



Demographic and background factors influencing online shopping in South Africa

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Abstract

As technology vastly becomes an essential component of our daily lives, Businesses are fast adopting online platforms which enable them to i.e. communicate and receive immediate feedback from consumers and offer a different kind of shopping experience through online shopping.

In South Africa, online shopping is beginning to increase its presence and at the same time more South Africans are becoming exposed to the Internet.

Therefore, it is becoming increasingly vital for Businesses to understand what characteristics influence a consumer's behaviour for online shopping. In addition to this, the increase in online sales has created an interest for retailers to understand what factors influence consumers to shop online (Clemes, Gan, & Zhang, 2014).

Previous researchers have also indicated that more awareness is required around the various elements which contribute towards the complexity regarding the online shopping experience.

This study evaluated race and age demographic elements to determine whether the country's historical background has an influence on the Internet proficiency, which may in turn influence online shopping. The influence of cost of data on online shopping was also evaluated.

A quantitative approach was applied in this study; hence, a questionnaire was used as a data collection method. The data was analysed using the statistical hypothesis testing.

The key finding discovered from the study was that given the high cost of data in South Africa, affordability of data does not influence a consumer's behaviour to make online purchases.

Although elements such as time and money saving have no influence in the cost of data being a reason to shop online, these elements present an interesting dynamic in terms of additional functionalities that businesses could add to their online platforms to further increase their consumer base.

Future researchers should consider undertaking studies that focus on specific industries in order to explore various impacts per industry.

Declaration

I hereby declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

.....

Andani Juanita Munonde

Signed at

On the day of 2017

Dedication

I dedicate this thesis to my son Imani Naledzani. Everything I've done since your birth has been through your inspiration and wanting to be a great example to you of living a purposeful life.

I also dedicate this thesis to my late brother Shandukani Munonde, the intelligence you exhibited in the short life you lived inspires me constantly. You were too advanced for your own age and as much as I was your big sister, I learnt so much from you. Your spirit lives on.

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To God be the Glory for allowing me the opportunity to partake in and complete the MBA programme. Thank you for the wisdom, patience and intellect you blessed me with.

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My son Imani, in Swahili your name means faith. That is exactly what has seen me through life and may it be the same for you. Thank you for understanding that mommy had to study and for always making sure that I was in class on Saturdays. I did this for both of us, for our success and many achievements coming our way.

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Chapter 1: Introduction

1.1 Purpose of the Study

The purpose of this study is to evaluate the dynamics that influence consumers' choice to shop online in South Africa by exploring consumer race and age demographic characteristics, Internet proficiency as well as the cost of Internet usage.

1.2 Context of the Study

Information is changing the way we live on a day to day basis as it has become a core function through which we make decisions (Webster, 2014). Information has become an input that organisations depend on to conclude business strategies (Lyon, 2013). Therefore, an online platform becomes a critical basis through which an organisation interacts and learns more about its consumers, essentially creating a brand community (Habibi, Laroche, & Richard, 2014). A brand community is beneficial to a business in that it enhances consumer loyalty as stated by Habibi et al (2014). The authors proceed to state that the brand community becomes a pool of information which can be useful for product development, innovation initiatives and market research.

In order to put the theory above into practice, an organisation first has to understand what characteristics influence a consumer's behaviour for online shopping which can be revealed through the social interaction created from brand communities (Jung, Kim, & Kim, 2014). With the data collected from the brand communities, organisations can use that data to build customer profiles that will be utilised to streamline marketing activities for unique customer needs (PWC, March 2016).

In addition to this, the increase in online sales has created an interest for retailers to understand what factors influence consumers to shop online (Clemes et al., 2014).

Online shopping offers the advantage of convenience as Internet users can log onto online shops and order products from any location, at any time without the inconvenience of traffic, travelling costs etc. This in turn reduces the overall transactional costs for the consumer (Mohanlal, 2006).

According to BizCommunity (2005), in 2005 the number of Internet users who had bought something online at least once a month increased to 41% from 26% in 2000 (this was a 15% increase). Looking into 2014, growth for one year was 14% (see Figure 1 below). This means that online shopping usage has been increasing gradually.

Rank ^a	Country	Internet Users	1 Year Growth %	1 Year User Growth	Total Country Population	1 Yr Population Change (%)	Penetration (% of Pop. with Internet)	Country's share of World Population	Country's share of World Internet Users
21	Poland	25,666,238	2%	571,136	38,220,543	0.01%	67.15%	0.53%	0.88%
22	Colombia	25,660,725	7%	1,739,108	48,929,706	1.26%	52.44%	0.68%	0.88%
23	Argentina	24,973,660	7%	1,600,722	41,803,125	0.86%	59.74%	0.58%	0.86%
24	South Africa	24,909,854	14%	3,022,362	53,139,528	0.69%	46.88%	0.73%	0.85%
25	Iran	22,200,708	9%	1,850,445	78,470,222	1.32%	28.29%	1.08%	0.76%
26	Australia	21,176,595	9%	1,748,054	23,630,169	1.23%	89.62%	0.33%	0.73%
27	Morocco	20,207,154	10%	1,851,335	33,492,909	1.47%	60.33%	0.46%	0.69%
28	Pakistan	20,073,929	9%	1,731,250	185,132,926	1.64%	10.84%	2.56%	0.69%
29	Thailand	19,386,154	8%	1,438,018	67,222,972	0.32%	28.84%	0.93%	0.66%
30	Saudi Arabia	17,397,179	11%	1,656,942	29,369,428	1.88%	59.24%	0.41%	0.60%

Figure 1: Internet users by Country (Internet Live Stats, 2014)

Authors such as De Swardt and Wagner (2008) who have embarked on a similar research study, state that the advantages of online shopping which attribute to the increase in online shopping as indicated by consumers; are access to free information, ability to compare product prices, features and quality of the product. ebay (2013) agrees with this notion and goes on to state that other advantages include the constant availability of online shopping (24/7), it is fast and does not require waiting in line as well as the discrete shopping experience that comes with online shopping.

The majority of South Africans are currently able to access the Internet using their cellular phones, see Figure 2 below. This contributes to the reason why online shopping is increasing gradually. While Internet access is on the increase, majority of the country's population still does not have access to the Internet, refer to Figure 2 below.

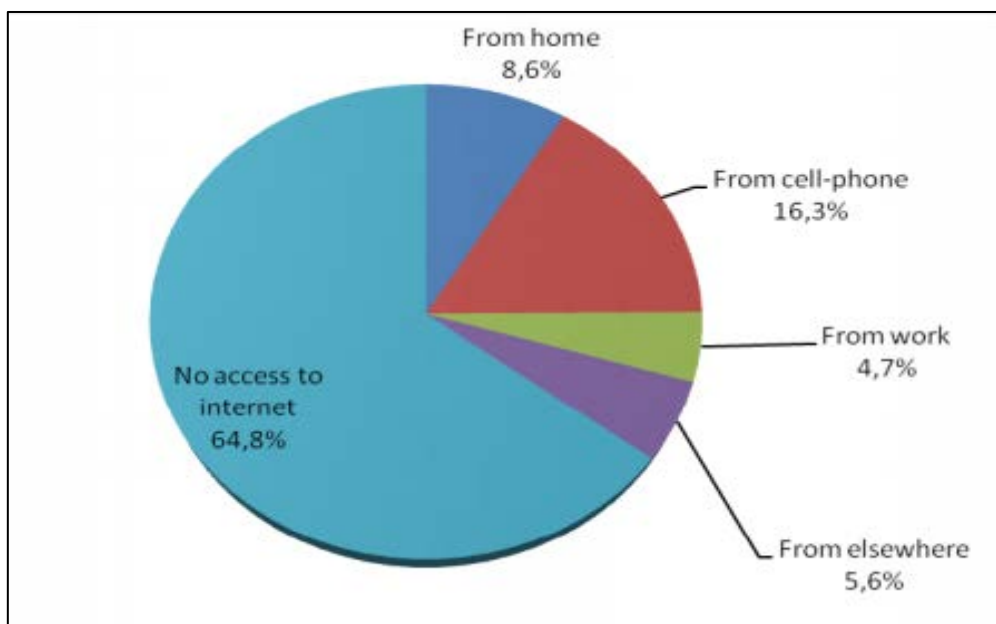


Figure 2: Percentage of households who have access to Internet (Statistics South Africa, 2012)

As at 2013, Africa was the 4th largest region in the world making use of Internet (Internet Live Stats, 2013). This may be attributed to Africa being an emerging market. In the South African perspective, this may be accredited to the fact that the country's majority of citizens are from previously disadvantaged backgrounds and growth of access to Internet has been slow as seen in Figure 2 where 64.8% of South African citizens still do not have access to Internet.

There is still room for companies to increase online sales in South Africa (IT News Africa, March 2015), i.e. there is an untapped market of potential customers who do not have access to Internet as yet as per Figure 2 above. Therefore, more effort must be invested into understanding what drives consumers to make the choice to purchase online as opposed to using traditional markets. The reasons why people generally refrain from shopping online as per research conducted by North, Mostert, & Du Plessis (as cited in De Swardt & Wagner, 2008) are tabulated in Table 1. This ties in with some of the disadvantages of online shopping where the consumer does not have the opportunity to touch and feel the product before making a purchase and there is a waiting period attributed to the delivery process (ebay, 2013).

Reasons for not shopping	Percentage of total participants who cited each reason	
	Male	Female
Security concerns	70	73
Lack of 'touch'	45	54
Unfamiliar merchants	41	37
Too difficult	21	26

Table 1: Reasons for not shopping on the Internet (De Swardt and Wagner 2008)

This study will focus on evaluating how demographic characteristics influence online consumer choice in South Africa.

1.3 Problem Statement

1.3.1 Business Problem:

Research conducted by Botha (2015) evaluated the 'determinants of South African consumers' online shopping satisfaction'. As part of the author's recommendations for research to be conducted in the future, the author indicated that more awareness is required around the various elements that contribute towards the complexity regarding the online shopping experience.

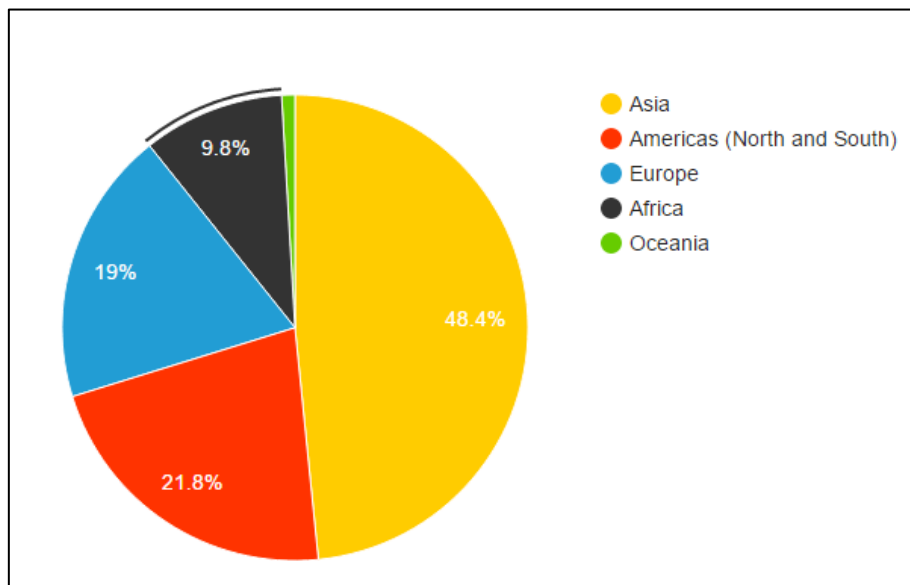


Figure 3: Internet usage by region (Internet Live Stats, 2013)

As illustrated in Figure 3 above, Internet usage is increasing which means that companies need to identify and understand how consumers think within this new digital era of shopping (De Swardt & Wagner, 2008). This supports what Botha (2015) indicated. Hence, it is essential for companies to understand the decision process that leads consumers to shop online as this will benefit them when structuring online marketing strategies which will also aid with the web design process, leading to increased profits (Clemes et al., 2014).

Although, online shopping is gaining ground, it appears that it cannot entirely be considered a substitute to traditional markets and we see this through Amazon who entered the industry completely through an online shopping platform, yet they have now invested in traditional markets (i.e. opening of Amazon bookstore) (Reuters, 2016).

South Africa now ranks 6th in the world in terms of the number of malls that have been built within the country (Muller, October 2015). This additionally indicates that there is still a demand for traditional markets even with online shopping platforms being made available.

In America, stores such as Macy's and Nordstrom are some of the giant retailers closing down least profitable physical stores (traditional market) and they are investing more towards streamlining their online shopping platforms creating what is

termed an 'Omni-Channel retail experience - which means striking a balance between trading in traditional markets and on online shopping platforms (Reiters, 2016). Some consumers possibly still prefer purchasing through traditional markets due to disadvantages posed by online shopping which according to De Swardt and Wagner (2008), include lack of ability to experience how the product feels, with online purchases there is no salesperson and therefore no human interaction, security with regards to exchanging banking details with the merchant online and based on research by Saini (2015), there is no immediate gratification as the consumer has to wait for the product to be delivered.

Retailers are investing time and money to provide secure online shopping platforms (Reiters, 2016) which make shopping very convenient, safe and cheaper. Looking at how poorly the country's economy is performing currently, Reiters (2016) states that the downside for the organisations of streamlining an online shopping platform is that the associated technological and infrastructure (construction of distribution centres, logistics for deliveries and cyber security) costs are high. But it is still not sustainable for retailers to increase their rental expenditure by increasing their footprint in malls being built and as residential areas become saturated, the boom of malls being developed will start to decline (Muller, October 2015).

The Internet offers consumers a choice on how they make a purchase i.e. online or at traditional markets. In order to make the choice to shop online, there must be substantial benefits to influence choosing an online shopping platform over traditional markets, hence the need to have a good understanding of the elements that will help them to increase customer base (Alba et al., 1997). This is the purpose for the study at hand, to identify which demographic characteristics influence consumers' online shopping behaviour in South Africa and suggest how merchants can strategically use this information to improve their marketing and brand strategies to continuously attract customers to shop online by implementing improved, seamless 'Omni-Channel shopping experiences.

1.3.2 Research Problem:

Therefore, having stated the above; the intention of this research is to evaluate some of those elements by aiming to establish whether race and age demographic features and the cost of data influences the decision for consumers' behaviour when shopping online.

1.3.2.1 Sub Problem 1:

Establish whether demographics' impact on Internet proficiency influences the behaviour of consumers' online shopping experience.

Differences in demographic elements that contribute towards consumer decision-making process have not been explored extensively within the context of marketing, especially given the fact that demographics are utilised as a segmenting element in marketing strategies (Potgieter, Wiese, & Strasheim, 2013).

In an attempt to answer this sub problem, the researcher will only look at race and age demographics.

1.3.2.2 Sub Problem 2:

Evaluate if the cost of data has an impact in the growth of online sales.

According to Saini (2015), more information should be easily accessible due to the lower cost associated with Internet access and yet West (2015) argues that data costs are actually high and this is due to lack of competition among service providers.

As illustrated in Figure 7 in Chapter 2, the cost of data in South Africa is expensive among the four largest service providers. This sub problem will aim to discover just how much the high cost of data has influenced the rate of online shopping in South Africa.

1.4 Significance of the Study

Even though more users are gaining access to the Internet, consumers still seem to prefer going to the physical store as opposed to shopping online. "While the battle for consumers and market share among retailers in brick-and-mortar stores still dominates and rages on, the e-commerce industry, though still in its infancy in South Africa, is starting to show potential" (Mahlaka, March 2014). Based on this, it would appear that this potential creates a gap in the market as there are still a great number of consumers who can be wooed to online shopping platforms.

The online industry was expected to contribute R 4.2 billion towards the country's GDP in the year 2013 (Mahlaka, March 2014), but according to research conducted by MasterCard in 2013 (as cited in Mahlaka, 2014), e-commerce only contributed 2% towards South Africa's retail market.

A number of studies have been carried out in an endeavour to find out what factors influence the choice of consumers to shop online (De Swardt & Wagner, 2008), (Gordon & Bhowan, 2005).

Numerous studies have also been carried out in two other areas. Firstly an experimental study was undertaken to evaluate the effects of brand name and price on the behaviour of the consumer during the decision making process regarding whether to shop online or at traditional markets (Degeratu, Rangaswamy, & Wu 2000; Saini 2015). Secondly, the effect of word of mouth on online sales (Shao, 2012).

To date, there hasn't been a lot of e-commerce studies that have been carried out to understand characteristics that influence online shopping behaviour (Saini, 2015). This study aims to contribute towards the body of knowledge with regards to understanding the influential characteristics of online shopping.

As it will be covered in the study, various demographic characteristics influence the choice that a consumer makes with regards to shopping online. In addition to this, it is imperative for merchants to keep in mind other online consumer choice influences, namely security, price of the item, reliability, speed of the Internet. It is interesting to note that in matter of importance, the price of the item features much lower on the list while security concerns are ranked higher (De Swardt & Wagner, 2008).

The study will be of value in identifying which demographic characteristics to take cognisance of when marketing the use of the Internet to shop.

1.5 Delimitations of the Study

The following are the delimitations of this study:

- Only race, age and income (through the cost of Internet factor) demographics were considered in this study.
- The study will not be looking at specific industries in terms of online shopping.

The following does not form part of the scope of study:

- The reasons that lead to consumers not shopping on the Internet will not be addressed further.

1.6 Definition of Terms

Merchant: A merchant is a trader who purchases goods from suppliers and resells them for a profit (Business Dictionary, 2016).

Traditional markets: Brick-and-mortar retail stores.

Generation Y: Individuals born since 1981 (Aksoy et al., 2013).

Generation X: Individuals born between 1961 and 1981 (Aksoy et al., 2013).

1.7 Assumptions

The below assumptions have been made for this study:

Assumption:	Reasonableness:	Sensitivity:
Consumers have access to the Internet	High	High
Consumers are computer literate	Medium	High
There is already a high level of brand awareness	Medium	Low
Consumer has already been drawn to online shopping by other factors such as convenience and trust.	Medium	Low
Consumers are frequent online shoppers	High	High

Table 2: Assumptions

Chapter 2: Literature Review

2.1 Introduction

In chapter 1 an outline was provided regarding the growth of Internet usage in South Africa which speaks to the current success of online shopping. The chapter also looked at the reasons (based on research conducted) why some consumers choose not to shop online, these included security concerns, the inability to touch the product before purchasing it etc.

Given the history of our country where majority of citizens were marginalised, the country has since become a democratic country where everyone is meant to have equal access to opportunities and standards of living (MacDonald, 2006).

This chapter aims to provide a literature review on race and age demographics. It will also provide a review on generational dynamics in the country post-apartheid by looking at Generation Y and the digital divide between those cohorts and older generations. The chapter will then move on to outline Internet usage and costs involved in order to access the internet in South Africa as well as the current online purchasing trends.

2.2 Demographic factors

Under the governance of the apartheid administration, the country's population was segregated based on their race (MacDonald, 2006). The White population was considered a superior race above Coloureds, Indians and Blacks and this created inequality for the race groups within the government, the economy, the society and culture (MacDonald, 2006).

With regards to age, the so-called Generation Y, which includes Born-frees (those born post-apartheid-from 1994) were the first to make use of the Internet more frequently i.e. for social purposes, access to information etc. when compared to the older generations (van Deursen & van Dijk, 2015). It is assumed that this generation is therefore more proficient in using the Internet than the older generations.

According to van Deursen and van Dijk (2015), education levels also contribute to the digital divide. In the South African context, this may be attributed to the Apartheid era where the education that the previously disadvantaged were taught was at a lower level than those of the previously advantaged as the Apartheid government had ruled that a low level of education was adequate for Black people (Fiske & Ladd, 2004).

2.2.1 Racial impact on consumer behaviour

Twenty three years into democracy, race is still a very prominent factor in the country, this is evident in society through how people relate with one another (i.e. in terms of marketing, employment, groups of networks). Enslin (2003) stated: *"...in divided societies like South Africa people identify more readily with one of its ethnic, racial or religious components rather than with the society as a whole."*(p.75).

The previously disadvantaged group within the country were late adopters of technology. It was only post the democratic elections that this group had access to

the same opportunities that the previously advantaged group had i.e. good education, technology etc.

Population Group	Percentage
White	49.81%
Black	33.21%
Coloured	7.16
Indian	4.84%
Prefer not to say	3.95%
Other	1.03%

Table 3: South African Internet users by race (Mybroadband, September 2014)

Table 3 illustrates the race groups that make up majority of the South African population. The gap in these percentages also demonstrates the digital divide that exists between the different race groups. This shows that the White population has had more exposure to and have a higher Internet usage rate when compared to the rest of the race groups within the country. The previously advantaged group has been exposed to the Internet for many more years than the previously disadvantaged group; meaning that their experience with the Internet is more extensive and solid (Brown & Licker, 2003).

South Africa is a diverse nation which is multi-lingual and multi-cultural (Brown & Licker, 2003) - the 'Rainbow Nation'. In addition to this, although individuals within the same country may have similar values (Burton, 2008), their purchasing behaviour and attitudes may vary depending on which racial group they belong to (De Mooij & Hofstede, 2011).

This creates very interesting marketing/advertising dynamics as stated by Potgieter et al. (2013), it is important to understand the decision making process that consumers undertake before making a purchase as this drives their consumer behaviour.

Since the beginning of democracy within the country, there has been some level of racial integration. This is evident in Acts implemented post-apartheid such as the Employment Equity's Act which according to (A. Thomas, 2002) aim to level the playing field within organisations by ensuring that individuals are given fair and equal opportunities within the workplace regardless of their race. Yet generally, people are still more comfortable to work and interact with those who are of the same race and culture (Enslin, 2003).

According to Brown and Licker (2003), the digital divide that exists among various racial groups is due to various socio-economic factors such as exposure to technology infrastructure, Internet access gap between households (based on race), education and class.

Internet access

According to Mybroadband (September 2014) (refer to Table 3), more people within the White population group have access to Internet than any other population group.

Education

Looking back to 1996 (as per Figure 4 below), it is evident that the previously disadvantaged group had lower levels of education while the previously advantaged cohorts had a higher percentage of people who completed Grade 12 and Higher education as per the 1996 and 2001 Census (Statistics South Africa, 2012). This obviously had an impact in the rate at which the various races learnt new concepts.

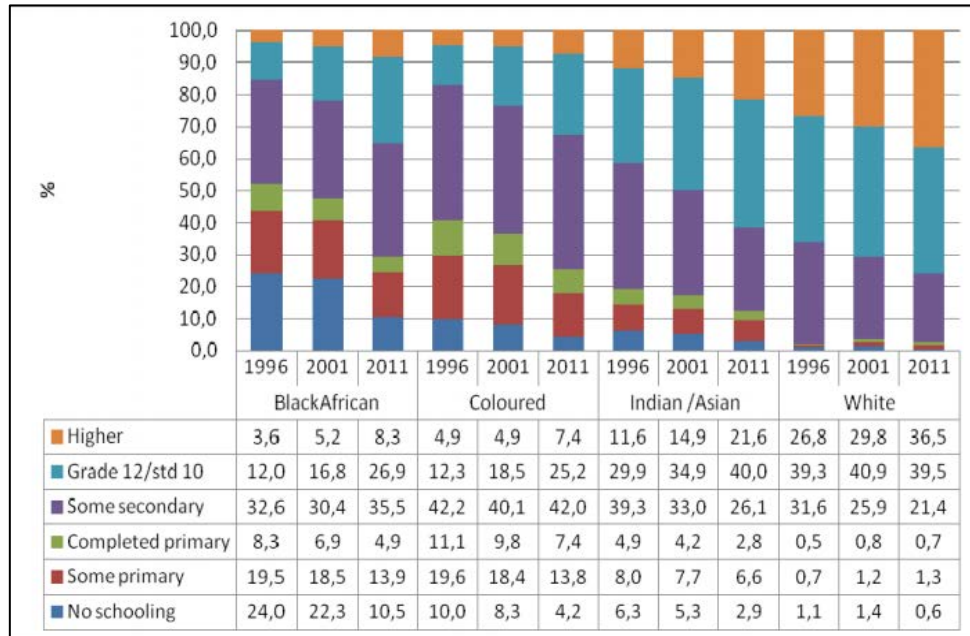


Figure 4: Highest level of education attained amongst persons aged 20 years and older by population group: Censuses 1996, 2001 and 2011 (Statistics South Africa, 2012)

Class: income gap

With regards to income based on comparisons of the 2001 and 2011 census (Figure 5 below), the Black population is earning more according to Census (2011) but is still on the lower end of the scale, while the White cohorts' income has always been on the higher end of the scale. Based on the year 2011 average figures, the White groups' income is higher than the Black groups' by 304 521, this proves that the previously advantaged cohorts are still the richest population group in the country. This can be linked to why they are the highest group that utilises the Internet, which is also possibly due to the fact that they have more disposable income to spend.

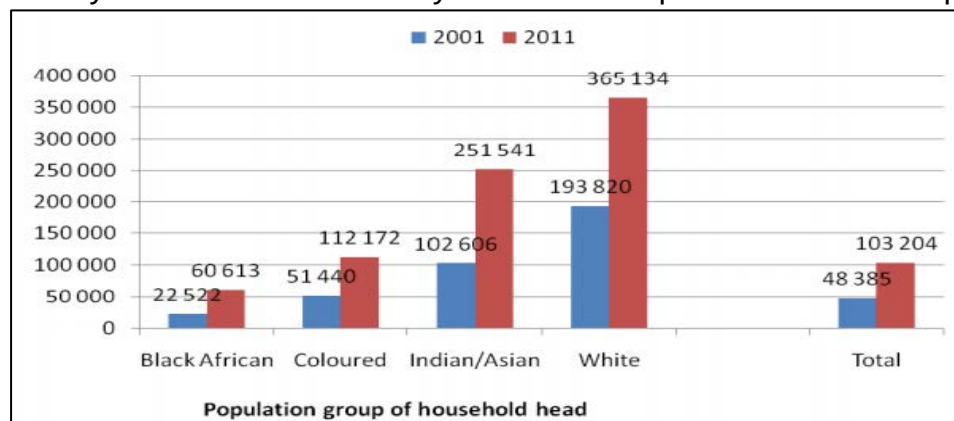


Figure 5: Average annual household income by population group of household head (Statistics South Africa, 2012)

Doran (2002) suggests the importance of establishing a common ground knowledge base amongst various cultures. This knowledge may then be utilised to streamline online product and service offerings that appeal to people of all cultures (races).

2.2.2 Age: Generation Y

This is a generation of children born after 1981. In the South African context, this includes individuals born after 1994 post the country's first democratic election (Ruzane, 2012), also referred to as 'the Mandela Generation'.

The older generational group in the country consists of individuals born during apartheid (Mattes, 2012), Generation X. This generation is reducing in size and influence as the millennials are becoming of age and more in-depth influence (e.g. #FeesMustFall) as well as spending power as they have started to enter the country's labour force. According to a study conducted by (Student Village, 2015), Generation Y (sample age: 17-25) spend an average R 2 702.00 per month. This was up by 7.95% from 2014.

Bakewell and Mitchell (2003) argue that the younger generations' decision making styles differ substantially from those of the older generation cohorts. Weiss (as cited in Potgieter et al., 2013) further claimed that they are impulse buyers when compared to the older generation who tend to consider affordability as well.

This generation's level of education is higher than those of the previous generations (i.e. their parents) (Mattes, 2012) as they have greater opportunities and more choices regarding the quality and access to education. They also have the freedom to work, live and marry based on their preferences.

Table 4 below illustrates the percentage distribution of Internet usage amongst different age groups. It is very clear that Internet usage is higher amongst the 20-34 age groups. This particular group is the Generation Y group as it consists of individuals born since 1981.

Age	Percentage
Under 15	0.12%
15-17	3.22%
18-19	6.57%
20-24	15.57%
25-29	15.70%
30-34	13.39%
35-39	10.57%
40-44	9.36%
45-49	7.83%
50-54	6.88%
55-59	5.37%
Over 60	5.42%

Table 4: South Africa's Internet demographics based on age (Mybroadband, September 2014)

Generation Y group of individuals seems to be defining a new South Africa which will see greater levels of racial integration, a strong democratic culture (Mattes, 2012) and a shift in consumer behaviour.

One of the biggest challenges these cohorts face is unemployment which will lead to a new type of obstacle; class segregation due to the widening income gap between the rich and the poor (Mattes, 2012). This is evident in the latest Quarterly Labour Force Survey which shows that for the period January 2016 to March 2016, the unemployment rate among the 15-24 year olds was 54.5% which is 4.5% higher than the previous quarter - October – December 2015 (Statistics South Africa, 2016).

Despite such challenges, in the context of the study at hand, this generation is technologically savvy (B. Valentine & L. Powers, 2013). Therefore, they are a consumer group whose behaviour needs to be learnt and understood the most because they have become a significant consumer group in the market (Ruzane, 2012). Their values, which differ from those of the Generation X (Loroz, 2006) have an impact on advertising appeal. In terms of values, the Generation Y individuals are said to be more tolerant, independent and care more about social responsibility (B. Valentine & L. Powers, 2013) which will further drive a change in how businesses traditionally run their businesses.

In a study conducted, the Internet was the second highest electronic media that is used as a primary media source by this generation (B. Valentine & L. Powers, 2013). This is highly likely part of the reason why they are such a great influence regarding what their parents purchase (Kennedy, 2001) and how they make the purchase as they are more informed in terms of access to an immense load of information available on the Internet. Influencing them to do more online shopping should be easy.

On average, a Generation Y individual spends R 32 424.00 per annum, this is R 7 216.00 more than an average South African (Student Village, 2015). They have the buying power.

2.2.3 Research Question 1

Considering the complexity that demographics generate with regards to the consumer decision-making process, does Internet proficiency (among different races and different generations) influence the degree to which a consumer makes the decision to shop online?

2.3 Background on Internet and online shopping

2.3.1 Internet in South Africa

Internet in South Africa was first introduced with the goal of connecting universities for academic purposes; with the Internet being first established at Rhodes in 1988 (Bronkhorst, September 2011). The post-apartheid government established that building an information dissemination system by using the Internet would reduce the information gap between government and society (Wilson, 1999).

In reference to the diagram below (Figure 6), we can see that the number of Internet users has climbed to just over 26 million users (kemp, 12 February 2016) (out of a total population of 54.7 million people) compare to 2.4 million in the year 2000 (Duff, 22 October 2013). For a developing country, this is quite a significant increase, especially taking into account that according to Census 2011 (Refer to Figure 2) there are 64.8% households who still do not have access to Internet.

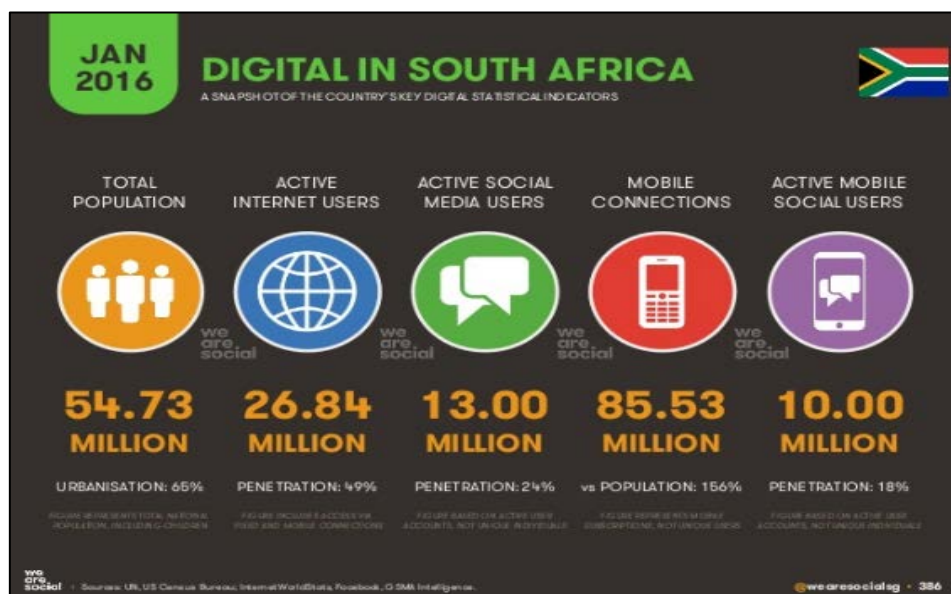


Figure 6: Snapshot of the country's key digital statistical indicators (kemp, 12 February 2016)

According to research conducted by Bornman (2016), it has been concluded that in addition to ICT access; certain demographics – ethnicity (race), income, education and gender- have also contributed towards South Africa being considered one of the societies that are highly united by information in sub-Saharan Africa based on mobile

ownership, also noting that ownership of a mobile phone does not automatically result to access to Internet (Bornman, 2016). One of the definitions that this author uses to define information society is the spatial definition which states: “...*spatial definition views the information society in terms of information networks that connects various locations.*” (p.265). A presentation conducted by Kleiner Perkins Caufield & Byers’ (KPCB’s) revealed that there are 23 million smartphone users, with 57% of total mobile Internet traffic when compared to other developing countries (Mybroadband, May 2015).

Cost of Internet

The cost to use the Internet is high and there is no transparency in terms of what consumers are being charged for which makes it difficult for them to make informed decision about how they purchase and utilise data for Internet usage (Sambasivan et al., 2013). While there is a fair number of people who access internet on their phones (Oyedemi, 2012), most employed individuals access Internet from their work places. According to the author, students generally access internet from campus computer labs. This is done to avoid costs associated with Internet usage.

Data costs are further increased by tax charged on broadband for mobiles (West, 2015). If data costs could be cheaper, this would increase Internet usage and in turn, online shopping. This is supported by Reeder (2015) who reports that most online activities in Africa take place on mobile phones.

West (2015) claimed that data costs are high as a result of lack of competition. In the South African context this statement does not hold true because the telecommunications companies (i.e. MTN, Vodacom etc.) are very competitive. As stated by William Currie, in South African telecommunications companies have not embraced competition such that they could offer lower, competitive prices, this is the reason why the cost of communication is still high in this country (Vermeulen, 2014).

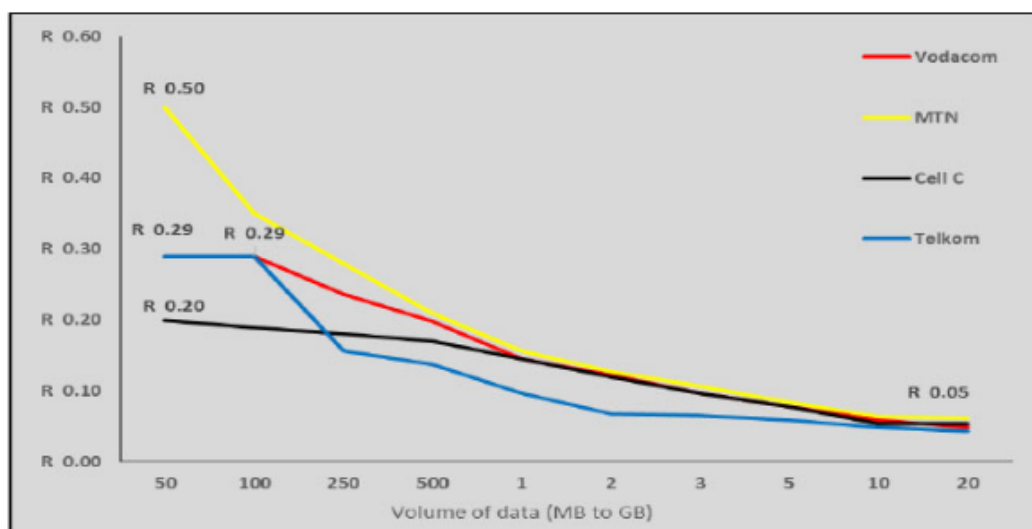


Figure 7: Tariff per megabyte for prepaid data packages (Mybroadband, December 2015)

As per Figure 7 above, ICASA released a report comparing data prices among the 4 cellular networks. The graph illustrates that the fewer the data that is purchased, the more expensive it is and the more data that is purchased the cheaper it is with MTN being the most expensive.

2.3.2 Online purchases

Currently, there are 27% (See Figure 8 below) active consumers who shop online in South Africa (kemp, 12 February 2016). Although there are 26.8 million active Internet users (refer to Figure 6), there appears to be a small number of those Internet users who partake in e-commerce and m-commerce shopping - which is currently 12% (kemp, 12 February 2016).



Figure 8: Active e-commerce shoppers in South Africa (kemp, 12 February 2016)

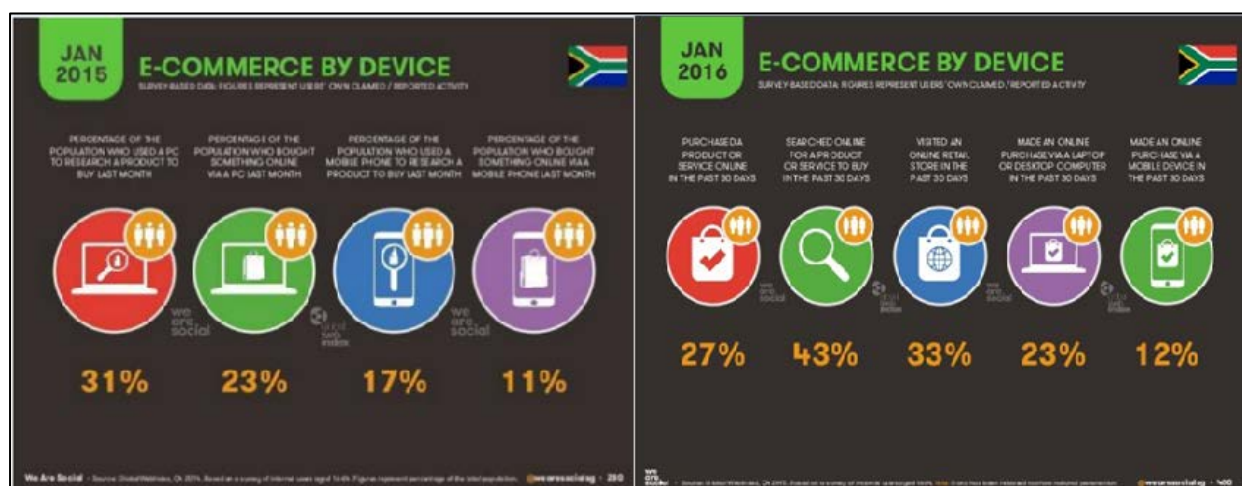


Figure 9: Comparison of e-commerce purchases by device between 2015 and 2016 (kemp, 12 February 2016, 21 January 2015)

Figure 9 above shows a comparison of online purchases based on the device used. The number of online purchases made on a mobile device increased by 1% in 2016 while those made through a PC/laptop remained the same at 23% between 2015 and 2016. This raises the question about what the cause of the stagnant percentage could be. What element of the consumer behaviour patterns need to be altered or what Internet education process needs to take place in order for the percentage to increase?

With the Internet fast becoming a primary source of information, most consumers are now using this platform to perform research on products and services before they make a purchase (even though some consumers still go to traditional stores to make the purchase) (Botha, 2015). This change in behaviour alone, warrants a great deal of investment from businesses to win this market over to make online purchases (Habibi et al., 2014).

Online purchasing allows for direct business to consumer trading and relationship building which minimises costs as businesses would only need to produce and ship/deliver on demand which will potentially reduce waste (Christopher, 2016).

The basic steps of consumer purchasing behaviour consists of identifying a need, searching for information on how to satisfy that need as well as alternatives available and finally making the decision to make the purchase and evaluating satisfaction levels (Botha, 2015)

Therefore, whether consumers are making a purchase online or at a retail store, they follow the same decision-making process with regards to making a purchase. This means that basically, the fundamental difference between shopping online and shopping at a retail store is the actual web interface (Botha, 2015) and a platform with good security. Although, shopping online comes with advantages such as convenience as one may conduct their purchases without going to the store, it allows the consumer to make comparisons on quality, features and price effectively and efficiently etc. (Xie, Zhang, & Zhang, 2014).

2.3.3 Research Question 2

Data is a fundamental element required for consumers to access the Internet. Therefore, in order for consumers to incessantly shop online, the cost of data must be structured such that consumers from various demographic groups can afford it. To what extent has the high cost of data influenced the rate of online shopping in South Africa.

2.4 Conclusion of Literature Review

This chapter discussed South Africa's apartheid history and how marginalisation of certain races led to limited access to education and opportunities.

Generation Y was explored in terms of how different they are from the older generation (i.e. their parents), the spending power they possess and how influential they are.

Given the lack of opportunities for the older generations due to their race as well as looking at the opportunities that Generation Y (especially the Born-frees from the previously disadvantaged race groups born after 1994) have had access to (i.e. good education and access to digital technology from a young age) this leaves a compulsion to discover whether Internet proficiency influences consumer behaviour towards online shopping.

The chapter also discussed the Internet environment in South Africa and high costs associated with accessing the Internet.

The review of the above topics has led to the below hypothesis that this research study will explore further.

In summary, the research questions that this study aims to answer are:

2.4.1 Research Question 1:

Given the difference in opportunities for basic needs among various race groups and generations, what influence does Internet proficiency have on the consumer's decision to shop online?

2.4.2 Research Question 2:

To what extent has the high cost of data influenced the rate of online shopping in South Africa.

Chapter 3: Research Methodology

According to O'leary (2004), research methodology is defined as: "...a framework associated with a particular set of paradigmatic assumptions that you will use to conduct your research." p.85. In other words, it refers to how we tactically look for answers to problems identified within the research study at hand as described by Taylor, Bogdan, and DeVault (2015).

In chapter 2, a literature study was conducted, exploring the impact that the apartheid era had on socio-economics in terms of racial segregation and citizens having unequal opportunities – including access to internet. It also explores the population group which has the highest percentage in terms of access to the Internet. The chapter also explores the Generation Y cohorts and how being born into democracy (born with more rights and access to opportunities) has led to a digital divide between them and their parents' generation.

The literature study also explored the history of the Internet, costs associated with accessing the Internet which potentially create a barrier in terms of consumers accessing the Internet in order to shop online. The chapter then concludes by looking at the current online purchasing activity and a brief look at consumer decision-making styles.

This chapter serves to address the sub-question under which the research methodology will be based on; by presenting the research design, research instrument, population and sampling methods and data population.

3.1 Research Paradigm

This research study follows a positivism paradigm. This paradigm was developed by August Comte who stated that in order to gain comprehension on human behaviour, observation and reason must be accentuated (Dr. Nirod & Dash, June 2005). According to August Comte, observation and experiment are the efficient ways through which one can obtain true knowledge which is based on experience of senses (Dr. Nirod & Dash, June 2005)

This paradigm generates knowledge through quantification (P. Thomas, 2010). Each research paradigm has a research method which defines it; where the positivism paradigm is defined through a quantitative methodology through the use of experiments, surveys etc. while anti-positivism is defined by qualitative methodology (Dr. Nirod & Dash, June 2005).

Majority of similar studies like (Botha, 2015; Ruzane, 2012) that have been conducted before used the quantitative approach to collect data with very few making use of the qualitative approach. The quantitative methodology was utilised for the purposes of this study.

Qualitative approach is explorative approach which aims to understand an individual or group's social perspective (Creswell, 2013). This approach may involve the use of interviews as a data collection method.

Quantitative approach examines the relationship which exists between variables in order to test the hypothesis of a research study (Creswell, 2013). Through the collected data, this approach allows the researcher to make an objective conclusion (Williams, 2011). Research designs that are used to collect data include experiments, surveys, questionnaires etc. (Creswell, 2013). In any professional setting, including conducting quantitative research; the researcher must always act ethically, with integrity and maturity (Sterba, 2011) in order to avoid any negative impacts on the research participants and the body of work.

The reason this study will utilise the quantitative approach is that it allows for large amounts of data to be collected from various population groups and geographical areas (Gosling, Vazire, Srivastava, & John, 2004).

Creswell (2013) stated the advantages of using a quantitative methodology as:

- It is pre-determined,
- Instrument-based questions,
- Performance data, attitude data etc.,
- Statistical analysis and
- Statistical interpretation.

The disadvantage with this method is that the researcher will not be able to view any other expressions about consumers and their online shopping behaviour in any other way except through the list of responses defined on the questionnaire.

3.2 Research Design

Research design is a tool that is used to conduct research in order to gather answers which provide solutions to research questions (Mitchell & Jolley, 2012). The authors concluded that research design assists with the distinction of science, pseudoscience, nonscience and nonsense; leading one to be a more efficient customer and citizen in the country.

The proposed research followed a comparative investigation through the use of a questionnaire. The questionnaire was structured such that the results can be compared between racial groups, age groups and the cost of Internet.

The results were analysed by distribution fitting algorithm and statistical hypothesis testing, t-test. The goal of a statistical hypothesis test is to determine if a hypothesis based on the nature of the population may be supposed by the given sample or not (Taeger & Kuhnt, 2014).

3.3 Population and Sample

3.3.1 Population

The population for this research study consisted of South African individuals of various ethnic groups. The individuals represented various generational groups in order to represent various age ranges. The questionnaire was not restrictive with regards to the provinces where respondents reside.

3.3.2 Sample and Sampling Method

A convenience and snowballing sampling methods were used and targeted participants from African, White, Indian and Coloured ethnic groups. Age ranged from twenty to sixty in order to cover participants from Generation X and Generation Y. The questionnaire will be distributed to the researcher's colleagues, students and friends.

Sampling methods

The sampling method that was considered for this research is non-probability sampling. The probability sampling method allows for a sample to be statistically chosen at random from a specified population, meaning that every individual within a population has the probability of being included in the survey being conducted (Levy & Lemeshow, 2013), this method was not chosen for this research study due to the fact that the probability of individuals who took part in the survey was unknown.

Non-probability allows for research objectives to be met in cases where it was not possible to obtain a random sample, therefore the probability of an individual being selected from a population is unknown (Acharya, Prakash, Saxena, & Nigam, 2013, p. 332). Therefore, due to challenges of reaching every single South African who has made online purchases, the researcher deemed it appropriate to utilise the non-probability method instead of the probability method.

Some of the disadvantages of non-probability sampling are:

- Bias may be created due to the fact that an individual being selected from a population is unknown (Acharya et al., 2013).
- One cannot generalise beyond the sample (Zikmund & Babin, 2010).

However, according to Zikmund and Babin (2010), researchers still find this method of sampling well suited for specific research purposes because it is pragmatic and is therefore used in market research. There are other research studies pertaining to online shopping that used non-probability sampling methods (Botha, 2015).

The combinations of non-probability sampling methods chosen for this research are convenience and snowball sampling.

Convenience sampling encompasses the use of a sample of individuals who are readily available to partake in the survey (Zikmund & Babin, 2010). Added advantages to utilising this method are that it is cost effective (Acharya et al., 2013) and turnaround time for responses is quick (Zikmund & Babin, 2010). The researcher made use of this method by distributing the questionnaire to participants that she is acquainted with through work, school and social circles.

Snowballing sampling is a process where secondary respondents partake in the survey after receiving the link from respondents whom the researcher sent the survey to initially (Zikmund & Babin, 2010). For the purposes of this study, snowballing effect was used due to the researcher having asked respondents contacted through convenience sampling to forward the survey to additional respondents.

Sample Size: As anticipated by the researcher, the snowballing effect increased the number of participants for the questionnaire. A similar research study conducted by (De Swardt & Wagner, 2008) used a sample size of about eight participants through the qualitative method. Another comparable study by (Botha, 2015) had a sample size of three hundred and seventy five (375) participants through the quantitative method, which included snowballing effect.

Due to this method of distribution, the number of participants was unknown to the researcher at the time of distribution as the snowballing effect was expected to take effect. The researcher did not know the potential number of respondents at the time of distributing the questionnaire but expected a number between eighty and one hundred participants. The actual sample size attained was eighty six but ten of the respondents had not completed the survey, therefore only data from seventy six respondents was used for data processing and analysis.

3.4 Research Instrument

The research instrument that was chosen to collect data for this research study was a questionnaire (provided in Appendix A) because it is convenient and efficient to distribute to participants (Rowley, 2014) as it was distributed via email and WhatsApp.

3.5 Procedure for Data Collection

The questionnaire, which is hosted on www.qualtrics.com was distributed to participants via email and via WhatsApp and took at most five minutes to complete.

The email distributions contained an introduction clearly explaining the purpose of the study and requesting participants to forward the survey link to other potential participants (Appendix B).

The questionnaire was designed on the Qualtrics website and therefore the link was delivered to participants through the Qualtrics software. As a Wits student, I had permission to distribute the survey using this software.

3.6 Limitations of Study

This study does not consider people who do not shop online and their reasons thereof. Although consumer decision-making behaviour is briefly discussed, this does not form part of the overall study.

Another limitation of this study is that the results of this study cannot be generalised to the broader South African population since non-probability sampling was utilised to collect data.

3.7 Validity and Reliability

3.7.1 Validity

“Validity...refers to the extent to which a scale or a subset of questions measure the construct that it is supposed to measure” p.63 (Botha, 2015).

The researcher ensured validity by utilising the questionnaire with the same questions. Qualtrics has a function that locks a questionnaire at the time that it is being distributed to the sample population, this ensures that the structure and measure of the questionnaire is kept the same for all respondents taking part in the survey.

3.7.2 Reliability

According to Botha (2015), reliability is the level at which consistent, dependable results are created considering that the environment stays the same. The survey was only conducted once for this research study and therefore, an opportunity to compare various results will not occur.

It is essential to ensure that validity and reliability are considered when conducting research.

Chapter 4: Presentation of Results

This chapter serves to present the results from data collected from the survey conducted.

4.1 Introduction

The purpose of this chapter is to provide descriptive analysis of the sample that was utilised for the purposes of this study and of the results of the questionnaire conducted.

The questions that this study aims to answer is whether Internet proficiency influences consumer's decision to shop online given race and age demographics and whether cost of data also has an influence on whether people decide to shop online or not.

The questionnaire was sent out randomly using convenient sampling to people within the Gauteng region with snowballing effect applied.

The questionnaire used consisted of 3 demographic items, 11 items were relating to the cost of data, proficiency of the Internet and where respondents accessed the Internet from. 3 items related to the behaviour of online shopping.

The sample size of respondents was eighty six, though only data from seventy six respondents was processed due to the fact that ten respondents had not completed the survey in full. The industries in which the respondents who received the questionnaire directly from the researcher work in ranged from retail, consulting, marketing, Insurance, Banking and business owners.

The survey was open for four weeks and twelve days. The bulk of the responses were received between the second and third week. The data was exported onto Microsoft Excel and it was processed using the distribution fitting algorithm.

A descriptive analysis of the results from the questionnaire will be presented in tables and graphs.

4.2 Background of respondents' demographics

The number of potential respondents was unknown due to the nonprobability method being used. A convenience sampling method was applied with snowballing effect applied. The respondents whom the questionnaire was sent out to were from within the researcher's circle of network through work, school and social circles mostly within the region of Gauteng Province.

A total of 86 respondents completed the survey, though only 76 of them completed it in full. The demographic profile of the respondents is detailed in the tables below, illustrating number of respondents by race, age and level of education. The respondent who chose 'Other' under the race category described themselves as a 'White African'.

Table 5: Race Distribution

Race	Number of respondents
African	29
Coloured	14
Indian	13
Other (Please specify)	1
White	19
Grand Total	76

Majority of the respondents were from African and White race groups followed by Coloureds and Indians respectively.

Table 6: Age Distribution

Age	Number of respondents
20-29	22
30-39	34
40-49	16
50-59	4
Grand Total	76

Most of the respondents were in their 30's followed by millennials (20-29 years). People from the older generation were represented by 4 respondents being in the age range of between 50-59 years. There was a fifth age range for respondents older than 60 years of age and this category had a zero response.

Table 7: Education Distribution

Level of education	Number of respondents
Bachelor's Degree	31
Below Grade 12	1
Diploma	22
Grade 12	11
Master's Degree	10
PHD Degree	1
Grand Total	76

Eleven respondents did not study further than Grade 12 while only one respondent's education level was below Grade 12. Fifty three respondents have an undergraduate qualification (Bachelor's Degree and Diploma) and 11 respondents have postgraduate qualifications (Master's and PHD).

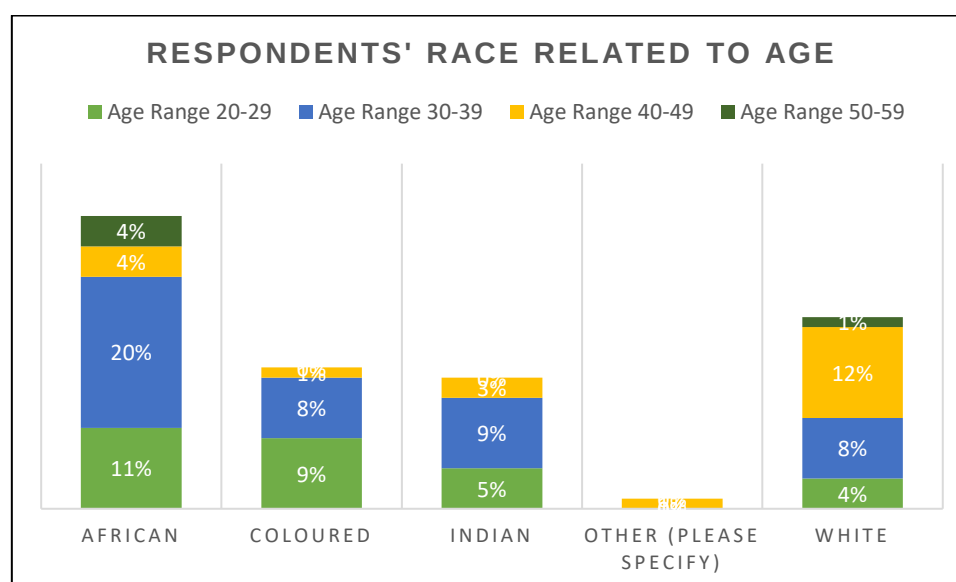


Figure 10: Representation of respondents' race related to the age range groups

Most of the respondents who took part in the questionnaire were Africans and from the age groups 30-39 and 20-29 respectively. The age group 50-59 had the least number of respondents with 1 respondent from the White race group and 3 from the African race group.

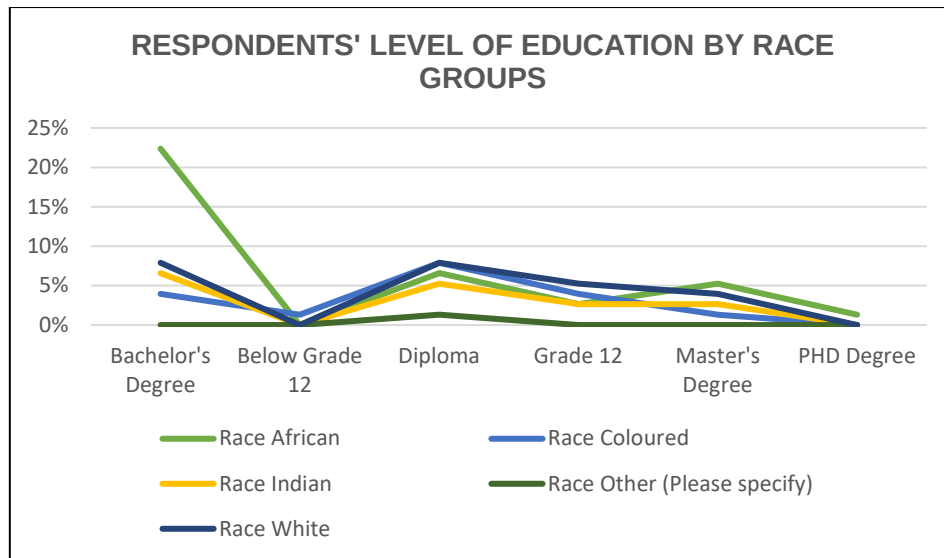


Figure 11: Representation of respondents' race by level of education

The highest level of education was a Bachelor's Degree with Africans being the majority of respondents with that qualification. Within the group of respondents, 14% only have a Grade 12 qualification, majority of them were of the White race group at 5%.

Observed frequencies	Race				
I generally ask for assistance to get information regarding a product or service I am researching online.					
	African	Coloured	Indian	Other (Please specify)	White
Strongly disagree	16%	5%	4%	1%	11%
Disagree	9%	4%	4%	0%	7%
Neutral	8%	7%	5%	0%	4%
Agree	5%	1%	1%	0%	0%
Strongly agree	0%	1%	3%	0%	4%
Grand Total	38%	18%	17%	1%	25%

Table 8: Frequencies for respondents' responses for Internet proficiency-Likert item 1

With regards to whether respondents generally ask for assistance to obtain information regarding a product or service they are researching online before they buy it, majority of respondents at 37% strongly disagreed with this statement. Of that 37%, majority of the respondents belonged to the African race group. Only 8% strongly agreed that they generally ask for assistance and the leading race groups there are Indian and White.

Observed frequencies	Race				
I am highly proficient in using the Internet that I am confident enough to transact online.	African	Coloured	Indian	Other (Please specify)	White
Strongly disagree	3%	0%	0%	0%	0%
Disagree	4%	1%	0%	0%	1%
Neutral	4%	4%	3%	0%	1%
Agree	11%	11%	5%	1%	8%
Strongly agree	17%	3%	9%	0%	14%
Grand Total	38%	18%	17%	1%	25%

Table 9: Frequencies for respondents' responses for Internet proficiency-Likert item 2

The data for Likert item 2 indicates that 43% of respondents strongly agree that they are confident enough to make online transactions due to being Internet proficient. Of the 43%, 17% consists of respondents from the African race group followed by 14% of respondents from the White race group. Respondents who indicated that they are not confident in their Internet proficient level when transacting online were 3% and all of them were of the African race group.

4.3 Results presentation pertaining to Research Question 1

Given the difference in opportunities for basic needs among various race groups and generations, what influence does Internet proficiency have on the consumer's decision to shop online?

4.3.1 Race Distribution

In order to answer this research question, the items from the questionnaire pertaining to Internet proficiency and frequency of shopping online were examined by race and age respectively. The results are presented in the next two sub-sections.

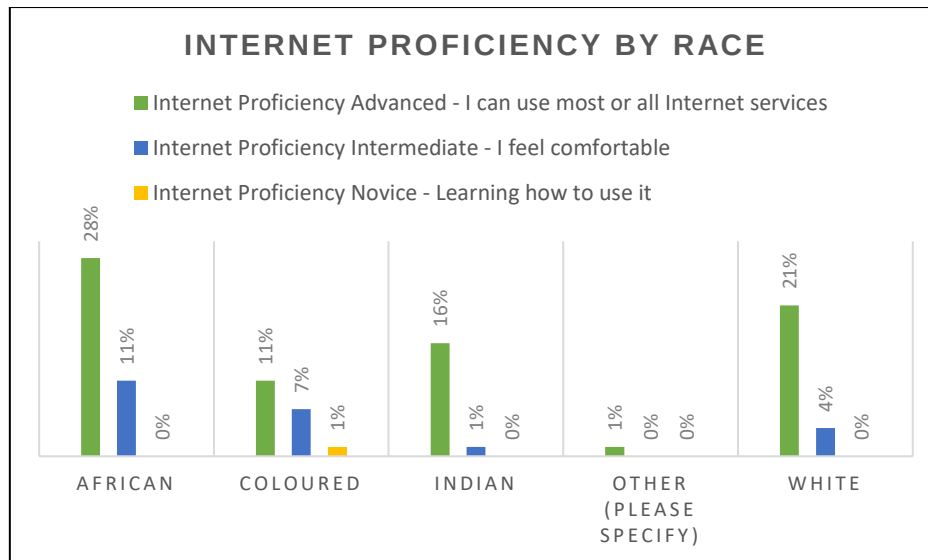


Figure 12: Illustration of Internet proficiency by race

Based on the number of respondents who participated in the questionnaire, 76.32% consider themselves to be advanced Internet user, which means they are confident in using most or all Internet services. Majority of these respondents are from the African (at 36.21%), White (including White African in Other category) (29.31%) and Indian (20.69%) ethnic groups respectively.

With regards to the theme of Internet proficiency, respondents were asked to indicate how strongly they agreed or disagreed with the below statements categorised by race:

1. I generally ask for assistance to get information regarding a product or service I am researching online.

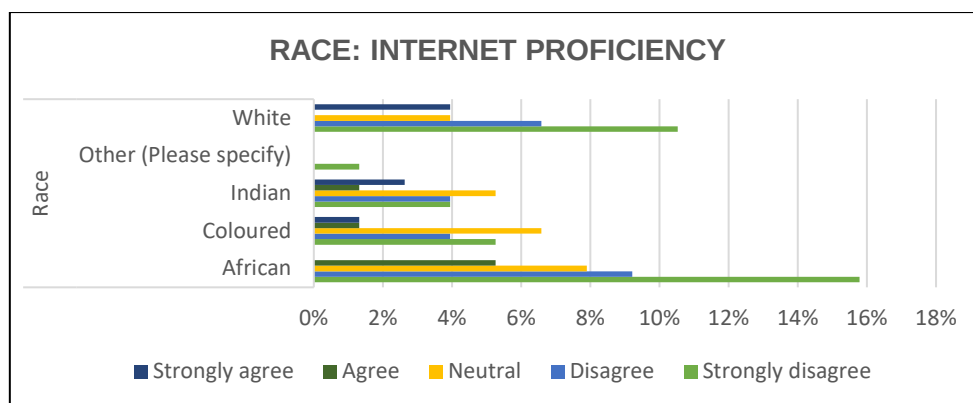


Figure 13: Responses on whether respondents require assistance to research online presented by race

The graph in Figure 13 shows that 16% of African and White race groups strongly disagreed with the statement and between 4% and just under 8% of respondents in each race group were neutral about the statement.

2. I am highly proficient in using the Internet that I am confident enough to transact online.

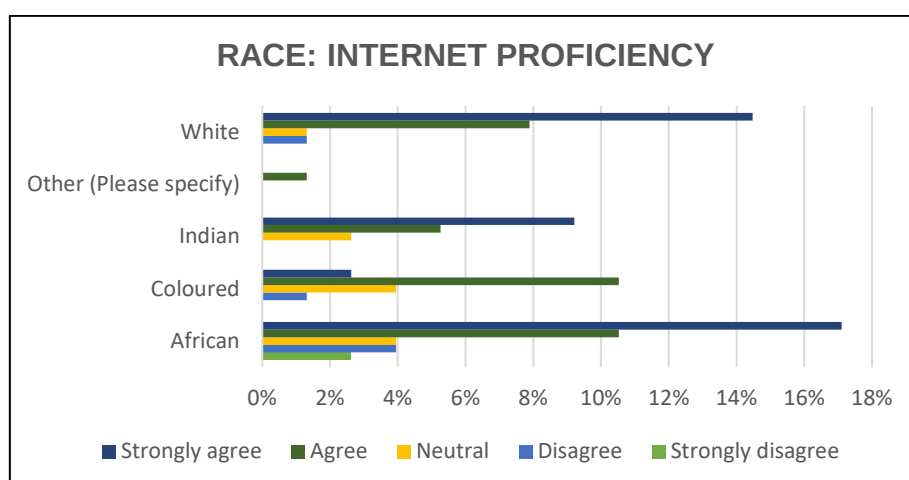


Figure 14: Responses on respondents' confidence in their Internet proficiency presented by race

A very high number of respondents strongly agreed that their proficiency level is such that they are confident enough to transact online. None of the respondents from Indian race group disagreed with the statement.

4.3.2 Age Distribution

Figure 15 below shows the respondents' capability of utilising the Internet categorised by the various age groups. Out of the 76.32% respondents who proclaim to be advanced Internet users, majority of the respondents were millennials in their 30's and 20's with a percentage distribution of 44.83% and 34.48% respectively. One respondent who is in their 40's answered that he/she is still learning how to use the Internet and is therefore a novice user.

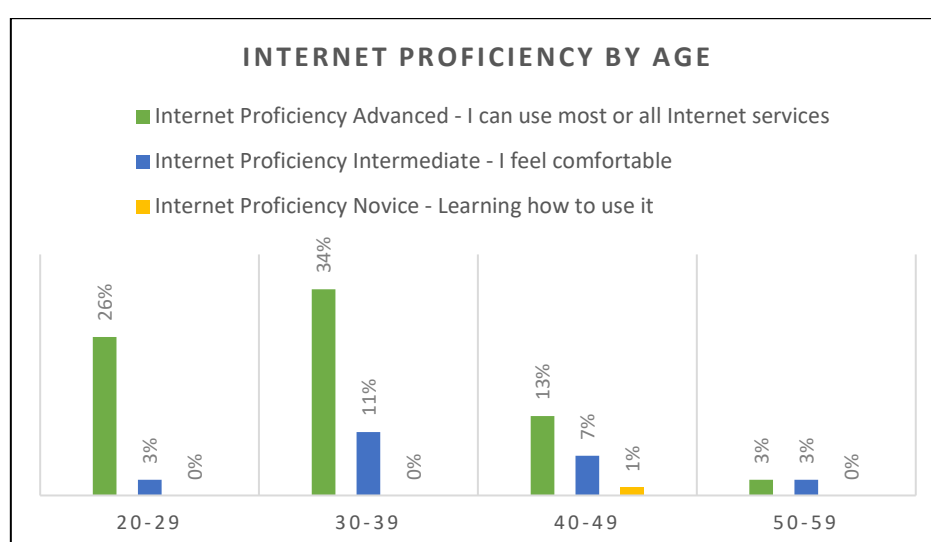


Figure 15: Illustration of Internet proficiency by age

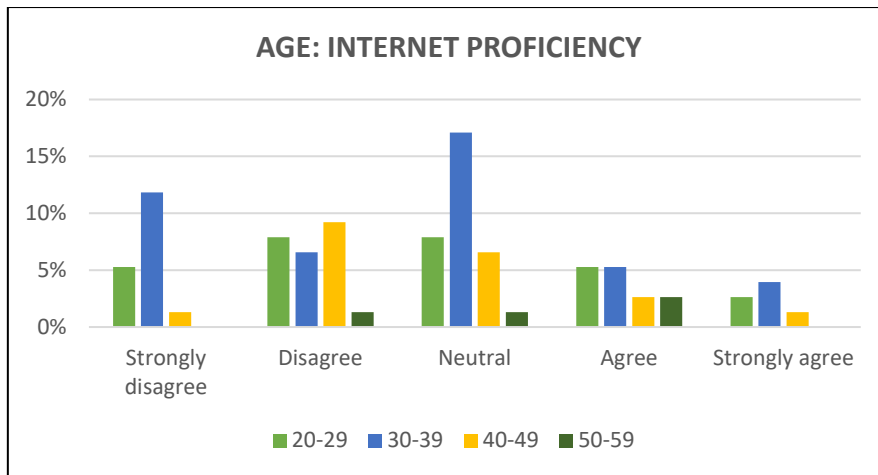


Figure 16: Responses on whether respondents require assistance to research online presented by age

Respondents who were the most neutral about the statement are people in their 30's. Respondents in their 50's generally agreed that they need assistance when researching a product or service online before making a purchase.

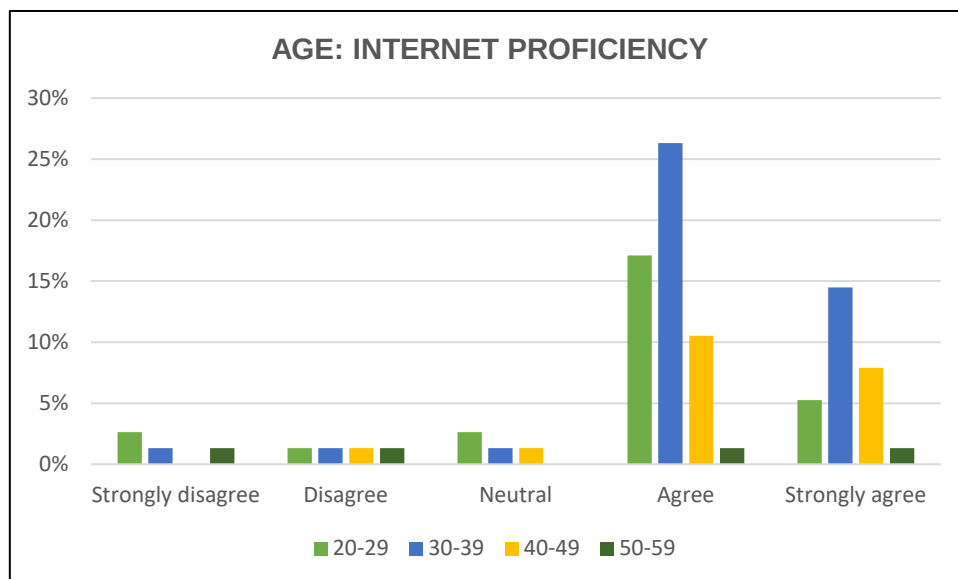


Figure 17: Responses on respondents' confidence in their Internet proficiency presented by age

Respondents in their 30's overwhelmingly agreed that they are confident when transacting online, followed by respondents in their 20's then 40's. The older generation (50's) seem to mainly disagree.

Age	Frequency of online shopping				
	Everyday	More than once a year	Once a month	Once a week	Once a year
20-29	0%	3%	9%	4%	13%
30-39	0%	12%	22%	7%	4%
40-49	1%	3%	9%	4%	4%
50-59	0%	0%	0%	1%	4%
Grand Total	1%	17%	41%	16%	25%

Table 10: Frequency of online shopping by age

In an attempt to deliberate whether the Generation Y do more online shopping than older generations, the data presented in Table 10 shows that the periods where most of the respondents perform online shopping transaction is once a month followed by once a year. The respondents in the older generation seem to shop mostly once a year.

Age	Average amount spent on online transactions				
	More than R 3000	R 100 - R 500	R 1001 - R 2000	R 2001 - R 3000	R 501 - R 1000
20-29	0%	9%	0%	4%	16%
30-39	1%	12%	12%	5%	14%
40-49	0%	5%	5%	1%	9%
50-59	0%	1%	0%	3%	1%
Grand Total	1%	28%	17%	13%	41%

Table 11: Distribution of average amount spent on online transactions by age

There is only one respondent who spends more than R 3000 on average per online transaction. Otherwise, most of the respondents spend between R501 and R 1000.

Respondents who spend the most are those in the 30-39 age group.

4.4 Results presentation pertaining to Research Question 2

To what extent has the high cost of data influenced the rate of online shopping in South Africa.

At least sixteen people who spend more than R400 on data shop once a month. Only four respondents spend less than R150 on data. Overall 85.53% of respondents spend between R201 and over R400 on data.

Shopping Frequency	Cost of Data				
	Less than R150	More than R400	R151 - R200	R201 - R300	R301 - 400
Everyday	0%	0%	1%	0%	0%
More than once a year	0%	9%	5%	3%	0%
Once a month	0%	21%	7%	11%	3%
Once a week	1%	7%	4%	3%	1%
Once a year	4%	7%	4%	5%	5%
Grand Total	5%	43%	21%	21%	9%

Table 12: Cost of data in relation to shopping frequency

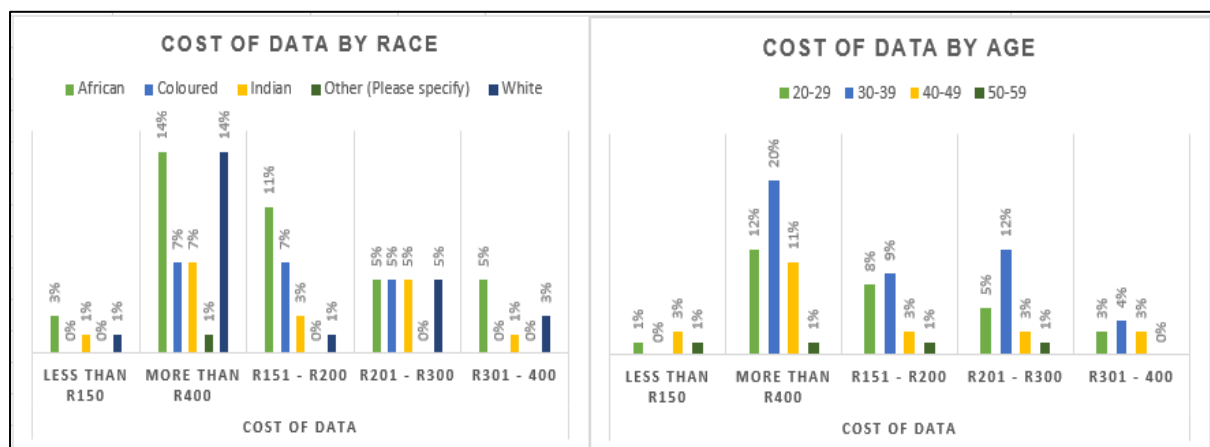


Figure 18: Comparison of cost data in relation to race and age

The respondents who spend the most on data (more than R400) fall within the White race group. When related to age, individuals in their 30's spend the most on data. Overall, individuals who are in their 30's buy the most data in four of the five categories identified in Figure 18 Cost of data by age.

Internet Access Location	Device Utilised for to Access Internet				
	PC/Laptop	PC/Laptop, Smart phone	PC/Laptop, Smart phone, Tablet	Smart phone	Smart phone, Tablet
Home	0%	3%	7%	13%	1%
Home, Mobile (park, shopping mall etc.)	0%	0%	0%	1%	0%
Home, Office	3%	14%	8%	4%	1%
Home, Office, Mobile (park, shopping mall etc.)	0%	7%	17%	0%	1%
Mobile (park, shopping mall etc.)	0%	1%	0%	0%	0%
Office	7%	1%	0%	0%	0%
Office, Mobile (park, shopping mall etc.)	0%	1%	0%	0%	1%
School/campus, Home	0%	1%	0%	0%	0%
School/campus, Home, Mobile (park, shopping mall etc.)	0%	0%	1%	0%	0%
School/campus, Home, Office	0%	1%	1%	0%	0%
School/campus, Home, Office, Mobile (park, shopping mall etc.)	0%	0%	1%	1%	0%
Grand Total	9%	30%	36%	20%	5%

Table 13: Correlation of Internet device and location of Internet access

Table 13 above illustrates that twenty three individuals access the Internet from a PC, a laptop or a smart phone with eleven of these individuals doing so from home or place of work and in addition to this four more individuals also make use of a Tablet with thirteen of them accessing the Internet either from home, place of work or from random locations (i.e. shopping mall etc.). In third place are individuals who use their smart phones to access the Internet.

Only one individual makes accesses the Internet from the combination of school/campus, home or random location.

The Likert scale was further designed to examine the degree to which respondents are influenced by the cost of data in their decision to shop online. The results presented in the form of Chi-squared distribution, mean and variance are illustrated in Table 14 below:

	How much does the cost of data influence your decision to shop online			
	I make online purchases because data is affordable	I shop online to save time	I shop online to save money	The cost of delivery does not discourage me from shopping online
Strongly disagree	0,0075	2,0958	0,4407	0,4399
Disagree	0,1145	1,5031	0,4611	2,1960
Neutral	2,6660	5,9291	0,0624	2,6481
Agree	2,7933	3,8821	0,0143	0,2015
Strongly agree	0,6046	0,0455	0,0308	0,0264
Means	-0,4126	0,4544	0,0641	-0,0588
Variances	0,6774	0,6942	0,5061	0,6720

Table 14: χ^2 , threshold, mean and variance distribution for influence of cost of data on online shopping decision

Age	I make online purchases because data is affordable				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
20-29	4	6	6	4	2
30-39	9	5	13	4	3
40-49	1	7	5	2	1
50-59		1	1	2	
Grand Total	14	19	25	12	6

Table 15: Influence of cost of data on decision to shop online

Fourteen respondents strongly disagree that they shop online due to data being affordable with four of them being in their 20's and nine in their 30's. Twenty five respondents were neutral about this item.

Age	I shop online to save time				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
20-29	2	1	2	13	4
30-39	1	1	1	20	11
40-49		1	1	8	6
50-59	1	1		1	1
Grand Total	4	4	4	42	22

Table 16: Influence of time on decision to shop online

Majority of the respondents agreed that they shop online to save time, followed by twenty two respondents who strongly agree. Majority of those who agree are in the 30-39 age group.

Age	I shop online to save money				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
20-29	1	3	6	11	1
30-39		7	6	15	6
40-49		4	5	4	3
50-59	1	1	1	1	
Grand Total	2	15	18	31	10

Table 17: Influence of saving on decision to shop online

Two respondents stated that they do not shop online to save money. One of those respondents is part of Generation Y (20's). Thirty one respondents agreed that they shop online to save money.

Age	The cost of delivery does not discourage me from shopping online				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
20-29	2	7	4	8	1
30-39	3	8	5	10	8
40-49		5	2	8	1
50-59		1		3	
Grand Total	5	21	11	29	10

Table 18: Influence of delivery cost on decision to shop online

Figure 22 shows twenty nine respondents with majority of them in their 30's, who agree that the cost of delivery does not discourage them from shopping online.

4.5 Summary of Results

Based on the results presented above, it may be concluded that respondents from all race groups evaluated are skilful in making use of the Internet. Majority of respondents were between the ages of thirty and thirty nine.

Chapter 5: Discussion of Results

This section is for discussing the results in relation to the literature review.

5.1 Introduction

This chapter serves to explain the results of the survey conducted for this study in relation to the literature review conducted in Chapter 2. The respondents' demographics are material to the first research question and will therefore be briefly discussed in addition to what was already illustrated in Chapter 4.

5.2 Demographic Profile of Respondents

Age	Race				
	African	Coloured	Indian	Other (Please specify)	White
20-29	8	7	4		3
30-39	15	6	7		6
40-49	3	1	2	1	9
50-59	3				1
Grand Total	29	14	13	1	19

Table 19: Race of respondents distributed by age

In the literature review Table 3 presented percentages of South African Internet users by race and the White race group were the majority followed by the Black ethnic group, Coloured and Indian. With regards to the survey conducted for this study, the weight distribution of race among race groups differed due to a random selection of respondents but the data is still able to show us that the African race group (which constitutes the highest number in the previously disadvantaged group) has since developed more solid exposure to the Internet.

The highest number of respondents for the survey were individuals from the so called Generation Y group. This group is significant as they are becoming of age and are more influential. They are quite eager to get their voices to be heard, as is shown in the level of response in this survey. There were very few responses from the older generation (Generation X).

5.3 Results presentation pertaining to Research Question 1

A 5% level of significance will be utilised in this analysis. Therefore, the null hypothesis will be accepted where the p-value is higher than alpha (0.05) and rejected when it is lower than alpha (0.05).

The independent variables are Internet proficiency and cost of data and the dependent variable is 'online shopping'.

This section seeks to answer the questions below:

To what extent does race and age (taking into account individuals from different generations) influence the degree to which a consumer makes the decision to shop online?

5.3.1 Race Distribution

Given the racial divide during Apartheid where the previously disadvantaged group were deprived of opportunities and certain standards of living, the question also seeks to establish whether the lack of technological opportunities and marginalised education has an impact on the decision to shop online. According to the results (see Table 20 below), there is quite a fair spread of device ownership among the race groups. An interesting finding is that the combination of devices that is was selected by the majority of respondents includes a smart phone. This supports the findings by Statistics South Africa (Statistics South Africa, 2012) in Figure 2 which state that out of 35.2% of South Africans who have access to the Internet, 16.3% of them access it from a cell phone.

Race	Device used to access Internet				
	PC/Laptop	PC/Laptop, Smart phone	PC/Laptop, Smart phone, Tablet	Smart phone	Smart phone, Tablet
African	4%	8%	13%	12%	1%
Coloured	0%	5%	7%	4%	3%
Indian	1%	7%	7%	3%	0%
Other (Please specify)	0%	0%	0%	0%	1%
White	4%	11%	9%	1%	0%
Grand Total	9%	30%	36%	20%	5%

Table 20: Distribution of device used to access the Internet by race

Race	Level of Education						Grand Total
	Bachelor's Degree	Below Grade 12	Diploma	Grade 12	Master's Degree	PHD Degree	
African	22%	0%	7%	3%	5%	1%	38%
Coloured	4%	1%	8%	4%	1%	0%	18%
Indian	7%	0%	5%	3%	3%	0%	17%
Other (Please specify)	0%	0%	1%	0%	0%	0%	1%
White	8%	0%	8%	5%	4%	0%	25%
Grand Total	41%	1%	29%	14%	13%	1%	100%

Table 21: Distribution of level of education categorised by race

The level of education was quite high, with only 41% of respondents having a Bachelor's Degree, 29% a Diploma and 14% have Postgraduate Degrees. Although there was an uneven number of respondents among the race groups, the researcher is still able to conclude that the level of education within the previously disadvantaged groups has increased significantly when compared to the Census results referenced in the literature review. This is evident in that out of 74% respondents who fall within the previously disadvantaged group (African, Indian and Coloured) only 1% of those respondents had an education below Grade 12.

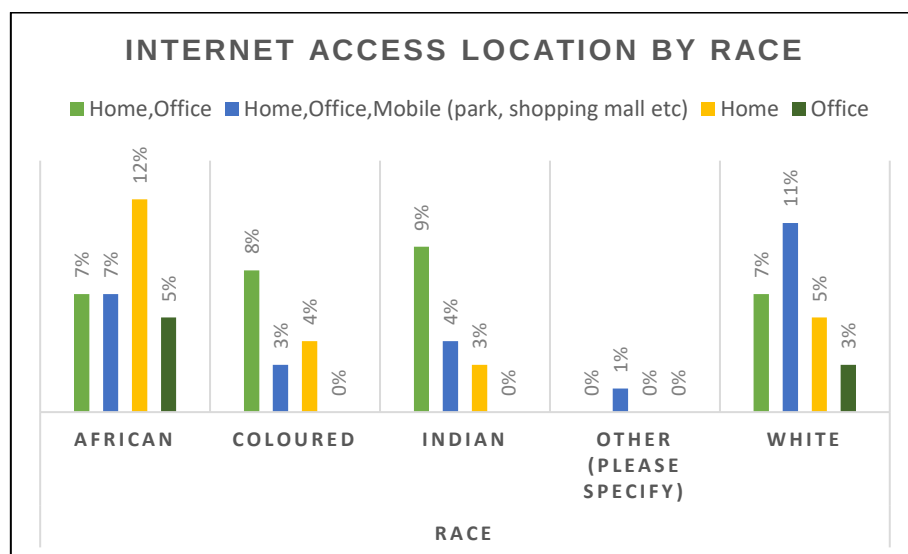


Figure 19: Internet access location by race

Figure 19 above, shows the top four locations where respondents access Internet from with the top location being 'Home, Office' combination.

5.3.2 Age Distribution

Majority of the respondents were millennials. In the literature review it was claimed that this generation's level of education is higher than that of the older generation, but according to data collected, it can be concluded that the older generation (their parents) have a high level of education as well.

In chapter 2, Student Village (2015) claimed that millennials' average spend per annum for online transactions was R 7 0216 p/m more than an average South African. Although collected data concluded that they perform more online shopping transactions than the older generation, the data does not confirm that the millennials spend more on online transactions. There is only one respondent from this group who spends more than R 3000 on average per online transaction. Otherwise, most of the millennial respondents spend between R501 and R 1000.

5.3.3 Hypothesis testing

	How proficient are you in using the Internet: I generally ask for assistance to get information regarding a product or service I am researching online.		How proficient are you in using the Internet. I am highly proficient in using the Internet that I am confident enough to transact online.	
Observed frequencies	Count	%	Count	%
Strongly disagree	28	37%	2	3%
Disagree	18	24%	5	15%
Neutral	18	24%	9	12%
Agree	6	8%	27	36%
Strongly agree	6	8%	33	43%
n =	76	100%	76	100%

Table 22: Frequencies for Internet usage proficiency

The Frequencies regarding responses for evaluating whether Internet proficiency influence online shopping are displayed in Table 22. Table 23 below displays statistical values in the form of mean, variance, standard deviation and t-value.

How proficient are you in using the Internet:		
	I generally ask for assistance to get information regarding a product or service I am researching online.	I am highly proficient in using the Internet that I am confident enough to transact online.
Mean	-0,77	0,73
Variance	1,11	0,89
Standard Deviation	1,05	0,94
t-value	-6,38	6,72
p-value	0,0000	0,0000

Table 23: Statistical test values

In order to examine whether the proficiency of Internet usage has an influence in consumers' decision making process to shop online, the items below were evaluated:

1. 'I generally ask for assistance to get information regarding a product or service I am researching online'.

H_0 : Assistance to get information has an impact on online shopping.

H_a : Assistance to get information does not an impact on online shopping.

P-value = 0,0000

$\alpha = 0.05$

Given the 5% level of significance, the p-value is significant. Therefore, the initial assumption that the null hypothesis is true is incorrect. The Alternative hypothesis is therefore accepted. This means that assistance to get information is not required to shop online.

2. 'I am highly proficient in using the Internet that I am confident enough to transact online'.

H₀: Level of Internet proficiency confidence has no impact to the decision to transact online.

H_a: Level of Internet proficiency confidence has an impact to the decision to transact online.

P-value = 0,0000

$\alpha = 0.05$

The p-value is significant, therefore it is unlikely that we would observe such a statistic in the direction of the alternative hypothesis if the null hypothesis were true. Hence, the respondents' confidence is directly linked to the decision to transact online.

5.4 Results presentation pertaining to Research Question 2

To what extent has the high cost of data influenced the rate of online shopping in South Africa.

According to a study conducted in 2016 by kemp (12 February 2016), there were 27% consumers who transact online in South Africa. The cost of data in South Africa is high (Sambasivan et al., 2013), this can be seen as one of the contributors towards the low online purchase rate.

The aim of this question is to find out whether the cost of data has an influence on consumers' decision to purchase online.

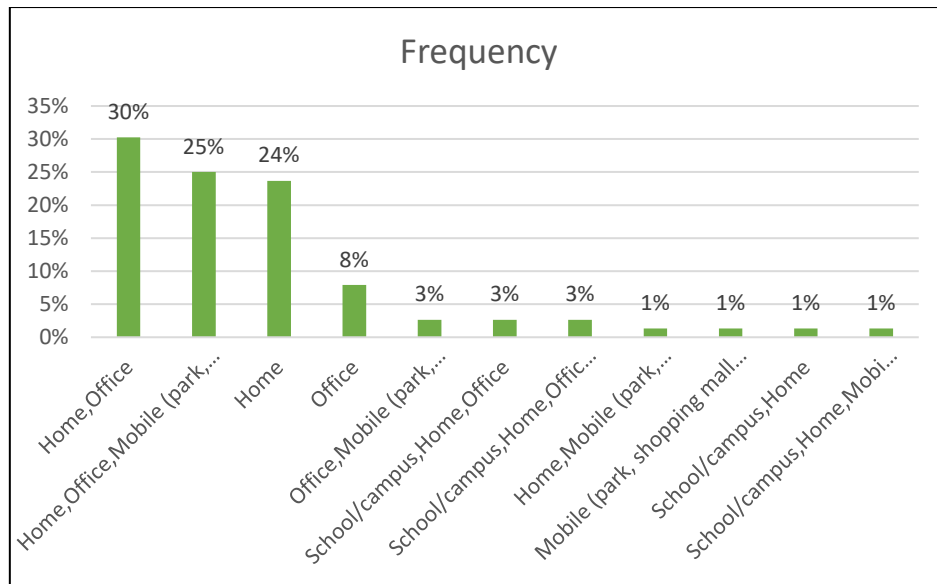


Figure 20: Locations where respondents access the Internet from

Figure 20 illustrates the top locations where respondents access the Internet from (as per options provided on the questionnaire):

- Home, Office,
- Home, Office, Mobile (park, shopping mall etc.),
- Home and
- Office

'Home' and 'Office' are definitely prominent. The assumption is that respondents are accessing Internet at home mostly on their phones or on PC/Laptop though home wi-fi connectivity (Refer to Appendix C-1 for more details). Internet usage at the work place is high because respondents do not need to pay for it. The employer covers that cost, which in turn reduces the respondents' overall cost of data. Some shopping malls offer free wi-fi. The finding here is that the cost of data is high hence why respondents will use data where it is provided for free as frequently as they can.

Although access to the Internet from home is high, respondents are paying for the data they utilise at home, but due to work/school commitments, respondents do not spend a lot of time at home.

Based on the graph below, it is evident that respondents spend a lot of time using the Internet. This can be correlated to the office being one of the top locations where Internet is used from, especially when taking into account the challenge faced by various workplaces which is called cyberslacking. Cyberslacking is a term used to describe overuse of the Internet for non-work related activities (Whitty & Carr, 2006).

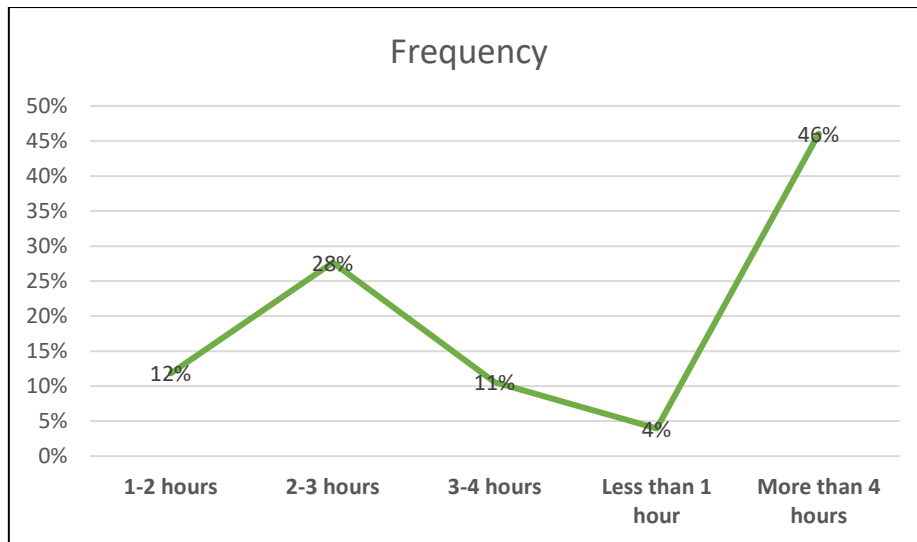


Figure 21: Time spent using the Internet

5.4.1 Hypothesis Testing

	How much does the cost of data influence your decision to shop online: I make online purchases because data is affordable.		How much does the cost of data influence your decision to shop online: I shop online to save time.		How much does the cost of data influence your decision to shop online: I shop online to save money.		How much does the cost of data influence your decision to shop online: The cost of delivery does not discourage me from shopping online.	
Observed frequencies	Count	%	Count	%	Count	%	Count	%
Strongly disagree	14	18%	4	5%	2	3%	5	7%
Disagree	19	25%	4	5%	15	20%	21	28%
Neutral	25	33%	4	5%	18	24%	11	14%
Agree	12	16%	42	55%	31	41%	29	38%
Strongly agree	6	8%	22	29%	10	13%	10	13%
n =	76	100%	76	100%	76	100%	76	100%

Table 24: Frequencies for influence of cost of data on decision to shop online.

The Frequencies regarding responses for evaluating the degree to which the cost of data influences respondents' decision to shop online are displayed in Table 24.

Table 25 displays statistical values in the form of mean, variance, standard deviation and t-value.

How much does the cost of data influence your decision to shop online:				
	I make online purchases because data is affordable.	I shop online to save time.	I shop online to save money.	The cost of delivery does not discourage me from shopping online.
Mean	-0,41	0,45	0,06	-0,06
Variance	0,66	0,68	0,50	0,66
Standard Deviation	0,82	0,83	0,70	0,81
t-value	-4,37	4,75	0,79	-0,63
P-value	0,0000	0,0000	0,4348	0,5337

Table 25: Statistical test values

In order to examine whether the cost of data has an influence in consumers' decision making process to shop online, the items below were evaluated:

1. 'I make online purchases because data is affordable'.

H_0 : Affordability of data influences online purchases.

H_a : Affordability of data has less influence on online purchases.

P-value = 0,0000

$\alpha = 0.05$

Given a 5% level of significance, the p-value informs that it is unlikely that we would observe such an extreme test statistic in the direction of alternative hypothesis if null hypothesis were true. Therefore, the initial assumption that the null hypothesis is true is incorrect and this leads to the acceptance of the alternative hypothesis. Therefore, Affordability of data has no impact towards the influence of cost of data regarding the decision to make online purchases.

2. 'I shop online to save time'.

P-value = 0,0000

$\alpha = 0.05$

H_0 : Time saving influences online shopping.

H_a : Time saving has a lesser impact on online shopping.

Given a 5% level of significance, the p-value once again tells us that the probability of observing such a test statistic in the direction of alternative hypothesis if null hypothesis were true is unlikely. This leads to the acceptance of the alternative hypothesis. Therefore, concluding that saving time has no impact towards the influence of cost of data regarding the decision to make online purchases.

3. 'I shop online to save money'.

P-value = 0,4348

$\alpha = 0.05$

H₀: Saving money has no impact on online shopping.

H_a: Saving money little impact on online shopping.

Given a 5% level of significance, the p-value is significantly greater than the alpha. Therefore, the probability of observing such a test statistic in the direction of the null hypothesis is highly likely. This leads to accept the null hypothesis. Therefore, concluding that saving money has no impact towards the influence of cost of data regarding the decision to make online purchases.

4. 'The cost of delivery does not discourage me from shopping online'.

P-value = 0,5337

$\alpha = 0.05$

H₀: Cost of delivery discourages me from shopping online.

H_a: Cost of delivery does not discourage me from shopping online.

Given a 5% level of significance, the p-value is considerably greater than the alpha. Therefore, the probability of observing such a test statistic in the direction of the null hypothesis is highly likely.

This leads to an acceptance of the null hypothesis. Therefore, concluding that the cost of delivery may discourage respondents from shopping online.

5.5 Conclusion of Results

5.5.1 Research Question 1:

To what extent does race and age (taking into account individuals from different generations) influence the degree to which a consumer makes the decision to shop online?

Based on the hypothesis test performed in the previous section, the researcher can conclude that:

- Whether a respondent requires assistance to get information regarding a product or service they are researching online or not, does not influence their decision to shop online. Though, the survey test (observed frequencies) shows that there is a possible, yet weak association between getting assistance for research of products or services and a consumer ultimately deciding to transact online.
- In terms of the Internet proficiency confidence, this is found to be linked to the consumer's decision to shop online.

Given the fact that majority of the respondents in this study have a high level of education and are from the previously disadvantaged racial groups. It may be concluded that race does influence the consumer's decision to shop online. Generation Y were the most proficient group regarding using the Internet. Therefore, given the results it may also be concluded that age has an influence consumer's decision to shop online

5.5.1 Research Question 2:

To what extent has the high cost of data influenced the rate of online shopping in South Africa.

Surprisingly, the hypothesis test concludes that the affordability of data does not influence the consumer's decision to shop online.

The study concludes that consumers generally shop online to save money and time. Although the test concludes that delivery costs associated with online shopping may discourage consumers from shopping online. The data shows a majority of consumers who shop online to save money and time and not because data is affordable.

Based on these results, it may be concluded that time and money are components that have a possible association regarding consumer's behaviour to shop online due to affordability of data.

Chapter 6: Conclusions and Recommendations

6.1 Introduction

This chapter serves to provide a brief of key findings from the research, recommendations and suggestions for future research.

6.2 Conclusions of the study

The confirmed that although consumers may occasionally require assistance to research information about products or services they plan to purchase, this does not result in them actually making a purchase.

Race and age have been found to influence consumer's behaviour regarding online shopping. Consumers found to be the most confident to shop online were the Generation Y cohorts. This generation has been exposed to technology, Internet in this case from a younger age compared to people from older generations. In terms of race, although the African and white race groups were the most proficient the Indian and Coloured race groups were not far behind. This proves that since democracy there has been an increase in previously disadvantaged groups obtaining the similar opportunities in society compared to during apartheid time.

The key finding was that the cost of data was found not to influence consumers' behaviour to shop online.

Saving time and money appear to be some of the components which cause consumers to shop online although the relationship of these components compare to cost of data is weak.

The researcher would suggest that retailers focus on introducing more activities related to shopping on the Internet in the aim to increase consumers who shop online. This is based on the fact that consumers seem willing to spend more time on online shopping platforms if they will save time and money overall compared to if they were to go to traditional shops.

6.3 Limitations of the study

The limitations of the study undertaken are discussed below:

Non-probability convenience and snowballing sampling methods were used as data collection techniques. Non-probability sampling method is restrictive in that the results cannot be applied to the general population beyond the sample (Zikmund & Babin, 2010) due to the fact that the probability of the individual being selected is unknown (Acharya et al., 2013).

The study was limited to two demographic elements, race and age. As seen in the results, other demographic factors may also have some influence towards online shopping, for instance income and education.

Although 86 respondents had filled out the questionnaire, only 76 respondents had completed it in full. This was seen as a limitation by the researcher as it reduced the sample size.

The study did not consider specific industries where respondents do their online shopping.

6.4 Recommendations for further research

An interesting concept to study further is the impact of the growing online sector on employment. As technology expands, it is becoming more streamlined and is able to perform functions that were previously only performed by human beings (Rotman, 2013). As organisations aim to increase the number of consumers shopping online, what impact will this have on the country's income level and economy as a whole?

When race is one of the components being evaluated in such a study, it is essential to ensure that future studies ensure the number of respondents is the same per race. The researcher believes that this will provide a more balanced and fair comparison.

Online shopping is increasing and as more people in South Africa gain access to the Internet and get exposure to the world of online shopping, it is advisable that future researchers consider undertaking studies that focus on specific industries in order to explore a specific context in full.

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Appendix A – Questionnaire

Attached, is the original questionnaire that is being utilised to collect data for this research study.

Online shopping behaviour Questionnaire:

Thank you for your participation in this survey. The survey forms part of a research report which is a partial fulfilment towards my postgraduate degree. This survey aims to discover whether race, age and cost of data have an influence on online shopping behaviour. Due to the diversity of our country, these characteristics create a very interesting marketing dynamic towards the way in which brands design online shopping platforms in order to attract consumers from all diverse cultures.

The survey will take at most 5 minutes to complete. The survey is anonymous and therefore all data provided will be treated with the highest confidentiality. Please note that by taking the survey you are giving your informed consent. No personal identifying information will be requested.

Please indicate you demographic details below:

Q1 Please indicate your age range.

- ☐ 20-29 (1)
- ☐ 30-39 (2)
- ☐ 40-49 (3)
- ☐ 50-59 (4)
- ☐ Older than 60 (5)

Q2 what is your race?

- ☐ African (1)
- ☐ White (2)
- ☐ Coloured (3)
- ☐ Indian (4)
- ☐ Other (Please specify) (5) _____

Q3 What is your highest level of education?

- ☐ Below Grade 12 (1)
- ☐ Grade 12 (2)
- ☐ Diploma (3)
- ☐ Bachelor's Degree (4)
- ☐ Master's Degree (5)
- ☐ PHD Degree (6)

Please indicate how and where you access the Internet from, your proficiency and costs towards Internet usage:

Q4 Which device do you use to access the Internet? (Please tick ALL that apply)

- ☐ PC/Laptop (1)
- ☐ Smart phone (2)
- ☐ Tablet (3)

Q5 Where do you mostly connect to the Internet from? (Please tick ALL that apply)

- ☐ School/campus (1)
- ☐ Home (2)
- ☐ Office (3)
- ☐ Mobile (park, shopping mall etc.) (4)

Q6 How proficient are you in using the Internet?

- ☐ Novice - Learning how to use it (1)
- ☐ Intermediate - I feel comfortable (2)
- ☐ Advanced - I can use most or all Internet services (3)

Q7 On average, how much time do you spend using the Internet each day?

- ☐ Less than 1 hour (1)
- ☐ 1-2 hours (2)
- ☐ 2-3 hours (3)
- ☐ 3-4 hours (4)
- ☐ More than 4 hours (5)

Q8 How much do you spend monthly on data?

- ☐ Less than R150 (1)
- ☐ R151 - R200 (2)
- ☐ R201 - R300 (3)
- ☐ R301 - 400 (4)
- ☐ More than R400 (5)

Q9 How often do you make purchases online?

- ☐ Everyday (1)
- ☐ Once a week (2)
- ☐ Once a month (3)
- ☐ Once a year (4)
- ☐ More than once a year (5)

Q10 What items do you purchase online? (Please tick ALL that apply)

- ☐ Entertainment (CD, DVD, music, movie tickets, concert/event tickets) (1)
- ☐ Apparel (clothes, shoes, accessories) (2)
- ☐ Accommodation (3)
- ☐ Flights (4)
- ☐ Groceries (perishable goods) (5)
- ☐ Services (Plumber, Electrician, Domestic worker) (6)
- ☐ Computer components (games, laptop/PC, printers, USB, software etc.) (7)
- ☐ Cell phone (handset or contract) (8)
- ☐ Education (9)
- ☐ Skin care products (10)
- ☐ Baby products (11)
- ☐ Toys (12)
- ☐ Books (hardcopy or e-book) (13)
- ☐ Gifts (14)
- ☐ Jewellery (15)
- ☐ Flowers (16)
- ☐ Automobile (17)
- ☐ Other (Please specify) (18) _____

Q11 How much do you spend on average per transaction performed online?

- ☐ R 100 - R 500 (1)
- ☐ R 501 - R 1000 (2)
- ☐ R 1001 - R 2000 (3)
- ☐ R 2001 - R 3000 (4)
- ☐ More than R 3000 (5)

Q12 How proficient are you in using the Internet:

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I generally ask for assistance to get information regarding a product or service I am researching online. (1)	☐	☐	☐	☐	☐
I am highly proficient in using the Internet that I am confident enough to transact online. (2)	☐	☐	☐	☐	☐

Q13 How much does the cost of data influence your decision to shop online:

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I make online purchases because data is affordable. (1)	☐	☐	☐	☐	☐
I shop online to save time. (2)	☐	☐	☐	☐	☐
I shop online to save money. (3)	☐	☐	☐	☐	☐
The cost of delivery does not discourage me from shopping online. (4)	☐	☐	☐	☐	☐

Appendix B – Email Cover Letter

Researcher's Name: Andani Munonde

Student Number: 1242952

Wits Business School

University of Witwatersrand

Good day

May I request your participation in the completion of the survey below regarding characteristics that influence online shopping behaviour.

This forms part of my postgraduate studies at the University of Witwatersrand.

The survey forms part of the input towards completing my postgraduate degree research report. The purpose of the research is to find out whether demographics (race and age), access to Internet and costs associated with usage play a role in the behaviour displayed by consumers when shopping online.

The survey will take at most 5 minutes to complete. The survey is anonymous and therefore all data provided will be treated with the highest confidentiality and the results will only be used for academic purposes only.

I am completing the research report under the supervision of Lecturer Mike Mundy with guidance from Dr Anthony Stacey and they may be contacted if there are any questions or comments concerning the study on mundy.mike@gmail.com and anthony.stacey@wits.ac.za respectively.

I would appreciate it if you could distribute the survey to friends and colleagues in South Africa who would be interested in taking part in this survey.

Follow this link to the Survey:

https://wits.eu.qualtrics.com/SE/?SID=SV_9BLEhBrRu5jGZCt

Thank you for your participation

Kind regards

Andani Munonde

Appendix C-1 – Number of devices used per location

Location	Device used					Grand Total
	PC/Laptop	PC/Laptop, Smart phone	PC/Laptop, Smart phone, Tablet	Smart phone	Smart phone, Tablet	
Home	0%	3%	7%	13%	1%	24%
Home, Mobile (park, shopping mall etc.)	0%	0%	0%	1%	0%	1%
Home, Office	3%	14%	8%	4%	1%	30%
Home, Office, Mobile (park, shopping mall etc.)	0%	7%	17%	0%	1%	25%
Mobile (park, shopping mall etc.)	0%	1%	0%	0%	0%	1%
Office	7%	1%	0%	0%	0%	8%
Office, Mobile (park, shopping mall etc.)	0%	1%	0%	0%	1%	3%
School/campus, Home	0%	1%	0%	0%	0%	1%
School/campus, Home, Mobile (park, shopping mall etc.)	0%	0%	1%	0%	0%	1%
School/campus, Home, Office	0%	1%	1%	0%	0%	3%
School/campus, Home, Office, Mobile (park, shopping mall etc.)	0%	0%	1%	1%	0%	3%
Grand Total	9%	30%	36%	20%	5%	100%