Generation Y students' attitudes towards eBooks and eBook adoption

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DECLARATION

I, **Johannes-Hugo van Schalkwyk,** declare that **Generation Y students' attitudes towards eBooks and eBook adoption** is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

Signature: ______________________________

Date: ______________________________

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To whom it may concern

This is to confirm that I, the undersigned, have language edited the completed research of Hugo van Schalkwyk for the Master of Commerce thesis entitled: *Generation Y students' attitudes toward eBooks and eBook adoption.*

The responsibility of implementing the recommended language changes rests with the author of the thesis.

Yours truly,

Angeliki Albanis

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ABSTRACT

Keywords: Generation Y, Attitude, Adoption, eBook, pBook, South Africa, Interest and Intention to Use, Self-Reported Use.

The global eBook market saw tremendous global growth since its invention, as well as great leaps in technological progress. African countries, however, saw very little growth and only benefited from eBooks long after developed nations did. South Africa joined the trend towards eBook adoption circa 2012, and adoption rates increased. Estimates have shown that traction would increase towards 2019, partly due to government's new focus on digital, and the higher interest in digital academic material. Conversely, the global eBook market slowed towards 2013 due to a number of factors hindering the further adoption thereof.

This study specifically focussed on Generation Y students as they are seen as a high priority segment. Students are seen as the potential high income earners and leaders of the future, and Generation Y is seen as those who will have the highest potential spending power. They are also a generation born into technology, which makes them the ideal segment to further eBook adoption. Furthermore, they have an affinity for causes and use social media on a frequent basis. All of these factors make Generation Y students an attractive market, which is easy to reach but difficult to convince.

The primary goal of this study was to examine Generation Y students' attitudes towards eBooks and eBook adoption. To meet this goal, adapted scales were used which measured awareness, interest and intention to use, self-reported use, perceived ease of use, perceived usefulness, subjective norms, consumer innovativeness, and environmental awareness. After the data cleaning, the 370 questionnaires which were usable were analysed. To analyse the collected data, the following procedures were carried out: reliability and validity analysis, descriptive analysis, factor analysis, regression analysis, and two independent samples t-test.

This study concluded that students preferred to read (mostly skim) for academic purposes, and they used print outs or hard copies to do their reading. It was also found that students mostly had access to smartphones and laptops; few had access to PCs, eReaders, and tablets.

The analysed data showed that students were aware of eBooks; showed interest and intention to use them, and perceived eBooks to be easy to use; but were not making frequent use of them at the time of the study.

The analysis of the data in this study focussed on interest and intention to use, and self-reported use, and how the other independent variables influenced them. It was found that current usage, the perception of usefulness, how easy eBooks appeared to be to use, and how aware of environmental factors they were, influenced whether Generation Y students were interested and had intention to use eBooks. Next, awareness, interest and intention to use, perceived usefulness, and social influence were shown to affect their self-reported use. Lastly, the data suggested that there were no significant differences in male and female Generation Y students' attitudes towards eBooks and their adoption thereof.

Little other data are available regarding eBook adoption in South Africa and how Generation Y students perceive it. This study adds to the limited literature and illumines several important factors. These findings will assist universities, retailers, publishers, and libraries to motivate eBook adoption among Generation Y students and to showcase the benefits thereof. This study highlights Generation Y students' medium of preference, and how they tend to read. Furthermore, it showcases certain factors which show their awareness of eBooks, whether they intend to use eBooks in the future, their current usage of eBooks, and whether they deem eBooks easy to use. Next, it also shows how useful they find eBooks, how their social circles influence them, how innovative they consider themselves to be, and how environmentally conscious they are. By using the data in this study, some obstacles might be overcome in order for eBooks to diffuse through to the early and late majority, and reach a new cycle of growth.

LIST OF ABBREVIATIONS AND ACRONYMS USED

AIDA	–	Attention, Interest, Desire, Action
A	–	Awareness
CFA	–	Confirmatory factor analysis
CI	–	Consumer innovativeness
EA	–	Environmental awareness
eBook	–	Electronic book
EFA	–	Exploratory factor analysis
eReader	–	Electronic reader
eTextbook	–	Electronic textbook
Four P’s	–	Products, Price, Place, Promotions
H_0	–	Null hypothesis
H_a	–	Alternative hypothesis
HEI	–	Higher education institution
IIU	–	Interest and intention to use
JISC	–	Joint information systems committee
KMO	–	Kaiser-Meyer-Olkin
pBook	–	Print book
PC	–	Personal computer
PEoU	–	Perceived ease of use
PU	–	Perceived usefulness
PWC	–	PriceWaterhouseCooper

SN	–	Subjective norms
SPSS	–	Statistical package for social sciences
SRU	–	Self-reported use
StatsSA	–	Statistics South Africa
TAM	–	Technology acceptance model
USA	–	United States of America

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

In 1971 - from humanity's strive towards a centralised, shareable knowledge base - a digital library for eBooks from the public domain was born. The digital library was called Project Gutenberg, which was one of the first steps taken towards the modern eBook through the digitising of printed books (pBooks) (Lebert, 2009). This was made possible due to the work of Michael Hart, the inventor of Project Gutenberg (Richardson & Mahmood, 2012:171), who would guide eBook-technology towards becoming the academic future (Schwartz, 2012) as well as the future of reading (Jeong, 2012:403). This technology enables readers to be engaged on a level that had not been possible prior to its introduction (Young, 2013), offers solutions to an array of problems, and has numerous added features, benefits, and advantages over pBooks (Jeong, 2012:391).

Over time, the usage and adoption of eBooks has increased in academic, scientific, and consumer sectors. The reasons for this progression are numerous: immediacy of access, updating capability, storage capacity, and portability, to name a few (Romero-Otero *et al.*, 2013). In addition, consumers may save monetarily when buying eBooks compared to pBooks (Martinez-Estrada & Conaway, 2012:128), as well as through other options which have arisen in recent years, such as digital textbook renting. Numerous websites such as Amazon, Barnes & Noble, iBooks, and Cengage Brain, among others, now accommodate renting and buying of eBooks.

A crucial reason for the adoption of eBooks is that they can enhance the education received by students (Picciano, 2012:14-15), consequently enriching their knowledge of subject matter. In addition, there are many possibilities, which eBooks present and even though most students tend to skip over some of the text elements, they are inclined to engage in interactive features of digital texts, which leads to better course outcomes (Berry *et al.*, 2010:32-33). This is vital, as getting students to read is one of the most important factors of the learning process (Taylor, 2011:278), and the possibilities presented by eBooks could motivate them to do so.

Several developed countries have seen growth in the eBook adoption rates (Carr, 2013).

South Africa, however, as a developing country (Norman *et al.*, 2007:695), has a comparably low eBook adoption rate similar to other emerging markets which only recently have been able to strive towards better education and therefore more investment in literacy (Wischenbart *et al.*, 2014:15). This slow adoption in many countries has left the eBook market being concentrated in only a few countries. The contrast is clear when considering that there has been an increase in digital consumption and increased internet penetration (Stork *et al.*, 2012:1), but a low emerging market eBook adoption rate in sub-Saharan Africa (Kulesz, 2011:314-315). Myburgh (2013) does predict, however, that eBook adoption in South Africa will increase towards 2017.

The subconscious norm of reading pBooks is one of the barriers to eBook adoption, and it is known that products do not diffuse (Rogers & Shoemaker, 1971) to the rest of the market when innovation and cultural values are incompatible (Walton, 2008:31). Thus, despite the growth in eBook acceptance, pBooks are not disappearing (Van der Velde & Ernst, 2009:583). However, as advantages to using eBooks increase and become more tangible, the traditions that impede eBook adoption (Thomas, 2011:30; Renner, 2007) may be overthrown.

To better understand the adoption of eBook technology, the technology acceptance model (TAM) has been used to accurately predict behaviour. As such, TAM has found that perceived ease of use (PEoU) and perceived usefulness (PU) play important roles in the adoption of new technology (Jin, 2014:472). Several studies have been conducted regarding eBook adoption and these influencing factors (Nwagwu & Okafor, 2014; Jin, 2014; Martin & Quan-Haase, 2011; Van der Velde & Ernst, 2009). These studies concur that the adoption of eBooks can be influenced by the perceived ease of use as well as perceived usefulness thereof. The perceived ease of use positively affects the perceived usefulness, which implies that the usefulness and compatibility of eBooks are closely related to whether or not an individual uses and accepts the technology. Thus, simply put, the adoption of eBooks is influenced by individuals' traditional way of life and whether they perceive eBooks as being useful and easy to use; when eBooks are useful and easy to use, it can satisfy consumer needs (Jin, 2014:473-475; Van der Velde & Ernst, 2009:583).

The studies mentioned above have been conducted across the world: Netherlands (Van der Velde & Ernst, 2009), Canada (Martin & Quan-Haase, 2011), South Korea (Jin, 2014) and Nigeria (Nwagwu & Okafor, 2014). However, data regarding adoption of and attitudes towards eBooks in South Africa are still limited.

As per Jeong (2012:390) and as shown in Section 1.1, this study will refer to printed books, textbooks and all paper-based books as pBooks.

1.2 PROBLEM STATEMENT

The digital nature of eBooks transcends borders with ease (Wischenbart *et al.*, 2014:93), which has aided the growth and expansion of publishing houses across the globe. Despite this, South Africa has only recently started to see the fruits of these expansions and does not yet have access to the broad scope of eBook retailers that developed nations have (Akabor, 2013).

More interest towards eBooks has been garnered over the years, and the attention of multiple countries across the globe has focussed on South Africa, even though it is a developing country (Norman *et al.*, 2007:695). The reason behind this is that South Africa is seen, to an extent, as the gateway into Africa (The Economist, 2012). The untapped growth potential as a destination as well as being a method of penetration into sub-Saharan Africa adds to its attractiveness. The eBook market within South Africa is only in its introduction stage as per the product life cycle (Lidwell *et al.*, 2010:150) and is, therefore, a lucrative market with tremendous growth potential. Added to this is the fact that the eBook is still classified as a new, innovative product, which partly explains its slow adoption rate. As such, eBook markets stand to gain ground, which is important to both readers and eBook publishers (Myburgh, 2013).

This study examines the adoption of innovation model, which is often used to explain when and by whom the products are adopted (Rogers & Shoemaker, 1971). This study also measures eBook adoption and attitudes towards eBooks in order to formulate reasons behind the slow diffusion of eBooks within South Africa. Furthermore, this study will focus on the Generation Y cohort, which comprises those born between 1986 and 2005 (Markert, 2004:21), classify as being born into technology, and who are most likely to adopt electronic methods of studying.

It has been posited that Generation Y members' attention is difficult to capture and that they are more difficult to convince, entertain, and impress (Crang, 2012). The solution to these problems may be found in the eBook and the many features it offers. This will only be possible, however, if the marketing of eBooks is adapted to suit their generation. Ultimately, Generation Y is a generation that is very different from previous generations, but their importance must not be underestimated as they have a high and ever increasing purchasing power and purchasing desire (Kinley *et al.*, 2010:563).

Students will form the main focus of this study as those with a tertiary qualification generally have a higher future earning potential and tend to attain greater role model status (Bevan-Dye *et al.*, 2009:174). Educated individuals also tend to read more and are therefore a larger and more accessible market (Stenberg, 2001); this means that university students are more likely to be of interest to marketers of eBooks.

This study serves to provide insight into the current eBook industry in South Africa and the attitudes which Generation Y students hold towards it. As eBooks are a relatively new technology in South Africa where adoption rates are still low, this study may act as a guide to publishers, retailers, schools, libraries, and tertiary institutions as to why and how they can advance the adoption of eBooks. Furthermore, this study offers possible explanations for the slow eBook adoption rates in certain areas and the slowing down in others. Through these explanations, publishers and universities might be able to find the means to help eBooks diffuse through to the next stages of adoption.

1.3 OBJECTIVES OF THE STUDY

The following primary, theoretical, and empirical objectives have been formulated for this study.

1.3.1 Primary objective

The primary objective of this study was to determine Generation Y students' attitude towards eBooks and towards the adoption thereof.

1.3.2 Theoretical objectives

In order to achieve the primary objective, the following theoretical objectives were formulated for the study:

- Conduct a literature review regarding the origin, history, and development of the eBook.
- Review the literature regarding the current eBook landscape.
- Review the literature regarding the benefits and barriers to adoption in the form of advantages and disadvantages to using eBooks.
- Conduct a literature review regarding the influencers of eBook adoption.
- Conduct a literature review regarding the product lifecycle, diffusion of innovation, and the decision-making process.
- Conduct a literature review on the effect of the four Ps in the marketing mix (product, price, place, promotion)
- Provide a review of the literature regarding Generation Y's characteristics.

1.3.3 Empirical objectives

In accordance with the primary objective of the study, the following empirical objectives were formulated:

- Determine Generation Y students' reading habits.
- Determine Generation Y students' reading-medium preferences.
- Determine Generation Y students' eBook awareness, interest and intention to use, and self-reported use.
- Determine Generation Y students' perceived usefulness and perceived ease of use of eBooks in order to ascertain whether it influences their interest and intention to use, and self-reported use of eBooks.

- Determine Generation Y students' subjective norms regarding eBooks in order to ascertain whether this influences their interest and intention to use, and self-reported use of eBooks.

- Determine Generation Y students' consumer innovativeness in order to ascertain whether it influences their interest and intention to use, and self-reported use of eBooks.

- Determine Generation Y students' environmental awareness and how it affects their interest and intention to use, and self-reported use of eBooks.

- Determine whether male and female Generation Y students differ in their reading habits, reading-medium preferences, awareness, interest and intention to use, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness regarding eBooks.

1.4 HYPOTHESES

In order to achieve the empirical objectives of the study, the following hypotheses were formulated:

H_a1 - Generation Y students' interest and intention to use eBooks is influenced by awareness, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovation, and environmental awareness.

H_01 - Generation Y students' interest and intention to use eBooks is not influenced by awareness, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovation, and environmental awareness.

H_a2 - Generation Y students' self-reported use of eBooks is influenced by awareness, interest and intention to use, perceived usefulness, perceived ease of use, subjective norms, consumer innovation, and environmental awareness.

H_02 - Generation Y students' self-reported use of eBooks is not influenced by awareness, interest and intention to use, perceived usefulness, perceived ease of use, subjective norms, consumer innovation, and environmental awareness.

H_a3 - Male and female Generation Y students differ in their reading habits, reading-medium preferences, awareness, interest and intention to use, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness regarding eBooks.

H_03 - Male and female Generation Y students do not differ in their reading habits, reading-medium preferences, awareness, interest and intention to use, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness regarding eBooks.

1.5 RESEARCH DESIGN AND METHODOLOGY

This study comprised a literature review and an empirical study. Quantitative research using the survey method was used for the empirical portion.

1.5.1 Literature review

The empirical portion of this study was supported by reviewing South African and international literature, whereby secondary sources were used, which included pertinent textbooks, the internet, journal articles, business articles, academic articles, newspaper articles, and online academic databases.

1.5.2 Empirical study

The empirical portion of this study comprises the following methodology dimensions: target population, sampling frame, sample method, sample size, and measuring instrument and data collection. These will be briefly discussed.

1.5.2.1 Target population

The relevant target population for this study were full-time Generation Y students, aged between 18 and 24, registered at South African Higher Education Institutions (HEIs) during 2016. The target population is defined as follows:

- Element: Generation Y full-time students aged between 18 and 24
- Sampling unit: South African registered public HEIs
- Extent: Gauteng, South Africa
- Period: 2016

1.5.2.2 Sampling frame

The sampling frame consisted of 26 registered South African public HEIs (Higher Education Institutions). From the sampling frame a judgement sample of two HEIs - one a traditional university and the other a university of technology - located in the Gauteng Province was selected. The reason for choosing the province of Gauteng as the main sample of this study was that it encompassed the largest proportion of the South African population (Stats SA, 2015), and it is the economic hub of South Africa (South Africa.info, 2012). A convenience sample of full-time students will be selected from the two HEIs.

1.5.2.3 Sample method

A non-probability convenience sample of Generation Y full-time students between the ages of 18 and 24 was selected to perform this study. The self-administered questionnaires were hand-delivered to the participating lecturers (from whom permission was sought) at each of the two HEIs, who were requested to distribute the questionnaire to their students after class.

1.5.2.4 Sample size

The historic approach was used to determine the sample size of 400 full-time Generation Y students for this study. This sample size is in line with other studies of this nature, such as Bakewell *et al.* (2006:173), 346 respondents; Kueh and Voon (2007:667), 470 respondents; and Maduku (2015:2), 439 respondents. The sample size of 400 full-time, undergraduate students was split evenly between the two selected HEI campuses, thereby allowing a sample size of 200 full-time students per HEI campus.

1.5.2.5 Measuring instrument and data collection method

A quantitative survey approach was used along with validated scales (Jin, 2014; Antón *et al.*, 2013; Richardson & Mahmood, 2012; Jung *et al.*, 2012; Zinn & Langdown, 2011; Metin, 2010; Perry, 2005; Horton *et al.,* 2001).

The scales were adapted to fit the South African dynamic and study Generation Y students' attitudes towards eBooks and eBook adoption. The questionnaire was self-administered.

The students were requested to complete a questionnaire comprising three sections. There will be three sections to the questionnaire. The first section (Section A) was structured to gather demographic data. The second section (Section B) determined Generation Y's students' attitude towards reading (Zinn & Langdown, 2011:109) as well as their preference in reading medium (Richardson & Mahmood, 2012). The third section (Section C) measured their awareness (A), interest and intention to use (IIU) eBooks (Jung *et al.*, 2012:213;), and their self-reported use (SRU) thereof (Perry, 2005:6; Horton *et al.*, 2001:242). Furthermore, perceived usefulness (PU), perceived ease of use (PEoU), and subjective norms (SN) were studied (Jin, 2014:472-475). Finally, consumer innovativeness (CI) regarding technology (Antón *et al.*, 2013:377) as well as their environmental awareness (EA) (Metin, 2010:15) were measured. All scaled responses (Section B and C) were measured using a six-point Likert scale.

The cover page of the questionnaire comprised a cover letter, which explained what the questionnaire was about and requested participation from the students on a voluntary basis. For the pilot study, a convenience sample size of 80 students (who did not form part of the final study) from the sample frame were selected to assure its reliability. For the final study, a structured questionnaire was given to lecturers of classes at the chosen HEI campuses after permission had been sought from the appropriate persons. The lecturers informed the students that taking part was voluntary and that their anonymity was assured in order to protect their identities and to encourage more accurate answers as some questions could be deemed sensitive.

1.5.3 Statistical analysis

The captured data were analysed using the Statistical Package for Social Sciences (SPSS), Version 23.0 for Microsoft Windows. The following statistical methods were used on the empirical data sets:

- Reliability and validity analysis
- Descriptive analysis
- Factor analysis

- Regression analysis
- Significance test
- Two independent-samples t-test

1.6 ETHICAL CONSIDERATIONS

The research study was conducted after acquiring the appropriate permission from lecturers and the participants of the study. Participation was entirely voluntary and commenced in a way that protected the anonymity and confidentiality of respondents.

The research proposal and questionnaire were submitted to the North-West University Research Ethics Committee. This was done in accordance with university policy for ethical consideration. The committee evaluated the questionnaire to ascertain whether information of a sensitive nature was required, and whether 'at risk' individuals could be negatively affected. The questionnaire was deemed feasible and presentable to Generation Y students and passed the committee's standards. Consequently, an ethical clearance number ECONIT-2016-031 (14 April, 2016) was given.

1.7 CHAPTER CLASSIFICATION

This study comprised the following five chapters.

Chapter 1: Introduction and background to the study

In this chapter, the broad scope of the study is outlined and a background to the study shown. The problem statement, research objectives, and the methodology used are discussed.

Chapter 2: Literature review

This chapter investigates the history and origins of eBooks as well as the development thereof in the 20th century. Next, the chapter examines the current eBook landscape in South Africa and across the world. The benefits and barriers of eBooks are shown in terms of advantages and disadvantages pertaining to eBooks. The influencers of eBook adoption are also examined. Furthermore, the chapter investigates the product lifecycle, the diffusion of innovation, the decision-making process, and how these factors affect eBook adoption. The four Ps of the marketing mix and their effect on the attitudes of individuals towards eBooks are also be investigated.

Lastly, this chapter focusses on Generation Y's characteristics in relation to their attitudes towards adoption of technology and the method of marketing to them.

Chapter 3: Research design and methodology

This chapter highlights the research methodologies used in this study. The target population, sampling method, sample size, and the data collection methodology are provided and explained. Furthermore, the design, layout, pre-testing, pilot testing, and administration of the questionnaire are explained. Finally, the different analyses conducted are discussed in order to set the objectives for Chapter 4.

Chapter 4: Results and findings

In this chapter, the analysis of the data, the interpretation, and the findings are discussed in detail. Furthermore, the interpreted data are shown in regression and correlation, as well as the significance and viability of the data.

Chapter 5: Conclusions and recommendations

This chapter emphasises the whole study in a conclusion drawn from the findings therein and recommendations follow as to how to proceed in the future. Lastly, the chapter reflects on the shortcomings of the study, which could act as a guide for possible future studies.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The literature review portion of this study focusses on the theoretical objectives set out in Chapter 1 (Section 1.3.2). The primary objective of this study aims to determine Generation Y students' attitudes towards eBooks and the adoption of thereof.

To best investigate the primary research objective, Section 2.2 explains what an eBook is, while Section 2.3 inspects the origin and development of eBooks. The current eBook landscape is explored in Section 2.4 to illustrate the current global eBook marketplace. The advantages (Section 2.5.1) and disadvantages (Section 2.5.2) currently associated with eBook usage are investigated to gauge why users may or may not prefer to use them. The influencers of eBook adoption (Section 2.6) are examined in the context of the constructs used in the empirical portion of this study. The product lifecycle (Section 2.7) and diffusion of innovation (Section 2.8) are examined and plot the current eBook phase in each. The decision-making process (Section 2.9) is investigated in order to illumine the process through which individuals become consumers. Next, the marketing mix (Section 2.10), in context to eBooks, is shown in order to gain a better understanding of eBook marketing. Finally, Generation Y is investigated (Section 2.11) in order to gain clarification on the characteristics often associated with this cohort.

2.2 DEFINING THE EBOOK

The eBook is seen as the transition from print to electronic, which means that it can be accessed through a computer, phone, tablet, or eReader. An eBook is similar to a pBook in many ways, the main difference being the medium which is used (Van der Velde & Ernst, 2009:570). Thus, eBooks are merely representations of pBooks in electronic form, which might include scanned images or text that match the appearance of pages from a pBook (Carden, 2008:9).

There are many different ways in which eBooks have been scoped, defined, and related to both software and hardware (Abdullah & Gibb, 2008:593). For the purpose of this study, an eBook will be defined as an electronic version of a book, of any genre, including journal articles, which is in a digital form but mimics pages from a book, and is read from an electronic medium.

With eBooks defined, the following section will examine the origin of the eBook to illustrate its evolution.

2.3 THE ORIGIN OF THE EBOOK

The debate regarding the *when* of the first eBook has gone on for years, mainly due to the fact that eBooks are still defined in many different ways. A possible inception of the idea behind the eBook was first proposed by Angela Ruiz Robles in 1949. Robles noticed the effort of carrying multiple textbooks and came up with an idea where children would carry a mechanical book in which text and pictures could slide around. There would be sound, a magnifying glass as well as a light to accompany reading. However, Robles was never awarded a viable patent, and her idea never reached mass production (History Cooperative, 2015).

Taylor (2015) argues that the rise of eBooks is owed to Michael Heart who founded Project Gutenberg in 1971. The project was a volunteer effort to make electronic editions of literature freely available to the world. However, in the early years of Project Gutenberg, the average individual could not access it without a great deal of effort, as the internet was scarcely available. It was only circa 1993 when Peter James published his novel on two floppy disks that eBooks became more readily available to the public (Flood, 2014). From there the eBook market grew for many years.

As shown in Table 2.1 below, many factors were involved in the evolution of eBooks. Some of the most notable advancements were the following: the web in 1990, publishers going digital in 1994, Amazon’s online bookstore in 1995, libraries going digital in 1998, and eBooks being sold worldwide in 2003.

Table 2.1: A short history of eBooks (Lebert, 2009:2)

Year	Progress made
1971	Project Gutenberg is launched
1990	The worldwide web provides easier access to the internet
1994	Some publishers push into the digital domain
1995	Amazon.com is the first main online bookstore
1998	Libraries go online
2003	Near worldwide eBook penetration
2004	More authors partake in publishing online
2005	Google enters the eBook fray
2007	A wider variety of digital devices allows for eBook reading on the go
2008	The web becomes more social and communication becomes easier

As internet penetration grows, it poses the possibility for the whole of humanity to have access to a wealth of information; something that was previously impossible (Segaran, 2007, xiii). However, despite the progress made, many obstacles still persist. As such, many countries currently have access to this wealth of information, where other countries have only started to adopt eBooks as they have only recently been made available to them (Dunlop, 2014). In the next section, we look at the current eBook landscape to illustrate eBook adoption across the world.

2.4 THE CURRENT EBOOK LANDSCAPE

The history of eBooks is a rich one and is oftentimes seen as the advancement of print, an age-old technology, into the 21st century (Newitz, 2012). This advancement has seen a vast scope of literature becoming available across the world; however, progress has been more rapid in some countries than in others.

This upsurge in availability has increased the consumption of eBooks, which enabled growth in sales for many years. There are eBook sellers in most countries, and most people have access to at least a few of them (PWC, 2013). However, eBook publishing has been skewed towards only a few countries as seen in Figure 2.1 (Wischenbart *et al.,* 2014).

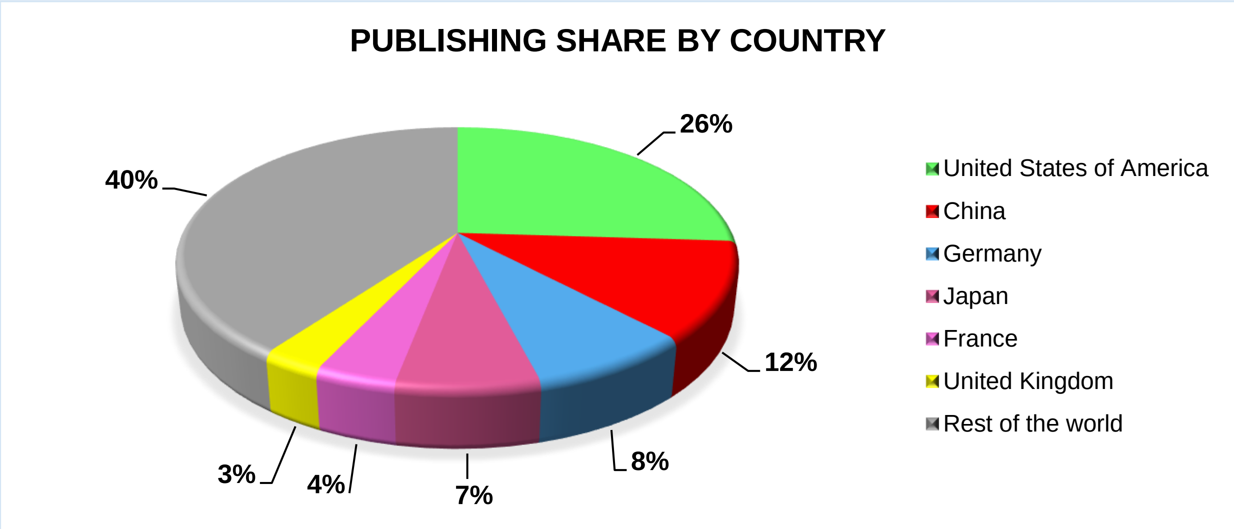

Figure 2.1: Largest publishing markets (Wischenbart *et al*., 2014)

Figure 2.1 shows the largest eBook publishing markets in the world in 2014, which were: the United States of America (USA) (26%), China (12%), Germany (8%), Japan (7%), France (4%), and the United Kingdom (3%). These countries totalled 60 percent of the global publishing share.

Market share differs to an extent from publishing share, as seen in Figure 2.2

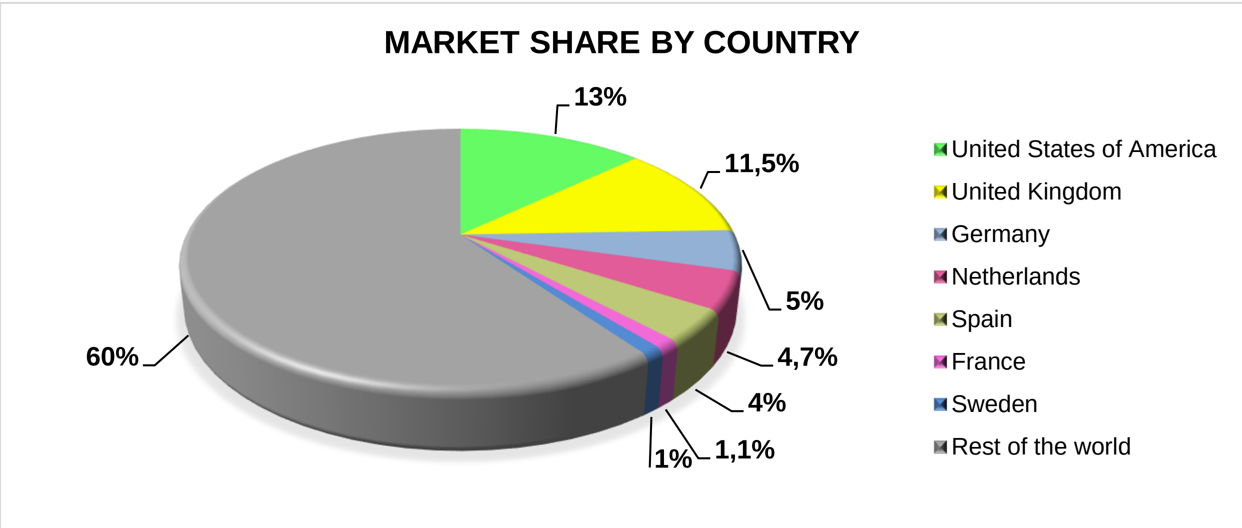

Figure 2.2: Countries with highest market share (Wischenbart *et al*., 2014)

Figure 2.2 shows that the USA dominated with 13 percent of the total eBook market. Other dominant positions were mostly held by European countries: the United Kingdom (11.5%), Germany (5%), Netherlands (4.7%), Spain (4%), France (1.1%), and Sweden (1%) (Wischenbart *et al*., 2014). As seen in Figure 2.2, 40 percent of the world's eBook market was concentrated in only a few countries. Therefore, the majority of the world's markets are yet to gain traction.

The eBook market in South Africa, as well as in the rest of Africa, has shown low adoption rates compared to the USA and the listed European countries (as seen in Figure 2.2) (Maepa & Nkosi, 2013). However, Penn (2013) argues that there is potential for eBooks in African countries such as South Africa and Nigeria. Maepa and Nkosi (2013) concur but state that adoption rates in West, East, and Southern Africa are low and will remain that way if the barriers to adoption cannot be overcome.

According to Flood (2016), the growth of eBook sales across the globe has not decreased the market for pBooks as per expectation. It was suggested that eBooks would dominate the reading landscape by 2020; however, eBook sales growth has been steadily slowing down for the first time since the beginning of the digital age. Garner (2015) corroborates this view by stating that there is a decline in eBook uptake due to disinterest in reading books on digital devices. This view is not shared by all, though, and it has been stated that eBook adoption rates continue to "skyrocket", and that content providers are mobilising to be able to meet demand (UT, 2015). The opposing viewpoints might be explained by an increase in growth that is mainly concentrated in digital academic material and digital children's books (Snapplify, 2014). Maduku (2015:2) concurs by stating that the South African eBook market growth is mostly due to increased interest in digital educational material.

This phenomenon can also be seen in the USA. Inouye (2016) suggests that figures from 2008 show that one percent of the USA publishing revenue came from eBooks during that time. In 2014, it increased to 23 percent and reached 25 percent by 2015. These indications show that growth has become stagnant, despite initial high growth.

Possible reasons for the stagnating growth may be found in the fact that eBooks are still an evolving medium of which the benefits and importance are yet to be showcased. The next section will focus on the advantages and disadvantages of eBooks to examine the benefits of, and barriers to, its adoption.

2.5 ADVANTAGES AND DISADVANTAGES OF EBOOKS

There are several advantages and disadvantages to using eBooks. However, Gerlach and Buxmann (2013:2813) caution against focussing only on advantages and disadvantages of eBooks as pBooks form part of cultural goods in which case rational thinking is often not the main determinant of behaviour.

Conversely, Martin and Quan-Haase (2011:5) posit that information gathering, regarding advantages and disadvantages, is an important part of adoption. The following section will focus on a few possible factors that might affect and influence potential eBook adopters.

2.5.1 Advantages of eBooks

When considering eBooks, the advantages are the features that could enhance and simplify the reading experience. Jeong (2012:391), Zinn and Langdown (2011:105), and Sharifabadi (2006:389-391) suggest that the most important advantages to eBooks are searchability, availability anywhere at any time, mobility, and saving of space.

On searchability, Shelburne (2009:63-65) states that individuals can find content and search the body of text without much difficulty. This means that one can easily find information in an eBook without having to go through it page by page, unlike with a pBook (Sasson, 2016). Furthermore, the growing availability and accessibility of eBooks has led to users becoming more accepting thereof. As such, an increase in eBook collections in libraries provides access to literature on a much wider scale than before (Jeong, 2012:395). The upsurge in eBook availability has also granted 24/7 access to students from anywhere they have an internet connection. This means that when libraries or physical retail outlets cannot be reached or do not stock a particular pBook, the eBook is often the only option (Wiese & Du Plessis, 2014:20). In addition, the space-saving implications for libraries, warehouses, and regular users are also to be considered (Zinn & Langdown, 2011:105). Saving space is extremely significant to individuals, surpassed in importance only by enhanced functionality and access to more content Renner (2007:4). Furthermore, relative to pBooks, which are heavy and take up a lot of space, eReaders, smartphones, and tablets can hold thousands of eBooks, take up very little physical space, and are much easier to carry (Guy, 2016). The little space needed for eBooks (on a digital medium) will also have implications for the physical weight carried by students. Dockrell *et al.* (2006:216) studied the effects of backpack weight on students and found that the body weight to backpack weight ratio, from primary to tertiary levels, was too high. Many students (80% for girls, 63% for boys) showed high levels of discomfort in the backpack weight they carried. Contrarily, eBooks hold no weight, and most digital reading mediums weigh less than a single book (Boris, 2012).

There are other important benefits to eBooks as well. For example, eBooks are unparalleled at accommodating those who are less abled - something that is becoming more crucial around the world (Eid, 2015). For those who struggle with visualisation, the enriched features in eBooks enhance comprehension (Grimshaw *et al*., 2007:583) Moreover, eBooks pose a solution for those who cannot, or struggle to, read. An example of this is an eReader's feature to read the content of an eBook aloud (Zinn & Langdown, 2011:105). As for students, eBooks are an important instrument in helping those with disabilities to stay on track with coursework (Wilson, 2011). Finally, there are advantages offered by eBooks that can help those who are physically less abled, such as the ability to go online and search for books without having to go to a retailer, and carry-weight being greatly reduced when eBooks are used instead of pBooks (Harness, 2015; JISC, 2003:186).

Martin and Quan-Haase (2011:7-8) state that despite the many advantages that eBooks offer, it is necessary for friends, co-workers, students, and librarians to explain and share the ever-growing list of advantages with those who do not know about them. Although great strides have been made regarding eBook adoption, there are still some fundamental disadvantages which may hamper further growth. These disadvantages will be discussed in the next section.

2.5.2 Disadvantages of eBooks

Richardson and Mahmood (2012:174) find that the benefits of eBooks are eclipsed by numerous obstacles that have to be overcome. Some of these obstacles include: many dedicated eReaders do not display in colour, small screens may lead to eye strain, no uniformity in eBook prices, downloading can be a burden, and glare from the sun limits reading outside.

Eyestrain, which can cause fatigue, is one of the main disadvantages (Jeong, 2012:391). As such, when considering fatigue, as well as the fact that many readers prefer the feel of a pBook's pages, relaxation through reading could be diminished when using an eBook (Gerlach & Buxmann, 2013:2813). Tees (2010:181) corroborates this finding by stating that the acceptance of eBooks is marred by the difficulty of reading from a screen. These barriers are evident when taking into consideration that many students already prefer pBooks to eBooks (McGowan *et al.*, 2009:459).

The preference of pBooks might be explained by other factors which may serve to discourage users. Lack of equipment, lack of internet reliability, lack of compatibility with software, and the initial costs attributed to eBook adoption are possible reasons for the preference of pBooks over eBooks (Zinn & Langdown, 2011:113). Another reason for individuals to opt for pBooks above eBooks is licence agreements, which are a confusing inconvenience, marred by terms and conditions which consist of many pages that often go unread (Ashcroft, 2011:405-406). Finally, JISC (2009) state that the problem is exacerbated by the fact that there are so many different eBook reading programs, of which many are difficult to understand and use. These programs and sellers also often tend to have over-restrictive and harsh copyright warnings, which mainly serve to scare away potential customers.

Taking all aforementioned factors into consideration, picking up a regular pBook is simply the easier option for most individuals. However, Gerlach and Buxmann (2013:2820) find that advantages and disadvantages are highly subjective. As such, there exists a strong correlation between personal values (such as norms) and eBook usage, as well as prior use of similar mediums. As a side note, they postulate that reading emails and articles does not translate into higher individual eBook adoption.

Ultimately, advantages and disadvantages may not be the only factors involved in the decision-making process, regarding the adoption of eBooks. The next section will focus on other factors that might influence the adoption of eBooks.

2.6 INFLUENCERS OF EBOOK ADOPTION

Where eBooks are concerned, there are influencers to consider beyond advantages and disadvantages. This section will investigate the influencers which play a role in the adoption of eBooks. As such, the technology acceptance model (TAM), subjective norms (SN) (Jin, 2014:472-475), and environmental awareness (EA) (Metin, 2010:15) have been identified as some of the influencers of eBook adoption.

2.6.1 Technology acceptance model

TAM is used to measure the viability of a technological product (Davis, 1989:323), and is considered to be one of the most influential models in the understanding of how information technology is accepted (Padilla-Melendez *et al.*, 2013:306).

TAM is a predictive model, and as such can explain behaviour when enough factors are used. Martin and Quan-Haase (2013:1020) suggest that TAM, as a predictive model, is used because potential consumers approach the adoption of technology with a rational set of behaviours. Acceptance is then based on two main predictors: perceived usefulness (PU) and perceived ease of use (PEoU). TAM was chosen for this study because it is an important factor in eBook adoption behaviour (Jin, 2014:471).

2.6.1.1 Perceived usefulness

According to Davis (1989:320), PU is measured by the extent to which an individual believes a particular technology would enhance their actions, or be useful to them. It is thus the degree to which a person believes that a specific technological product or service would improve their life. The theory of PU is grounded in the idea that a person will use a technology if the adoption thereof leads to a result they deem satisfactory (Khayati & Zouaoui, 2013:11).

Where TAM is concerned, the PU of products has shown to be an accurate predictor of IU regarding technology (Gerlach & Buxmann, 2013:2813-2814), as well as the strongest predictor for behavioural drive (Padilla-Meléndez *et al.,* 2013:315). This can be seen in Maduku's (2015:8) study, which shows that the majority of the respondents felt that eBooks were useful, thus they made use of eBooks on a frequent basis. As such, PU appears to be an accurate predictor of behaviour in many, but not all, circumstances.

2.6.1.2 Perceived ease of use

PEoU is a key predictor and determinant of technology adoption, intentions, and behaviour, especially when an innovative technology is compatible with the different aspects of a user's general situation (Gerlach & Buxmann, 2013:2815). Fundamentally, PEoU is an observation of complexity; the technologies that are transparent in their functions and benefits are seen as something that will be more likely to be adopted than those that are perceived as complex (Martin & Quan-Haase, 2013:1022).

A critical factor in technology adoption is the fact that PEoU is significantly influenced by the compatibility of the technology to the individual's needs (Chau & Hu, 2001 cited by Cheung & Vogel, 2013:165).

PEoU has an influence on eBook adoption, which could be explained by the fact that when it is easy to understand how to use a technology, it is less intimidating and can lead to higher interest (I) and IU (Jin, 2014:476). This is corroborated by Wiese and Du Plessis (2014:24) who state that successful acceptance of eBooks is reliant on the PEoU of the technology.

2.6.1.3 Subjective norms

Subjective norms (SN) is the perception that an individual's social environment has certain expectations that influence the individual's behaviour (Moan & Rise, 2006:719). This social network might include friends, family, spouses, co-workers, and neighbours (Fowler & Christakis, 2008:2).

SN has a direct influence on behavioural intention which, in turn, affects actual usage (Koeder, *et al.,* 2011:7). Venkatesh and Davis (2000:195) corroborate this by stating that SN plays an integral role in decision making. Individuals may choose a course of behaviour suggested by their social group, even if they do not agree with the behaviour. In technology, this is especially true when individuals have little to no previous experience with particular technology (Taylor & Todd, 1995:167-168).

According to Wang (2011), the effect that social groups have on individuals is still a mystery, even though it is unmistakably present. Groups tend to influence the way its members think and, sometimes, an individual could influence what the group thinks and how it behaves. Boundless (2016) concurs by stating that groups tend to become susceptible to groupthink, and tend to act in a certain way when that behaviour is seen as a norm. These groups made up of family, friends, peers, and co-workers can influence individuals to deviate from their normal behaviour. Ultimately, this means that those who are part of a social system would be affected in their behaviour by that system. The way they see eBooks would thus be influenced, and the way their social circles feel about eBooks would change their behaviour and view towards it.

It is important to remember that the eBook decision-making process greatly depends on the social network that the would-be buyer is a part of, as this network is an important factor in this process (Martin & Quan-Haase, 2011:1).

2.6.1.4 Environmental awareness

Environmental awareness (EA) is the ideology that humans are responsible for the environment and have to respect, protect, and preserve the natural world from, and due to, pollution caused by human activity (Pachamama Alliance, 2014).

Kollmuss & Agyeman (2002:256-257) show that pro-environmental consciousness is embedded in personal values, which are shaped by certain internal and external factors. As such, when internal factors (knowledge, feelings, values, and attitudes) align with external factors (social, cultural, and political), it can lead to pro-environmental behaviour. Pro-environmental behaviour has also been encouraged through new technologies, stricter regulation, and a new era of global EA (Rahbar & Wahid, 2011:74).

According to Eccleston (2007), individuals who were surveyed suggested that living a *green lifestyle* is the acceptable, modern way to live. Furthermore, they stated that they changed their lives to accommodate the environment and actively tried to influence others to do so as well. Thus, when individuals become aware of their effect on the environment, their lifestyles generally change for the better, especially since it has become the norm to focus on pro-environmental behaviour. It is thus crucial for students to learn and be informed about environmental issues in order for them to turn to action (Metin, 2010:15). When individuals have an awareness of environmental issues and are pro-environment, their behaviour will change and they will be more inclined to purchase green products (Synodinos, 2014:167).

According to Tsai (2012:55) eBooks are useful in combatting environmental issues in two categories. Firstly, eBooks can inform individuals about environmental issues and secondly, it can decrease the need for paper, thus directly aiding the environmental cause. As stated before, behaviour is one of the most important influencers to living a pro-environment lifestyle. However, where eBooks are concerned, the way they are used and the setting in which they are used determine the effect on the environment. This is evident when universities which adopt laptops and eBooks on a large scale become more environmentally friendly (Gattiker *et al.,* 2012:610). This is also true for the individual, where eBooks have an ever increasing, positive impact on their environmental footprint (Jeong, 2012:404). In essence, the more eBooks an individual and universities use, instead of pBooks, the higher the positive impact on the environment (Brown, 2013).

The adoption of eBooks is influenced by a host of factors, and it is up to marketers to make use of them to move products through the product lifecycle. The next section will focus on the product lifecycle as well as the lifecycle of eBooks.

2.7 THE PRODUCT LIFECYCLE

The product lifecycle plots the volume or value of sales of a product from its launch to its decline and withdrawal (McDonald & Wilson, 2011:161). Generally, there are two viewpoints, the marketing viewpoint and the production viewpoint (Hansen *et al*., 2009:389). The marketing viewpoint, which is focus of this study, is divided into four stages: introduction, growth, maturity, and decline (Kahn, 2015:188; Vashisht, 2005:128). Figure 2.3 plots the general movement of products through the product lifecycle from the introduction to decline.

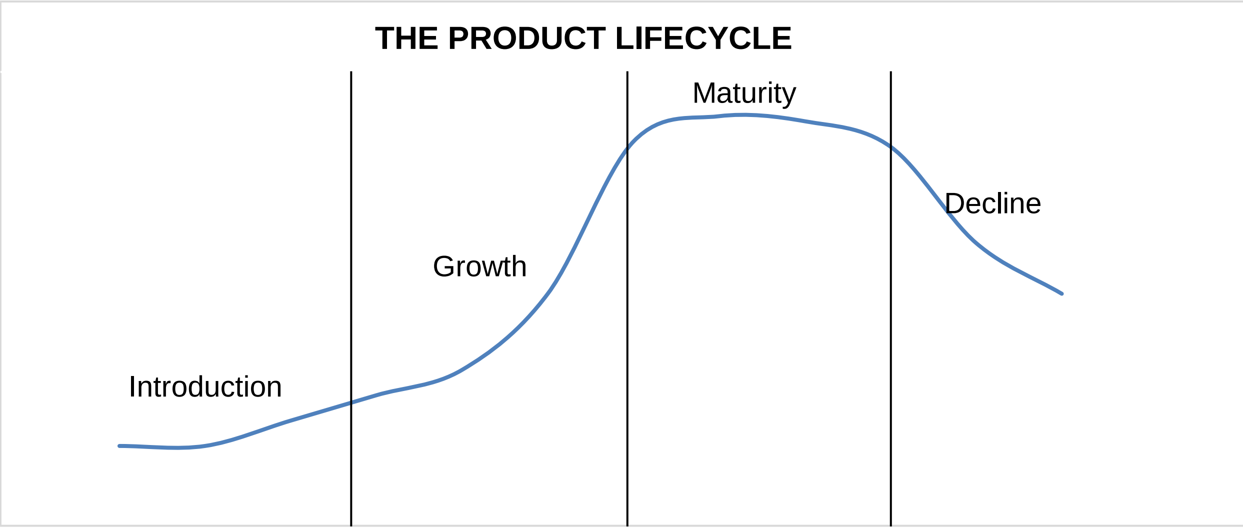

Figure 2.3: The product lifecycle (Kahn, 2015:188; Vashisht, 2005:128)

The product lifecycle postulates that new products, which are successful in their introductory phase will, with gradual repeat purchases, grow and spread, and the rate of sales will increase (McDonald & Wilson, 2011:161). Furthermore, it provides information regarding where products are in the product lifecycle, as well as where it might lead (Doole & Lowe, 2005:50).

In the first stage (introduction), the product is launched and introduced to the market. Sales growth is usually slow, and there are no profits as major expenses are incurred to introduce the product, which might even lead to losses (Vashisht, 2005:128). In the introduction phase, there is generally little competition, prices may be high, limited markets, and little-known products which are not often talked about (Talloo, 2007:182).

The second stage (growth) is characterised by strong growth in sales in the target market. The early majority of consumers would purchase and repurchase during this phase, leading to competitors also entering the market (Cant *et al*., 2007:242). McDonald and Wilson (2011:162) suggest that there should be a focus on market penetration, product range extension, and market development when in the growth phase. The maturity phase (third stage) is sometimes characterised by a high number of competitors, declining profits, price cuts, declining advertising expenditure, and hefty sales promotions (Anandan, 2009:94). In the maturity phase, the slope of the sales curve tends to become more neutral and eventually becomes negative, leading into the decline phase (Hansen *et al*., 2009:389). During the final stage, the decline or obsolescence, the sales volume decreases to such an extent that costs become so high that profits can be eliminated (Kahn, 2015:1918; Brownlie & Saren, 2001:43).

This can be a nuanced subject though, as Irwin (2013) argues that new and old technology can sometimes live in harmony. This seems to be the case for eBooks and pBooks at present. Further indications show that eBooks might have already reached the maturity phase and seem to be settling for the long run (Flood, 2016; Alter, 2015; Greenfield, 2014).

Figure 2.4, based on Carr (2013) shows the decline in eBook sales growth. The data were collected from the Association of American Publishers and amalgamated into one graph.

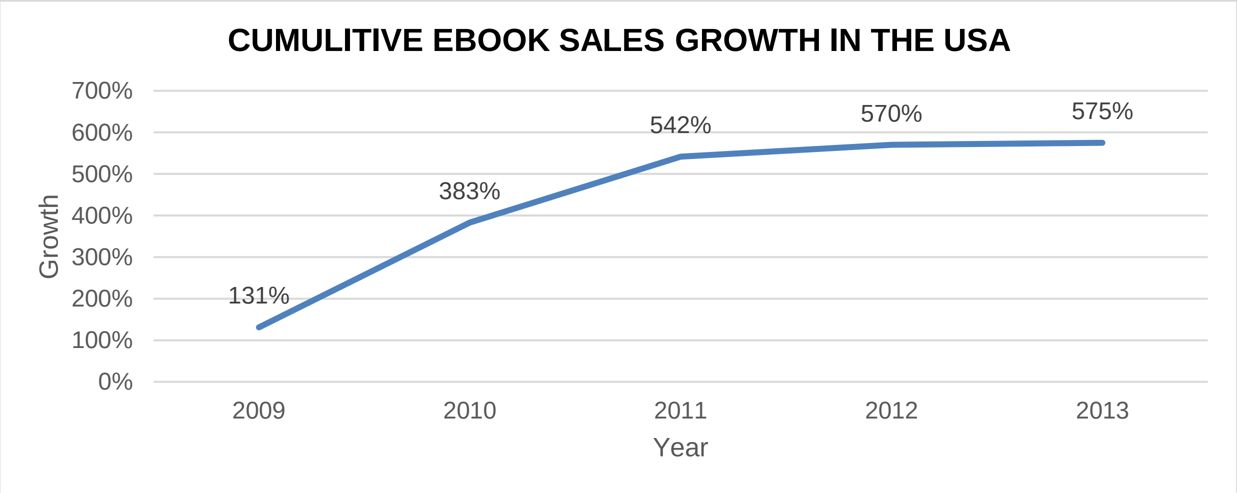

Figure 2.4: Cumulative eBook sales growth in the USA (Carr, 2013)

Figure 2.4 shows a rapid increase in growth from 2009 to 2010 in the USA's eBook market. The growth rate was still high towards 2011 and wound down towards 2012. Finally, the growth rate nearly came to a halt at a low of 5 percent in 2013.

To put the figure into perspective, it should be noted that it shows cumulative year on year growth, which suggests that eBook sales did continue to grow, only at a much slower rate than before. Two possible conclusions might be drawn based on this information. First, eBooks might be in the maturity phase of the product lifecycle, or eBooks are yet to penetrate deeper into the growth phase, possibly due to barriers to adoption.

The penetration of eBooks in South Africa has been comparably low, as seen in Figure 2.5.

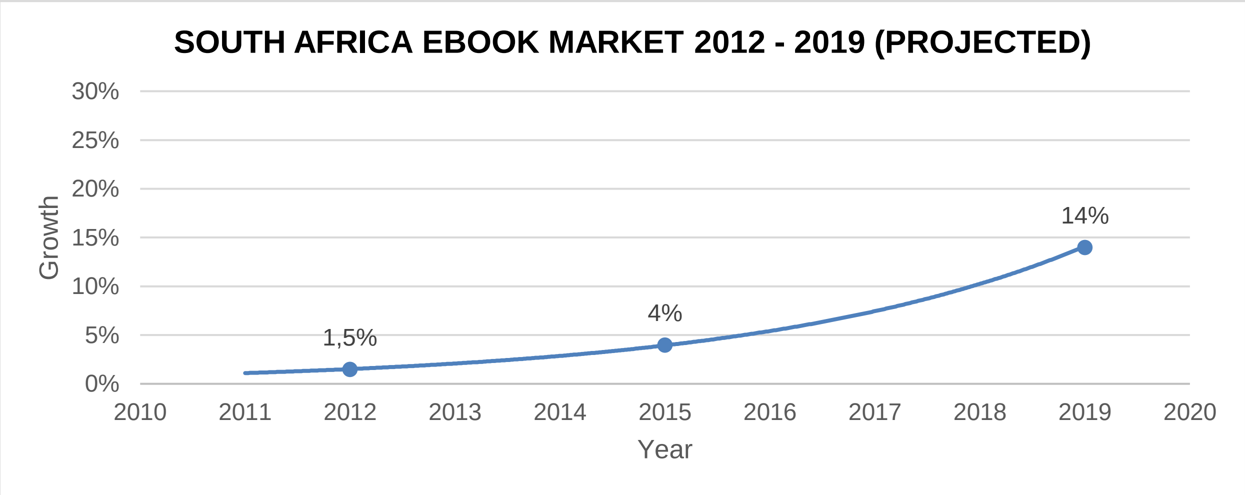

Figure 2.5: South Africa eBook market 2012 – 2019 (PWC, 2015)

There was a 1.5 percent market penetration in South Africa in 2012, which rose to 4 percent in 2015. Currently, the market is expected to reach 14 percent in 2019 (PWC, 2015; PWC, 2013. This shows that South Africa has low eBook consumption compared to many other countries, and barely contributes to the global market. The low sales as seen in Figure 2.5, as well as the fact that only a few South African retailers sell eBooks would suggest that eBooks in South Africa are currently in the introduction phase of the product lifecycle.

However, the future for eBooks in South Africa does look promising. Leshilo (2015) states that eBook sales are on the rise and that government is pushing towards digital mediums. Furthermore, an example of digital success is mentioned: Via Afrika, a publisher, has been able to decrease eBook prices because of their saving on paper and printing. These factors suggest a lucrative market in coming years as seen in the academic market, which is seeing a lot of growth, and chains such as Van Schaik have been capitalising on this growing market (Businesstech, 2013).

To the South African market, eBooks are a relatively new technology and adoption rates show it. Innovative users have begun adopting the technology, though it is yet to diffuse to the rest of the spectrum. The next section focusses on the diffusion of innovation to explain the diffusion of technology through to the majority.

2.8 THE DIFFUSION OF INNOVATION

McDonald and Wilson (2011:164) state that diffusion of innovation is the efforts of marketing, encouraging consumers within a social system to adopt new products or services. Diffusion of innovation then refers to the cumulative percentage of adoption over time. There are five types of consumers in the diffusion of innovation framework: innovators, early adopters, early majority, late majority, and laggards (Burton, 2012:221; Rogers, 2003:11).

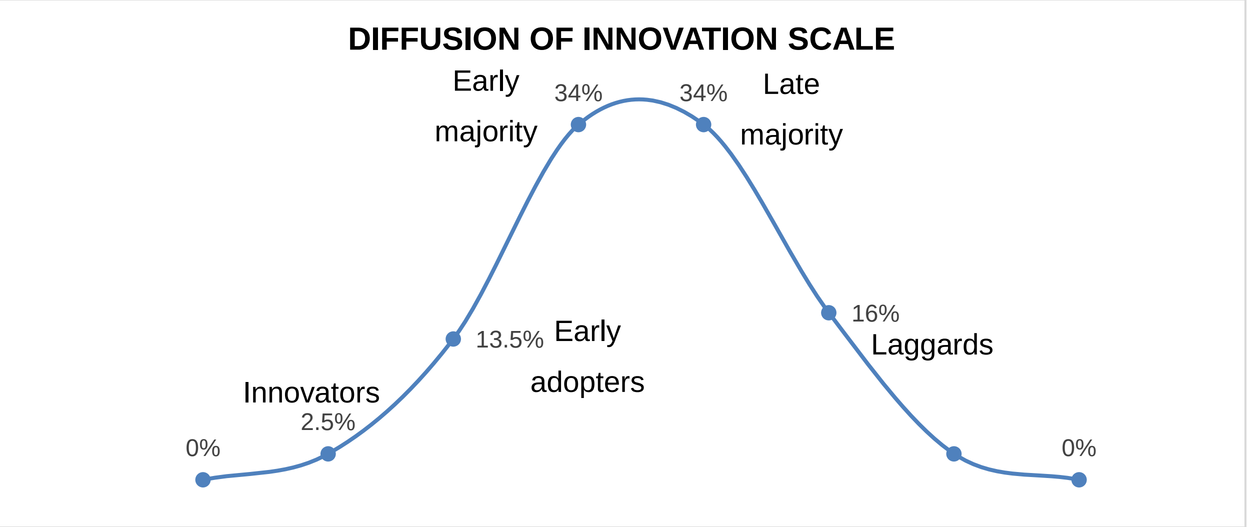

Figure 2.6: Diffusion of innovation scale (Burton, 2012:221; Rogers, 2003:11)

Figure 2.6 shows the traditional diffusion of innovation model (Burton, 2012:221; Rogers, 2003:11). The innovators (2.5%) and early adopters (13.5%) make up a very small portion of the market. The early majority (34%) and the late majority (34%) represent the largest portion of the market while the laggards account for the remainder (16%) of the market (Gardner, 2010:164).

Innovators (lead users), tend to be technologists or technology enthusiasts. They aggressively pursue new technology with little concern for price and even seek out new technology before it has launched. They stay up to date with the latest advances and want to explore all possibilities of new technologies (Rafinejad, 2007:88). Innovators are visionaries who have a clear picture of the future, tend to be bold and daring, and innovation tends to stimulate and energise them. They are free and forward thinkers who tend to be tenacious in moving towards a certain outcome (Arpact & Gürbüz, 2012:120-121).

Early adopters are often called influencers because of their important “go/no-go” influence when it comes to new products. They move on from one thing to the next rather quickly, and it is for this reason that they are crucial influencers on the majority (Burton, 2012:233). These influencers are often targeted by inventors for their power to move technology to the next phase of adoption. The goal is to reach the early majority, where the highest demand and industry profit arise. However, here, specialised distribution channels and mass-media advertising are often required to reach them (Hill & Jones, 2009:185). This is because, when it comes to high-tech products, there can be a chasm between the early adopters and the early majority (Rayna *et al.,* 2010:165).

Before the late majority enter the market, sales first tend to drop off for a while. This might be because the late majority are often dubious of new technology and ideas but tend to adopt the technology after it becomes more of a necessity (Egan, 2007:40). The late majority first want to feel safe and secure in what they adopt, and they want to feel that their resources are well spent (Spil, 2005:4). Finally, laggards are, for the most part, not interested in technology and can even be sceptical of, or object to, new technology – they are the last to adopt (Rafinejad, 2007:89).

The diffusion of innovation model can be partly explained by consumer innovativeness (CI), which suggests that an innovative individual adopts an innovation earlier, relative to other members of their social system (Rogers & Shoemaker, 1971). The diffusion of innovation theory has been thoroughly examined as part of CI (Turan *et al.*, 2015:47), and shows that CI in information technology is statistically significant in predicting user intentions (Rosen, 2005:69). Hong *et al.* (2013:318) corroborate by stating that, when innovativeness is high and the user is able to understand the technology, there is a willingness to adopt the technology. Thus, an individual with higher levels of CI is more likely to view new technology as positive and have higher IU regarding the technology (Agarwal & Prasad, 1998:214-215).

High innovativeness can lead to different results across countries as individuals will have different means of acquiring innovative technologies. This is evident where eBooks are concerned as developed nations have moved past the early adopter’s phase into the early majority phase (Godfrey, 2014). To reiterate, most of the world's eBook market is concentrated in six countries, which represent 60 percent of global revenues (Spinak, 2016). Thus, showing that high innovativeness requires the means to use a product.

A conclusion might be drawn when examining the product lifecycle's different stages (Vashisht, 2005:128), the estimates of percentages in each stage of the diffusion of innovation cycle (Gardner, 2010:164), and South Africa's low eBook market share (PWC, 2015). The conclusion drawn is that eBooks (as a product and a technology) are still in the introductory phase in South Africa, and only starting to move into the growth phase. Developed nations, on the other hand, have already entered the growth phase.

The slowdown in eBook sales around the globe has put a new emphasis on the decision-making process in its role in the success and influence of reaching the rest of the early and late majority. The next section will focus on the decision-making process and how the individual moves through it to becoming a customer and consumer.

2.9 THE DECISION-MAKING PROCESS

The decision to purchase diffuses through the individual in a similar manner to how technology diffuses through the market. Carrington (2003:323) defines decision making as selecting a course of action from several alternatives. Khan (2007:2) further defines it as a physical activity, which involves obtaining, assessing, using, and disposing of the good or service. Many different models exist to gauge the decision-making process, as seen in Table 2.2.

Table 2.2: Various decision-making models (Agyemang, 2015; Sagar, 2012)

Model	**AIDA**	**Hierarchy of effects**	**Innovation adoption**	**Information processing**	**Five-step process**
Cognitive stage	Attention	Awareness Knowledge	Awareness	Presentation Attention Comprehension	Need Recognition
Affective stage	Interest Desire	Liking Preference Conviction	Interest Evaluation	Yielding Retention	Information Search Evaluation of Alternatives
Behavioural stage	Action Satisfaction	Purchase	Trial Adoption	Behaviour	Purchase Decision Post Purchase Behaviour

According to Agyemang (2015) and Sagar (2012) there are several decision-making models. The models deemed as important for this study are presented in Table 2.2: AIDA, the hierarchy of effects, innovation adoption, information processing, and the five-step process.

Clemente (2002:26) describes the AIDA model as a response hierarchy model, which illustrates the stages through which a buyer learns of a product and is ultimately moved to purchase it. The AIDA model consists of attention, interest, desire, and action. Next, the hierarchy of effects model consists of a hierarchy of stages in cognitive processing (O'Shaughnessy, 1992:63-64). Within the hierarchy, priorities must be established and some stages must precede others. There are six stages in the hierarchy: awareness, knowledge, liking, preference, conviction, and purchase. The third model, the innovation adoption model, hypothesises that the process followed is awareness, interest, evaluation, trial, and finally adoption (Lancaster & Withey, 2007:200). Next, the information processing model uses the way a computer executes processes as a metaphor to explain how people process impetuses (Cavanaugh & Blanchard-Fields, 2010:187). The information processing model consists of presentation, attention, comprehension, yielding, retention, and behaviour (Sagar, 2012). Lastly, the five-step model is a decision-making process in which it is asserted that consumers go through five steps when buying goods or services. The process consists of need recognition, information search, evaluation of alternatives, purchase, and post-purchase behaviour (Lamb *et al*., 2012:189-190).

According to Agyemang (2015) and Sagar (2012) the different models generally focus on the same three aspects: the cognitive stage, affective stage, and behavioural stage.

2.9.1 Cognitive stage

The cognitive stage relates to information and knowledge (Lambin & Schulling, 2012:539). Here, the first step, need recognition, arises when a consumer experiences a significant difference between their current state and the state they desire (Solomon, 2004:485-486). In other words, during the cognitive stage, individuals become aware of a need (Smit *et al.,* 2007:127).

McDonald and Meldrum (2007:72) argue that there might be a need for significant effort on the part of the supplying organisation when products are new or have a low market penetration. Marketers need to create that need and find a way to inform potential users of the benefits of using eBooks. Thus, it is important for eBook vendors to showcase the benefits of eBook usage for both studying and leisure reading. Through showcasing these, the individual might become aware of a need that they did not know existed. Their awareness of eBooks and its benefits would then propel them towards the next stage. Silk (2006:134) corroborates this by stating that it remains the onus of the organisation to create the awareness in order for individuals to realise their need and move to the next stage.

2.9.2 Affective stage

The affective stage relates to attitude and evaluation (Lambin & Schulling, 2012:539). This stage consists of gathering information about the product or service from different sources such as family, friends, advertising, or handling the product. However, personal sources tend to be the most effective (Govindarajan, 2007:98). Furthermore, the affective stage also entails the evaluation of alternatives. In this step, the would-be purchaser develops criteria by which to compare the product with other, similar products (Liu, 2007:15).

In the affective stage, the individual takes a deeper liking or disliking to the product (Sudhakar, 2012:123). This would occur when the individual searches for more information regarding eBooks to find out whether its features would be beneficial. The individual also has to decide between different kinds of products which, in this case, would mean that the user is either deciding between pBooks or eBooks, or simply reading material (such as a novel or textbook) that they want to read. It is critical to guide potential customers through this stage by showcasing the value of eBooks. Potential users should see the benefit and move into the area of *liking* and the next stage of decision-making.

2.9.3 Behavioural stage

The behavioural stage is the final stage where favourable feelings translate into adoption (Shah, 2009:19:8; Trappey *et al.*, 2000:78). This stage relates to action, both in purchasing and post purchasing (Lambin & Schulling, 2012:539).

The consumer chooses which product to buy based on the stimuli that produced the need, the information gathered, as well as the evaluation of different products from the preceding stages (Pride & Ferrel, 2010:198). Sullivan and Adcock (2002:53) state that the behavioural stage ends in post-purchase behaviour where the consumer judges the product based on perceived, not actual, performance. When the product meets their expectation, post-purchase satisfaction occurs; however, when their expectations are not met, post-purchase dissatisfaction occurs. Therefore, it is very important for organisations to provide value and service quality because it leads to consumer satisfaction, which in turn leads to post-purchase (repurchasing) intention (Kuo *et al.*, 2009:889).

To reach behavioural decisions, an individual's values and beliefs have to align with the product they are purchasing. As such, a marketing effort should aim to understand how to analyse and predict behaviour in order to motivate the purchase (Dacko, 2008:50). To motivate the individual to buy depends on an organisation's ability in knowledge provision. Here, the organisation has to use methods such as advertising, promotion, and direct marketing in order to convert individuals from potential to actual customers (Chaston, 2004:178). Wang and Praet (2015:205) concur by stating that the conative strategy is one that induces action and persuades the potential customer to perform and take part in a certain behaviour through sales promotion activities. However, Reisinger (2010:318) argues that the behavioural stage can only come to fulfilment if the barriers to purchasing are overcome.

In essence, from the individual's side, awareness of the need piques their interest, and they conduct their research in order to find out as much as they can about the product (Agyemang, 2015; Baker, 2014:201). From the organisation's side, promotional activities are used in order to influence the individual's decision (Ferrel & Hartline, 2011:22; Chaston, 2004:178). Should all factors align - that is, the need is there and the information gathered is satisfactory, and the promotional material is convincing enough - an individual would be convinced to purchase the eBook (as a technology or reading material). The individual then uses the product after the purchase and has to decide whether the product is satisfactory or not. If they are satisfied, post-purchase satisfaction occurs and repeat purchases are more likely.

Individuals are motivated by cognitive or affective motives, which are focussed on satisfying needs (Chiu *et al.,* 2014:90). Thus, encouragement is enabled through a map of activities, using resource allocation to reach different objectives (Lambin, 2013:157). To this end, there are different marketing activities that may be used to guide individuals through the decision-making process. The next section will focus on these different methods that are available within the marketing mix.

2.10 THE MARKETING MIX

The marketing mix includes all the marketing decisions and actions that have to be taken for a product, service, or brand to be successful (Kubicki, 2015). As such, the marketing mix is considered to be the tactical marketing tools that a company uses in order to reach the desired response they need from their target audience (Prenzel, 2010:32). There are four parameters that the marketing manager can control, depending on the external and internal factors of the marketing environment, they are product, place, price, and promotion, such as seen in Figure 2.7 (Chandrasekar, 2010:8).

Figure 2.7: The marketing mix (Chandrasekar, 2010)

2.10.1 Product

The product can be described as "a good, idea, method, or information created as a result of a process, and serves a need, or satisfies a want, and has tangible and intangible benefits" (Business Dictionary, 2016). The marketing mix generally starts with the product because the product offering and product strategy are the heart of the marketing mix (Lamb *et al*., 2012:47).

Within the product category, there exists a product-service continuum, which means an offering is never purely tangible as most products contain elements of both a product and service (Perner, 2008). This continuum ranges from mainly intangible, a mixture of tangible and intangible, to mainly tangible (Smith & Stewart, 2014:113).

An eBook, which is classified as a product, is known as an intangible or digitised product (Wilkins *et al.*, 2001:224). Intangible and digitised products are often digital, copyrighted, knowledge-based, and are based on mental operations (Rozewski, 2011:248; Time, 2011). These kinds of products have to be downloaded from a server using a digital device. The most common formats (DRM included) in which eBooks can be downloaded are Mobipocket, KF8, ePub, Nook, iBooks, and PDF (eBook Architects, 2012).

The following section focusses on price and how it fits into the eBook marketing mix.

2.10.2 Price

Price refers to everything a person needs to spend or give up in order to receive the service or product (Baun, 2001:90). Price, as is a dynamic element, impacts perceptions as it is an indicator of value; therefore, it is often used to affect behaviour (Ruskin-Brown, 2006:168). This shows that setting a price is an extremely important factor in the marketing mix.

The price of a product can be positioned as the economic, mid-value, or premium option (Homburg *et al.,* 2012:62). In the premium price tier, the product is positioned as being of top quality (Breetz, 2014:7). However, the price that the company can achieve depends on what the customer is willing to pay. Therefore, the price reflects the perceived value of a product or service from the viewpoint of the customer (Simon, 2015:13). When a product is perceived as useful and valuable, it is seen as being of utilitarian value (Hausman, 2012:47). There should be adequate utilitarian value provided to consumers, as it plays a dominant role in motivation to purchase (Chiu *et al.,* 2014:108). Next, in budget pricing, the organisation will position itself as the budget option and some amenities would fall away to enable the low pricing (Van Gelder, 2005:96). Finally, the price can aid the mix through price adjustments such as sales and promotions, which have a profound impact on marketing strategy (Boundless, 2016).

Pricing is a difficult aspect where eBooks are concerned, as the latter years have seen some turmoil in the publishing markets. Pricing, especially regarding eBooks, has proven to be a nuanced issue. This has culminated in the entire industry having had to rethink the way it markets and prices eBooks, which has affected many parties, including consumers (Bransford, 2012). There have been some positive changes, however, as students who opt to use eBooks may now save significantly when buying or renting eTextbooks (Martinez-Estrada & Conaway, 2012:128).

Cooper (2012), however, cautions that there are times when eBooks are more expensive than their pBook counterparts. This study investigated this statement within South Africa by comparing prices of pBooks and eBooks from two South African online retailers. Table 2.3 shows this comparison among three different genres available from each of the two retailers.

Table 2.3: EBook vs pBook prices (Takealot, 2016; Exclusive Books, 2016)

	Takealot		Exclusive Books	
	pBook	**eBook**	**pBook**	**eBook**
Fiction				
Pharaoh (W. Smith)	R190	R162	R251	R246
Girl on the train (P. Hawkins)	R148	R154	R185	R184
Non-Fiction				
AB de Villiers Autobiography	R250	R250	R350	R353
Eat, Pray, Love (E. Gilbert)	R258	R115	R161	R152
Academic				
Marketing Analytics (W.L. Winston)	R748	R657	R795	R617
Marketing 3.0 (P. Kotler, H. Kartajaya, I. Setiawan)	R254	R254	R398	R309

As seen in Table 2.3, eBooks are less expensive than their pBook counterparts in eight of the cases; equally expensive in two of the cases; and more expensive in two of the cases. Therefore, eBooks are a cheaper option in the majority of the options available. Thus, individuals who are willing to compare different retailers might end up paying less for an eBook than a pBook in South Africa.

Pricing is a crucial aspect in whether an individual becomes a customer or not. Amazon substantiated the importance of setting the correct price when it opened its database to the public.

The company showed that eBooks which had a better price/value balance sold more easily. For every eBook one copy that sold at a high price, it sold 1.74 copies when priced more competitively. Conversely, it was noted that some eBooks sold more when they were priced low, as opposed to very low (Dale, 2015). Thus, it is important for retailers to find the best pricing to attract the highest number of customers. As a final note, some retailers have sought to combat pricing obstacles and confusion through subscription services. In this type of service, an individual pays a certain amount and is then given access to a large library of eBooks which can be downloaded and read (Mitroff, 2015).

High prices have been shown as a possible factor in the downward trend of eBook sales growth (Platt, 2016). Thus, the industry should evaluate the market and the value that eBooks offer to consumers in order to realise continued growth. There should also be sufficient places to buy or rent eBooks to highlight and take advantage of its availability factor. The next section will focus on place, and how it fits into the eBook market.

2.10.3 Place

Place refers to the distribution system, which ends in a location where the final buyer would buy the product. However, place has changed to also accommodate the internet, as purchasing often happens virtually rather than physically (Weiss, 2011:86-87). Thus, place is concerned with the how, where, and when regarding the transaction (Rogers *et al.*, 2001:187).

Place is also concerned with distribution strategies and making products available when and where customers want them in order to make the purchasing convenient (Hardcastle *et al.*, 2011:327). The distribution policy involves distribution channels, distribution networks, assortment, and locations (Kubicki, 2015). A marketer will have to decide on the width of distribution so as to have intensive, exclusive, or selective distribution. Furthermore, marketers also have to decide on the type of distribution channel in order to get the product to the final consumer (Strydom, 2004:194).

Availability of eBooks has grown in recent years and it is now offered by multiple retailers. The following are some of the largest online distributors of eBooks: Amazon Kindle Store, Google Play, Project Gutenberg, Barnes and Noble Nook store, Kobo books, and the iBook Store (Kudler, 2015; Henry, 2011). As for subscription based means, more and more options are becoming available.

Here, a set amount is paid by the user, and they are able to read as much as they want, or are given credits to use. Some examples include Scribd and Kindle Unlimited (Mitroff, 2015). In South Africa, online retailers such as Takealot, Van Schaik, and Exclusive Books offer eBooks (Takealot, 2016; Exclusives, 2016; Van Schaik, 2016).

An online connection is needed where eBooks are concerned, which has proved both as a negative and positive factor. Those who are without internet access might not have access to the full collection of eBooks available online. However, the problem mainly arises in areas or countries where internet penetration is low. For those with a stable internet connection, eBooks are available everywhere, and at all times (Jeong, 2012:391; Zinn & Langdown, 2011:104).

Individuals are not always aware of where and how to find products, or even of a product's existence. It is the role of promotion to inform individuals of available products, why they should buy, and finally, where to find it. The following section will focus on the promotional part of the marketing mix.

2.10.4 Promotion

Promotion, as a function, is how marketers inform potential consumers about their products or services. Promotion provides a way in which an organisation can communicate with its audience and the market at large in order to create awareness of its existence and purpose (Solomon *et al.*, 2014:31-32). There are several objectives to promotion: to inform potential customers about the product, to persuade them to buy the product, and to remind them to keep buying the product (Boundless, 2016; Strydom, 2004:139). Thus, it is important to know how to reach the target audience, which medium to use, when to release promotional material, and to keep competition in mind (Chandrasekar, 2010:8).

It can be difficult to ascertain which promotion channels work the best. A few methods have proven to be successful. Among these are promotional websites (Choonhanirunrit, 2013), author pages on sites such as Goodreads and LinkedIn, and providing free copies of eBooks to reviewers (Kyas, 2016: p. 15 of Chapter 10), As for academic literature, university libraries should develop their own promotional strategies for creating awareness of eBooks and should train staff in order to persuade students to make use of the growing eBook catalogues (JISC, 2009:27).

When promoting eBooks, marketers have to make realistic promotional claims because exaggeration could lead to disappointed customers who will not make use of a service again. As such, websites promoting eBooks should keep their promotional data up to date and their websites refreshed in order to keep raising awareness (Ashcroft, 2011:404-405).

The next publishing trend will be the eBook, where demand can be driven by students' enormous population size as well as their hunger for content (UCL, 2008). However, influencing Generation Y can be an arduous task, as it's is a generation with its own unique pattern of characteristics, motivations, and expectations (Benckendorff & Moscardo, 2010:45). The following section will focus on Generation Y's characteristics and how it influences their behaviour.

2.11 GENERATION Y's CHARACTERISTICS

The years of birth that classify an individual as belonging to Generation Y varies depending on the author. Authors such as Tulgan, (2009:5), Sheahan (2005:3), and Markert (2004:21) all offer their own definitions of Generation Y. This study will make use of Markert's (2004:21) definition: Generation Y consists of individuals born between 1986 and 2005.

Generation Y is a generation that is inherently different from previous generations and is important in both purchasing power as well as purchasing desire (Kinley *et al.*, 2010:563). Generation Y succeeds Generation X and is seen as a generation born into technology. It is a generation that is cause-driven, has new behavioural standards, is more confident, shows technological superiority to preceding generations, and is often called the connected generation (Wilder *et al.*, 2007:3). Generation Y has seen advances in information technology that the other generations could not even have fathomed in their time. It is also a generation that saw the digital revolution, which enabled diversification as well as an expansion of pop culture. Consequently, Generation Y has seen a rate of globalisation like never before, accompanied by a homogenising global culture (Collins-Mayo *et al.,* 2006:7). For this reason, Generation Y is the perfect target market for eBooks.

Generation Y is currently the most targeted generation, which means that it is a lucrative segment when companies succeed in piquing their interest and then converting interest into purchases. However, marketing to this generation is difficult as a variety of different languages are spoken, they have a diversity of needs, and are educated from an earlier age (Luna, 2013; Michman *et al.*, 2003:112). To combat this difficulty, certain methods of attracting the Generation Y cohort have been developed and studied.

Generation Y is more driven by causes than the generations before and supports products which genuinely help those causes (Fromm & Garton, 2013:164;167). One such cause is decreasing the environmental impact of pBooks by instead making use of eBooks. This is a cause that both companies and Generation Y can focus on. Thus, if successful in showcasing eBooks as a cause worth supporting, organisations can win over Generation Y consumers. Furthermore, when marketing to Generation Y, organisations should return to an emotional appeal, as it drives Generation Y to purchase and leads to social sharing (Van den Bergh & Behrer, 2013:204).

Other methods of overcoming the obstacle of marketing to Generation Y consist of providing value, using websites to communicate with them, provision of seamless purchasing, and giving personality to the brand (Gibson, 2015). Finally, marketers should keep in mind that Generation Y is a generation that has learned to take in information differently, and is able to take in a lot of information when the information is presented correctly (Vodicka, 2010). As such, eBooks are able to bridge this reading gap by providing interesting information that would keep Generation Y's attention. In an article by Spangler (2016), there is a showcase of what eBooks are capable of. Among the added features are interactive character maps, detailed annotations, illustrations alongside audio clips, and extra fictional character and world information, all at a reader's fingertips. This is the future of eBooks and reading; a perfect match for the Generation Y cohort.

Generation Y value living first and working second, social causes, flexibility, balance, fun, friends, world travel, and diversity (Fields *et al.*, 2007). Here, eBooks can offer a range of benefits in this on-the-go lifestyle. They are the perfect generation for taking up eBooks, and for convincing their social circles of doing the same. Generation Y students are a difficult but crucial market, and they can prove to be valuable when marketing is conducted correctly.

2.12 SYNOPSIS

This chapter reviewed eBooks and their inception and growth throughout the 20th century. Advantages and disadvantages of eBooks were reviewed and briefly discussed in order to ascertain why eBooks are being adopted and not being adopted. Influencers of eBook adoption were also investigated by means of several of the constructs used in the empirical portion of this study. The decision-making process, the diffusion of innovation as well as the product lifecycle were studied and investigated in the chain of eBook adoption. The marketing mix was examined to show the effect of product, price, place, and promotion on the eBook market. Finally, Generation Y was brought into the spotlight by investigating what defines them, and how to market to them.

The next chapter focusses on research design, methodology, collection and interpretation of data.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter focusses on the empirical portion of this study. The objectives were set to research Generation Y students' attitudes towards eBooks and the adoption thereof. The study was conducted in Gauteng Province, South Africa. This chapter explains the methods used for collecting data, the reasoning behind using those methods, as well as the parameters for the study.

This study falls under the field of Marketing Research, which is a function that links customers, consumers, and the public to marketing through the use of data. The data are used to identify and define problems and opportunities that may occur (AMA, 2004). Cant *et al.* (2005:3) state that marketing research is a methodical and objective process in which planning, gathering, analysing, and reporting can identify and outline possible problems and opportunities. Furthermore, it can reveal options in the marketing landscape, as well as monitor performance of current endeavours.

The following empirical research objectives have been formulated in order to illumine this portion of the study:

- Determine Generation Y students' reading habits.
- Determine Generation Y students' reading-medium preferences.
- Determine Generation Y students' eBook awareness, interest and intention to use, and self-reported use.
- Determine Generation Y students' perceived usefulness and perceived ease of use of eBooks in order to ascertain whether it influences their interest and intention to use, and self-reported use of eBooks.
- Determine Generation Y students' subjective norms regarding eBooks in order to ascertain whether this influences their interest and intention to use, and self-reported use of eBooks.
- Determine Generation Y students' consumer innovativeness in order to ascertain whether it influences their interest and intention to use, and self-reported use of eBooks.
- Determine Generation Y students' environmental awareness and how it affects their interest and intention to use, and self-reported use of eBooks.

- Determine whether male and female Generation Y students differ in their reading habits, reading-medium preferences, awareness, interest and intention to use, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness regarding eBooks.

The first section of this study explains the research design used.

3.2 RESEARCH DESIGN

Research design is the summary, outline, or plan for a research project, which is used to guide the collection and analysis of data. Having a research design ensures that the correct problems are addressed in a cost-effective manner (Wiid & Diggines, 2009:54). There are a number of research designs, however, they can be classified according to three main categories: descriptive, causal, and exploratory (Reddy & Acharyulu, 2008:39).

Descriptive research is used to describe situations, beliefs, or opinions instead of explaining causes (Bradley, 2010:510). Shui *et al.* (2009:62) define descriptive research as a set of scientific methods for collecting raw information, which is subsequently used to create data structures. This can be used to explain certain characteristics such as attitude towards, intention, and preferences. Thus, descriptive research is there to provide a description that is accurate in the status or characteristics of a situation or phenomenon (Johnson & Christensen, 2013:366). Causal research identifies a cause and effect relationship by studying what change there will be to "Y" for a change in "X" (Zikmund & Babin, 2006:69). Lastly, exploratory research is used to shed light on the nature of a given situation to identify whether the researcher needs to conduct more research on a specific matter (Neelankavil, 2007:104).

The main purpose of this study was to collect and analyse data regarding Generation Y students' attitude towards eBooks and eBook adoption. For this reason, a descriptive design was selected in order to gather the relevant data. The following section describes the research approach used in this study.

3.3 RESEARCH APPROACH

A research approach is a plan and procedure for research that encompasses the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation. There are three common research approaches: qualitative, quantitative, and mixed (Creswell, 2013:3). Housden (2005:120-121) states that qualitative research is used when probing small sample sizes where ample information is gathered, and where the analyses are subjective and interpretive. It is mostly used in exploratory research. Next, quantitative research uses numerical data in order to find a correlation between two or more variables (Soiferman, 2010:9). Finally, the mixed method is used to provide multiple perspectives of an issue under consideration and makes use of both qualitative and quantitative data (Waterman, 2012:159).

The analysis used in this study was statistical, and questionnaires were distributed to a relatively large number of respondents. Therefore, this study made use of quantitative research. Data were collected, analysed, and quantified in order to find correlations between variables. The next section explains the sampling strategy used in this study.

3.4 SAMPLING STRATEGY

The strategy to be followed in this research study utilises the following aspects of the sampling procedure: target population, sampling frame, sample method, and sample size. These are briefly discussed in this section.

3.4.1 Target population

The target population is the element which possesses the data that the researcher needs to obtain (Malhotra, 2010:372). According to Sim and Wright (2000:111), the researcher bases generalisations on the target population of interest.

The target population for this study is full-time Generation Y students, aged between 18 and 24 years, enrolled in publicly registered HEIs across the country.

3.4.2 Sampling frame

A sampling frame is the list of elements or people from whom a probability sample selection is made (Babbie, 2013:216). Särndal *et al.* (2003:9) concur by stating that the sampling frame is any material or device used to acquire observational access to the limited population of interest for the study.

For this study, two HEIs in Gauteng province were selected - one traditional university and one university of technology. There are 26 HEIs located in South Africa, of which nine are universities of technology, six are comprehensive universities, and 11 are traditional universities (Businesstech, 2015).

The universities were chosen based on convenience sampling and because their student membership presented a wide variety of cultures and ethnicities, which enabled a broad scope of participants. Gauteng was selected as it is the main economic hub (Molokwane, 2014) of South Africa and has the highest population density (StatsSA, 2016).

3.4.3 Sample method

The sampling method is used when a few items or units are selected from the population under observation and conclusions are drawn from their basis (Jain & Ohri, 2009:46). There are two types of sampling techniques: non-probability sampling and probability sampling (Marlow, 2010:140).

Non-probability sampling is usually conducted in situations where large-scale surveys are required or where there are no lists of individuals to survey (Babbie, 2008:206). There are four major types of non-probability sampling techniques: convenience, snowball, judgement, and quota (Daniel, 2011:81).

Convenience sampling is a technique in which members are chosen on the basis of being readily available. The selection is based on convenience, and respondents are self-selected by the researcher (Boone & Kurtz, 2013:320; Diamantopolous & Schlegelmilch, 2000:14). Convenience sampling is the least expensive form of sampling and requires very little planning (Ellison *et al.,* 2009:198). Snowball sampling is used where a few members of a subpopulation are located and then asked to suggest other members for the researcher to contact (Krosnick *et al.*, 2014:421). In judgement sampling, a sample is selected based on the purpose of the study, as well as the knowledge base of a population and its elements (Babbie, 2008:207).

McMurray *et al.* (2004:84) add that in judgement sampling, the researcher's judgement is used to select the sample in order to make it representative. In quota sampling, a researcher divides the target population into several subgroups and then selects quotas for each subgroup (Wrenn *et al.,* 2007:185)

Probability sampling refers to selection procedures where elements are randomly selected from a sample frame. Each element has a non-zero, known chance of being selected (Trochim, 2006; Visser *et al.*, 2000:230). There are four different types of probability sampling techniques: simple random, stratified, cluster, and systematic (Bless *et al.*, 2006:101).

In simple random sampling, a sample is taken from the population, and all in the sample have an equal chance of being chosen (Albright *et al.,* 2010:354). Stratified sampling divides the total population into mutually exclusive subgroups, and a simple random sample is chosen from each subgroup (Wrenn *et al.,* 2007:182). In cluster sampling, the population is divided into groups (clusters composed of different sizes), which are the units that are sampled (Cadima *et al.*, 2005:35). In systematic sampling, a random number is assigned, and the element that has the number is included, plus every tenth element following it (Babbie, 2013:223).

For the purpose of this study, a non-probability convenience sample was chosen to select the target sample. The sample frame consists of Generation Y students aged between 18 and 24 years, from two HEIs based in the Gauteng Province, South Africa.

3.4.4 Sample size

According to Malhotra (2010:374), a sample size is the number of participants who are chosen to form part of a study.

For the purpose of this study, the historical approach was used to determine the sample size of 400 respondents. This was done in accordance with other studies of a similar nature. Bakewell *et al.* (2006:173) used 346 respondents; Kueh and Voon (2007:667) used 470 respondents; Maduku (2015:2) used 439 respondents.

The sample size of 400 full-time, undergraduate and postgraduate students will be evenly split between the two selected HEIs, thereby allowing a sample size of 200 students per HEI. The next section focusses on the method used in collecting data.

3.5 DATA COLLECTION METHOD

Data collection is the detailed and methodical gathering of information that is deemed relevant to the purpose, hypotheses, and questions of a study (Grove *et al.,* 2014:47). There are four methods of collecting data: experimental design, observations, surveys, and questionnaires (Armstrong & Taylor, 2014:576).

Experimental design is used either in a laboratory or field setting in which artificial conditions are used to test certain hypotheses (Stevens *et al.,* 2012:54). In observation, a variable is introduced to the participants and data are collected concerning their interaction or behaviour towards it (Hinkelmann & Kempthorne, 2007:3). According to Al-Raisi *et al.* (2013:53), the survey method is used to gather a relatively small amount of data from a large number of respondents within a specific time-frame. Fluidsurveys (2014) defines surveys as the measure of opinions or experiences of a group of people through the asking of questions. Questionnaires, on the other hand, are a set of printed or written questions with a choice of answers. Thus, a questionnaire is used as a measuring tool in surveys. Questionnaires are self-administered or interviewer-administered tools in which structured questions are posed to the respondent (Brace, 2008:2).

Questionnaires have many advantages such as the flexibility to suit different research hypotheses, adaptability of prior questionnaires to the research project, and pre-testing and validation of elements that were previously used (McNabb, 2015:109). There are two types of questionnaires: interviewer-administered and self-administered. The type of questionnaire used depends on the characteristics of respondents, the importance of reaching respondents, the importance of answers not being contaminated, the size of the sample needed, types of questions asked, and the number of questions asked (Saunders *et al.*, 2003:282). In an interviewer-administered questionnaire, the interviewer records all the respondents' answers to the questions (Scholl *et al.,* 2003:139). On the other hand, a self-administered questionnaire is an instrument which is used to collect information from people, where the people themselves complete the questionnaire (Bourque & Fielder, 2003:2). Mitchell and Jolley (2012:286) state that self-administered questionnaires are easy to distribute to a large number of participants and allow for anonymity.

This study made use of self-administered questionnaires as it allows for the researcher to reach the needed number of respondents in an easily distributable manner.

Lecturers from each of the selected HEIs were approached to seek permission to distribute the questionnaire after class among their students.

3.5.1 Questionnaire format

There are two categories of questions which can be used in a questionnaire: unstructured and structured (Sharma, 2007:20).

Nicholas (2009:27) states that unstructured questions seek to explore qualitative and in-depth aspects with regards to a certain topic or issue, where questions are open-ended and the participants must formulate their own answer. Aswathappa (2013:229) describes structured questions as a predetermined checklist of questions which are posed to all participants. According to Mitchell and Jolley *(*2012:300-301), fixed-alternative questions can ask how much of a certain behaviour a person took part in which, when used in the correct way, can yield data that are useful to the study, reduce the risk of interviewer bias, and obtain easily interpretable responses. Nicholas (2009:27) notes that scaled questions are often used in structured questions, which are statements on a continuum, such as on a Likert scale.

Ary *et al. (*2009:209) describe a Likert scale as one that represents a systematic and refined way of index construction from data in a questionnaire, which uses a series of statements that express either favourable or unfavourable attitude towards the concepts in the study. A questionnaire using a Likert scale is relatively more reliable than other methods (Kahle & Valette-Florence, 2012:22; Gliem & Gliem, 2003). Singh (2009:108) proposes that a Likert scale yields certain advantages: simplicity in construction, can be used in many cases, tends to be more reliable, makes subjects more comfortable, and responses may give more reliable information about the respondent’s opinion.

There are certain guidelines to ensure that a questionnaire is successful. Questionnaires should be pretested and the amount of time needed to complete it should be measured. The questionnaire should be easy to understand, and questions should be phrased in a neutral tone so as not to influence the respondent. Furthermore, questions should be structured in a way that allows them to be easily answered and should be as concise as possible to optimise the time required to complete the questionnaire (MRS, 2011:8-11; Diamond 1999:95-100).

For the purpose of this study, structured questions were used in the form of a six-point Likert scale. A cover page was used to introduce the researcher, explain the study, and convey that participation was not mandatory. The cover page also supplied the relevant contact information, as well as the institute that the researcher originated from, namely North-West University.

3.5.2 Questionnaire content and layout

All questionnaires that were used in this study were modified from existing verified scales which had been used in prior research studies. There were three sections to the questionnaire. Section A was structured to gather demographic data. Section B determined Generation Y's attitude towards reading (Zinn & Langdown*,* 2011:109) as well as their preference in reading medium (Richardson & Mahmood, 2012). Section C focussed on Generation Y's awareness, and interest and intention to use eBooks (Jung *et al.,* 2012:213;), self-reported use (Perry, 2005:6, Horton *et al.*, 2001:242), the perceived usefulness, perceived ease of use, and subjective norms (Jin, 2014:472-475). Furthermore, Section C measured consumers' innovativeness regarding technology (Antón *et al.,* 2013:377) and their environmental awareness (Metin, 2010:15). All scaled responses (Section B and C) were measured using a six-point Likert scale.

3.5.3 Pre-testing and pilot testing of questionnaire

French and Gordon (2015:116) state that a pre-test allows for refinement of ideas that are identified and designed in the scoping phase, and are then developed to cater to the targeted participants. Singh (2009:72) notes that pre-testing is not only critical for identifying problems in a questionnaire, but also helps when it comes to removing ambiguities or other sources of bias and error. Furthermore, it can highlight problems that interviewers may encounter regarding the language and skip patterns.

The pre-test involved three experts in the field of research examining the questionnaire in order to find any complications. Certain questions were rephrased in order to clarify their meaning and some questions, which were confusing or did not add value to the questionnaire, were discarded.

According to Zikmund and Babin (2006:62), a pilot test is a small-scale research project that collects data from participants who are comparable to those targeted in the full study.

A pilot test is conducted in order to act as a guide and serves to test whether selected procedures will work, to refine measures, and to reduce risk. Schaller (2005:39) posits that pilot testing is critical for new surveys and complex questions.

For this study, a university lecturer was approached in order to seek permission to use their class as respondents in the pilot study. A total number of 80 questionnaires were deemed sufficient to measure the questionnaire's validity. Two classes of first-year students were used in the pilot study. The 80 students who were used did not form part of the main study and only took part in the pilot test. The pilot test results were used in order to ensure that all constructs were viable, the language easy to understand, and the time allocated to complete the questionnaire was sufficient.

3.5.4 Administration of the questionnaire

In April 2016, the study was undertaken using a sample of 400 students. The questionnaire was refined through pilot testing, and 400 copies were handed out to respondents.

A total of two HEIs in Gauteng were approached, permission sought, and the questionnaires handed out to willing respondents. The preferred age-group for respondents of the questionnaire was students aged 18 to 24 years, so as to meet the Generation Y requirement. The self-administered questionnaire was distributed for students to complete in accordance with the lecturers' schedules. All students were briefed on the study and informed that they had the option of not participating. After the students completed the questionnaire, it was collected in order to capture and process the data.

3.6 DATA PREPARATION

According to Tinsley and Green (2005:124), data preparation usually consists of data transformation and is regarded as the process of converting data into a format in which it can be read by a computer. Data preparation includes editing, coding, and tabulation.

3.6.1 Editing

Bradley posits that editing questionnaires will ensure that answers are complete, accurate, and suitable for further processing. This process is referred to as a cleaning session and sense checking (Bradley, 2013:313).

For the purpose of this study, all questionnaires were checked to ensure that they were viable. Questionnaires that exceeded the ten percent error margin were discarded from the study.

3.6.2 Coding

Coding is a process in which each response to a question is given a code (McDaniel & Gates, 2007:332). The objective of coding is to produce theories which are conceptually solid, have a basis in empirical data, and have common themes (Nykiel, 2007:47).

The questionnaire for this study consisted of three sections. Section A was designed to collect demographic data. Section B measured reading habits and preference in reading medium. Section C measured awareness, interest and intention to use, self-reported use, perceived usefulness, and perceived ease of use of eBooks. Furthermore, subjective norms, consumer innovativeness, and environmental awareness were also tested. Data regarding this study was coded according to the different constructs as presented in Table 3.1.

Table 3.1: Coding Information

Type of Data	Variable	Question number
Demographic data	A1 – A10	Section A, Question A1 – A10
Reading habits	B1 – B7	Section B, Question B1 – B7
Medium used when reading	B8 – B13	Section B, Question B8 – B13
Awareness	C1	Section C, Question C1
Interest and intention to use	C2 – C6	Section C, Question C2 – C6
Self-reported use	C7 – C10	Section C, Question C7 – C10
Perceived usefulness	C11 – C18	Section C, Question C11 – C18
Perceived ease of use	C19 – C23	Section C, Question C19 – C23
Subjective norms	C24 – C27	Section C, Question C24 – C27
Consumer innovativeness	C28 – C31	Section C, Question C28 – C31
Environmental awareness	C32 – C36	Section C, Question C32 – C36

3.6.3 Tabulation

Tabulation is the process of capturing coded data in electronic form (Malhotra, 2010:459).

It comprises the sorting of data into different groupings and counting the number of cases that belong to each grouping (Kumar 2010:120). When data are sorted and counted, there are three tabulation methods which can be used: univariate, bivariate and multivariate (Struwig & Stead, 2007:152). This study made use of univariate tabulation. The next section will consist of the statistical analysis portion of the chapter.

3.7 STATISTICAL ANALYSIS

The captured data were analysed using the Statistical Package for Social Sciences (SPSS), Version 23.0 for Microsoft Windows.

3.7.1 Descriptive statistics

Holcomb (2016:14) describes descriptive statistics as methods for organising and summarising data with the goal of orderly presentation. Descriptive statistics include measures of location, measures of variability, and measures of shape. (Abell *et al.,* 1999:21).

3.7.1.1 Measures of location

Viljoen and Van der Merwe (2006:18) describe the measure of location, or measure of central tendency, as numerical values that tend to locate the central point which gives the location of the centre of the data. There are different measures of location that can be used including mean, mode, and median.

The mean is the ratio of the summation of values of the data points to the total number of data points (Malhotra, 2016:209). Mean is more commonly known as “average value” and is a measure of central location for data (Anderson *et al.,* 2016:101). The mode differs from the mean in that it is the item that occurs most frequently in a set of observations (Palaniswamy & Palaniswamy, 2005:58). Rubin (2009:61) corroborates by stating that mode is the value that appears most frequently in a distribution of values for a particular variable. The median is the value of the middle item when the data are arranged in an ascending or descending order of magnitude (Beri, 2010:92). Rubin (2009:59) describes the median as the middle value in a ranked distribution of values.

This study made use of the mean as a measure of location.

3.7.1.2 Measures of variability

Measure of variability is a single number which measures the internal variation of data or the extent to which data items vary from one another, or from a central point. More commonly used measures of variability are the range, variance, and standard deviation (Steinberg, 2010:77; Gosling, 1995:9).

The range is a very common measure and is the difference between the lowest and highest scores in a data set (Steinberg, 2010:77-78; Howell, 2016:83). The variance is the average distance of data values from the mean of the squared deviation scores (Gravetter & Wallnau, 2010:92). Standard deviation is the average distance of the observations from the arithmetic mean (Kohler & Kreuter, 2005:153). The standard deviation provides a measure of the standard or average distance from the mean and describes whether the scores are clustered closely or spread widely around the mean (Gravetter & Wallnau, 2013:92).

This study made use of standard deviation as a measure of variability.

3.7.1.3 Measures of shape

Measures of shape are tools, such as skewness and kurtosis, that can be used to describe the shape of a distribution of data (Black, 2011:77), and are generally used to measure the normality of the distribution (Acock, 2008:101). For both skewness and kurtosis normality lies between -1 and 1 (Chan, 2003:282). Van der Pool (2008:70) states that skewness between -2 and 2 and kurtosis of -2 and 2 are acceptable.

Dytham (2011:57) describes skewness as a measure of the symmetry of a data set in which a value of 0 would be considered symmetrical. Symmetric skewness occurs when the distribution is not significantly skewed (Davis & Pecar, 2012:146). Wardeh *et al.* (2011:368) state that real data points are not always perfectly symmetric, in which case skewness is used to refer to the degree of “asymmetry of the probability distribution of a real-valued random variable”. Black (2011:77) simplifies the aforementioned by stating that a skewed distribution shows where the distribution of data is piled. A value above 0 indicates that the data are positively skewed while a value below 0 indicates negatively skewed data (Sheskin, 2003:173-174).

Kurtosis is the second method that can be used; it measures the degree of concentration of frequencies in a given distribution and whether the observed values are concentrated around or away from the mode (Sharma, 2007:186). Kurtosis measures flatness, meaning that in a flat distribution with a small range there would be a low measure of kurtosis, which would indicate uncertainty (Vargo & Lusch, 2005:265). Acock (2008:89) notes that kurtosis can be distributed into three categories: normal distribution, high kurtosis (which have bigger peak values), and low kurtosis (in which the distribution is flat). A kurtosis value between -1.0 and 1.0 is considered excellent; however, a kurtosis value between -2.0 and 2.0 is acceptable in many cases (George & Mallery, 2016:114).

This study made use of both skewness and kurtosis as measures of shape. The next section focusses on the reliability of the study.

3.8 RELIABILITY

Reliability refers to the consistency or stability of a measure, of which there are three methods used for checking reliability: test-retest, split-half, and internal consistency (Carter *et al.*, 2009:243).

Kaplan and Saccuzzo (2008:109) state that in a test-retest, estimates are used to evaluate the error associated with administering a test at two different times to the same sample. The split-half method divides the test in two, and from there the two halves are correlated (Thomas *et al.,* 2015:202). Internal consistency reliability is used to assess the stability of results across items within a test (Trochim *et al.*, 2015:121). Zikmund and Babin (2012:257-258) add that internal consistency is a term researchers use to signify a measure's similarity.

In cases where a test has multiple choices, such as on a Likert scale, Cronbach's Alpha would be the method of choice for determining inter-item reliability (Gliner *et al.,* 2011:159). Cronbach's Alpha measures how well a set of variables or items measures a single, unidimensional, latent construct and is essentially a correlation between the item responses in a questionnaire (Andrew *et al.*, 2011:202). George and Mallery (2016:240) rate values in Cronbach's Alpha, as seen in Table 3.2.

Table 3.2: Cronbach's Alpha

Value	Rating
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

This study will make use of Cronbach's Alpha to test the reliability of the data. All values above 0.7 will be accepted. The next section focusses on the validity portion of the study.

3.9 VALIDITY

Validity detects whether the researcher's conclusions are true or correct and that they correspond to the state of the world (McBurney & White, 2009:173). Bellamy (2014:11) describe validity as an estimate of the extent to which a measure agrees with the external criterion of the phenomenon being measured. According to Lissitz (2009:1), there are three types of validity: content validity, criterion validity, and construct validity.

Goodwin (2009:131-132) describes content validity as being concerned with whether the actual content of the items on a test makes sense in terms of the construct being measured. It is used at the start of the process of creating a test because it concerns the precise wording of the test items. Rubin and Babbie (2009:85) state that criterion validity is based on an external criterion. When the criterion validity of an instrument is assessed, an external criterion is selected which is believed to be another indicator of the same variable that the instrument intends to measure. Construct validity is concerned with measuring what it is intended to measure, and nothing else (McBurney & White, 2009:175). There are three types of construct validity: nomological, convergent, and discriminant (Bearden *et al.*, 2011:8).

Nomological validity measures the extent to which predictions, based on the concept in the research instrument, are confirmed by actual data (Cavusgil *et al.*, 2009:83). It is also known as criterion validity or external validity, and is tested by examining the connection between the selected constructs (Wülferth, 2013:304). Nomological validity values lower than 0.01 ($p < 0.01$) are considered significant (Brahma & Chakraborty, 2009:217).

Convergent validity conceptualises items in the construct to show how high the levels of correlation are among them (Müller, 2012:129). Muhammadhossein *et al.* (2015:1279) state that one measures convergent validity through factor loading as well as composite reliability measures, where an outcome above 0.7 is considered reliable. Finally, discriminant validity assesses the degree to which two measures, designed to measure similar but conceptually different constructs, are related (Bearden *et al.*, 2011:8). A variance which is higher than 0.5 suggests that the construct and individual variables showcase discriminant validity (Garcia-Machado *et al.*, 2012:321). Polit and Beck (2008:461) do however note that it is challenging to validate an instrument in terms of construct validity, as it is essentially a hypothesis-testing endeavour which is typically linked to a theoretical perspective.

This study made use of content and construct validity. Two experienced researchers were asked to examine and approve the questionnaire to ensure content validity. The construct validity was used in order to ensure that the constructs measured what they were set out to measure, in order to give satisfactory and reliable data. Nomological validity was also assessed in this study. The next section focusses on factor analysis as well as the subsets of factor analysis.

3.10 FACTOR ANALYSIS

Factor analysis is a set of statistical procedures designed to determine the number of distinct constructs needed to account for the pattern of correlation among a set of variables (Fabrigar & Wegener, 2011:3). O'Rourke and Hatcher (2013:6) state that factor analysis makes the assumption that covariation among the variables observed will be due to the existence of one or more latent variable(s) that apply influence on the observed variables. Factor analysis is thus a tool for investigating the relationships between variables for complex concepts (Rahn, 2013). Brown (2015:1) distinguishes between two types of factor analysis: confirmatory factor analysis (CFA) and exploratory factor analysis (EFA).

CFA is used to examine construct validation and to test whether a measure is invariant when it comes to different groups, populations, or time frames (Harrington, 2009:5). EFA is a group of extraction and rotation techniques, which are designed to model unobserved or latent constructs (Osborne & Banjanovic, 2016:3).

Fabrigar and Wegener (2011:4) states that procedures exist to conduct EFA in cases where the researcher has no clear expectations about the underlying structure of correlations. This study made use of EFA.

Before an EFA can be conducted, it is important to check whether the sample is adequate (Kaiser-Meyer-Olkin) for a factor analysis and whether there are relevant correlations (Bartlett's test of sphericity) (Yong & Pearce, 2013:85; Hinton *et al.,* 2004:349). Rasli (2006:14) notes that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy indicates whether a sample size used for analysis is sufficient for a factor analysis. Generally, the value of a KMO should be higher than 0.5 for a satisfactory factor analysis to proceed (Larose, 2006:19). Barlett's test of sphericity is used to evaluate whether the data are suitable for factor analysis. A Bartlett's test of sphericity with a significant p-value ($p < 0.05$) indicates that one can continue with a factor analysis (Hinton *et al.*, 2004:349).

According to Osborne and Banjanovic (2016:5), the next step is to decide on an extraction method. An extraction method is one of a series of approaches in which the correlation or covariation between variables is studied, and dormant variables are extracted therefrom. There are two commonly used extraction methods, namely, maximum likelihood and principal axis factoring (Yang, 2005:190).

Millar (2011:3) describes maximum likelihood as a general-purpose tool for inference, which includes the evaluation of statistical significance, calculation of confidence intervals, model assessment, and prediction. Principal axis factoring is a factor extraction method suitable for the common factor model in which estimates of commonalities replace the 1s used in the diagonal of the correlation matrix (Pituch & Stevens, 2016:364). In principal axis factoring, each variable has some specific variance as well as an error variance; however, only the common variance, also referred to as commonality, can be reproduced by means of factor extraction (Sarstedt & Mooi, 2014:246).

The next step is to decide on a method of rotation (Osborne & Banjanovic, 2016:6). Rotations align the directions of the factors with the original variable to make the factors more interpretable. Clusters of variables should correlate highly in order to define the rotated factors (JMP, 2008). There are two types of rotation methods: oblique and orthogonal (SAS Institute, 2013:73-74).

In the oblique method, independence of factors is disallowed and the factors are able to correlate; this offers a more accurate representation of the complexity of the examined variables because constructs in the real world are seldom uncorrelated (Maroof, 2012:31). Yang (2005:193) state that oblique rotation allows for association among extracted factors and will deliver close-to-zero estimates for those associations. With orthogonal rotation, the new factors are uncorrelated, as with provisional factors. The most commonly used orthogonal method is the varimax rotation method (Manly, 2004:94). According to Feinberg *et al. (*2012:492), the varimax rotation method is a technique that reorients the original factors so that their loadings are as close to -1, 0, or 1 as possible. It rearranges to give the factors chosen as much interpretability as possible, which helps to make sense of factors.

This study made use of EFA by means of principal component analysis, using a varimax rotation. The next section focusses on hypothesis testing.

3.11 HYPOTHESIS TESTING

According to Poletiek (2001:30) and Frost (2015), hypothesis testing is a process in which a decision regarding the truth of the hypotheses is made. The typical situation is that a hypothesis tester wants to know whether or not a given hypothesis (H) is true. Hypothesis testing aims to divulge whether the sample will support a hypothesis about the nature of the population. There are two types of hypotheses, the null hypothesis (H_0) and the alternative hypothesis (H_a) (Taeger & Kuhnt, 2014:2). Statistical hypothesis testing uses data to decide whether a certain statement, called the null hypothesis, is true. The negation of the null hypothesis is called the alternative hypothesis (Ruppert, 2004:62). Hypothesis acceptance and rejection is applied as follows:

If p-value $< \alpha$ then H_a
If p-value $\geq \alpha$ then H_0

Thus, when a hypothesis is corroborated by the data, it is an alternative hypothesis (H_a) and when it is rejected, it is considered a null hypothesis (H_0). The next section focusses on the correlation analysis.

3.12 CORRELATION ANALYSIS

The correlation analysis is a data-analytic system which is highly general and flexible. Correlation analysis is used when a quantitative variable is studied as a function of, or in relation to, any factors of interest (Cohen *et al.,* 2013:3). The correlation analysis seeks to assess the strength and direction of the relationship between the variables identified, and it exists when the variables are observed to be related (Bratton & Gold, 2012:89).

The summary number is called the correlation coefficient and is expressed by *r*, and the value thereof should fall between -1.0 and 1.0. This enables a researcher to indicate both positive and negative relationships (Mcnabb, 2010:194). The variables are assigned as Y1 or Y2 in order to show that both variables are free to vary and are not in the researcher's control (Madrigal, 2012:193). In dealing with a negative correlation (-1.0), the increases in the x-axis will decrease the y-axis and, conversely, the decreases in the x-axis will increase the y-axis. In a positive (1.0) correlation, the x- and y-axis increase and decrease in unison (McNabb, 2013:219). The next section focusses on the regression analysis and its subsets.

3.13 REGRESSION ANALYSIS

Regression analysis is a method for exploring functional associations between variables (Chatterjee & Hadi, 2013:1). There are two types of regression analysis: simple regression analysis and multiple regression analysis (McNabb, 2015:226).

In a simple regression analysis, one variable is predicted by one independent variable (Black, 2009:518). Multiple regression analysis uses a linear function of two or more independent variables in order to clarify the disparity in a dependent variable (Allen, 2007:76). Gaurav (2010:3) states that multiple regression analysis provides an equation that predicts the dependent variable from two or more independent variables. This means that multiple regression includes one dependent variable and two or more independent variables.

In this study, multiple regression analysis was used in order to determine the correlation between different constructs and how the dependent variables (interest and intention to use and self-reported use) were influenced by independent variables (awareness, perceived usefulness, perceived ease of use, subjective norms, consumer innovation, and environmental awareness).

Both interest and intention to use, and self-reported use were used as independent variables where each was not the dependent variable. The next section focusses on the two independent samples t-test.

3.14 TWO INDEPENDENT-SAMPLES T-TEST

The purpose of a t-test is to compare two independent groups to determine whether there is a significant difference between them, with consideration to their mean scores and the available numeric criterion (Hatcher, 2003:415). A significant difference has a small p-value which, by convention, is less than 5 percent ($p < 0.05$) (Vogt *et al.*, 2014:247). Boslaugh (2012:160) states that the purpose of the two samples t-test is to determine whether the means of the populations from which the samples were taken are the similar.

For the purpose of this study, the two samples t-test was used to ascertain whether there were any differences in responses between male and female respondents, which would indicate whether any meaningful differences exist in the data. The next section will focus on the practical significance portion of the study.

3.15 PRACTICAL SIGNIFICANCE

Practical significance is used in order to evaluate the size of the effect that is measured (Vito & Higgins, 2014:123). When p-score calculations are used to compare the difference between two means in standard deviation units, it is called Cohen's D or standardised mean difference. This statistic compares the effect one variable has on another variable (Rubin, 2012:91). Cohen's D measures the degree of separation between two distributions; a separation of one standard deviation ($d = 1.00$) represents a large difference (Gravetter & Wallnau, 2008:233). According to Navarro (2013:415), when the d-value is approximately 0.2, there is a small effect; at approximately 0.5 there is a moderate effect; and at approximately 0.8 there is a large effect.

This study made use of Cohen's D, which is calculated as follows (Magno, 2011):

$$d=(M1-M2)/((\sqrt{S_1^2+S_2^2})/2)$$

This was used to ascertain whether the differences in responses between male and female respondents were significant.

3.16 SYNOPSIS

This chapter outlined the methodology used to conduct the research needed for this study. The research design and research approach were discussed. The target population, sampling frame, sampling method, and sampling size were briefly examined and a viable option chosen for each. Next, the data collection method and layout were discussed. The next section focussed on pre-testing and pilot testing. The measures of location, variability, and shape were decided on in the statistical analysis section. Reliability and validity testing were briefly examined. Factor analysis and hypothesis testing were also examined and explained. The next section discussed correlation analysis as well as a regression analysis. The two independent samples t-test was examined and chosen for the study. Finally, the practical significance was discussed.

In the following chapter, data obtained by means laid out in this chapter are explained.

CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

This portion of the study provides insight into the analysis and interpretation of the empirical findings of the study. This chapter includes the pilot testing results in Section 4.2, where the pilot data is laid out. Next, Section 4.3 describes the process in which the data was gathered in detail. Section 4.4 is dedicated to the data analysis process and involves coding, data cleaning, and tabulation of variables. Section 4.5 comprises of the demographic data, which includes charts to illustrate the data. Section 4.6 reviews the exploratory factor analysis that was conducted on the data. Section 4.7 focusses on the reliability and validity of the main survey. Section 4.8 is dedicated to the descriptive statistics that were used to analyse the data set in the study. Section 4.9 elaborates on Section B from the questionnaire, which investigated reading habits in the form of actual reading and medium used when reading. Section 4.10 and Section 4.11 provide a correlation analysis and the hypothesis testing, respectively. The findings of the regression analysis can be found in Section 4.12, and those of the t-test in Section 4.13. The chapter concludes in Section 4.14 with a synopsis of the findings.

The next section of this chapter discusses the pilot testing procedure as well as the results that stemmed from it.

4.2 PILOT TESTING RESULTS

After the questionnaire was pre-tested to ensure the validity of content, a pilot test was conducted on a convenience sample of 80 Generation Y students. The students who participated in the pilot study did not take part in the main study. The pilot study was conducted to determine the internal consistency reliability of the scales that were used. Of the 80, 79 questionnaires were deemed viable after data cleaning. Mistakes were found in three questionnaires; however, they did not exceed the 10 percent margin of error and were therefore not discarded.

The internal consistency reliability results of the pilot study are presented in Table 4.1. C1 was not included in Table 4.1 as it has only one variable.

Table 4.1: Pilot test results

Items	Number of Variables	N	Cronbach's Alpha
Section C			
C 2 – C 6	5	79	0.795
C 7 – C 10	4	79	0.873
C 11 – C 18	8	79	0.890
C 19 – C 23	5	79	0.740
C 24 – C 27	4	79	0.770
C 28 – C31	4	79	0.857
C 32 – C 36	5	79	0.803

According to George and Mallery (2016:240), a Cronbach Alpha above 0.7 is deemed acceptable. All the constructs in the pilot test measured above 0.7, with C 19 – C 23 being the lowest, at a value of 0.740. The table indicates satisfactory reliability, thus all dimensions were included in the main study.

The next section focusses on the data gathering process as well as a preliminary layout of the questionnaire and what it set out to measure.

4.3 DATA GATHERING PROCESS

Data gathering was conducted to measure Generation Y students' attitudes towards eBooks and the adoption thereof. The measurement was obtained through the empirical objectives laid out in Chapter 1, (Section 1.3.3). A total of 400 questionnaires were distributed evenly between two HEIs, in the classes of lecturers who were willing to allow their students to partake. Participation in the study was voluntary. The questionnaire had a total of 59 items that were divided into 3 sections. Section A consisted of 10 items, which focussed on the demographics of the participants. Section B consisted of 13 items, which were aimed at illuminating the reading behaviour of respondents. Section C consisted of 36 items which were aimed at determining awareness, interest and intention to use, and self-reported use of eBooks. Furthermore, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness were also tested.

The next section focusses on the preliminary data analysis.

4.4 PRELIMINARY DATA ANALYSIS

The preliminary data analysis of this study included coding, data cleaning, and tabulation.

4.4.1 Coding

The questionnaire that was used for this study comprised three sections. Section A collected demographic data; section B measured reading habits; and section C measured different constructs pertaining to Generation Y students' attitudes towards and use of eBooks. All respondents received a questionnaire with the same questions. Table 4.2 shows all variable codes and assigned values.

Table 4.2: Coding Information

Section A: Demographical information			
Question	**Code**	**Construct Measured**	**Value Assigned to Response**
Question 1	A 1	Country of origin	(1) South Africa (2) Other
Question 2	A 2	Province of origin	(1) Eastern Cape (2) Free State (3) Gauteng (4) KwaZulu-Natal (5) Limpopo (6) Mpumalanga (7) Northern Cape (8) North West (9) Western Cape (10) Other
Question 3	A 3	Name of institution	(1) Traditional University (2) University of Technology
Question 4	A 4	Current year of study	(1) 1st year (2) 2nd year (3) 3rd year (4) 4th year (5) Post Graduate
Question 6	A 6	Ethnic group	(1) African (2) Asian/ Indian (3) Coloured (4) White (5) Other
Question 7	7	Home language	(1) Afrikaans (2) English (3) IsiNdebele (4) IsiXhosa (5) IsiZulu (6) Sesotho (7) Sepedi (8) Setswana (9) SiSwati (10) Other (11) Tshivenda (12) Xitsonga
Question 8	8	Age	(1) <18 (2) 18 (3) 19 (4) 20 (5) 21 (6) 22 (7) 23 (8) 24 (9) 24<

Table 4.2: Coding information (continued…)

Question	Code	Construct measured	Value assigned to response
Section A: Demographical information			
Question 9	9	Source of income	(1) Parents/ Guardian (2) Sponsor/ Corporate (3) Government (4) Other (5) Employment (6) Bursary
Question 10	10	Which of the following do you have access to (Tick all that apply)	(1) PC (2) Laptop (3) eReader (4) Smartphone (5) Tablet (6) 2-in-1 Hybrid
Section B: Reading habits			
Question	**Code**	**Construct measured**	**Value assigned to response**
Question 1	1 – 7	Reading habits	(1) Never (2) Very rarely (3) Rarely (4) Occasionally (5) Frequently (6) Very frequently
Question 2	8 – 13	Preferred reading medium	(1) Never (2) Very rarely (3) Rarely (4) Occasionally (5) Frequently (6) Very frequently
Section C: eBooks			
Question	**Code**	**Construct measured**	**Value assigned to response**
Question 1	1	Awareness	(1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Slightly agree (5) Agree (6) Strongly agree
Question 2 – 6	2 – 6	Interest and intention to use	(1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Slightly agree (5) agree (6) Strongly agree
Question 7 – 10	7 – 10	Self-reported use	(1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Slightly agree (5) Agree (6) Strongly agree
Question 11 – 18	11 – 18	Perceived usefulness	(1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Slightly agree (5) Agree (6) Strongly agree

Table 4.2: Coding information (continued…)

Section C: eBooks			
Question	**Code**	**Construct measured**	**Value assigned to response**
Question 19 – 23	19 – 23	Perceived ease of use	(1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Slightly agree (5) Agree (6) Strongly agree
Question 24 – 27	24 – 27	Subjective norms	(1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Slightly agree (5) Agree (6) Strongly agree
Question 28 – 31	28 – 31	Consumer innovativeness	(1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Slightly agree (5) Agree (6) Strongly agree
Question 32 – 36	32 – 36	Environmental awareness	(1) Strongly disagree (2) Disagree (3) Slightly disagree (4) Slightly agree (5) Agree (6) Strongly agree

4.4.2 Data cleaning

The data cleaning process started with the discarding of questionnaires that were completed by respondents who were above the age of 24 (six were discarded). The second step entailed discarding questionnaires that had more than 10 percent of the entries missing (24 were discarded).

4.4.3 Tabulation of variables

A total of 400 questionnaires were distributed among respondents. After the cleaning process, 370 questionnaires were deemed viable. Data were tabulated after it had been coded and cleaned.

Table 4.3 contains the frequency of scaled responses.

Table 4.3: Frequency table of responses

Section B						
Scale item	**Never**	**Very rarely**	**Rarely**	**Occasionally**	**Frequently**	**Very frequently**
	1	**2**	**3**	**4**	**5**	**6**
B 1	7	10	57	140	109	47
B 2	6	11	66	139	112	36
B 3	16	24	78	107	96	49
B 4	50	56	93	88	55	28
B 5	28	36	63	94	101	48
B 6	38	34	73	103	79	43
B 7	5	5	10	64	133	153
B 8	55	42	71	77	62	63
B 9	64	54	73	81	51	47
B 10	104	45	59	59	55	48
B 11	131	60	70	58	34	17
B 12	13	17	26	44	89	181
B 13	22	23	29	64	86	146
Section C						
Scale item	**Strongly disagree**	**Disagree**	**Slightly agree**	**Slightly agree**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**	**6**
C 1	29	69	35	60	86	91
C 2	24	60	55	106	94	31
C 3	11	35	35	87	141	61
C 4	16	52	39	100	116	47
C 5	21	45	47	81	121	55
C 6	17	44	39	73	137	60
C 7	98	81	33	51	79	28
C 8	103	108	50	60	32	17
C 9	104	112	43	49	42	20
C 10	98	113	58	57	29	15
C 11	73	86	74	63	45	29
C 12	85	91	74	66	37	17
C 13	62	79	66	68	61	34

Table 4.3: Frequency table of responses (continued…)

Section C						
Scale item	**Strongly disagree**	**Disagree**	**Slightly agree**	**Slightly agree**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**	**6**
C 14	83	82	69	63	49	24
C 15	57	88	81	71	48	25
C 16	40	67	69	110	54	30
C 17	42	65	60	104	67	32
C 18	36	56	62	106	75	35
C 19	13	31	55	113	131	27
C 20	5	20	34	124	153	34
C 21	10	20	49	98	151	42
C 22	42	54	64	94	84	32
C 23	18	28	37	105	123	59
C 24	52	75	70	97	51	25
C 25	58	89	68	72	58	25
C 26	43	64	71	105	64	23
C 27	57	87	77	81	42	26
C 28	24	40	66	87	97	56
C 29	17	27	38	75	123	90
C 30	26	52	74	103	78	37
C 31	29	49	59	84	94	55
C 32	10	30	43	89	111	87
C 33	22	35	58	71	102	82
C 34	15	34	55	109	101	56
C 35	18	24	40	97	126	65
C 36	20	27	56	115	103	49

The next section consists of the demographic analysis which includes charts of the different demographical questions from the collected data.

4.5 DEMOGRAPHIC ANALYSIS

The demographic portion is explained in this section using charts to illustrate the data.

4.5.1 Sample description of participants

Section A of the questionnaire set out to gather information regarding the respondents (Generation Y students). The following data was obtained in this section: country of origin, province of origin, types of HEI attended by respondents, current year of study, gender, home language, the source of income, ethnic group, and age. The data is presented next.

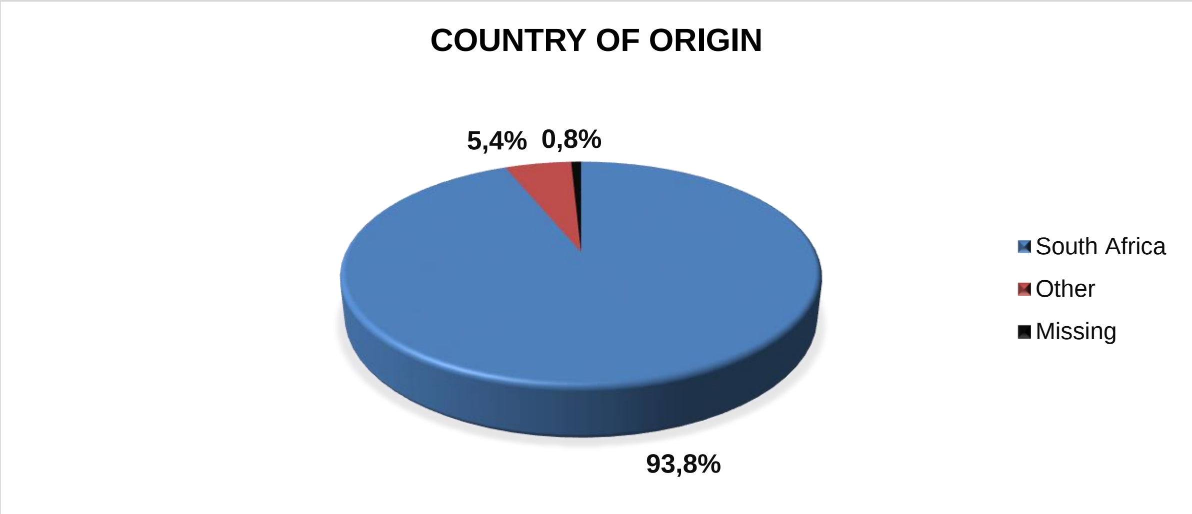

Figure 4.1: Country of origin

Figure 4.1 focusses on the country from which the students originated. This figure shows that 93.8 percent of respondents were born in South Africa and 5.4 percent were born in other countries. A total of 0.8 percent of the respondents failed to indicate their country of origin.

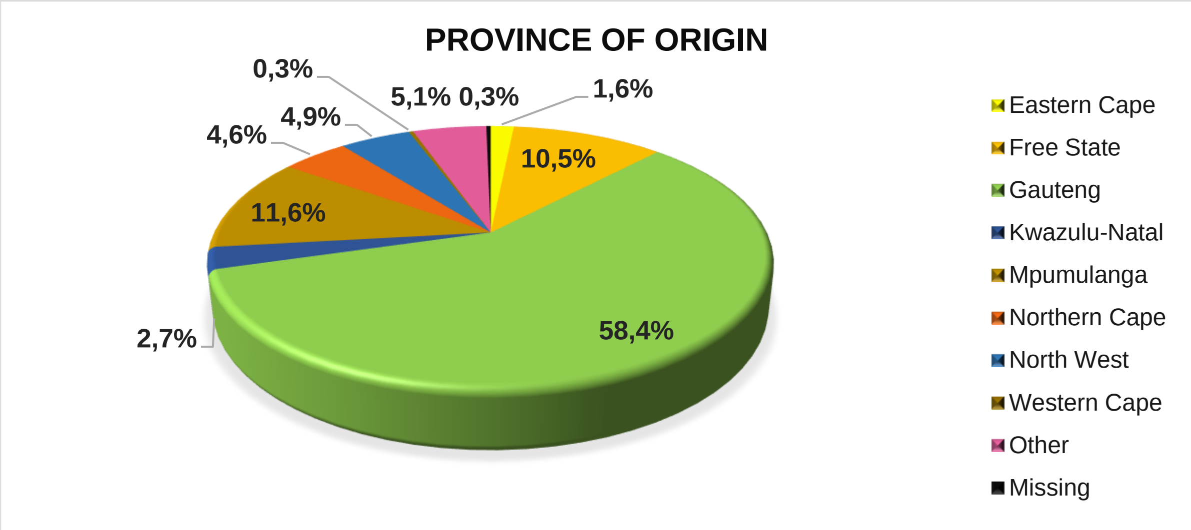

Figure 4.2: Province of origin

Figure 4.2 shows the province that students originated from. This study was conducted in the Gauteng Province, South Africa. The figure illustrates that 58.4 percent of students were from Gauteng, 11.6 percent from Mpumalanga, and 10.5 percent from the Free State. Next, 5.1 percent were from outside South Africa's provinces (that is, they were born in another country). Furthermore, 4.9 percent were from North West, and 4.6 percent from Northern Cape. Finally, 2.7 percent were from Kwazulu-Natal, 1.6 percent from Eastern Cape, and 0.3 percent from Western Cape. Missing data, where the data was not filled in, accounted for 0.3 percent of the total data.

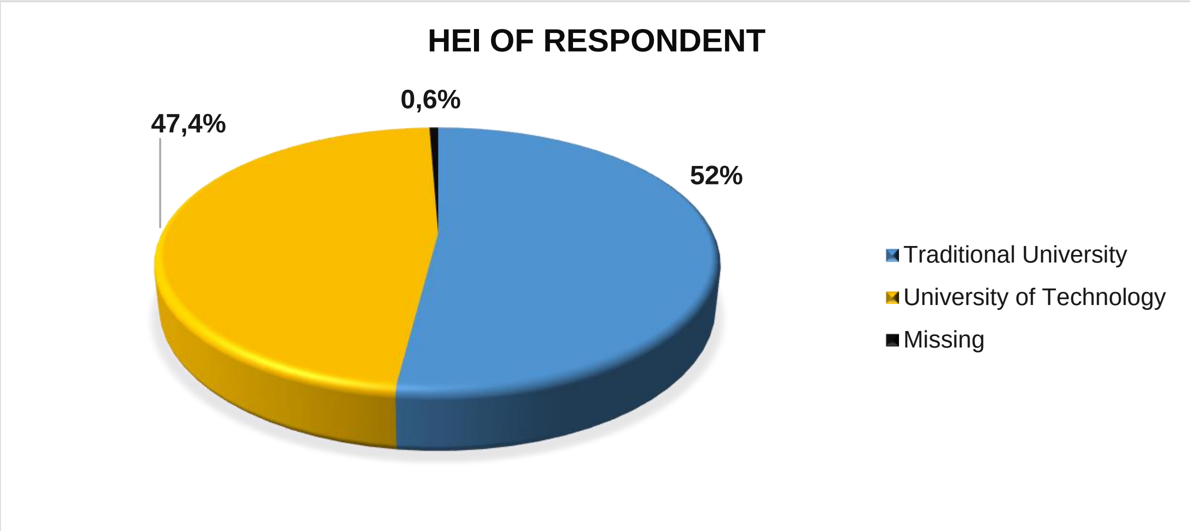

Figure 4.3: HEI of respondent

In Figure 4.3, the types of institution that the students attended are shown. Two institutions in Gauteng were used in this study. They are referred to as a Traditional University and a University of Technology. The Traditional University has a representation of 52 percent and the University of Technology 47.4 percent. The missing data account for 0.6 percent of the responses which were not completed by the respondents. The difference in percentage value between the two HEIs is attributed to the data cleaning in Section 4.4.2.

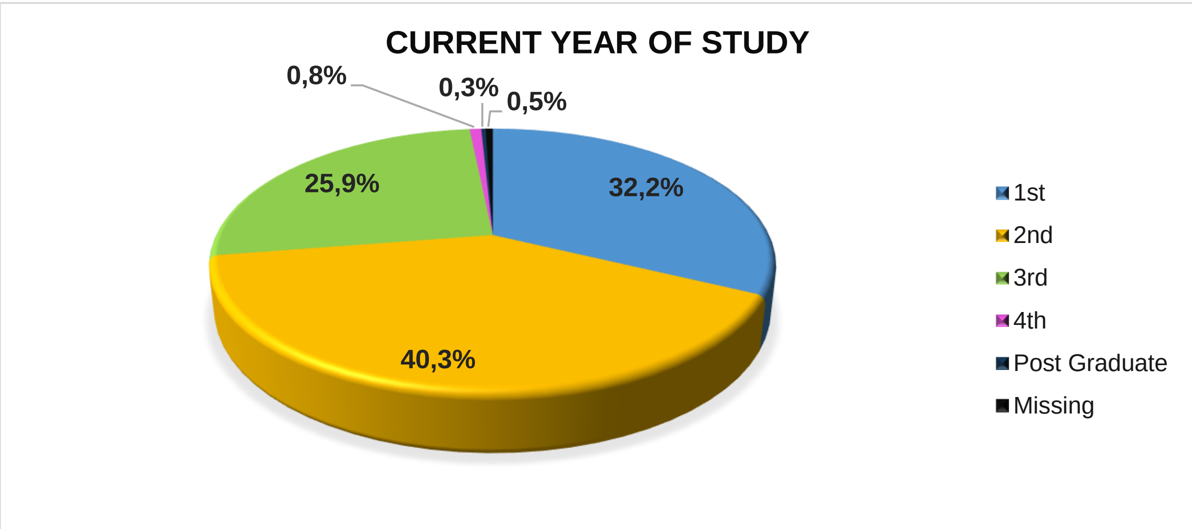

Figure 4.4: Current year of study

The current academic year of study of the respondents is the focus in Figure 4.4. The figure shows that 40.3 percent of respondents identified as second-year, 32.2 percent as first-year, and 25 percent as third-year students. Furthermore, 0.8 percent identified as fourth-year, and 0.3 percent identified as postgraduate students. A fraction of the respondents did not enter anything (0.3%), which was labelled as missing data.

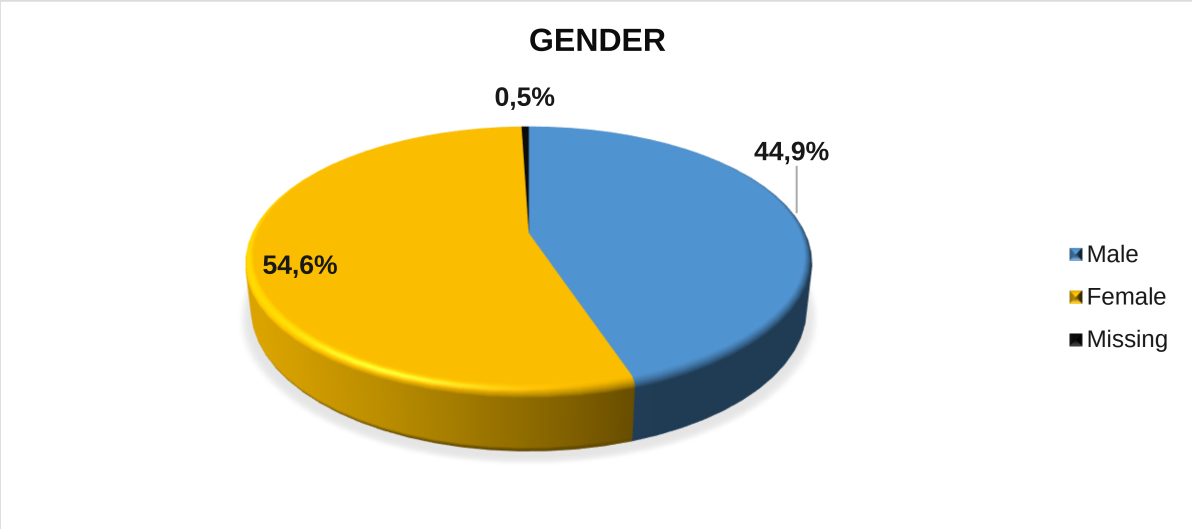

Figure 4.5: Gender

Figure 4.5 shows the gender proportion of the student respondents. The majority of the respondents were female (54.6 percent), while 44.9 percent were male. The representation is distributed evenly enough for comparisons based on gender to be made. Of the data collected, 0.5 percent of the respondents did not answer and therefore is shown as missing

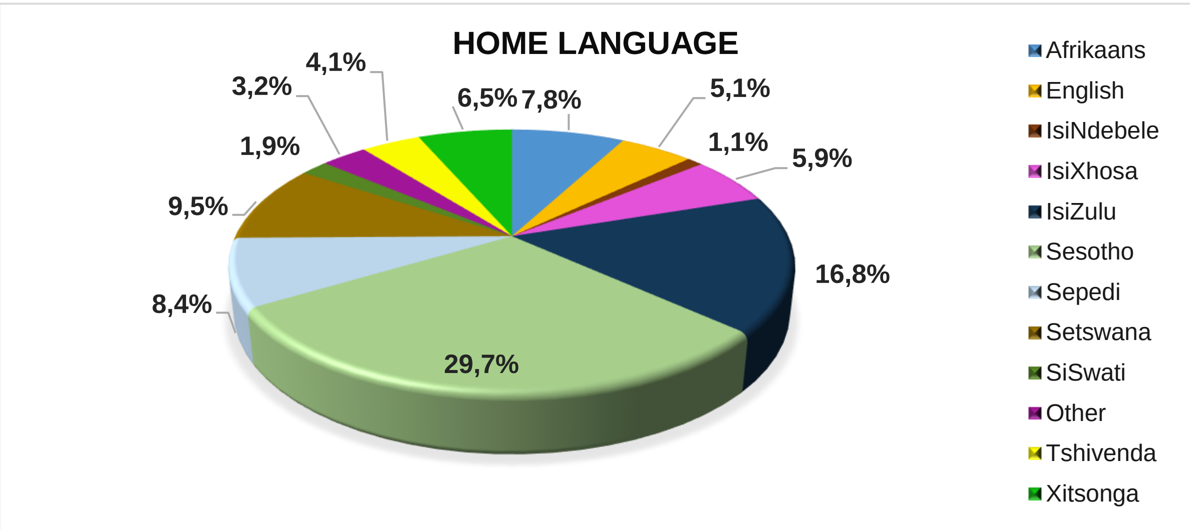

Figure 4.6: Home language

In Figure 4.6 represents the language that each student identified as being their home language. The figure shows Sesotho's representation at 29.7 percent, IsiZulu at 16.8

percent, Setswana at 9.5 percent, Sepedi at 8.4 percent, and Afrikaans at 7.8 percent. Furthermore, Xitsonga represented 6.5 percent; IsiXhosa, 5.9 percent; English, 5.1 percent; and Tshivenda, 4.1 percent. Of the respondents, Siswati was the home language to 1.9 percent, and IsiNdebele to 1.1 percent. Finally, students who speak a different home language, which is not recognised as one of the official South African languages, fell into the "Other" category, of which the representation was 3.2 percent. All of the 11 official South African languages were represented in the home language section of demographics

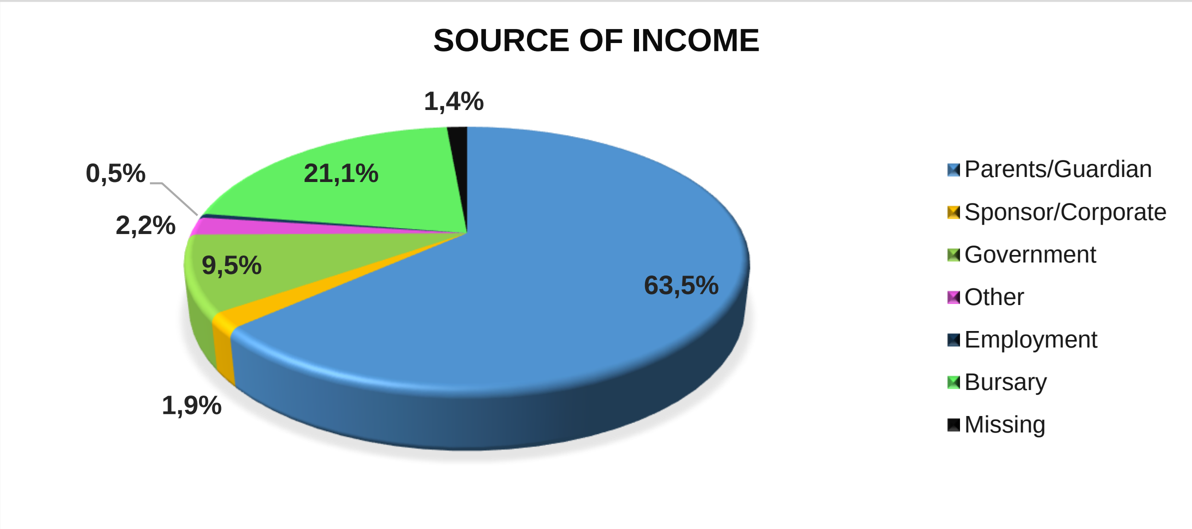

Figure 4.7: Source of income

The primary income source of each student is shown in Figure 4.7. Respondents presented their source of income as being from parents/guardians (63.5%), bursary (21.1%), government (9.5%), other (2.2%), sponsor (1.9%), and employment (0.5%). The remaining 1.4 percent accounted for missing data.

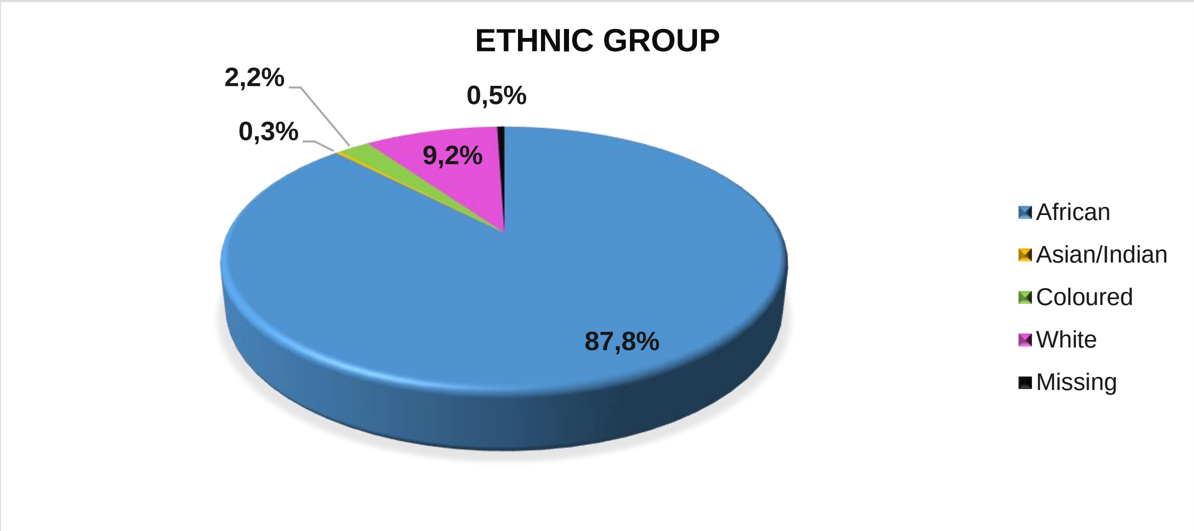

Figure 4.8: Ethnic group

Figure 4.8 focusses on the ethnic group with which each student identified. Students identified as African (87.8%), White (9.2%), Coloured (2.2%), and Asian/Indian (0.3%). Missing data accounted for 0.5 percent of the responses.

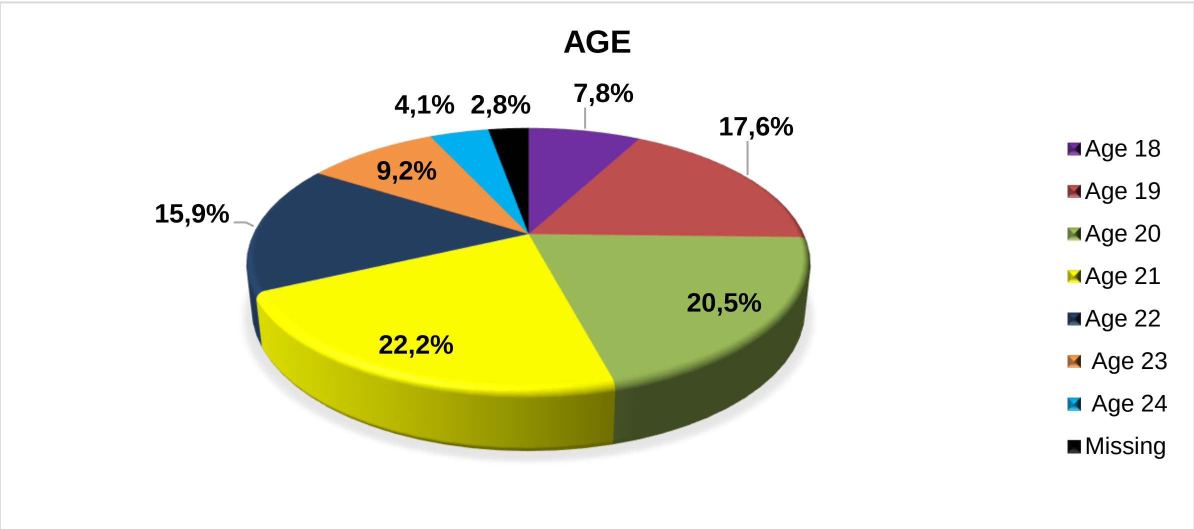

Figure 4.9: Age

Figure 4.10 represents the age distribution of the respondents. Respondents indicated that they were 21 (22.2%), 20 (20.5%), 19 (17.6%), 22 (15.9%), 18 (9.2%), 23 (7.8%), and 24 (4.1%) years of age. Missing data accounted for 2.8 percent.

Section B of the questionnaire focussed on the devices or reading mediums that respondents had access to. The options given were based on the most popular mediums individuals use to read eBooks. These were the options: PC, laptop, eReader, smartphone, tablet, 2-in-1 hybrid. The data are presented next.

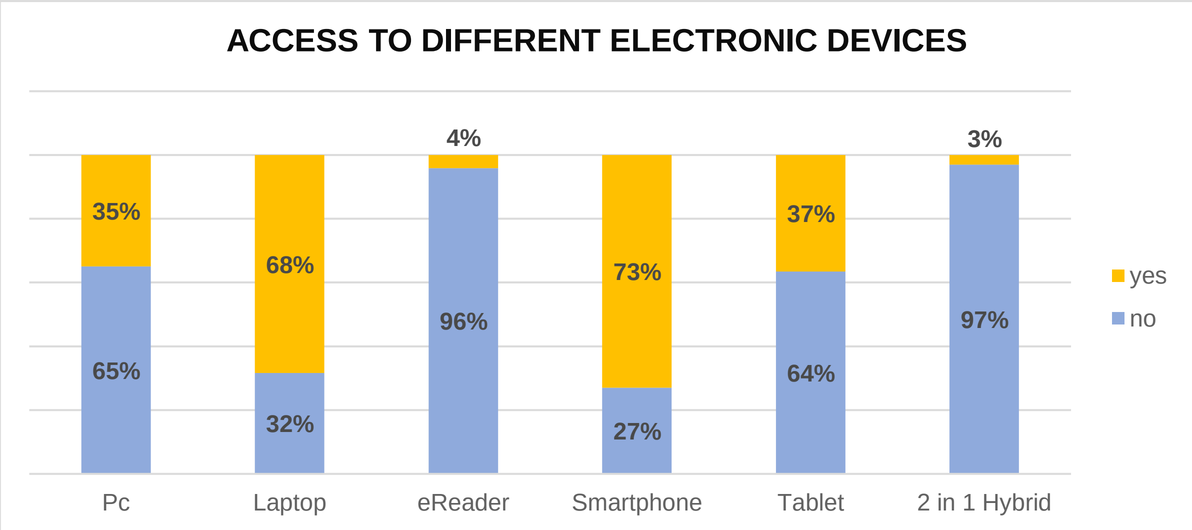

Figure 4.10: Access to different electronic devices (Yes/No)

Most respondents indicated that they did have access to smartphones (73%) and laptops (68%). The majority of respondents indicated that they did not have access to hybrid devices (97%), eReaders (96%), PC's (65%), and tablets (64%).

The next section focusses on the exploratory factor analysis portion of the study.

4.6 EXPLORATORY FACTOR ANALYSIS

Applicable constructs (Section C) were analysed through an exploratory factor analysis (EFA), using principal component analysis and varimax rotation. To determine whether EFA was viable, two tests were conducted: Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity.

The KMO (KMO = 0.928 > 0.5) indicated that the sampling size was large enough to conduct a factor analysis. The Bartlett's test (Bartlett's test = 8344.646; df = 595; and p = 0.000 < 0.5) showed that the factors were significant and that a factor analysis could be conducted. All commonalities were satisfactory and scored higher than 0.5 for Section C, while seven factors had Eigenvalues above 1. This explained 68.465 percent of total variance. All items correlated and grouped as expected.

Table 4.4 shows the rotated component matrix.

Table 4.4: Rotated factors for Section C

	Factors							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Comm***
C 2		0.570						0.639
C 3		0.809						0.765
C 4		0.750						0.742
C 5		0.816						0.802
C 6		0.793						0.752
C 7			0.827					0.745
C 8			0.775					0.721
C 9			0.782					0.767
C 10			0.679					0.725
C 11	0.753							0.667
C 12	0.784							0.764
C 13	0.721							0.665
C 14	0.795							0.751
C 15	0.833							0.768
C 16	0.764							0.712
C 17	0.741							0.705
C 18	0.734							0.721
C 19					0.605			0.616
C 20					0.781			0.722
C 21					0.759			0.747
C 22					0.464			0.518
C 23					0.568			0.640
C 24						0.667		0.574
C 25						0.623		0.581
C 26						0.832		0.755
C 27						0.724		0.644

Table 4.4: Rotated factors for Section C (continued…)

	Factors							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Comm***
C 28							0.689	0.625
C 29							0.697	0.661
C 30							0.779	0.703
C 31							0.693	0.600
C 28							0.689	0.625
C 29							0.697	0.661
C 30							0.779	0.703
C 31							0.693	0.600
C 32				0.527				0.501
C 33				0.577				0.545
C 34				0.751				0.714
C 35				0.830				0.713
C 36				0.790				0.694
Eigen values	6.051	3.575	3.103	3.045	3.016	2.588	2.585	
% of variance	17.288	10.215	8.866	8.700	8.617	7.393	7.385	
***Communalities**								

Table 4.5 groups C 11 – C 18 as factor 1 (perceived usefulness); C 2 – C 6 as factor 2 (interest and intention to use); C 7 – C 10 as factor 3 (self-reported use); C 32 – C 36 as factor 4 (environmental awareness); C 19 – C 23 as factor 5 (perceived ease of use); C 24 – C27 as factor 6 (subjective norms); C 28 – C 31 as factor 7 (consumer innovativeness). The tests conducted provided satisfactory results. All the factor loadings had values above 0.5, except for item C22 at 0.464, which was kept. All factors loaded as expected

The next section focusses on the reliability and validity of the main survey of the study.

4.7 RELIABILITY AND VALIDITY ANALYSIS

Cronbach's Alpha was used as a measure of reliability. The findings are summarised in Table 4.5.

Table 4.5: Cronbach's Alpha and average inter-item correlation

Construct	Number of items in scale	Cronbach's Alpha	Average inter-item correlation
Interest and intention to use	5	0.902	0.649
Self-reported use	4	0.870	0.630
Perceived usefulness	8	0.939	0.659
Perceived ease of use	5	0.840	0.529
Subjective norms	4	0.772	0.460
Consumer innovativeness	4	0.786	0.482
Environmental awareness	5	0.829	0.495

As evident in Table 4.5; all Cronbach's Alpha values are above the recommended value of 0.7 (George & Mallery, 2016:240). Thus, the Cronbach's Alpha reflects satisfactory results and indicates acceptable internal consistency reliability. The average inter-item correlation must be above 0.3 to be regarded as valid (Aluko & Odularu, 2013:17). In this study, the average inter-item correlation varied from 0.460 to 0.659. Four items measured above 3 to slightly above 5 (Subjective norms – 460; Consumer innovativeness – 0.482; Environmental awareness – 0.495; Perceived ease of use – 0.529. Three of the factors measured higher than 0.6 (Interest and intention to use – 0.649; Self-reported use – 0.630; Perceived usefulness – 0.659). In the latter case, high average inter-item correlation values could be expected when items measure the same concepts with slight differences (Felton, 2008:40). The constructs were deemed reliable based on their Cronbach Alpha values. Furthermore, according to several authors (Myburgh *et al.*, 2014:124; Katamba, 2010:22; Llego-Canceko *et al.*,2009:65) an average inter-item correlation of ~0.6 is still deemed acceptable.

The next section focusses on the descriptive statistics used.

4.8 DESCRIPTIVE STATISTICS

The descriptive statistics were obtained through the survey questionnaire which was given to respondents. Means, standard deviations, skewness, and kurtosis were determined. A six-point Likert Scale was used to gather the data in both Section B and Section C.

The following table (Table 4.6) summarises the interpreted data. Higher mean values correlate with greater agreement.

Table 4.6: Descriptive statistics

Items	N	Mean	SD	Skewness	Kurtosis
Reading habits					
B1	370	4.284	1.0760	-0.466	0.424
B2	370	4.211	1.0458	-0.416	0.326
B3	370	4.054	1.2846	-0.402	-0.299
B4	370	3.341	1.4474	0.021	-0.818
B5	370	3.941	1.4263	-0.458	-0.599
B6	370	3.757	1.4540	-0.331	-0.670
B7	370	5.092	1.0133	-1.442	2.842
Medium used when reading					
B8	370	3.643	1.6470	-0.145	-1.094
B9	370	3.384	1.6159	0.040	-1.074
B10	370	3.162	1.7748	0.171	-1.324
B11	370	2.608	1.5392	0.546	-0.832
B12	370	4.951	1.3666	-1.347	0.996
B13	370	4.641	1.5063	-1.004	0.027
Awareness					
C1	370	4.022	1.6641	-0.368	-1.199
Interest and intention to use	370	4.0881	1.16727	-0.545	-0.380
C2	370	3.754	1.3838	-0.323	-0.785
C3	370	4.338	1.2929	-0.785	-0.050
C4	370	4.051	1.3714	-0.530	-0.590
C5	370	4.084	1.4298	-0.562	-0.626
C6	370	4.214	1.4047	-0.691	-0.466

Table 4.6: Descriptive statistics (continued…)

Items	N	Mean	SD	Skewness	Kurtosis
Self-reported use	370	2.7304	1.31187	0.403	-0.762
C7	370	3.043	1.7197	0.232	-1.404
C8	370	2.624	1.4805	0.650	-0.630
C9	370	2.657	1.5455	0.667	-0.741
C10	370	2.597	1.4285	0.683	-0.477
Perceived usefulness	370	3.2132	1.25208	0.140	-0.696
C11	370	3.022	1.5459	0.353	-0.930
C12	370	2.811	1.4583	0.437	-0.775
C13	370	3.241	1.5821	0.156	-1.121
C14	370	2.959	1.5516	0.339	-0.997
C15	370	3.108	1.4721	0.279	-0.874
C16	370	3.435	1.4285	-0.045	-0.824
C17	370	3.500	1.4729	-0.123	-0.936
C18	370	3.630	1.4486	-0.222	-0.836
Perceived ease of use	370	4.1195	0.97753	-0.634	0.404
C19	370	4.078	1.2015	-0.679	-0.008
C20	370	4.357	1.0423	-0.842	0.810
C21	370	4.314	1.1659	-0.817	0.401
C22	370	3.595	1.4809	-0.236	-0.927
C23	370	4.254	1.3233	-0.765	0.047
Subjective norms	370	3.2345	1.12766	-0.043	-0.491
C24	370	3.257	1.4582	0.069	-0.921
C25	370	3.157	1.5096	0.207	-1.033
C26	370	3.411	1.4176	-0.105	-0.868
C27	370	3.114	1.4662	0.264	-0.844
Consumer innovativeness	370	4.0047	1.11567	-0.500	0.135
C28	370	3.976	1.4378	-0.397	-0.705
C29	370	4.432	1.3899	-0.837	-0.054
C30	370	3.719	1.3898	-0.212	-0.731
C31	370	3.892	1.4959	-0.351	-0.867

Table 4.6: Descriptive statistics (continued…)					
Items	**N**	**Mean**	**SD**	**Skewness**	**Kurtosis**
Environmental awareness	370	4.2238	1.04587	-0.665	0.447
C32	370	4.411	1.3268	-0.668	-0.262
C33	370	4.195	1.4834	-0.543	-0.672
C34	370	4.122	1.3226	-0.494	-0.363
C35	370	4.308	1.3261	-0.798	0.108
C36	370	4.084	1.3174	-0.570	-0.164

Section B used a Likert scale with 6 values in which 1 – 3 indicated never to rarely taking part in an action or using an applicable medium, and 4 – 6 indicating occasional to very frequent action or usage, respectively.

Table 4.6 shows that Generation Y students were inclined to read; most likely for academic purposes. Regarding medium used, respondents showed a preference for physical mediums.

Section C used a 6-point Likert scale. Values equal to or lower than 3 indicated that the respondents disagreed, to some extent, with the statements. Values of 4 and higher indicated that the respondents agreed, to some extent, with the statements. Most constructs measured a mean value above 3.0. Respondents saw themselves as having environmental awareness (mean = 4.2238). They perceived eBooks as easy to use (mean = 4.1195) and showed interest and intention to use eBooks (mean = 4.0881). They saw themselves as innovative consumers (mean = 4.0047) and felt subjective norms had an influence on their attitude towards eBooks (mean = 3.2345). Furthermore, they perceived eBooks as being useful (mean = 3.2132). Finally, they showed a low self-reported use of eBooks (mean = 2.7304).

The mean, or average, values for each construct found in Table 4.6 will now be explained. Respondents indicated that they felt sensitive towards environmental issues, and made sacrifices in order to decrease their impact on the environment. Furthermore, they felt that eBooks were better for the environment than pBooks and indicated that they would be willing to use eBooks to help conserve the environment to the extent that they would make sacrifices in their spending habits to reflect their environmental awareness. Respondents felt that eBooks were easy to use and they showed interest and intention to use eBooks. They also stated that they were relatively innovative when it came to technology, thus they adopted new technologies at a faster rate. Their social circles had a slight influence on whether they used or would use eBooks. Finally, respondents saw a slight advantage to using eBooks over pBooks; however, respondents indicated that they did not often use eBooks as part of their studies or for personal reading.

Table 4.6 indicates a positive skewness in two of the seven constructs and negative skewness in the other five of the seven constructs. All factors fell between the recommended -1.0 and 1.0 values and were thus accepted. The kurtosis values were peaked for three of the seven factors and relatively flat for the remaining four seven factors. All constructs had values between the acceptable -1.0 and 1.0 parameters

The following section focusses on the reading habits of Generation Y, as per Section B of the questionnaire.

4.9 READING HABITS

Section B of this study measured respondents' reading habits, as well as the medium they used when reading. The data were collected on a six-point Likert scale, which ranged from Never (1) to Very Frequently (6). Figure 4.18 below shows the findings.

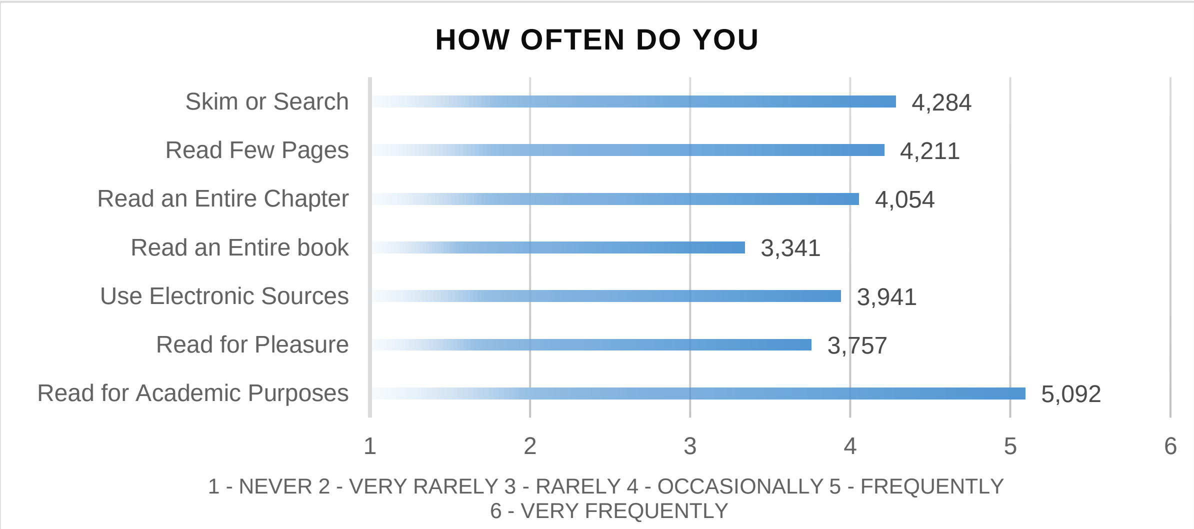

Figure 4.11: Reading habits, frequency

The mean for each answer is presented in Figure 4.11, which addresses section B, Question 1 to 7. Respondents indicated that they frequently to very frequently read for academic purposes (5.092). They occasionally to frequently skimmed or searched (4.284), read a few pages (4.211), or read an entire chapter (4.054). Finally, they indicated that they rarely to occasionally used electronic sources (3.941), read for pleasure (3.757), or read an entire book (3.341).

Figure 4.12 addresses section B, Question 8 to 13, which focussed on the medium used when reading.

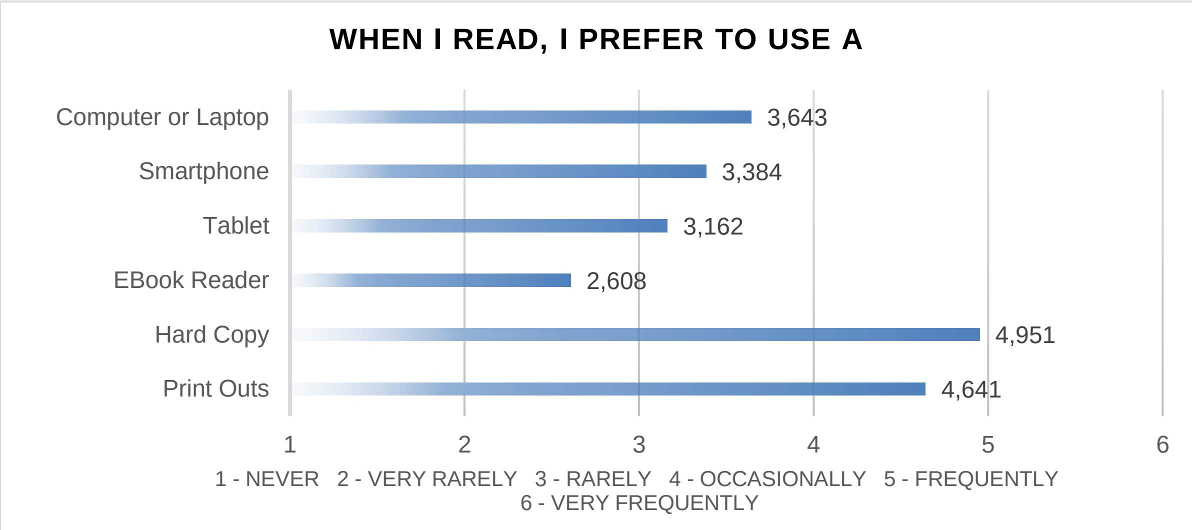

Figure 4.12: Preferred reading medium

Figure 4.12 shows the means for every medium used. Respondents indicated that they occasionally to frequently preferred hard copies (4.951) or print outs (4.641). Next, they indicated that they rarely to occasionally used a computer or laptop (3.643), smartphone (3.384), or tablet (3.162). Finally, respondents indicated that they very rarely to rarely used eReaders (2.608) when reading.

The next section discusses the correlation analysis and the findings therein.

4.10 CORRELATION ANALYSIS

Table 4.10 shows the correlation between the different constructs that were used in the study.

Table 4.7: Correlation analysis

	(IIU)	(SRU)	(PU)	(PEoU)	(SN)	(CI)	(EA)
Interest and intention to use (IIU)	1.000						
Self-reported use (SRU)	0.443**	1.000					
Perceived usefulness (PU)	0.570**	0.527**	1.000				
Perceived ease of use (PEoU)	0.556**	0.431**	0.599**	1.000			
Subjective norms (SN)	0.409**	0.362**	0.394**	0.472**	1.000		
Consumer innovation (CI)	0.333**	0.209**	0.367**	0.521**	0.354**	1.000	
Environmental awareness (EA)	0.440**	0.165**	0.393**	0.506**	0.373**	0.508**	1.000
****Correlation is significant at the 0.01 level (2-tailed)**							

Table 4.7 shows that the correlations between all constructs (IIU, SRU, PU, PEoU, SN, CI, and EA) range between 1 ≥ *r* ≥ -1, which means that all constructs are significant and expected direction. The table also suggests nomological validity. Therefore, the relationships between all constructs are deemed significant.

The next section focusses on the hypotheses constructed from the regression analysis conducted.

4.11 HYPOTHESIS TESTING

The hypothesis testing was conducted using a regression analysis for the dependent variables: interest and intention to use (H1) and self-reported use (H2). An independent t-test (H3) was also conducted. A significance level of α = 0.05 was used. The following hypotheses were formulated based on the literature that was examined in this study.

H_a1a - Awareness (C1) influences Generation Y students' interest and intention to use eBooks.

H_01a - Awareness (C1) does not influence Generation Y students' interest and intention to use eBooks.

H_a1b - Self-reported use of eBooks influences Generation Y students' interest and intention to use eBooks.

H_01b - Self-reported use of eBooks does not influence Generation Y students' interest and intention to use eBooks.

H_a1c - Perceived usefulness of eBooks influences Generation Y students' interest and intention to use eBooks.

H_01c - Perceived usefulness of eBooks does not influence Generation Y students' interest and intention to use eBooks.

H_a1d - Perceived ease of use of eBooks influences Generation Y students' interest and intention to use eBooks.

H_01d - Perceived ease of use of eBooks does not influence Generation Y students' interest and intention to use eBooks.

H_a1e - Subjective norms influences Generation Y students' interest and intention to use eBooks.

H_01e - Subjective norms does not influence Generation Y students' interest and intention to use eBooks.

H_a1f - Consumer innovation influences Generation Y students' interest and intention to use eBooks.

H_01f - Consumer innovation does not influence Generation Y students' interest and intention to use eBooks.

H_a1g - Environmental awareness influences Generation Y students' interest and intention to use eBooks.

$H_0$1g - Environmental awareness does not influence Generation Y students' interest and intention to use eBooks.

H_a2a - Awareness (C1) influences Generation Y students' self-reported use.

$H_0$2a - Awareness (C1) does not influence Generation Y students' self-reported use.

H_a2b - Interest and intention to use eBooks influences Generation Y students' self-reported use.

$H_0$2b - Interest and intention to use in eBooks does not influence Generation Y students' self-reported use.

H_a2c - Perceived usefulness of eBooks influences Generation Y students' self-reported use.

$H_0$2c - Perceived usefulness of eBooks does not influence Generation Y students' self-reported use.

H_a2d - Perceived ease of use of eBooks influences Generation Y students' self-reported use.

$H_0$2d - Perceived ease of use of eBooks does not influence Generation Y students' self-reported use.

H_a2e - Subjective norms influences Generation Y students' self-reported use.

$H_0$2e - Subjective norms does not influence Generation Y students' self-reported use.

H_a2f - Consumer innovation influences Generation Y students' self-reported use.

$H_0$2f - Consumer innovation does not influence Generation Y students' self-reported use.

H_a2g - Environmental awareness influences Generation Y students' self-reported use.

$H_0$2g - Environmental awareness does not influence Generation Y students' self-reported use.

H_a3 - Male and female Generation Y students differ in their reading habits, reading-medium preferences, awareness, interest and intention to use, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness.

$H_0$3 - Male and female Generation Y students do not differ in their reading habits, reading-medium preferences, awareness, interest and intention to use, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness regarding eBooks.

4.12 REGRESSION ANALYSIS

A regression analysis was conducted on each of the selected dependent variables, interest and intention to use and self-reported use.

4.12.1 Interest and intention to use

In Table 4.8, a regression analysis as well as an ANOVA test were conducted on the dependent variable interest and intention to use, with the independent variables A, SRU, PU, PEoU, SN, CI, EA.

Table 4.8: Regression model summary, Model 1

Standardised beta coefficient	r^2	Adjusted r^2	Standardised error of estimate	F	Significance level
0.667	0.445	0.435	0.87771	41.519	0.000*
***Significance at the p < 0.05 (2-tailed)**					

Table 4.8 shows the findings from the regression analysis as well as the ANOVA test. A coefficient of determination of 0.445 shows that 44.5 percent of the variation in interest and intention to use among Generation Y students can be attributed to the independent variables (A, SRU, PU, PEoU, SN, CI, EA).

An F value of 41.519 and a significance of 0.000 ($F = 41.519$, $p < 0.05$) suggest that the independent variables reliably predict the dependent variable. That is to say, A, SRU, PU, PEoU, SN, CI, EA can be used as predictors of Generation Y students' interest and intention to use eBooks. The next table shows each independent variable's contribution to the prediction of interest intention to use and self-reported use.

Table 4.9: Contribution of each of the independent variables, Model 1

Model 1	Standardised coefficients Beta	t-Value	Significance level
Dependent variable			
Interest and intention to use			
Independent variables			
Awareness	-0.012	-0.284	0.777
Self-reported use	0.159	3.219	0.001*
Perceived usefulness	0.265	4.924	0.000*
Perceived ease of use	0.213	3.642	0.000*
Subjective norms	0.089	1.885	0.060
Consumer innovativeness	-0.035	-0.704	0.482
Environmental awareness	0.188	3.796	0.000*
***Significance at the p < 0.05 level (2-tailed)**			

Table 4.9 shows that four of the seven constructs have a significant influence on interest and intention to use. Three of the constructs do not influence the dependent variable, interest and intention to use. Self-reported use ($\beta = 0.159$, $p = 0.001 < 0.05$), perceived usefulness ($\beta = 0.265$, $p = 0.000 < 0.05$), perceived ease of use ($\beta = 0.213$, $p = 0.000 < 0.05$), and environmental awareness ($\beta = 0.188$, $p = 0.000 < 0.05$) have a significant influence on the dependent variable, interest and intention to use. Subjective norms ($\beta = 0.089$, $p = 0.060 < 0.05$) falls just outside the 0.05 p value, thus does not greatly impact interest and intention to use. Awareness ($\beta = -0.012$, $p = 0.777 > 0.05$) and consumer innovativeness ($\beta = -0.035$, $p = 0.482 < 0.05$) do not influence interest and intention to use.

4.12.2 Self-reported use

Table 4.10, shows the findings from the regression analysis as well as the ANOVA test for self-reported use.

Table 4.10: Regression model summary, Model 2

Standardised beta coefficient	r^2	Adjusted r^2	Standardised error of estimate	F	Significance level
0.624	0.389	0.377	1.03518	32.945	0.000*
***Significance at the p < 0.05 (2-tailed)**					

A coefficient of determination of 0.389 shows that 38.9 percent of the variation in self-reported use among Generation Y students can be attributed to the independent variables (A, IIU, PU, PEoU, SN, CI, EA.). An F value of 32.945 and a significance of 0.000 ($F = 32.945$, $p < 0.05$) suggest that the independent variables reliably predict the dependent variable. That is to say, A, IIU, PU, PEoU, SN, CI, EA can be used as predictors of the self-reported use eBooks among Generation Y students.

Table 4.11: Contribution of each of the independent variables, Model 2

Model 2	Standardised coefficients beta	t-Value	Significance level
Dependent variable			
Self-reported use			
Independent variables			
Awareness	0.206	4.768	0.000*
Interest and intention to use	0.175	3.219	0.001*
Perceived usefulness	0.354	6.407	0.000*
Perceived ease of use	0.073	1.177	0.240
Subjective norms	0.177	3.644	0.000*
Consumer innovativeness	0.003	0.57	0.955
Environmental awareness	0.185	-3.555	0.000*
***Significance at the p < 0.05 level (2-tailed)**			

Table 4.11 shows that five of the seven constructs have a significant influence on self-reported use.

Awareness (β = 0.206; p = 0.000 < 0.05), interest and intention to use (β = 0.175; p = 0.001 < 0.05), perceived usefulness (β = 0.354; p = 0.000 < 0.05), subjective norms (β = 0.177; p = 0.000 < 0.05), and environmental awareness (β = 0.185; p = 0.000 < 0.05) have a significant influence on self-reported use. Perceived ease of use (β = 0.073; p = 0.240 > 0.05) and consumer innovativeness (β = 0.003; p = 0.955 > 0.05) do not influence self-reported use.

The following table shows the constructs, their significance, and whether the hypotheses coupled with the constructs were accepted or rejected. A p-value of less than 0.05 proved significance, therefore hypotheses with a $p < 0.05$ were accepted. Hypotheses of a $p > 0.05$ were rejected.

Table 4.12: Accepted and rejected hypotheses

Construct	**Sig**	**Hypothesis used**
Hypothesis 1		
Dependent variable: interest and intention to use		
Awareness	0.777	$H_0$1a
Self-reported use	0.001	H_a1b
Perceived usefulness	0.000	H_a1c
Perceived ease of use	0.000	H_a1d
Subjective norms	0.060	$H_0$1e
Consumer innovativeness	0.482	$H_0$1f
Environmental awareness	0.000	H_a1g
Hypothesis 2		
Dependent variable: self-reported use		
Awareness	0.000	H_a2a
Interest and intention to use	0.001	H_a2b
Perceived usefulness	0.000	H_a2c
Perceived ease of use	0.240	$H_0$2d
Subjective norms	0.000	H_a2e
Consumer innovativeness	0.955	$H_0$2f
Environmental awareness	0.000	H_a2g

Table 4.12 shows that the hypotheses make use of interest and intention as the dependent variable.

Four independent variables influenced this construct, namely, self-reported use, perceived usefulness, perceived ease of use, and environmental awareness. Three independent variables did not influence this construct: awareness, subjective norms, and consumer innovativeness.

Table 4.12 also suggests that, of the hypotheses using self-reported use as a dependent variable, five independent variables influenced the dependent variable: awareness, interest and intention to use, perceived usefulness, subjective norms, and environmental awareness. Two independent variables did not influence the dependent variable: perceived ease of use and consumer innovativeness.

4.13 INDEPENDENT-SAMPLES T-TEST

This section of the study made use of the two independent samples t-test to ascertain whether there were differences between male and female opinions regarding the constructs which were used. A significance of 0.05 was set to test the significance of differences.

Table 4.13: Statistical differences in data between genders

	Male Mean N= 166	Male SD	Female mean N= 202	Female SD	t-Value	p-Value	Cohen's D
IIU	3.9855	1.18282	4.1772	1.15491	1.567	0.118	*
SRU	2.7771	1.31167	2.7005	1.31794	0.556	0.578	*
PU	3.1431	1.20999	3.2754	1.29077	1.006	0.315	*
PEoU	4.1843	0.99331	4.0723	0.96677	1.093	0.275	*
SN	3.2545	1.06617	3.2277	1.17927	0.226	0.821	*
CI	4.0617	1.07887	3.9579	1.14988	0.886	0.376	*
EA	4.1096	1.05682	3.228	1.03221	-1.950	0.052	*

***Cohen's D was not calculated as there were no significant p-values**

As per table 4.13, $H_0 3$ is used as the accepted hypothesis, and $H_a 3$ is rejected. There appears to be no statistically significant difference between male and female Generation Y students regarding their interest and intention to use, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness regarding eBooks.

The final section of this chapter concludes with a synopsis of the findings of the main study.

4.14 SYNOPSIS

This chapter included the data analysis and interpretation of data. The pilot testing results (Section 4.2) explained how the questionnaire was tested and cleaned before being distributed. The data gathering process (Section 4.3) explained how the data were gathered and from whom. The preliminary data analysis (Section 4.4) included the coding, data cleaning, and the tabulation of variables. The demographic analysis (Section 4.5) showed the demographic data in charts to illustrate the different demographical information. Section 4.6 showed the EFA while Section 4.7 discussed the reliability and validity of the main survey, which showed how the data were tested in order to be deemed reliable and valid. Section 4.8 explained the descriptive statistics in which the skewness and kurtosis were measured. Section 4.9 illustrated the differences in reading habits and reading mediums used between respondents. Section 4.10 showed the correlations between factors and illustrated the factors using a chart. Hypothesis testing was conducted in Section 4.11 to analyse the hypotheses laid out in this study. Section 4.12 consisted of the regression analysis and showed the correlations between different factors. Section 4.13 showed the two independent samples t-test to indicate whether there was a difference between male and female students' response regarding the factors in the study.

The next chapter presents the conclusion of the study, as well as recommendations for further studies.

CHAPTER 5: RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

The pBook has been used for centuries and has only recently seen major improvements through the invention of eBooks. Currently, it is posited that pBooks and eBooks exist symbiotically, where they complement each other and do not compete. To this end, eBooks have not cannibalised the sales of pBooks, nor have they influenced all individuals towards adoption thereof. Instead, there are those who prefer pBooks, others who prefer eBooks, and those who use both.

The first wave of eBook adoption saw the eBook rise from introduction phase towards the first signs of the growth phase in South Africa. That growth took place from 2008 to 2016 and has been predicted to grow steadily towards 2019. Growth and the lack thereof may have been influenced by many factors, such as the advantages and disadvantages of using eBooks. In future, many of these disadvantages of eBooks and the eBook market might be eradicated, which could bring about higher growth rates. Presently, however, many barriers to high levels of growth still exist.

It has been suggested that eBooks are the future of reading, and currently boast numerous benefits in using them. It can help overcome problems such as reading difficulties, difficulties with studying, and geographical spread, among many others. However, it is currently difficult to offer enhanced features in universities, schools, and libraries as too few individuals make use of eBooks. Ultimately, most individuals still prefer to read pBooks. This means that the advancements that eBooks offer are not used or pushed to their full potential. Regardless, there is a lot of promise going forwards, which might take us towards a future where most individuals prefer to use eBooks. However, it is not known when, or if, eBooks will completely replace pBooks.

This study set out to measure Generation Y students' attitudes towards eBooks and the adoption thereof. This was done in order to illumine possible factors which could lead to heightened interest and intention to use eBooks. This chapter provides a brief overview of the study as well as the main findings, which are discussed in order to draw the final conclusions.

The contributions of this study is outlined after which recommendations for future studies, as laid out by the empirical objectives formulated in Chapter 1 (Section 1.3.3), will follow. Penultimately, limitations of the study as well as future research opportunities will be proposed. Finally, the chapter will conclude with a summation of the study.

5.2 OVERVIEW OF THE STUDY

In order to support the content of this chapter, the previous four chapters will be briefly addressed to form a general overview. The primary objective of this study was to investigate Generation Y Students' attitudes towards eBooks and eBook adoption.

Chapter 1 commenced with Section 1.1, an introduction into what eBooks are as well as some of the problems eBooks face. Next, the problem statement was discussed in Section 1.2, to set the focus for the study in terms of direction as well as sampling population. One primary objective was set out in Section 1.3.1, seven theoretical objectives in Section 1.3.2, and eight empirical objectives in Section 1.3.3. The hypotheses for the study were discussed in Section 1.4, followed by the research and design methodology in Section 1.5. Under this heading, the literature review was explained in Section 1.5.1. Furthermore, the empirical study was discussed in Section 1.5.2, under subheadings of target population (Section 1.5.2.1), sampling frame (Section 1.5.2.2), sample method (Section 1.5.2.3), sample size (Section 1.5.2.4), and measuring instruments and data collection method (Section 1.5.2.5). Finally, the empirical study ended with the statistical analysis in Section 1.5.3. Ethical considerations were touched on in Section 1.6 and the classification for each chapter was decided in Section 1.7.

Chapter 2 reviewed the available secondary data available on eBooks, as set out in the theoretical objectives portion of Chapter 1, Section 1.3.2. Next, the eBook was explained in Section 2.2 in order to present a coherent, simple definition of the term and to illumine the facts surrounding eBooks as they are seen in this study. The origin of eBooks was presented in Section 2.3, and the current eBook landscape was discussed in Section 2.4 to show where eBook adoption rates have been most rife.

The advantages and disadvantages of eBooks were highlighted in Section 2.5 to introduce some of the reasons that could contribute to, or deter, eBook adoption among individuals. Influencers of eBook adoption, beyond the associated advantages and disadvantages thereof, are subsequently revealed and discussed in Section 2.6. The product life cycle was discussed in Section 2.7 and it was found that South Africa is in the introduction phase, slowly heading into the growth phase. The diffusion of innovation was conferred in Section 2.8 to establish where eBooks stand in the diffusion cycle. This was done through explaining CI and how it influenced behaviour and partly explained whether individuals were innovators, early adopters, early majority, late majority, or laggards. The decision-making process discussed in Section 2.9 comprises the cognitive, affective, and behavioural stages. In Section 2.10, the four Ps in the marketing mix were addressed as wells as how they influence the eBook market. Finally, the Generation Y cohort was discussed in Section 2.11 to show how marketing has changed, and should continue to change, to accommodate and attract that target market.

Chapter 3 set out to lay the foundation of the research methodology. The research design was discussed in Section 3.2 to serve as the framework for the research project. Next, the research approach was briefly examined in Section 3.3 and the quantitative method was selected for this study. Section 3.4 comprises a number of items pertaining to the sampling strategy carried out. Firstly, the target population (Section 3.4.1) was selected to be Generation Y students who were enrolled at one of the 26 HEIs in South Africa. Secondly, for the sampling frame (Section 3.4.2), two universities in Gauteng were selected; one traditional university and one university of technology. Thirdly, sampling methods (Section 3.4.3) were discussed and the most viable method for this study was chosen, namely, non-probability convenience sampling. Finally, the focus was on the sample size (Section 3.4.4) for which similar studies as the one conducted were found. Based on those studies it was decided that 400 respondents would be sufficient for this study to be viable. The data collection method was laid out in Section 3.5 and the questionnaire format (Section 3.5.1) was chosen for this study which presented structured questions using a six-point Likert scale. Questionnaire content and layout were addressed in Section 3.5.2, after which pre-testing and pilot testing (Section 3.5.3) were explained, proceeded by administration of the questionnaire (Section 3.5.4).

Data preparation in Section 3.6 reviewed the editing (Section 3.6.1), coding (Section 3.6.2), and tabulation (Section 3.6.3) processes. Statistical analysis (Section 3.7), reliability (Section 3.8), validity (Section 3.9), and factor analysis (Section 3.10) were briefly examined.

The hypothesis testing, correlation analysis, and regression analysis were covered in Section 3.11, Section 3.12, and Section 3.13, respectively. Penultimately, the two samples t-test was explained in Section 3.14, and finally, the chapter concluded with practical significance in Section 3.15.

5.3 MAIN FINDINGS OF THE STUDY

This section serves to discuss the main finding of the study, as per the empirical objectives as set out in Chapter 1, Section 1.3.

Section 4.6 focussed on the EFA, where a KMO measure of sampling adequacy was conducted and it was determined that the sampling size was adequate to conduct a factor analysis. Bartlett's test of sphericity determined that conducting a factor analysis was feasible. All factor items loaded correctly and showed satisfactory results; therefore, all factors were deemed significant, and all the items correlated and grouped as per expectation.

The first empirical objective of this study was to determine Generation Y students' reading habits. Section 4.9 showed that students preferred reading for academic purposes, and tended to mostly skim or search. The most unpopular notion was reading an entire book in a sitting.

The second empirical objective was to determine Generation Y students' reading-medium preferences. Most respondents indicated that they did not have access to 2-in-1 Hybrids, eReaders, PCs, or tablets (Section 4.9). The majority indicated that they had access to smartphones and laptops. The data also suggested that hard copies were the most popular choice of reading medium among respondents, and eReaders were the least popular.

The third empirical objective was to determine Generation Y students' eBook awareness, interest and intention, and self-reported use.

Respondents indicated that they were aware of, and interested in, eBooks and intended to use them. However, it was indicated that they did not make frequent use of eBooks.

The fourth empirical objective was to determine Generation Y students' perceived usefulness and perceived ease of use of eBooks in order to ascertain whether it influenced their interest and intention to use and their self-reported use of eBooks. Data from Section 4.8 indicated that respondents considered eBooks to be useful and easy to use. A regression analysis was conducted in Section 4.12 on the dependent variables, interest and intention to use (Section 4.12.1) and self-reported use (Section 4.12.2), with independent variables, perceived usefulness and perceived ease of use. The analysis found that perceived usefulness and perceived ease of use both had a significant influence on interest and intention to use. However, only perceived usefulness had a significant influence on self-reported use of eBooks.

The fifth empirical objective was to determine Generation Y students' subjective norms regarding eBooks in order to ascertain whether this influenced their interest and intention to use and their self-reported use of eBooks. Respondents indicated a high mean value for subjective norms in Section 4.8 and showed that people in their social groups felt positive about eBooks. The regression analysis in Section 4.12 showed that subjective norms did not have a significant influence on interest and intention to use eBooks (Section 4.12.1). However, the influence of subjective norms on self-reported use of eBooks (Section 4.12.2) was significant.

The sixth empirical objective was to determine Generation Y students' consumer innovativeness in order to ascertain whether it influenced both their interest and intention to use, and their self-reported use of eBooks. Section 4.8 showed that the respondents considered themselves innovative, and that they particularly enjoyed trying out new communication technologies in the market. The regression analysis in Section 4.12 indicated that consumer innovativeness did not play a role in interest and intention to use, or in self-reported use of eBooks.

The seventh empirical objective was to determine Generation Y students' environmental awareness and how it affected their interest and intention to use and their self-reported use of eBooks.

The mean in Section 4.8 showed a high environmental awareness for respondents, and they especially indicated that they were sensitive to environmental issues. The regression analysis (Section 4.12) showed that environmental awareness influenced both interest and intention to use and self-reported use of eBooks.

The eighth empirical objective was to determine whether male and female Generation Y students differed in their reading habits, reading-medium preferences, awareness, interest and intention to use, self-reported use, perceived usefulness, perceived ease of use, subjective norms, consumer innovativeness, and environmental awareness regarding eBooks. A two independent samples t-test was conducted in Section 4.13 and it was determined that there was no significant difference between male and female respondents regarding any of these factors.

5.4 CONTRIBUTIONS OF THE STUDY

This study examined Generation Y students' attitudes towards eBooks and the adoption of eBooks.

Due to the fact that eBooks are still a relatively new technology and product to the South African market, few studies have been conducted regarding adoption and the attitudes towards them. Furthermore, the studies which have been conducted, even internationally, seldom focussed on the Generation Y student cohort. The findings of this study add data to the South African eBook landscape, especially regarding Generation Y students' behaviour and attitudes regarding eBooks. This study specifically focussed on Generation Y's attitudes towards eBooks because of the importance they hold in current and future shopping power, and could therefore be used in order to gain market share among this cohort.

Furthermore, the data collected show which mediums Generation Y students are most likely to use and thus how they may be targeted by retailers and publishers. This study also showed the interest and intention to use that is prevalent among Generation Y, which aids publishers and retailers as it shows that there is a viable market. It is however, the onus of marketing to reach the Generation Y cohort. Several factors, believed to be contributors to behaviour regarding eBooks, were investigated. These factors could add to the limited knowledge base regarding South African Generation Y students' attitudes towards eBooks.

The contributing factors and the conclusions drawn from them can be used by publishers, retailers, and universities to motivate eBook adoption.

5.5 RECOMMENDATIONS

The goal of this study was to ascertain whether Generation Y students were adopting eBooks and to scope their attitude towards eBooks. In accordance with the objectives laid out, the following recommendations are outlined.

Respondents in the study indicated that they do read, but mostly for academic purposes, which they prefer to skim. Universities, publishers, and authors should focus on creating eBooks that appeal to Generation Y students in a way that complements fits their reading needs and preferences, as outlined in this study.

Respondents to this study showed a high preference for hard copies and print outs. They did however state that they made use of laptops, smartphones, and occasionally tablets to read. The devices that students had the easiest access to were smartphones and laptops. Universities and retailers should thus focus on showcasing benefits of eBooks, and highlight the fact that they can easily be accessed with laptops and smartphones. There is an opportunity for universities and libraries to negotiate leasing deals with publishers in order for eBooks to be priced at a discounted rate. When eBooks are easily available and priced better, the adoption rates thereof should increase accordingly.

There was a high awareness and even higher interest and intention to use eBooks, but a low self-reported use of eBooks (Section 4.12). Thus, students were aware of eBooks and wanted to use them, but did not do so. This data indicated that there was a low permeation of eBooks among students. The theoretical portion of this study was aimed at answering possible questions surrounding slow and low adoption of eBooks, however, the data gathered did not offer concrete evidence for any particular explanation. It is thus recommended that retailers and universities should aim to identify the barriers to current adoption, and work towards overcoming them. The reasoning behind this is the fact that students show a high interest and intention to use, thus, from the consumer end, they show willingness. It is up to the seller (universities, retailers, publishers, libraries) to make eBooks attractive enough to enact the willing buyer, willing seller action of markets. This can be done by showcasing the numerous benefits in using eBooks, especially regarding its cost effectiveness and the decrease in carry weight. Furthermore, lecturers can demonstrate advantages such as note-taking, quick search of links, word definitions, and enhanced capabilities such as sound, magnification, highlighting, and search functions, in class.

The analysed data indicated that respondents felt eBooks were easy to use and somewhat useful.

The data further indicated that their perceived ease of use influenced their interest and intention to use, and self-reported use. Perceived usefulness only affected their interest and intention to use. One way that retailers and universities can showcase the benefits of eBooks and their usefulness, is through the lecturers and librarians.

Collected data exhibited respondents' view towards subjective norms. It showed that subjective norms had a minor effect on them, but had a more significant effect on their self-reported use of eBooks. This indicates the possibility that students did not use eBooks because peers, family, and friends did not make use of them. Publishers and universities could use this fact, that there is an influence from their social groups, as a tool to aid adoption. If universities target certain classes and motivate them to adopt through showcasing the benefits of eBooks, (as mentioned earlier), those students would, in turn, influence their social circles; eBook adoption would then be stimulated through word of mouth. As for publishers and retailers, they could use social media to identify and influence eBook adopters by means of promotions, competitions, and referral rewards. Competitions would work to include and persuade more individuals to become aware of eBooks. Promotional material would showcase benefits of eBooks, as well as highlight their competitive prices. Finally, referrals would reward those who refer others when a successful purchase is made. With referrals conducted this way, the social influence could be enhanced, and the motivation to buy, use, and talk about eBooks could increase. This would both benefit the current user and aid in promoting eBook adoption among social circles.

Next, respondents indicated that they considered themselves to be environmentally aware and willing to make sacrifices in order to be pro-environment. Furthermore, environmental awareness influenced both their self-reported use as well as their interest and intention to use. This suggests that retailers and publishers should focus on positioning eBooks as the green choice for those who want to conserve the environment. Universities should adopt eBooks and focus on electronic mediums, as it has been shown to affect their environmental friendliness. This should also serve to convince students to adopt eBooks, as they are susceptible to subjective norms, and show a determination for causes.

There was no distinction between male and female respondents' answers, which means that publishers, retailers, and universities could conduct marketing and motivation for adoption purely on a Generation Y student basis, without having to focus on different material based on gender.

Furthermore, price is shown as a crucial factor in eBook sales, thus, retailers and publishers should find a perfect price point to offer value and to show that eBooks can be less expensive than pBooks. Subscription services should also be more widely promoted and its competitive pricing showcased as an advantage over pBooks. Universities on the other hand should negotiate with publishers to offer eBooks at a reduced rate, or by leasing eBooks (such as eTextbooks) applicable to students' academic year. This way, less paper is wasted, and students do not have to try and sell their textbooks to recoup some of the cost.

Lastly, it can be shown that eBooks are readily available in South Africa, and often better priced than pBooks. As such, when people stop thinking about it in terms of eBooks versus pBooks and rather see them as complementary products, adoption should occur sooner, as the pricing, availability, and benefits are attractive.

5.6 LIMITATIONS AND RESEARCH OPPORTUNITIES

This study did have certain limitations as time and budget constraints offered limited options. This study was conducted with a single, cross-sectional method, as time constraints did not offer the ability to do a longitudinal study. Added to aforementioned, this study made use of non-probability, convenience sampling as budget constraints did not offer the option of doing probability sampling.

Furthermore, the study was conducted on Generation Y students in Gauteng, which means that making inferences about the rest of the country may prove difficult. Further studies might consider other provinces or larger samples in order to make generalisations more broadly applicable. These studies might also focus on non-student individuals from preceding or succeeding generations to garner a more holistic picture. This study focussed on eBooks; examining eReaders specifically, as opposed to eBooks, could ascertain where eReaders fit into the marketplace.

It should be noted that eReaders were briefly touched upon in this study, and some of the disadvantages of eBooks presented were due to limitations that eReaders presented. This study showed that eReaders were not commonly used by Generation Y students. Future studies might delve deeper into the cause of this.

This study concentrated on constructs that focussed on awareness, interest and intention to use, self-reported use, perceived usefulness, ease of use, subjective norms, consumer innovativeness, and environmental awareness regarding eBooks. Future studies might vary and use different constructs in order to determine different viewpoints on eBooks. Through these studies, it can be ascertained whether other factors should be considered in influencing adoption of eBooks.

Finally, only differences based on gender were tested. Future studies might investigate other differences based on ethnicity, income, age, and education level.

5.7 CONCLUSION

Generation Y students' attitudes towards eBooks and eBook adoption are positive, and they show a keen interest in adopting this technology. However, their current use of eBooks is low, which means that certain barriers are interfering with the adoption process. Among these barriers might be the fact that students do not have access to a wide variety of electronic mediums, and the mediums they do have access to, smartphones and laptops, are not ideal for reading - especially not casual or leisure time reading. Thus, they currently prefer hard copies and print outs.

The future for eBooks could be bright, as students indicated that they were aware of eBooks, were interested in them, and intended to use them in the future. This will prove beneficial, especially since students already feel that eBooks are an easy-to-use technology, and when the benefits of using eBooks become more widely known, more students may begin to use them. As more students adopt eBooks, their influence on others should prove beneficial, which could see eBook growth in South Africa rise beyond the expected rates. It is, however, up to retailers, universities, publishers, and other stakeholders and organisations to promote eBooks and their benefits; especially by showcasing the benefits thereof to the environment. When the eBook permeates through to the student majority, and universities focus more on becoming electronic, their carbon footprint should decrease drastically.

There are many advantages to eBooks, and numerous groups of people can benefit from them. When Generation Y students' positive attitudes towards eBooks and eBook adoption manifests in actual eBook adoption through retailer and university efforts, South Africa and the student cohort, as well as other stakeholders should see many positive outcomes.

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APPENDIX A: QUESTIONNAIRE

NORTH-WEST UNIVERSITY ®
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
VAAL TRIANGLE CAMPUS

Generation-Y students' attitudes toward eBooks and eBook adoption

Dear Respondent

My name is Hugo van Schalkwyk. I am registered as a full-time student, pursuing a Master's degree in Marketing Management at the North-West University (Vaal Triangle Campus), and I am currently working towards my dissertation under the supervision of Mr R. Müller and Prof A.L Bevan-Dye.

The purpose of this study is to investigate attitudes of Generation Y students regarding eBooks and eBook adoption.

Please, take a few minutes to assist me, and complete the attached questionnaire. It should not take you longer than 10 minutes to complete. All responses are confidential and will merely be outlined in the form of statistical data in the analysis. All data will only be used for research purposes.

Thank you for your important contribution towards this study.

H van Schalkwyk
North-West University
078 7708 083
hugvsc@gmail.com

EBook definition:

An eBook (electronic book) is defined by Lamb *et al.* (2009) as a digital version of conventional books which could be accessed, read and stored on a digital medium. For the purpose of this study, it will include academic articles as well.

SECTION A: DEMOGRAPHICAL INFORMATION

Please mark the appropriate box with a cross (X) or write down your answer where applicable.

1.	**Country of origin:**	South Africa	Other (please specify):

2.	**Province of origin:**	Eastern Cape	Free State	Gauteng	KwaZulu-Natal
	Limpopo	Mpumalanga	Northern Cape	North West	Western Cape
	Other (Please specify):				

3.	**Name of institution:**	Traditional University	University of Technology

4.	**Current year of study:**	1st year	2nd year	3rd year	4th year	Post graduate

5.	**Gender:**	Male	Female

6.	**Ethnic group:**	African	Asian/Indian	Coloured	White
	Other (Please specify):				

7.	**Mother tongue:**	Afrikaans	English	IsiNdebele	IsiXhosa
	IsiZulu	Sesotho	Sepedi	Setswana	SiSwati
	Other (Please specify):			Tshivenda	Xitsonga

8.	**Age:**	< 18	18	19	20	21	22	23	24	24 <

9.	**Source of income:**	Parents/Guardian	Sponsor/Corporate	Government
	Other (Please specify):		Employment	Bursary

10.	**I have access to: (Tick all that apply)**		PC	Laptop
	eReader	Smartphone	Tablet	2 in 1 Hybrid

SECTION B:

Please answer the following questions about your reading habits.
Please cross your relevant response

How often do you:

		Never	Very Rarely	Rarely	Occasionally	Frequently	Very Frequently
1.	Skim or search when you read	1	2	3	4	5	6
2.	Read a few pages	1	2	3	4	5	6
3.	Read an entire chapter	1	2	3	4	5	6
4.	Read an entire book	1	2	3	4	5	6
5.	Use electronic sources for reading	1	2	3	4	5	6
6.	Read for pleasure	1	2	3	4	5	6
7.	Read for academic purposes	1	2	3	4	5	6

When I read I prefer to use a:

8.	Computer or laptop	1	2	3	4	5	6
9.	Smartphone	1	2	3	4	5	6
10.	Tablet	1	2	3	4	5	6
11.	Dedicated eBook reader	1	2	3	4	5	6
12.	Hard copy	1	2	3	4	5	6
13.	Print outs	1	2	3	4	5	6

SECTION C:

Please answer the following questions.
Please cross your relevant response

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1.	I knew about eBooks prior to this questionnaire	1	2	3	4	5	6
2.	I am interested in eBooks	1	2	3	4	5	6
3.	I want to experience eBooks	1	2	3	4	5	6
4.	I would recommend eBooks to my friends	1	2	3	4	5	6
5.	I intend to buy eBooks in the future	1	2	3	4	5	6
6.	I intend to use eBooks in the future	1	2	3	4	5	6
7.	I have used eBooks before	1	2	3	4	5	6
8.	I use eBooks as part of my studies	1	2	3	4	5	6
9.	I use eBooks for personal reading	1	2	3	4	5	6
10.	I have a strong tendency to use eBooks	1	2	3	4	5	6
11.	Overall, eBooks are better than paper books	1	2	3	4	5	6
12.	Using eBooks influence me more positively than using paper books	1	2	3	4	5	6
13.	EBooks are more efficient than paper books	1	2	3	4	5	6
14.	I prefer to use eBooks rather than paper books	1	2	3	4	5	6
15.	EBooks are more helpful than paper books when it comes to studying	1	2	3	4	5	6
16.	Using eBooks will improve my academic and reading performance	1	2	3	4	5	6
17.	Using eBooks will make my academic and reading behaviour more efficient	1	2	3	4	5	6
18.	Overall, using eBooks is an efficient way to read	1	2	3	4	5	6

SECTION C continued:

	Please answer the following questions. Please cross your relevant response	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
19.	It is convenient to use eBooks	1	2	3	4	5	6
20.	It will be easy to learn how to use eBooks	1	2	3	4	5	6
21.	It will be easy to read an eBook	1	2	3	4	5	6
22.	I am able to use eBooks in class	1	2	3	4	5	6
23.	My skills, regarding eBooks, will improve	1	2	3	4	5	6
24.	People around me use eBooks	1	2	3	4	5	6
25.	My parents/guardians would encourage me to purchase eBooks	1	2	3	4	5	6
26.	People in my social group feel positive about eBooks	1	2	3	4	5	6
27.	People who influence me use eBooks	1	2	3	4	5	6
28.	I consider myself to be an expert in the use of new communication technologies	1	2	3	4	5	6
29.	I enjoy trying out new communication technologies that come onto the market	1	2	3	4	5	6
30.	I consider myself an innovator and I purchase devices when they are newly launched onto the market	1	2	3	4	5	6
31.	I own a wide range of devices related to new technologies	1	2	3	4	5	6
32.	I would use eBooks if it would help conserve the environment	1	2	3	4	5	6
33.	Reading eBooks is better for the environment than reading hard cover books	1	2	3	4	5	6
34.	I make the necessary self-sacrifices to minimise my impact on the environment	1	2	3	4	5	6
35.	I am sensitive to environmental issues	1	2	3	4	5	6
36.	I make sacrifices in spending on consumer goods in order to lessen my impact on the environment	1	2	3	4	5	6