over MTN. To support the government's efforts in combating COVID-19, Vodacom employed big data and analytics in various ways. For example, using big data, they were able to provide aggregated data that helped track the spread of the disease and monitor the movement of the population. They also donated 20,000 smartphones, 100 terabytes of data, and 10 million voice call minutes to the South African Department of Health to collect and transmit data for resource planning purposes (Vodacom Group 2020, p. 2).

They also partnered with the health insurance company, Discovery to deliver a COVID-19 online platform where South Africans could assess their risk exposure to the virus, schedule free virtual consultations with medical professionals and help reduce pressure on hospitals (Vodacom Group 2020b, p. 9).

This suggests that Vodacom has the technical competence and understanding to repurpose their big data capabilities for capturing new market segments and marketing their services. This is supported by V1 who described Vodafone's upselling strategy for devices. They said, 'We use big data to find out who will be changing their device soon, and we will send you the latest device we have with the prices'. They also use predictive analytics and deep learning to understand customer behaviour. For instance, customers who are heavy internet users are more likely to see ads.

V1 also described Vodacom as a company that relies on big data 'like no one's businesses and a data-driven company in terms of decision-making. Predictive models are used to determine if customers will like a product or not. 'We use big data to predict what will happen in the future…based on customer behaviour'. Heavy social

media users are offered social media packages. Big data is also used to determine pricing, according to V1, and even for invoicing.

This is not to say that MTN is absent in applying big data. It however seems that their capacity is not as extensive as Vodacom's. According to M1, MTN leveraged on customer data to study market and societal needs, to discover that healthcare was the most pressing need at the time. This informed their CSR initiatives like the donation of USD25 million to the African Centre for Disease Control and Prevention (ACDCP).

In this vein, the primary research question about how telecoms operators can use big data to discover new marketing opportunities is adequately answered. Studies show that the COVID-19 pandemic provided ample opportunity for telecoms companies, especially Vodacom, to test their big data capabilities. We also see that big data gives telecoms companies the capacity to pre-empt the needs of their customers and provide solutions before they are needed. In this respect, the ancillary research question about how South African telecoms companies can leverage big data for new business opportunities is also answered, such as gadget sales and ad targeting.

4.5. THEME 4: Big data opportunities

Several opportunities were noted by Accenture (2019) for big data applications where telecoms companies are uniquely suited such as:

- providing affordable voice and data services to stimulate economic participation and activity
- Providing financial services
- Providing connectivity to schools, improving access to digital resources, and educational platforms

- extending and upgrading telecoms infrastructure in remote communities, further stimulating economic participation.

Accenture (2019) research has shown that the adoption of digital technologies can unlock 182 billion Rand of value in the South African telecommunications industry by 2026. In line with this, V1 reported that Vodacom has been giving 20 gigabytes worth of data to students, since the COVID-19 pandemic, to support study from home. V1 also pointed out the fundamental role telecoms plays in supporting banks to offer financial services. As banks try to become more digital, using chatbots and apps, none of these can work without telecoms services, according to V1.

But Vodacom also offers financial services. V1 informed this researcher that users can connect their Vodacom app to their bank account and use it to pay for services. With the VodaBusk app, airtime or data can be transferred to the app and used to make purchases. In Kenya, they were behind the popular M-Pesa, a financial service provider, according to V2.

'We are also looking into health' according to V1, considering the COVID-19 pandemic, using AI. The idea is to prevent people from queuing for drugs. Using the Vodacom app, patients can get order their drugs from registered clinics.

According to M1, MTN adapts its marketing strategies to the socioeconomic realities of its markets. In South Africa, MTN has focused on providing affordable broadband for rural and urban areas, and financial inclusion. This is through their mobile banking platform - MTN Mobile Money Wallet. Using this product, customers can get loans as low as USD5.

The Mobile Money wallet is available to rural dwellers via physical outlets and urban customers via mobile apps. This way, MTN is able to serve two broad market

segments with the same value of financial access, credit bonuses, savings and loans, according to M**1.**

This answers the question about the opportunities that big data presents as they work to make sense of the changes taking place due to digital disruptions. Building on their big data capabilities that are already being applied in the fight against COVID-19 and predicting user interests, telecoms companies can invest in more verticals and strengthen their position, like Vodafone is doing, providing the infrastructure for banks to provide digital banking services, while themselves building financial solutions.

4.6. THEME 5: Marketing strategies and outcomes

Both of our focus companies have adopted notable marketing strategies since their entry to the market that have helped to give them the market leader position. These strategies have been well-documented.

Vodacom

In the case of Vodacom, it was the first operator to introduce MMS in 2002. They used it to promote carry out user education and promotion. However, MMS is only available on at least GPRS technology. At the time, many subscribers were not using GPRS-enabled phones and could not access the messages. To overcome this obstacle, Vodacom created an MMS website where the messages could be retrieved. The subscribers without GPRS-enabled phones would receive an SMS with the website's name so they could log in to retrieve their messages (Benn 2005, p. 46).

When securing its license in 1994, the South African government introduced the Community Services program, which mandated telecoms companies to provide

services in under-serviced, disadvantaged communities. Under this, Vodacom introduced Vodacom Community Services, which involved establishing phone shop franchises owned and operated by local entrepreneurs in those communities. Initially, Vodacom had to subsidise these services, but with time, they could cover their costs from sales revenue. As a result, the phone shops allow anyone to make calls at a cost that is one-third less than the going commercial rate (Reck & Wood 2003, p. 1).

As of Q1 2020, Vodacom had 115.5 million customers, had invested 146 billion Rand in CSI initiatives, had 377 rural network sites, and had invested 13.2 billion Rand in infrastructure (Vodacom Group 2020).

In Q4 2020, Vodacom Group Limited recorded group revenue of 25.1 billion Rand, with 19.7 billion coming from South Africa and 5.6 billion Rand from its international operations, an improvement of 6.4%, compared to the previous quarter. The growth was attributed to solid demand for new services and connectivity in the South African market (Vodacom Group 2021, p. 1).

In the year 2020, Vodacom implemented several marketing campaigns. One of them was themed 'ShakeOff2020' in which 23 million South African customers got discounted offers. They also launched the Vodabucks loyalty programme increased their customer base by an additional 1.45 million customers. Other additional products that achieved success within the financial year of 2020 were Airtime Advance and VodaPay, a lifestyle super app (p. 1).

According to research conducted by an independent research company, Vodacom leads the reputation index of the South African telecoms market. In 2019, they had a reputation index performance of 7.8, though this dropped slightly in 2020 to 7.49. They also recorded a drop in other markets like Tanzania, DRC, and Lesotho

(Vodacom Group 2021, p. 42). Although not expressly stated, the drop was likely due to the prevailing COVID-19 pandemic. The reputation index is derived from two metrics – overall impression and overall trust for the year in question.

Vodacom has to take into consideration, marketing policies in developing its marketing strategies. For instance, marketing messages cannot be sent after 4pm or by 8pm when people are presumably sleeping. They can only be sent within working hours of 8am to 4pm. Campaigns cannot be sent to users in another country. As such, all marketing campaigns are confined to national boundaries. There is also a lack of universal products across different countries, according to V1.

Vodacom has also found itself hamstrung by regulatory policies, preventing it from implementing some business ideas and policies, according to V2. They've also been held back by lack of spectrum availability. In Chapter 2 of this dissertation, issues relating to spectrum allocations and the regulatory body, ICASA, were discussed.

MTN

According to the African Business Magazine, MTN is No. 8 of the top 100 most admired brands in Africa and the only brand of African origin in the top 10. Also, according to Kantar Brandz, MTN is the 5th most admired brand in South Africa (MGH 2019, p. 10; MTN Group 2019, p. 5). The strength of MTN's consistent branding efforts is found in the fact that even if the name is removed from campaign material, their unique use of the bright yellow colour, alongside the coinage ‘y'ello’, serves to stamp the communication as originating from MTN (p. 11).

In 2018, MTN achieved NPS (Net Promoter Score) leader position in nine markets. NPS is a customer metric for measuring the likelihood of a customer recommending

a brand to another person. To achieve this, MTN carried out several changes like redesigning the most frequent customer journeys to make them more customer-friendly; interacted extensively with customers to discover their pain points; introduced controls to prevent involuntary subscription for services and quickly unsubscribe. They also improved their NPS research and measurement capabilities to enable them better understand customer needs (MTN Group 2019, p. 17).

This was corroborated by M1 who said that their marketing strategy covers the 4P's of Marketing (Product, Price, Place, Promotion). Relying on a mix of SMS, online ads, and mobile applications, MTN is able to achieve its customer-centric BRIGHT strategy. BRIGHT, according to M1 stands for:

B - Best customer returns

R - Returns and efficiency focus

I - Ignite commercial performance

G - Growth through data and digital

H - Hearts and minds

T - Technology excellence

This serves to provide answers to the final research question about additional research areas that are beyond the scope of this paper. Examples of such areas include the impact of regulatory policy on marketing strategies, either on the South African telecoms industry, or the larger economy, and an in-depth review of MTN's commitment to its BRIGHT strategy.

4.7. Summary of Findings

This study has sought to show how mobile network operators in South Africa can deploy big data to discover new marketing opportunities. It was found that with big data, telecoms companies can implement predictive modelling to determine the needs of customers before they arise, thus pre-empting them. This is made possible generally by the spate of digital disruption in the South African marketplace that is making conventional marketing efforts less effective. At the heart of this digital revolution is a fast-rising youth customer demographic who are less tolerant of poor service delivery.

Deploying big data, South African telecoms companies are supporting government efforts at combatting the COVID-19 pandemic. In doing so, they are learning about other pain points of the customer, such as accessing education remotely, logistics around healthcare, and financial services. Using existing capabilities and insights from data, telecoms companies can either come up with unique solutions, or support existing players with the needed infrastructure to seamlessly deliver their services.

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Having juxtaposed findings from interviews and other data sources to arrive at answers to the research questions first posed in chapter one, this chapter will provide the writers thoughts and contribution to the existing body of knowledge on the topic of this dissertation.

5.1. Findings in view of previous research

At the heart of this dissertation has been big data and its place in the digital economy. In the literature review, it was revealed per UNCTAD (2019) and OECD (2020) that platform business models are responsible for most of the interaction that generates this data. Innovation-based platforms provide an environment in which other producers can provide their services. Transaction-based platforms provide a marketplace for goods and services. Either way, platform businesses occupy a dominant position with respect to user data.

Findings from interviews and reports confirm that telecoms companies can be classified as platform businesses. Apart from just providing telecoms services, Vodacom also serves as carrier of carriers, carrying the data of other mobile operators, in South Africa, Cameroon, and Ghana. Telecoms companies provide the network infrastructure needed by financial institutions that are digitizing their services. At the same time, telecoms companies are also in the course offering their own financial services. As such, telecoms companies occupy the dual position of providing the platform and competing with the services of those on their platform. This gives them competitive advantage in terms of access to data that can be utilized for new marketing and product initiatives.

It was also found per Ohiagu (2013) that there exists a technology divide between those who have a digital footprint and those without. Without a digital profile, collecting data becomes difficult; digital outsiders' risk being unrepresented in datasets that inform decision making and product development.

However, telecoms companies have the capacity of bridging this gap. Interviews with MTN and Vodacom showed that both companies still use SMS as an important plank of their marketing strategy, despite its diminishing returns.

It was also found that the primary cause of the shifting market trends is the emerging youth demographic. As more of younger South Africans come of age and enter the digital economy, they increase online activity and in turn generate data. They are less tolerant of poor service delivery, compared to older generations.

Telecoms companies serve different market segments that must be factored into decision-making. Maintaining SMS channels allows me to reach the older demographics, while gradually increasing their online spend in response to shifting market trends.

One of those key market trends reported in chapter two was the shift from voice to data services, leading to declining Average Revenue Per User (ARPU) for the former, while increasing for the latter (Benn 2005). It was earlier posited that generally, telecoms companies have been fully supportive of the shift to data services. But further research showed that it is not as straightforward as it might seem. Both of our focus companies, MTN and Vodacom, to varying degrees, have resisted and attempted to frustrate the shift to data services, either by lobbying against the right of access to telecoms services in the South African parliament, or by trying to defend voice market revenues (Gillwald 2018). It was also found that this accusation falls more heavily on

MTN, as Vodacom has more quickly shifted to accommodate data services by expanding its broadband network and developing new data packages for its customers.

It was revealed per Accenture Strategy (2019) that telecoms companies can help South Africa achieve the UN SDGs with respect to poverty, education, and industry. They have been living up to this responsibility especially since the outbreak of the coronavirus pandemic, providing data for remote learning, donating devices and call time to support data collection for health planning (Vodacom Group 2020, supporting scheduling for medical consultations (Vodacom Group 2020b). They also provide financial services and easy access to credit and phone shop franchises that reduce unemployment (Reck & Wood 2003), invested heavily in network sites and infrastructure (Vodacom Group 2020).

It was earlier posited that telecoms companies lack the technical tools needed to analyse structured and unstructured data to derive insights about customer behaviour, service usage, and interests (Khan 2016).

However, this is not the case for all telecoms companies in South Africa, Vodacom especially. From interview responses and official company reports, it was clearly shown that Vodacom was a data-driven telecoms companies. It already deploys big data for its product development and to support the fight against COVID-19. Data is used to track the spread of the disease (Vodacom Group 2020). Big data is deployed to know when a customer is about to change devices, so that they can be upsold new devices. The lack of information about big data usage on the MTN side may suggest that they are not as competent as Vodacom, but this may also be due to inadequacy of data. This challenge will be discussed in a later heading.

5.2. New Insights derived from findings

This research has afforded the writer a fresh perspective on the research questions posed initially. The growth of big data in the telecoms sector has been driven by the rise of the youth demographic who are better educated, mobile, and aware of consumer options. They demand better service delivery, premised on improvements in network capacity and performance that have reduced cost of operations. However, these benefits have not been transferred to the customer in terms of quality of service delivery, connection speeds, and lower tariffs.

Another relevant insight is the role of COVID-19 in accelerating the adoption of big data use cases. Although the focus was in combating the spread of you the pandemic, it has also opened opportunities in Healthnet as confirmed by V1 with respect to Vodacom.

It can also be assumed that Vodacom has embraced big data more aggressively than MTN, and as such, is better positioned to lead the charge in taking advantage of big data opportunities for marketing, both in South Africa and the other African markets they operate in.

5.3. Implications of Findings for Stakeholders

As telecoms companies leverage on big data to enter new industries and products, they will gradually transcend the boundaries of their traditional regulator, ICASA. Because of their dominant position, there may be accusations of unfair competition which may inform telecoms companies to internally restructure, such that their new verticals are sufficiently detached from the main business to mitigate claims of unfair dealing. It is also possible that they might face regulatory roadblocks that prevent them from entering new sectors. This is already happening as reported by V2 in the previous

chapter, where Vodacom had to shelve plans for a fintech solution, due to the regulators opposing position.

While MTN and Vodacom may occupy a dominant position in the South African telecoms market, their failure to extend improvements in network to customers pose a threat in their ability to retain their customer base. Failing to retain this customer base could diminish their competitive advantage, and give room for more nimble entrants, like Cell C (Realists 2016).

5.4. How study has advanced body of knowledge

This dissertation has effectively located and exposed big data use cases in the South African telecoms space and suggested the comparative levels of adoption by the country's major telecoms providers – MTN and Vodacom. The rise of big data in the telecoms sector has been shown to be linked to the COVID-19 pandemic. This study has also suggested that new marketing opportunities and services will be influenced by COVID-19 related needs, in line with V1's responses.

This study had further shown that digital disruption is driven by a younger customer demographic and higher expectations in terms of service delivery. We also learn that when it comes strategies for maintaining market position, there are points of convergence and divergence, especially in terms of how committed they are to defensive market strategies and promoting data services. This study also shows that government policies are a factor in the marketing strategies of telecoms companies. As such, it is not enough for the data to suggest that a certain service is viable, the regulatory environment must be favourable to it. In some cases, certain marketing strategies are adopted in compliance with government policies, like the Vodacom Community Services Program (Reck & Wood 2003).

5.5. Limitations of study

While this work constitutes a significant contribution to the body of literature, it is by no means perfect. A key shortcoming was the inadequacy of responses to the call for interviews. As reported in chapter three, 11 persons were reached out to and only three responded, two from Vodacom, and one from MTN. The results of this is that the personal perspective on Vodacom is more pronounced than that of MTN. To mitigate this, previous studies on both companies by independent persons were incorporated.

5.6. Recommendations for further research

While writing this dissertation, several topics were touched, not directly related to the focus of this paper which are worthy of further research. One of such is a study of the unique position that telecoms companies occupy as providers of platforms and competitors to those that rely on their platforms and the regulatory implications of this.

A review of the market defensive strategies of MTN and Vodacom would also be a valuable contribution to the body of knowledge and their results, positive or negative. This study would hopefully inform readers, policymakers, and other players in the telecoms industry about the right mix of strategies needed to maintain and acquire market dominance.

A focused study of how regulatory policy can influence marketing strategy would also be an interesting read. Focus need not be on South Africa and could be expanded to a select group of countries for a comparative study.

5.7. Conclusion

This chapter has sought to present a concise view of the findings and narrative since chapter one. By comparing the prior body of knowledge and new findings, new perspectives on the use of big data for marketing in the South African telecoms market

have been brought to the fore. This study will hopefully inspire further research and inform players in the South African telecoms market on future trends and strategies that can be adopted from the playbook of the major telecom's providers.

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APPENDIX

Proposed Interview Questions for Marketing-Related Executives and Personnel at MTN and Vodacom South Africa

1. What were some of the initial marketing strategies adopted by your company upon launch in the South African market and are they still in use today? If not, why? Also if yes, why?
2. To what extent were you able to export strategies used in South Africa in other African countries upon market entry?
3. Are there any significant marketing challenges your company has faced, home or abroad, and how have you surmounted them?
4. In what way is your company helping South Africa achieve the UN SDGs?
5. How has your company been facing the challenge posed by OTT service providers?
6. What are your plans for the financial services and mobile payments sector in South Africa?
7. Are there other verticals your company intends to get involved in, and if so, what informs the decision?
8. What is the official position of the company with respect to big data and its relevance to your service delivery?
9. In what general ways is big data, if any, affecting your service delivery?
10. What significant opportunities are you currently following with a view to getting involved in?
11. Are there any regulatory or policy roadblocks that have limited your capacity or caused business uncertainty in your operations in South Africa?

Interview Consent Form

Research project title: The Role of Big Data for Marketing Opportunities in the South African Telecoms Market

Research investigator: GRACE ZUMNAAMAK KOELEH

Research Participants name:

The interview will take (enter amount of time). you have the right to stop the interview or withdraw from the research at any time.

Thank you for agreeing to be interviewed as part of the above research project. Ethical procedures for academic research undertaken require that interviewees explicitly agree to being interviewed and how the information contained in their interview will be used. This consent form is necessary for to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation.

• the interview will be recorded, and a transcript will be produced

• you will be sent the transcript and given the opportunity to correct any factual errors

• the transcript of the interview will be analysed by (name of the researcher) as research investigator

• access to the interview transcript will be limited to (name of the researcher) and academic colleagues and researchers with whom he might collaborate as part of the research process

• any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymized so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed

• the actual recording will be (kept or destroyed state what will happen

• any variation of the conditions above will only occur with your further explicit approval

Quotation Agreement

I understand that my words may be quoted directly. With regards to being quoted, please initial next to any of the statements that you agree with:

- I wish to review the notes, transcripts, or other data collected during the research pertaining to my participation
- I agree to be quoted directly
- I agree to be quoted directly if my name is published and a made-up name is used
- I agree that the researcher may publish documents that contain quotations by me
- I wish to review the notes, transcripts, or other data collected during the research pertaining to my participation.

MTN Interview Transcript

INTERVIEWER: GRACE KOELEH

INTERVIEWEE: DATA ANALYST AT MTN, SOUTH AFRICA.

MODE: Email

DATE: 20TH JULY 2021

TIME: 19:06 (Dublin time) / 20:06 (South African time)

Interviewer: What were some of the initial marketing strategies adopted by your company upon launch in the South African market and are they still in use today?

M1: Well, MTN has over time, adopted several marketing strategies and these Marketing Strategy of MTN covers what we call the 4Ps (Product, Price, Place, Promotion). Product innovation, Pricing approach, Promotion, Planning etc. These have helped the brand succeed and guide its marketing goals. The driving force of MTN is its customers, and with attention to its customer behaviours, that influences our strategies. We market through SMS, online ads, Mobile applications, and so on. There is also, the BRIGHT (Best customer service, Returns and efficiency focus, Ignite commercial performance, Growth through data and digital, Hearts and minds, Technology excellence) strategy.

Interviewer: If not, why? Also, if yes, why.

M1: Yes, to the best of my knowledge, they are still in use, and these strategies have developed over the years, haven observed customer behaviour and understood that different customers operate in different ways, so with our access to customer data, we continuously improve on services and marketing strategies. The most efficient however, in SA, has been online platforms. The BRIGHT strategy has also been sustained since its adoption.

Interviewer: To what extent were you able to export strategies used in South Africa into other African countries upon market entry?

M1: They have successfully connected 22 countries of Africa and Middle East. MTN is one of the biggest mobile telecom operators in African countries where they find themselves. To this effect, customer preference in countries differ based on population size and age, but the BRIGHT strategy has been so designed as a brand strategy, hence, its being implemented in all markets, to the best of my knowledge.

Interviewer: Are there any significant marketing challenges your company has faced, home or abroad, and how have you overcome them?

M1: Initially, the company focused its marketing strategy on general SMS, that means, campaigns of any sort were sent in bulk, regardless of whether what was being campaigned was of interest to the customer. Hence, there was very little, or no feedback gotten.

Interviewer: In what way is your company helping South Africa achieve the UN SDGs?

M1: We service more than 200 million customers, in different parts of Africa and the middle east, and as markets vary, so do the challenges. From access to internet, financial inclusion, digital inclusion, gender equality, and so on. MTN finds a way to align its business strategies with the market socioeconomic requirements. In South Africa, we have provided access to affordable broadband, as this aids in access to internet services in rural and urban areas of the country. Also, MTN has its mobile banking platform, "MTN Mobile Money Wallet". On this platform, customers can acquire loans for as little as $5.

Interviewer: What are your plans for the financial services and mobile payments sector in South Africa?

M1: MTN has provided its customers with financial services, on the MTN Mobile Money app. This is available to users in rural areas which they can access at outlet MTN stores in the area, and for customers with access to direct online banking on their cell phones. These two classes of customers get the same value of financial support, from credit bonuses, to savings, to loans, and so on.

Interviewer: Are there other verticals your company intends to get involved in, and if so, what informs the decision?

M1: With the recent health crisis the world has faced, and its effect it has had on the south African market, MTN south Africa, has made a move towards this sector. With our access to big customer data, we are able to access and study market and societal needs, of which healthcare has been a primary need at this time. At the start of the year, MTN donated some money, about $25million, to the African Centres for Disease Control and Prevention (ACDCP).

Interviewer: Does big data factor in the daily processes of your company?

M1: Of course. MTN is built on this basis. Big data pilots our decision making and day to day running of the business. All the company decisions are built on its customer data.

Interviewer: If yes, how. If not, why?

M1: Answered in Q8.

Interviewer: What significant opportunities are you currently following with a view to getting involved in?

M1: This has been provided in Q8.

Interviewer: Are there any regulatory or policy roadblocks that have limited your capacity or caused business uncertainty in your operations in South Africa?

Vodacom Interview Transcript

INTERVIEWER: GRACE KOELEH

INTERVIEWEE: DATA ANALYST AT VODACOM, SOUTH AFRICA.

MODE: VIRTUAL INTERVIEW

DATE: 20TH JULY 2021

TIME: 19:06 (Dublin time) / 20:06 (South African time)

Interviewer: My name is Grace Zumnaanmak Koeleh, and I would like to thank you, for agreeing to have this interview with me and today is the 20th of July 2021 and it is currently six minutes after seven pm in Ireland, and its six minutes after eight pm in south Africa.

The purpose of this research is centred around evaluating marketing opportunities in the telecoms sector, focused on the south African region, and the reason for my choice is cause most of the big telecom companies in Africa are from south Africa, like Vodacom and MTN for instance. So, the purpose of this interview is to contribute to the existing research on marketing opportunities being exploited by big telecom companies, with your access to big data. So, I would like to reaffirm if you went through the consent form and if you're convenient to go ahead with the interview?

V1: Yeah, yeah, I can do that.

Interviewer: Okay, alright, so, please could you kindly introduce yourself please?

V1: I am X, I am now currently employed with Vodacom as a data analyst, and I am also a master's student like you. I am in the space of telecommunication and as I said, I am a data analyst.

Interviewer: Okay, thank you. So, do you have any questions concerning the interview? Any questions ahead of time?

V1: I think the only question is just to confirm that this interview will be used for your study purpose and nothing else.

Interviewer: Yes, it will be used strictly for my research thesis process, that's all.

V1: No problem. Yeah, that's the only question that I have

Interviewer: And I could also, in the consent form, I stated that if you need a recording of the interview, I could send that to you as well, or a transcript or whatever you'd need.

V1: No problem.

Interviewer: Alright, so, haven done my research on telecommunications for the past few months now, and analysing its marketing strategies, I have drawn up a few

questions. I have about 11 questions here, so please feel free to let me know whenever you're not comfortable with any questions and whenever you're not comfortable with the whole process together, okay?

V1: No problem.

Interviewer: What are some of the initial marketing strategies adopted by your company upon its launch in South Africa. I believe that Vodacom has some strategies it has developed over the years, and it has implemented these strategies in boosting its marketing in the South African region, so could you tell me some of the initial marketing strategies you guys have.

V1: Okay, I think one of the things that they utilize a lot is LinkedIn. Uhm, secondly, like social platforms, the likes of LinkedIn, I think that is the most, uhm, I think that's the platform that they use the most. And then they also use this thing of saying, if you give people referral, you can just put someone's profile, and then give this person referral and you're going to get a certain amount to bring someone onboard. So, you get paid by bringing someone with a specific knowledge, right? Of course, we do that online through our Vodacom web, where the process is called employee referral. So as soon as you refer someone with good skills, they give you something. And then we have normal xxx whereby they will of course announce opportunities using universal or using the tribe email to send out to say that they're looking for management in this position, or a specialist in this position, but internally, right

Interviewer: Yeah

V1: So, we would get emails regarding that. And then of course then, you would have to go to the portal, if you're looking for something that you haven't heard about, or if they're looking for someone externally. But for now, I can only recall those three. Number one its LinkedIn. Number two its employee referral and then number three will be the one with the sent-out emails.

Interviewer: Okay. Thank you. So how about your marketing strategies for customers. Are there strategies that you…?

V1: For customers?

Interviewer: Yes

V1: Okay, it depends. We have different marketing strategies for, let's say now we're selling. It is either we are selling, uh we have self-marketing strategy, we have promotions, right? So, there are also things like selling device. So, a selling device, let's say you have to upgrade your device, we would send out, we would use big data to find out who's going to upgrade very soon. And then we would send the latest device we have and the prices, but based on the algorithm, and then we also look at your, we use predictive analysis. Let's say by the look of things we can see that you are one person with the possibility of using Vodacom app, then we would tell you that you cannot call us anymore, you can use Vodacom app. But then if we see that you are one customer who always buys data, we will give you better deals like SMS, or pop up on your internet right, when you're visiting a website, you can just see a popup.

All these are happening when you know exactly about the customer behaviour. We don't just market people because we want you to buy data.

We look at specific behaviour. We look at the target, we have target audience for everything. So, even the part from where you're marketing is also the same. We're not going to catch you all in the internet, we're not going to catch you all in the SMS. There are a group of people, we do get them on internet, Facebook, social platforms, and then the other ones, we catch them on a SMS's.

Interview: Thank you. So are there some strategies that your company initially had for marketing that they dropped off along the way, or that they have sustained on a very long run.

V1: I think the SMS campaign, we still use SMS to market, right?

However, because not everyone reads their SMS's well, they didn't stop, but what they did is to try to get some other adventures or try to get some other platforms where they can catch people. What I'm talking about when I say platforms, I am talking about things like twitter, if you know how many people are using twitter in south Africa.

So, there's a lot. Things like social media, social platforms, and google adverts, you know, those are the things that they try to utilize. However, we still do send SMSs, but its not effective as it was before.

Interviewer: I learnt that Vodacom is in other African countries as well. So, was your company able to export these strategies that you use in South Africa to other countries

V1: I am not sure how it works out of South Africa, cause at this point I am just exposed to the one side of Vodacom which is South Africa. So, I am literally not sure about that. I don't know, I don't want to give you a false answer.

Interviewer: Yeah, that's okay. So, also, are there any marketing challenges that your company has faced, you know, with these strategies that you've employed, have you experienced any step back or any…?

V1: In my perspective, yeah, we do have certain campaigns, I mean, step backs that we face, as difficulties right, because we still believe in sending out SMSs and we still believe that our customers, we can still communicate with them through the SMS, but which is not always the case, cause, I am telling you know, I have been involved in the SMS campaign project

We could send close to one million SMSs, and we will only get less than thousand responds, based on the SMS that we send right.

So, I think that the only setback we still have at this point to communicate with the customers. However, I think those customers have a better response rate when it comes to digital platforms. The likes of internet, the likes of social platforms.

Interviewer: Okay. And you overcame them?

V1: No, not yet cause the story is the same.

Interviewer: Okay. So, also, in respect to SDG goals, that's uhm, UN Structural Development Goals, uhm, during the cause of my research, I learnt that there are three main goals that the telecoms sector can help South Africa in general to achieve, that's according to Accenture. Are you familiar with these goals?

V1: I am familiar with those three goals.

Yeah, there is, cause at this point, I think Vodacom is also involved to student's free data,

I think its 20 gigabytes, if I am not mistaking. Due to this COVID19 situation we have, and where students are studying from home, number one. And number two, it's to make sure that there is connectivity.

There is, of course somewhere we do have connectivity issues, but they try to really, where there is a lot of population, provide coverage and try our best to keep everyone connected. And in the innovation, in our industries, I think they also play an important role because now, the likes of the banks, whenever they're creating apps and whatsoever, all those things won't work without proper connectivity, and even though they're trying to do innovative things, all those things they need to happen from telecoms because they won't operate without a good internet output service provider. So, yeah, those are the main pillars and I see them trying to achieve them.

Interviewer: Okay, that's alright. So, the other question. What are your plans for financial services and mobile payment sector in South Africa, do you, does Vodacom have any set down plans or aims in this light?

V1: I mean, we do have financial services at Vodacom, we do have mobile payments. Uhm, we, people can use our Vodacom app to pay so it can link to accounts. We do have voda-busk, where you can transfer your data to voda-busk and you can use your voda-busk to buy things.

So, we are already in there, because we want to be 360 degrees, they want to be on finance, health and education. So everywhere they need to have an influence or an impact, so we do have things in.

Interviewer: Okay. So, are there any other verticals your company tends to get involved in?

V1: I think now they're looking to venture into health due to this covid19 and all, I think they're looking forward to venture into health and of course when they get into health they will be involved through AI, Artificial Intelligence. Making sure that you don't need to queue for you to get this medication when you can use your Vodacom app to register with the hospital or a clinic for you to get your medication or whatsoever.

Interviewer: So, what other ways are you using bid data as an enterprise?

V1: We are one company who utilize big data like nobody business, I must say, according to me, according to my experience, everyone has a different experience.

For every decision that we make, we do data transitions, the whole company. From the time we are campaigning the customer, from the time we are marketing the customer, we use big data, we use predictive models to predict if the customer will like our product or not. We use big data to predict what will happen in future.

As I said before, based on customer behaviour, so if you spend most of your time on social media, meaning you're a social media person, even if Vodacom can introduce the social media platform, you will be likely to adopt that. We use big data to do our pricing, based on how many people complain, how many people have inquiries and all those kinds of stuff. We even use big data to do our invoices, like every decision that Vodacom makes at this point is data driven decision. So, anything that you can think of, its not that we are guessing, no. We are doing predictive models and then we use big data.

Interviewer: Okay, that's very impressive. So are there any regulatory or policy roadblocks that have limited your capacity or caused business uncertainty in your operations in South Africa, like may be political or legal, or something in that light

V1: Of course, there will always be policies that restrict you from doing certain things. The likes of, when you do dashboards, you can't show peoples numbers. You can't show peoples ID numbers, I can't show peoples location, right. These are confidential things. And we also have policies like when you're selling out the marketing whatsoever, you can't send a marketing message at 8pm because people are sleeping right. You can't send out a marketing message at 4pm, but it's if you have to send out the marketing message at to five whereas people are awake and those are the waking hours. So, we do have those stipulations and restrictions that says you cannot perform certain things at this can, but you can at another time. And of course, I can't send you in Nigeria, a campaign that's in south African, its part of our restrictions. But we don't have universal products whereby we will say data is same price in all customer countries.

There are rules and regulations that are in place. We do have fundamentals of ethics, knowing what's wrong and what's right, of course I know that I can't use my power of being able to see people's numbers and SMS and from there, use it to check for my own personal benefits. I can't do that

So, there are things that we do have in place to say this is Vodacom data, its not your data, so you use it for work credited things only. I can't use it to look who you were calling and when. Those are the rules that they have. But to say if its universal or all over the world, I am not sure, that kind of ethics, I am not sure which one is what.

Interviewer: Those are all the questions I have. I am very grateful that you were able to touch on everything and I will let you go now for your meeting. Thank you so much for conducting this interview with me and I will reach out to you if I have any queries or questions. Have a good evening

V1: No problem. You too

Vodacom interview 2

INTERVIEWER: GRACE KOELEH

INTERVIEWEE: FORMER MARKETING OPERATIONS STAFF AT VODACOM SOUTH AFRICA.

MODE: VIRTUAL INTERVIEW.

DATE: 12TH AUGUST 2021

TIME: 18:36 (Dublin time) / 19:36 (South African time)

Interviewer: Today is the 12th of August 2021, and its currently thirty-six minutes after six pm, South African, and Irish time. My name is Grace Zumnaanmak Koeleh, could you kindly introduce yourself please?

V2: X is my name, I worked with Vodacom, South Africa.

Interviewer: Alright, and what position do you occupy in the company?

V2: I was in field market operations at some time and later on I moved to network engineering, and now I am head of Artificial intelligence and automation for at INC.

Interviewer: That's very impressive, well done on your achievements so far

V2: Thank you

Interviewer: I would like to reconfirm your affirmation to go ahead with the interview and if you are convenient with this process? And if at all there is no question, you're able to answer or information you're able to give, just let me know and I will respect that.

V2: Okay, no problem

Interviewer: I will go ahead with the first question. What are some of the initial marketing strategies adopted by your company upon its launch in the South African market? And are some of these strategies still in use today?

V2: Vodacom was initially a mobile operator and one of the aims of the company, coming into the country, was to take the synthesized data business to the next level. Using the already existing GSM networks, Vodacom had a plan to create a competitive market via data. The aim is still in use today, and as we can see, that's what has led to LTE broadband. Vodacom was not originally a mobile operator, but you see them competing in similar market with the mobile operators.

Interviewer: So how about marketing strategies to your customers, were there certain strategies you adopted in reaching out to your consumers or users?

V2: Actually, the aim of Vodacom is to be a big brother to the younger ones. For example, the business strategy Vodacom adopts is to be a carrier of carriers. For example, Vodacom was responsible of carrying the data of some already existing mobile operators. Vodacom did not deal directly with the consumers.

Interviewer: So, Vodacom didn't deal directly with its customers?

V2: Yes

Interviewer: So, where some of these marketing strategies exported amongst other markets? Or does Vodacom use different strategies in different markets?

V2: It's not different in all sectors, for example, Cameroon, Ghana, all were following the same strategy.

Interviewer: Okay, and are these strategies still in existence, do you still use that approach?

V2: I cannot say much on that now. But the effect of that business strategy is in use. The company is aiming to digitalize the African business, leveraging on the existing connectivity that Vodacom has. The target customers remain the same, but the company is looking towards digitalizing its services, automation and so on.

Interviewer: Are there any significant marketing challenges your company has faced, home and abroad, and where you able to overcome some of these challenges?

V2: One of the challenges was government policies. There were so many business ideas and models the company planned to introduce/adopt, but because of the government regulations, they were stopped from playing into certain sectors of the industry. For example, Vodacom tried to formulate a sort of fintech solution, but due to government policies, the company was not allowed to play in that angle.

Interviewer: So, government restrictions were a major block

V2: Yeah

Interviewer: And were you able to overcome these challenges?

V2: No. We had to drop the idea and face other things entirely, cause the government is beyond the company. Another challenge the company faced was that of spectrum availability in the country.

Interviewer: Okay, what do you mean by spectrum availability

V2: The frequency used in radio connectivity for their customers, those frequencies were not readily available, because the country has too many network operators, asides from the well-known ones, there are many others playing underground. And as a result of this traffic, some operations were hindered.

Interviewer: Okay, thank you. Also, in what way has your company helped South Africa in achieving its UN SDG.

V2: Yes, Vodacom has a good record of supporting education in the country. There are various events that the company organized for schools and provided connectivity for schools (Secondary and primary schools). Also, on gender equality, this was one of the key campaigns that Vodacom took as priority.

Interviewer: Okay, and are those the only SDG roles they played? Did they make any influence in the poverty sector, or industry sectors?

V2: I am more familiar with the education sector and its active role in this sector

Interviewer: Okay, thank you very much. So, did Vodacom have any financial or mobile services in the country?

V2: No, based on government policies, they were not allowed.

Interviewer: Was big data a factor in the daily processes of your company? Was it a driving factor to how the company operated daily?

V2: Vodacom had a vision to digitalize the services of its customers, called the vision 2020. And the company had been working tirelessly to get involved on big data, and as of now, I can't say much of what they do, but the company took a lot of seriousness in the part of big data

Interviewer: Were there some significant opportunities that Vodacom was looking into venturing into? Like Health, finance, and so on?

V2: Yes, the only challenge is that they were having restriction issues. But in Kenya, we were able to set up M-PESA, as a financial service provider to its users.

Interviewer: Okay, the last question is on regulatory and policy road blocks the company may have faced and I think you have mentioned these in the cause of our discussion.

V2: Yes, the company witnessed a lot of restrictions, firstly, cause in its initial venture into the market, they did not buy the licence of a mobile operator, hence at any attempt for them to try to play in that role, there was always a strong block.

Interviewer: Okay, so we've come to the end of the interview, and I would like to appreciate you for your time and contribution to my thesis.

V2: You're welcome. Have a good evening.