

**DETERMINANTS OF SOCIAL NETWORK SITE PREFERENCES  
FOR ACCESSING REPRODUCTIVE HEALTH INFORMATION  
AMONG STUDENTS IN PUBLIC UNIVERSITIES IN  
NAIROBI, KENYA**

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**Determinants of Social Network Site Preferences for Accessing Reproductive  
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of Doctor of Philosophy in Mass Communication in the Jomo Kenyatta  
University of Agriculture and Technology**

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## DECLARATION

This thesis is my original work and has not been presented for a degree in any other University

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## **DEDICATION**

I dedicate this work to my departed loving mama, Rose Wangechi Macharia. You mean the world to me. You taught me the meaning of true modesty, self-control, hard work, fortitude, patience and integrity. The immense love and sacrifices you made right from my pre-school through to university education laid a strong foundation for this achievement. This work is dedicated to my family, which has been a great source of inspiration.

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## ABBREVIATIONS AND ACRONYMS

<b>AIDS</b>	- Acquired Immune Deficiency Syndrome
<b>AYSRH</b>	- Adolescent and Youth Sexual and Reproductive Health
<b>CDC</b>	- Centers for Disease Control
<b>CUE</b>	- Commission of University Education
<b>FBO</b>	- Faith Based Organizations
<b>FHI</b>	- Family Health International
<b>HIV</b>	- Human Immunodeficiency Virus
<b>ICT</b>	- Information and Communication Technology
<b>JKUAT</b>	- Jomo Kenyatta University of Agriculture and Technology
<b>KDHS</b>	- Kenya Demographic and Health Survey
<b>NGO</b>	- Non-Governmental Organization
<b>MoH</b>	- Ministry of Health
<b>RH</b>	- Reproductive Health
<b>TAM</b>	- Technology Acceptance Model
<b>SRH</b>	- Sexual and Reproductive Health
<b>SNS</b>	- Social Network Sites
<b>STD/STI</b>	- Sexually Transmitted Disease/Infection
<b>UTG</b>	- Uses and Gratification Theory
<b>WHO</b>	- World Health Organisation

## OPERATIONAL DEFINITION OF TERMS

**Accessibility of Social Media** - Social media accessibility is the ability of primarily reaching and using digital technologies designed to collect, organize, store, process, communicate or share information with other online users sharing the same network.

**Blogs** - are personalized Websites that allow bloggers to enter textual entries, images, and hyperlinks, or upload videos and other media into an online journal or diary format. Readers post comments or subscribe to a feed, and be notified when new entries are posted. (Thackeray, Neiger, Hanson, & McKenzie, 2008).

**Digital natives** - the younger generation of teenagers and young adults who grew up alongside computers, the Internet and digital media aged 15-24 and are driving the use of social networks (Prensky, 2012).

**Gratification** - refers to a source of satisfaction or pleasure (Gratification, 2014). Pleasure, especially when gained from the satisfaction of a desire (Hornby, 2010).

**Health communication** - the study and use of communication strategies to inform and influence individual decisions that enhance health (Centers for Disease Control and Prevention, 2012). According to Thomas (2006), health communication refers to the use of science communication strategies to inform and influence the knowledge, attitudes and practices of individuals and communities in matters of health and health care.

**Health setting** – Also referred to as health setting or setting for health is a place or social context in which people engage in daily activities in which environmental organizational and personal factors interact to affect health and wellbeing (World Health Organization, 1998).

**Health information** - information or opinion relating to physical, mental or psychological health (WHO, 2010).

**Health promotion** - World Health Organization (1986) defines health promotion as the process of enabling people to increase control over, and to improve, their health.

**Reproductive health** - is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters related to the reproductive system and to its functions and processes. Reproductive health, therefore, implies that people are able to have a responsible, satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so (WHO, 2008).

**Sexual health** - is a state of physical, emotional, mental, and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction, or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and fulfilling sexual experiences, free of coercion, discrimination, and violence; the prevention of disease and other adverse outcomes. (WHO, 2006).

**Social network sites** - A social network site is a networked communication platform in which participants 1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-level data; 2) can publicly articulate connections that can be viewed and traversed by others; and 3) can



consume, produce, and/ or interact with streams of user-generated content provided by their connections on the site (Boyd & Ellison, 2007; Ellison, 2013).

**Social capital** - Refers to the idea that one derives benefits i.e., advice, information, or social support - through their network of relationships.

**Time Utilized in Social Media-** The amount of time used by social media users also called “computer time” is defined as duration measured in terms of hours, minutes or seconds which is constructively used in serving online social media networking sites.

**Web 2.0** - The new generation of the Internet that allows content and applications to be created by most Internet users. Participation and collaboration are two elements of Web 2.0, often labelled as social media and user-generated content (Kaplan & Haenlein, 2010; Dooley, 2013).

**Youth** – UN (2012) defines the youth as a period of transition from the dependence of childhood to adulthood’s independence; that is persons between the ages of 15 to 24 years that is the ages of leaving compulsory education, and finding their first job.

**Social influence** – effect that social network has on the way a person thinks or behaves

**PEOU** - Perceived ease of use

**PU** - Perceived Usefulness

## ABSTRACT

Kenyan population is about 50 million out of which 35 percent is the youth which form the future workforce and a core economic pillar of the country. Past studies have found the university students to be very active sexually and therefore at risk of adverse reproductive health outcomes including early marriage, unintended pregnancy, early childbirth, abortion, incomplete education and sexually transmitted infections including HIV and AIDS. The integration of SNS holds a key strategy in conducting reproductive health promotion interventions that targets and engages the university students for positive health outcomes. This study sought to investigate the determinants of social network sites preferences for accessing reproductive health information among undergraduate students enrolled in public universities within Nairobi County in Kenya. This study is anchored on the Uses and Gratifications Theory and the Technology Acceptance Model. The study considered gratifications; perceived usefulness; perceived ease of use as the independent variables that influence SNS preferences for accessing reproductive health information among university students. Demographic factors of age and gender were considered as the moderating variables in the study. SNS preferences for accessing reproductive health information was defined as the dependent variable. The study focused on four popular social network sites namely; Facebook, Twitter, WhatsApp, and Instagram. The study adopted a mixed research design method combining both quantitative and qualitative data. Simple random sampling was used to select students while purposive sampling was used to select chief medical officers from the public universities in Nairobi County for key informant interviews. The study population was 138,157 undergraduate university students between 18 and 29 years who are currently enrolled in the main campuses of the five public universities in Nairobi County since they run most of the university programs in addition being good consumers of SNS. Cochran's formulae was used to get the sample size of 385 undergraduate university students from the study population. Questionnaires were used as instruments for obtaining the data required from the students while key informant interviews were used to obtain data for the medical officers. Validity and reliability of the questionnaire was enhanced by carrying out a pilot study prior to data collection. The data analysis was both descriptive and inferential. Quantitative data was analyzed using SPSS version 24. The statistics included-descriptive statistics, namely Cross tabulation, Frequencies, and Descriptive Ratios bivariate and nonparametric tests. Regression analysis used to predict numerical outcomes. The study findings revealed that of gratifications, perceived usefulness and perceived ease of use significantly influence SNS preferences for accessing reproductive health information. Facebook was the most popular SNS with 55%, followed by WhatsApp with 34.2%. Gender significantly moderated SNS preference for accessing reproductive health information while age did not. The study concludes that SNS need to be used together with other media to provide youth targeted reproductive health information for positive health outcomes.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the Study**

Health is one of the most important sectors in any country's economy. Good health is an indispensable prerequisite for social economic development of any country (Mugo & Nzuki, 2014). According the Global Roundtable Working Group on the Youth (2011) the number of youth between the ages of 15 and 24 is 1.1 billion; which is 18 percent of the global population. The world population is growing at a rapid rate while the health system has been slow to evolve both from program and service delivery perspectives to accommodate the needs of the youth who may prefer to access information from their friends, family or from the Internet. There is a major problem of access to healthcare services by majority of citizens in developing countries. This is particularly critical in developing countries, where three major factors converge – comparatively higher proportion of young people in the population, disproportionately high burden of youth-related health problems, and more significant resources challenge (Fatusi & Hidin, 2010). This is coupled by low quality healthcare services due to scarcity of highly trained clinicians and unaffordable healthcare services (Mugo & Nzuki, 2014).

According to Kenya Demographic and Health Survey – KDHS (2008-09) and the 2009 Census, 32% of the population is aged between 10-24 years; 41% of women and 43% men of reproductive age (15-49) are below 25 years of age. UN (2012) defines the youth as a period of transition from the dependence of childhood to adulthood's independence; that is persons between the ages of 15 to 24 years. It is referred to a person between the ages of leaving compulsory education, and finding their first job. Compulsory/basic education in Kenya is up to high school level. As such the youth in this context are those who have finished high school (or attained average completion age) but are yet to get their first job. Millions of adolescents face adverse SRH outcomes including early marriage, unintended pregnancy, early childbirth, abortion, incomplete education, sexually transmitted infections including HIV and AIDS. There is need devising other ways of improving the healthcare delivery in order to allow people especially the youth to develop positive healthcare perceptions by having timely and appropriate health information (Haeen, Ray & Allegrante, 2008). Addressing the health and development issues of young people, more than ever before, need concerted and holistic approach (Fatusi and Hidin, 2010).

Gyimah-Brempong & Kimenyi (2013) noted that health is one of the major challenges facing the youth and is central to Africa's economic development. The greatest challenge in healthcare is the ability to capture the attention of the youth to educate them on health, wellness, disease management, and prevention (UNFPA, 2011). The youth are busy exploring their independence without direction and guidance, some can fall into a deep abyss of unhealthy behaviors. Particularly challenging to healthcare professionals is the development of interventions that impact youth in ways that get them to stop and think about the consequences of their behaviors (Paul, 2012).

According to Awiti (Awiti A. & Scolt B., 2016) the youth form 35 percent of the total population of the county. If their sexual and reproductive health (SRH) needs are not addressed adequately, the country will suffer multiple consequences on the social, economic, health and education levels. The youth especially need information on reproductive health and some need targeted services, however, they have generally been neglected by the health system. The study recommended the exploration of emerging interventions such as using ICT to reach youth with SRH information to take advantage of these technologies, which are popular with youth. The study concluded that the youth need information on reproductive health and some need targeted services. However, they have been neglected by the health system (Ministry of Health, 2011).

Traditional mass media methods have been leveraged for decades for health promotion and education activities. Public health organizations have used print and electronic media and social marketing frameworks to disseminate important health messages to the public. Recent advances in new media technologies have greatly influenced the field of health communication. Currently, 80% of Internet users utilize the platform to find health information (Pew Internet & American Life Project, 2012). Increased access and use of Information Communication Technologies (ICTs) have prompted many health-focused programs to use ICTs to deliver intervention activities (Brown, 2012).

The adoption and usage of SNS by undergraduate students has generated a lot of interest as evidenced by the rapidly expanding literature (Wang & Ifinedo, 2016). Since their introduction, social network sites have been described as a “website that allows users to create a profile, connect that profile to that of other users and view and explore the connections between the profiles” (Sei-Ching and Kim, 2013). Examples of these SNS include Facebook, Twitter, Myspace, and Linked In and out of all these Facebook is the popular.

Since their introduction, social network sites have become a part of media consumers incorporated into their every daily live. They have not only changed the way we communicate but have ensured that people are not just consumers of knowledge but are creators of it as well. The biggest consumers of this technology have been university students all around the world (Ifinedo, 2016) stated that 97% of university students in the United States reported being active users of an SNS daily.

### **1.2.1 Healthcare Delivery Gap among the Youth**

According to Shikuku (2014) the rapid population growth coupled with large proportion of young people in the country puts great demands on healthcare, education, housing, water and sanitation and employment. Youths are in a critical age, some are confused, some want their issues dealt with confidentially while some just need someone to talk to and attend to their concerns. Countries must ensure that programmes and attitudes of healthcare providers do not restrict access of adolescent services and information they need. They must safeguard the rights of adolescents to privacy, confidentiality, respect and informed consent. However, this is far from being the case in many countries. Health services often regard the youth as a healthy group who do not need priority action, and so provide a minimum subset of adult or pediatric services with no

adjustments for the needs of the youths (Shikuku, 2014). The health system has been slow to evolve both from program and service delivery perspectives to accommodate the needs of the youth who may prefer to access information from their friends, family or from the Internet.

Paul and Shikuku (2014) agree that although the overall burden of disease may be lower in youths compared to children and adult population, there are conditions that are much more common and have lifelong devastating effects on this group. These include sexual and reproductive health problems such as early and unwanted pregnancies, unsafe abortions, sexually transmitted diseases, alcohol and drug abuse. In most African countries national policies and strategic plans especially in health make very few references to youth-specific and youth centered provisions. Overall, the strategic plans target youth as part of the general population. In Egypt, Kenya, Nigeria, and Uganda for instance there is poor implementation of existing youth-specific service-delivery guidelines. The youth are also poorly involved in policies and programs mainly due to the lack of awareness of, and/or poor training on, the use of existing guidelines by service providers and program managers. Additionally, existing youth-focused programs are not widely available (Ahonsi et al., 2014).

Youth in Kenya, as in other developing countries, face numerous social, economic and health issues. Due to their large population, poverty and inadequate access to healthcare some youth do not get an opportunity to acquire life skills and consequently involve themselves in risky behaviors that expose them to adverse social, economic, and negative health outcomes such as substance abuse, unintended pregnancy and life threatening sexually transmitted diseases and infections (FHI 360/PROGRESS & Ministry of Health, 2011).

Technology and globalization has a way of transmitting information to our youths and therefore Youths keep receiving contradicting information on how to address the daily choices that have lifelong consequences in their development especially with regards to youth friendly services. These youths need right information otherwise they are at risk of health problems (Shikuku, 2014).

## **1.2 Use of Social Network Sites by the Youth for Reproductive Health Information**

Young adults are a difficult-to-reach population with relatively low healthcare utilization, while at the same time being ubiquitous users and often the earliest adopters of social media (Wong, Merchant & Moreno, 2015). The youths who are Digital natives; grew up alongside computers, the Internet and digital media, social networking is the norm for communication for this generation. The use of SNS holds a key strategy in helping to solve some of the challenges faced by those in the health promotion field. They have a critical impact on public health in multiple areas, including information seeking, health-care follow-up, data storage, interactive health messaging and professional development (Leow et al., 2012). Therefore understanding determinants for their preferences in the use of SNS is crucial for the success of health promotion interventions.

Glik et al., (2014) acknowledges that these technologies have transformed health promotion activities to communicate information to intended audiences better, provide forums for community discussion, offer resources for accurate and reliable health information and engage program participants with interactive content and messages. While the implementation of such programs is increasingly common, more research is needed to understand better how people (especially the youth) are using these methods to facilitate improved health outcomes. New media (also known as digital media) is more than the conversion of traditional media to digital formats. It also involves interactivity and the ability to form groups (e.g., social networking sites) (Centre for Digital Media, 2014). Digital media can also include text messaging, blogs or chat rooms on websites, and internet social networking sites (e.g., Facebook), widgets and apps, podcasts, and online games (Williamson & Lawson 2015). In the wake of the “Web 2.0” phenomenon, public health communication strategies are also changing to match the increasingly influential and rapidly evolving social media revolution (Newbold & Campos, 2011). A defining feature of Web 2.0 technology is interaction between end-users and the host through user-generated content. SNS allow public and private messaging, photo, video and other content sharing, live updates, formation of groups and use of other applications such as games, quizzes and polls. The two-way information flow means users can engage and be content creators, rather than simply passive recipients of information as with Web 1.0 technology. This online social engagement enables individuals to build online communities through shared interests and identities. The extensive reach of sites such as Facebook and Twitter, along with their interactive functions, offers huge potential in terms of delivery of health promotion messages.

Health communication is widely considered to be a major aspect of any health promotion, (and health campaign). These campaigns apply integrated strategies to deliver messages designed directly or indirectly to inform, influence, and persuade target audiences’ attitudes about changing or maintaining healthful behaviors. Messages can be transmitted through a variety of channels, such as traditional mass media (e.g., TV, radio, newspapers); the Internet and social media (e.g., websites, Facebook, Twitter); small media (e.g., brochures, posters, fliers); group interactions (e.g., workshops, community forums); and one-on-one interactions (e.g., hotline counseling) (CDC, 2011; Baron, Melillo, Rimer et al., 2010; Weinreich, 2010).

This study adopts the health promotion definition by Barton (2014) which states that it is a discipline and process that focuses on empowering people and communities to take control of their health and wellbeing. Ranging from action at a community level to developing policies, it is founded on the principle that health and wellbeing begins in the settings of everyday life (Barton, 2014).

### **1.2.2 Sexual and Reproductive Health and Service Delivery**

Adolescents and youth have been perceived to have few health needs and little income to access to health services. As a result, they have generally been neglected by the health system though all who need information on reproductive health and some need targeted and prevention of HIV/AIDS and other sexually transmitted infections by providing information and skill-based approaches such as life planning that can lead to favorable reproductive health outcomes (UNESCO, 2009).

Statistics and first person anecdotes paint a mixed, but overall troubling portrait of the youth and young adult sexual landscape, despite many years of efforts in sexual and reproductive health education (Boyar, Levine & Zensius, 2011). Bii and Otike (2003) conducted a survey on the provision and accessibility of health information in Kenya. They discovered that health information needs of the youth have not been met or satisfied by the existing information resources and services due to a number of factors that make health information inaccessible. They observed that most of these factors emanate from the nature of the existing information and communication infrastructure and associated services. They also recommended that the Ministry of Health should put in place a policy formulation that would promote health information dissemination. It is obvious that young adults need health information in order to keep fit and enjoy good health.

The youth and communities are not actively involved in some programs, thus compromising effectiveness and sustainability of interventions. The youth feel that there could be more involvement of the community and youth to adequately address issues specific to a community or population of young people (Ministry of Health, Division of Reproductive Health, 2005).

As global and national studies highlight, the sexual health of young people remains a critical concern. There is a growing consensus among those involved in social programming that unless young people are given a more significant voice in participating in dialogue about their own sexual health, the current sexual health programs aimed at promoting safe sexual practices among youth are doomed to fail (Mitchell & Murray, 2012).

In the delivery of youth friendly services according to Shikuku (2014) argues that the minimum conditions set by the Ministry of Health should include: affordability and accessibility, safe and basic range of services, privacy and confidentiality, provider competence and attitude, reliability and sustainability and an inbuilt monitoring and evaluation system in order to call it 'youth friendly'.

The study by Ahonsi et al. (2014) goes on to indicate that although the legislative and policy milieus include provisions that alleviate and are responsive to young people's vulnerabilities, they also have components that exacerbate these vulnerabilities. These failures occur along broad lines: inconsistent definitions of youth/child, non-adoption and adaptation at the country level of key international and regional protocols, inadequate enforcement of existing protective provisions or policies, presence of punitive and repressive laws affecting stigmatized and vulnerable groups, and silence, denial, or neglect of particular sensitive issues (Ahonsi et al., 2014).

Tools of public health are changing. Older models of health communication are inadequate. Health communication, especially from the government and health services, still relies on the outdated ‘top-down’ approach. These have less impact on young people who may prefer to access information from their friends, family or the Internet. Therefore, Health promotion specialists continually search for new and efficient methods of reaching people of various ages (Thackeray et al., 2012).

Social media has become not only popular, but an integral part of everyday communication, education and entertainment. Young people particularly are early adopters of technology, and social media and the online world is an extension of life itself (Centre for Health Promotion, 2012).

Boyd and Ellison (2013) define Social Networking Sites (SNS) as a networked communication platform in which participants 1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-provided data; 2) can publicly articulate connections that can be viewed and traversed by others; and 3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site (Boyd & Ellison, 2013).

Further, Boyd and Ellison (2013), elaborate that the term “social network site” emphasizes that these are sites that enable individuals to articulate public lists of connections - to present a social network and to view others’ networks. The desire to communicate and share content is a primary driver of SNS use. All SNSs support multiple modes of communication: one-to-many and one-to-one, both synchronous and asynchronous. On most SNSs, these features can be public or more private (Boyd & Ellison, 2013). SNSs like Facebook, LinkedIn, Twitter and others allow individuals to instantly communicate with large networks of friends, acquaintances, and colleagues while supporting multimedia content linked to other social media applications such as YouTube and Flickr (Newbold & Campos, 2011).

SNS is one of the primary reasons that many people have become avid Internet users; including people who until the emergence of social networks could not find interests in the web (Kreps & Neuhauser, 2010). SNSs are ideal for reaching the general population. People can feel connected and experience a sense of support without the need for face to face interaction. The information is available 24/7, hence extremely accessible. It is an ideal way to communicate because busy people can quickly trade information (Levac & O’Sullivan (2010). According to Kreps and Neuhauser (2010), the Internet’s vast scope and accessibility is perfect for providing people with motivational information concerning healthy behaviors.

Beyond profiles, friends, comments, and private messaging, SNSs vary greatly in their features and user base. Some have photo-sharing or video-sharing capabilities; others have built-in blogging and instant messaging technology. There are mobile-specific SNSs, for example, Dodgeball, but some web-based SNSs such as Cyworld also support limited mobile interactions. Many SNSs target people from specific geographical regions or linguistic groups, although this does not always determine the site's constituency (Boyd & Ellison, 2007).



Young people are the most frequent users of the Internet with 86% using SNS for health information. (Smith, Rainie & Zickuhr, 2011). Their use, therefore, could be a key strategy in helping to solve some of the challenges faced by those in the health promotion field. Interventions incorporating social media channels hold considerable potential for health promotion and address some of the limitations observed by traditional health communication strategies by increasing the potential for interaction, engagement, customization, and participation especially to the youth (Gold et al., 2011; Levac & O'sullivan, 2010). However, as Newbold (2015) notes, the use of social media by health organizations for health promotion initiatives remains relatively limited and variable especially in developing countries.

Social network sites have the potential to increase the reach and efficiency of essential public health services, such as surveillance, research, and communication. SNS provide an outlet for the publication of health information to consumers while allowing consumers to respond and contribute to advising that was traditionally only issued by providers. Social network sites attend to the needs of modern health consumers, who are highly engaged and desire to be more involved in their health while providing the means for reach that was previously unimaginable (Schein, Wilson, & Keelan, 2010). Organizations are attracted to using social media partially because of the huge potential it provides in reaching members of their target audience (Edward & Nichols, 2010). SNS makes it easy for the public to engage deeply with their peers, instructors, other subject-matter experts, and the community at large (Brodalski et al., 2011).

Sexual Health (SH) and Reproductive Health (RH) cannot be discussed in separately. In this study, the terms Reproductive Health and Sexual Health are used interchangeably; an overlap regarded as Sexual and Reproductive Health (SRH). Understanding undergraduate use of SNS for reproductive health information will inform health information specialists about how to reach undergraduates to deliver health information and health literacy education through these media.

### **1.3 Statement of the Problem**

Kenya population is very youthful with an average age estimated at 19 years and with 35 percent of the total population made up of the youth (Awiti A. & Scolt B., 2016). Past studies have found Kenyan youth to be very sexually active and facing a lot of social and reproductive health challenges, which have shown no visible sign of abating except if they are well informed on healthy attitudes/positive behaviours. Failure to provide adequate reproductive health information to the youth segment of the population, may result to behaviors that could adversely affect their future lives and consequently the economy of the country. Without good health, young adults would not be able to face their studies and live a healthy life, as well as contribute meaningfully to the national development.

A study by the Ministry of Health (2011) found out that in Kenya many young people are sexually active and are at risk of adverse reproductive health outcomes that subsequently negatively affect achievement of life goals and maximum contribution to national development. Despite the existence of multiple policies and guidelines that favor provision of information and services to young people, these documents are not integrated well into services. The health system has been slow to evolve to accommodate the needs of this age group both from program and service delivery perspectives. Some service providers lack the skills and positive attitudes needed to serve youth (Ministry of Health, 2011). A look at the policy, strategy and communication documents in Kenya reveal that SNS (also referred to as new media/ICT) are mentioned in passing and not explored in depth.

Baker and White (2010) explains SNS are gaining popularity as important tools of communication with benefits associated new opportunities for sociability and self-expression, communication, enhanced learning opportunities, and accessing health information (O’Keeffe, Clark-Pearson & the Council on Communications and Media, 2011).

Social networking sites provide obvious benefits to the health domain, since they offer the means to capture alternative views, personal experience, and tacit knowledge that is unlikely to be provided by official information resources and search engines (Anderson & Speed 2010). Despite SNS benefits and increasing use for health information, studies of SNS use as a channel for reproductive health information have been limited. Recent research recently explored the potential of SNS as a promotion tool from the perspective of healthcare providers to improve communication with health consumers (Gold et al, 2011). However, very little research has been done on the use of SNS for reproductive health information especially from the users’ perspectives. While published research in Kenya appears limited, studies elsewhere have shown that indeed, digital media has an impact on young people’s sexual and reproductive health knowledge and behavior (Evelia, et al., 2015). With increasing access to the Internet and mobile phone use, providing reproductive health information via Web.2.0 channels is a logistical step. There is growing interest in establishing why these technologies are preferred, and to what extent they impact reproductive health outcomes among young people. In a study exploring social media use in rural Kenya, Wyche,

Schoenebeck and Forte (2013) argued that SNSs research tends to be concentrated in North America and Europe where technology infrastructures are highly developed.

An empirical review by Gold et al, (2011) recommended that future studies should examine the motivations behind the large and active user base of the youth that use SNSs for reproductive health promotion. Although these studies are related to the present study, they are limited in as far as the theoretical framework, methodology and examples of SNSs used for health information are concerned. Sambaiga (2013) and Pfeiffer et al, (2014) recommend those interested in providing reproductive health information to young people conduct further studies from the perspective of young people themselves. Pointing out that the youth are deciding for themselves what purposes and platforms they want to use the Internet for, while rejecting others.

This study addresses this gap in the literature by examining how undergraduate students use SNS for seeking and sharing reproductive health information in the context of gratifications sought, perceived ease of use and perceived usefulness and trust. Knowing the determinants of SNS preference for accessing reproductive health information by the undergraduate students is a crucial step towards designing more effective health promotion interventions in this medium. Although social networking sites (SNSs), such as Facebook or Twitter, are widely used among young generations, to date, research has focused on the social uses of SNSs for socialization and marketing purposes (Yang and Brown, 2013). Focusing on undergraduate students, this study sought to investigate the determinants of SNS preferences for accessing reproductive health information among the undergraduate students in public universities in Nairobi.

#### **1.4 General Objective**

The study sought to investigate the determinants of social network site preferences for accessing reproductive health information among students in public universities in Nairobi County.

##### **1.4.1 Specific Objectives**

This study sought to fulfill the following specific objectives:

1. To examine the influence of gratifications on social network site preferences for accessing reproductive health information among university students.
2. To investigate the influence of perceived usefulness on social network site preferences for accessing reproductive health information among university students.
3. To determine the influence of perceived ease of use on social network site preferences for accessing reproductive health information among university students.
4. To establish the moderating effect of demographic characteristics on the independent variables of gratifications, perceived ease of use, and perceived usefulness on SNS preferences for accessing reproductive health information among university students.

### **1.4.2 Statistical Hypotheses**

The study sought to test the following hypotheses based on the research objectives;

H<sub>01</sub> Gratifications have no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

H<sub>02</sub> Perceived Usefulness has no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

H<sub>03</sub> Perceived Ease of Use has no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

H<sub>04</sub> Demographic factors of age and gender have no significant moderating effect on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

In order to determine the influence of demographic characteristics on social network site preferences for accessing reproductive health among students in public universities, the study proposed the following sub-hypotheses.

H04a Age will not significantly influence university students preference of Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

H04b Gender will not significantly influence Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

### **1.5 Significance of the study**

Addressing the Sexual and Reproductive Health needs of young people remains a significant challenge (Godia et al., 2014). Provision of SRH services and promotion to young people in Kenya is mainly done via three types of service providers: Public or Ministry of Health (MoH) Managed Services, Non-Governmental Organisations (NGO) and Faith-Based Organizations (FBO). This is mainly done through traditional media using a top-down approach (Godia et al., 2014).

Adverse SRH outcomes among adolescents and youth include unintended pregnancy, early childbirth, abortion, early marriage, and sexually transmitted infections including HIV. The results of risky behaviors include early sexual debut, substance abuse, sexual and gender violence, multiple sexual partners, and inadequate access to and use of contraceptives including condoms for dual protection. These negative outcomes curtail young people's ability to achieve their economic and social goals, which in turn affect the country's long-term development. (Makona et al., 2008).

Challenges facing sexual and reproductive health in Kenya were identified to include: low budget allocation in the MoH budget, limited resources for better programming, inadequate physical infrastructure for provision of services, and inadequate Reproductive Health (RH) information for youth. Priority actions to be undertaken to respond to the sexual and reproductive needs of the youth include: ensuring they have full access to sexual and reproductive information and services; Establishing high quality, comprehensive and integrated youth-friendly reproductive health services; promoting a multi-sectoral approach; and strengthening partnership and referral with NGOs and FBOs, especially those in hard to reach areas (Ministry of Health, 2011).

Based on these challenges the youth seek alternative sources of reproductive health information. Technology-based sources are preferred due to their reach and popularity among the youth. Additionally, the youth prefer informal sources which are anonymous and autonomous especially considering that RH is a sensitive health topic riddled with stigmatized behaviors. SNSs are now established part of these online sources of reproductive health information (Cullen, Thompson, Boushey, Konzelmann, & Chen, 2013; Ellis et al., 2013; Gold et al., 2011).

The bulk of university students especially undergraduates who are the focus of this study are the youth. These youths are also digital natives with access to technology and form the bulk of users of SNS. They are confronted with a higher risk of adverse reproductive health outcomes as a result of; their age, new found freedom; risky behaviors and the gap in service delivery. Nairobi, the capital city of Kenya in Nairobi County, was noted by Portland (2014), as the most active city in East Africa and Kenya a leading country regarding technology adaptation also regarding social media use. Therefore, this makes the study setting and population appropriate and relevant.

Understanding both the technical and the social perspective of social media is important when designing health promotional activities in order to harness the power of social media. The power of social media comes from the interaction between users

by sharing and creating content. The interaction can greatly increase the reach and effectiveness of health promotional activities especially targeting the youth. Tapping into the powers of social media requires knowledge of how users are engaging in and evaluating the possibilities of social media. The technological development implies ever new and changing possibilities that should to be evaluated and considered when designing health promotions. Previous studies have shed light on the way people use social networking sites for reproductive health information and factors influencing their use but they tended to focus on a single medium, eg. Facebook or a single disease, for instance Diabetes. To illustrate the broad landscape of SNS use in the reproductive health domain, the current study target university student and their use of four popular SNS for gleaning reproductive health information. Scant research has examined how university students seek and share reproductive health information on SNS. This study help researchers and health professionals understanding the uses of SNS in promoting reproductive services for the youth.

The study also contributes to the development of the uses and gratifications theory in addition to technology acceptance model to examine the determinants of social networking sites preference for accessing reproductive health information among university students.. Future researchers will also find this study useful when conducting researches on a similar subject. Clearly research is needed to understand the role of social media in promoting health. Such research can lead to the development of evaluation criteria and new effective promotional tools on social media that could be utilized in health promotion.

This study provides a valuable contribution to the underexplored and undeveloped research area of the use of SNS for health promotion in Kenya; especially so regarding the youth's perspective. These areas have not been sufficiently explored and developed. The knowledge and understanding brought about by this study regarding social network site preferences for accessing reproductive health information among university students influences and guides health promotion approach, explores youth preferences and hence ensures youth-centered delivery and significantly influence public policy on reproductive health promotion.

The main beneficiaries of this study are the youth, especially those with limited (or without) access to youth-friendly health facilities. With the aid of this study, parents/guardians, educational institutions, and the health sector are more cognizant of youth's SNS preferences in communication media (and programs) especially regarding reproductive health. The study significantly guides in designing and implementing youth-centered health communication/promotion via SNS in such a way that is relevant, engaging, and accessible. Government, oversight and regulatory authorities could use the study as a guide in formulating, monitoring, revising and enforcing media policy and the youth, especially regarding reproductive health promotion through SNS.

Universities could benefit from this study because it generates valuable lessons which informs the development of reproductive health programs for the youth based on their needs and preferences. Further, universities can develop SNS based

effective, youth-centered reproductive health policies and content as opposed to just disseminating educational content on traditional media platforms.

The Findings of this study adds to existing academic knowledge in various fields including reproductive health, social studies, and communication studies, especially since no similar study has been done in Africa. Further, this study provides a contribution to the understudied area regarding user gratifications and how they influence SNS preferences for accessing reproductive health information among the youth. The results could improve the understanding of social networking sites as a source for health information and inform the design of social networking sites intended to support health information seeking and health promotion.

## **1.6 Scope of the Study**

This section is structured into geographical scope, health as a setting, content, methodological and new knowledge scope. The geographical scope of the study (and setting by extension) was Nairobi County, which according to Portland (2014), is the most active city in East Africa and the sixth most active on the continent regarding technology adoption and SNS use. It is one of Kenya's 47 counties and hosts the capital city of Kenya, Nairobi on a total area of 696.1 Km<sup>2</sup>. According to the 2009 national housing and population census; the county had 3,134,265 people which are projected to rise to 4,247,770 by the year 2017.

This study adopted a setting-based approach which WHO (2016) refers to as where people actively use and shape the environment, create or resolve problems relating to health. Settings can be identified as having physical boundaries, a range of people with defined roles, and an organizational structure. Therefore, this study focused on undergraduate students in public universities in Nairobi County as a setting.

This study is informed by the Uses and Gratification Theory (UGT) which focuses on the motivations of media users. UGT largely focuses on social and psychological motivations. This theory is supported by the Technology Acceptance Model (TAM) by presenting technologically-driven motivations. There are numerous constructs as these two theories evolved and had been modified by scholars. This study focuses on specific constructs. Three gratifications (personal identity, surveillance and social capital) from UGT and perceived usefulness (authority, relevance, and currency) and perceived ease of use (interactivity, convenience, and privacy) from the TAM model.

There several perspectives that could be used to address the issues relating to SNS and RH, including the various stakeholders, communication, social, psychological and health perspective. The study, however, takes a health promotion perspective to the research area focusing on the perspective of the youth in universities. As such the findings of the study not only present the perspectives of the youth but also provide key lessons for health promotion domain.

The main research design adopted for the study was mixed methodology where both quantitative and qualitative methods were used to sample the study population. The Study findings were triangulated in line with Bryman's argument that the use of triangulation enhances confidence in the ensuing findings (Bryman, 2010). According to Creswell (2014) the mixing of data provides a stronger understanding of the problem or question. The study methodology is cross-sectional and involves technology which is dynamic. Therefore, some variables in the study and the relationship between them may change over time.

Researchers, Lenhart, et al. (2010) and Langat (2015) established that the youth especially those in colleges or institutions of higher learning have high social network site usage, with Facebook, Instagram and Twitter being the most popular. As such, this study focused on an undergraduate students in five public universities accredited by Commission for University Education (CUE) which is mandated to promote the objectives of university education, by regulating and accrediting universities and programmes, among other functions (CUE, 2016).



### **1.7 Limitations of the study**

The study was limited by choice of the respondents and granularity of the feature for the independent variable. On the choice of the respondent, the study did not stratify the respondents by year of study, faculty or programs enrolled in. On the granularity of the independent variables namely the gratification, perceived ease of use and usefulness, the study adopted a course granular where the SNS preferences were considered globally, and therefore the influence of specific features that make a particular independent variable was not considered which informs the recommendation for further research.

Being a cross-sectional research the findings may not represent cause-effect relationships and relied solely on data as provided by the research participants. This study focused on the determinants of SNS preferences for accessing reproductive health information among students in public universities in Nairobi county. The Uses and Gratification Theory by Blumler and Katz (1974) have been used to examine the motivations/gratifications of the SNS users. TAM theory by Venkatesh and Davis (2000) has been used to address perceived usefulness and perceived ease of use of SNS as determinants of SNS preferences.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter discussed related works, scholarly concepts, orientations, practices and methodologies linked to the empirical findings of previous research efforts in the fields of SNS and reproductive health promotion for the youth. The first part discusses the theoretical review. The second part dealt with the objectives of the study structured according to independent variables namely; gratifications, perceived usefulness, perceived ease of use; demographic variables of age and gender and SNS preferences as the dependent variables. The final part looked into empirical studies carried out in the past in accordance with the variables presented in the research model, the critique, research gaps and summary.

##### **2.1.1 SNS as Reproductive Health Communication Tool for the Youth**

Today's youth have exceptional access to communication technologies and are remarkable consumers of the internet, text messaging and gaming, with social media being the most utilized of the technologies (Paul, 2012). A Pew Research Center study detailing internet and social media usage in developing nations, showed that social media use is more popular among young people in these nations. Among respondents, 93 percent of internet users in the Philippines said they used social media, with Kenya coming in second at 88 percent. Among people in developing nations who have access to the internet a median of 82 percent use social networking sites, such as Facebook and Twitter. As with overall internet access, social networking is more popular among young people than among those ages 35 and older (Lafferty, 2015).

In Kenya for instance data shows that; mobile phone subscriptions reached 32.2 million in the April-June quarter. Internet use via the web or mobile has also risen - 14.0 million data/internet and 13.9 million mobile data subscriptions were recorded in the quarter (CAK, 2013). Axela (2014) reports that the most commonly visited websites in Kenya in 2014 are Google.com, Facebook.com, Youtube.com, Twitter.com, Ask.com and the email website, Yahoo. Mungai and Omondi (2014) presented a Consumer Insight study by IPSOS which showed that 87 per cent of the young in Kenya strictly used the internet for social media. A later study by Miniwatts Marketing Group (2016) 5,000,000 Facebook users on Nov 15/15, 10.9% penetration rate. Additionally, Kenyan urban youth spend at least \$250 million (K.Sh 2.2 billion) annually to access Facebook and Twitter on their mobile phones.

Levac & O'sullivan, (2010) indicate that Social media holds considerable potential for health promotion and other health intervention activities, as it addresses some of the limitations in traditional health communication by increasing accessibility, interaction, engagement, empowerment and customization. The use of social media increases the potential for easy access to preventive medicine, interaction with health care providers, inter-professional communication in emergency management, and

public health. It is essential for health promotion organizations to capitalize on the opportunities provided by social media, in order to modernize strategies to reach all age groups and to tailor programs to current communication trends, all of which are offered at a relatively low cost (Levac & O'sullivan, 2010; Teutsch & Fielding, 2013).

A study by FHI 360/PROGRESS & Ministry of Health, (2011) found that 17 out of 45 Youth serving organization (YSO) were using mass media to reach youth with SRH information. A number of organizations have embraced more interactive approaches by either forming discussion groups after sessions or providing call-in options to the target group. Further the use of ICT (including the use of SNS and mobile communication) which was regarded as a relatively new approach of engaging youth that is being adopted by YSOs (10 out of 45). Only two development partners were supporting the approach despite its popularity among the youth (FHI 360/PROGRESS & Ministry of Health, 2011).

Without adequate sex education at home or school, the media becomes one of youth's primary sources of sexual health information (Strasburger, 2008). The Internet, in particular, is a valuable source of information for many youths. Certainly, there are benefits to attaining sexual health information through various forms of media like the Internet. As Williamson & Lawson (2015) note, these benefits include the fact that accessing information online affords privacy and allows for personal exploration around sensitive topics. However, the information accessed and/or received through these media may be inaccurate or misleading. As well, not all media source sexual health content is comprehensive and inclusive. This means that young people may not have the information they need to make fully informed choices related to their sexual health (Williamson & Lawson, 2015).

New forms of media, such as social networking sites and video sharing sites, have been showing promise as avenues for adolescent sexual health education and exploring individual sexuality and sexual relationships. They are largely used by youth for exploring and maintaining social, sexual, and romantic relationships because of presumed safety, perceived anonymity, transcendence from adult control, 24/7 availability, and the ability to communicate with peers. Additionally, many adolescents and the youth believe that the Internet is a valuable place to attain answers to embarrassing sex-related questions, to learn more about uncomfortable topics, to familiarize themselves with intimate body parts, and to gain perspective on sexual practices. The fact that so many youths are using new media for the purposes of accessing information related to sexual health suggests further investigation is needed, in particular, how new forms of media could be used to create effective sexual health and reproductive health messages for the youth (Williamson & Lawson. 2015).

## **2.2 Theoretical Review**

Croyle (2005) posits that theories of health behavior and their applications are at the individual (intrapersonal), interpersonal, and community/environmental/ecological levels. At the individual and interpersonal levels, contemporary theories of health behavior cut across three concepts; behavior, knowledge, and perceptions. Behavior is mediated by cognitions; that is, what

people know and think affects how they act. Knowledge is necessary for, but not sufficient to produce, most behavior changes. Perceptions, motivations, skills, and the social environment are key influences on behavior.

Community-level models offer frameworks for implementing multi-dimensional approaches to promote healthy behaviors. They supplement educational approaches with efforts to change the social and physical environment to support positive behavior change (Croyle, 2005).

Several social cognition theories and models have been developed to explain individuals' health behaviour and changes in health behaviour, and they are widely used as subjects of debate in health psychology. Many of these theories or models can be defined as statements about causal relationships between individual-level factors (such as knowledge, attitudes, motivation, socio-demographic factors, personality) and health behavior change. For health providers, they provide conceptual frameworks for developing effective health promotion programs, campaigns, and interventions. Their theoretical constructs help in analyzing behavioral health problems and are also used as a basis to tailor health information and messages (Campbell & Quintiliani 2006; Schwarzer 2008; Enwald, 2013). As Enwald, (2013) noted, no single theory or model can account for all complexities of behavior change and health communication, and therefore theories and models should be seen as complementary rather than competing.

Although several arguments have been advanced on the value of SNS in the students' lives, both for and against, one unassailable truth is that this phenomenon is growing at an alarming rate. Given that students are a key user group of SNS, it is imperative that we examine what drives these needs. So it is for this reason that the study was undertaken to examine the value students see in these social networking sites. This study was anchored on the Uses and Gratification Theory and supplemented by Technology Acceptance Model (TAM) which provide the theoretical framework for understanding this phenomena because the study is interested in both the perceived value and the experience in using the technology as discussed in the next subsection.

### **2.2.1 Uses and Gratifications**

Media consumption is based on the needs or motives of each user and the act of fulfilling needs positions the user as an active consumer of media. The uses and gratifications theory examines the motivations of media users and answers how and why an active audience uses the media (Rubin, 2009; Scherer, 2010). The theory by Blumler and Katz (1974) presents that media users play an active role in choosing and using the media. The users take an active part in the communication process and are focused on their media use. The theorists argue that a media user seeks out a media source that best fulfills their needs with the assumption that the user has choices to satisfy their need.

Instead of asking what media do to people, this theory asks, "What does an active audience do with the media, why, and with what effect?" (Lasswell, 1948). It assumes that individuals select media and content that fulfills their needs. Specifically, the

theory aims to explain what social or psychological needs motivate people to engage in a variety of media use behaviors. As Katz, et al. (1974:20) concluded, the approach of uses and gratifications concerns: “(1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) the mass media and other sources, which lead to (5) differential patterns of media exposure (or engagement in other activities), resulting in (6) need gratifications and (7) other consequences, perhaps mostly unintended ones”.

This theory assumes that people are goal-oriented and seek out gratifications which in turn leads to active media use. The five principles that guide this model are; an individual’s social and psychological environment, an individual’s needs or motives for communication, functional alternatives to media selection, communication behavior and the consequences of one’s behavior (Rubin and Bantz, 1989). These elements underline connections between user perceived value and subsequent generation of social networks, which outline a connection between uses and gratifications and social media.

The uses and gratifications model, an audience-based framework, can be used to explain how the youth use social networking sites and the gratifications that users obtain. Satisfaction of cognitive needs strengthens information and understanding for one self. Health information seeking motives are more specific, and they include: seeking information about accuracy of a diagnosis, reasons for recommending a treatment, explanation of an illness, information on side effects, treatment options, and lifestyle information such as diet and nutrition as well as prevention and care, problem-solving, information sharing, and emotion management (Sen, 2008). According to Scherer (2010), in general, the most discussed motivations tend to be information seeking, entertainment or diversion, and interpersonal needs.

Uses and Gratification theory mainly seeks to understand and explain the psychological needs that shape peoples reason for using the Media and the reasons which motivate them to engage in certain media use behaviors. Stafford (2004) observed three types of gratifications perceived by the audience which were content gratifications, process gratification, and social gratifications. This theory assumes that mass media users are goal oriented in their behavior and are active media users. They are aware of their needs and select appropriate media to gratify their needs. The rapid growth of SNS has strengthened the potency of Uses and Gratification theory because it requires high interactivity from the users (Shubha, 2015). Past studies reveal that SNS is used for seeking information, entertainment and to escape.

Quan-Haase and Young, (2010) indicate that gratifications obtained refer to those gratifications that audience members experience through the use of a particular medium. Gratifications sought (also often referred to as “needs” or “motives”) refer to those gratifications that audience members expect to obtain from a medium before they have encountered it. Central to this theory is that obtained gratifications may differ from those sought and the resulting gap can predict the level of satisfaction/dissatisfaction that individuals experience from the usage of a particular medium (Palmgreen & Rayburn, 1979; Palmgreen et al., 1980). Further, when a medium provides or surpasses the expected gratifications initially sought, this leads

to the recurrent use of the medium and ultimately predictable consumption habits. In cases where a medium does not fulfill the sought-after gratifications, audience members will often become disappointed and will predictably cease utilizing the specific medium. This will lead audience members to seek out a different medium that can provide the kinds of gratifications they are seeking (Palmgreen & Rayburn, 1979; Quan-Haase, & Young, 2010).

This theory is appropriate for this study as users log on to SNS platforms with priority based on their interest and seeking some form of gratification. Users are rational and choose the preferred SNS platform(s) that best fulfills these gratifications. One of the criticisms of UGT research in technology is that it has mostly concentrated on social and psychological motivations behind the usage leaving out the technologically-driven needs (Sundar and Limperos, 2013). Therefore, to address this shortcoming the researcher uses the Technology, acceptance model.

With specific reference to this study, the users (youth) who are rational log into their preferred choice of SNS to that mostly gratifies and satisfies their needs. The users rationally and freely choose the SNS media (and platform) that piques their interest from the various alternatives available including Facebook, Twitter, WhatsApp and Instagram. This study found out 55% preferred Facebook, 34% preferred WhatsApp while Twitter and Instagram posted 5.8% and 4.9% respectively. Influence of gratification on the preference of SNS for accessing reproductive health information was strongly evident. The influence of usability of SNS to assist respondents to understand reproductive health matter was highly rated at mean score of 4.3.

### **2.2.2 Technology Acceptance Model (TAM)**

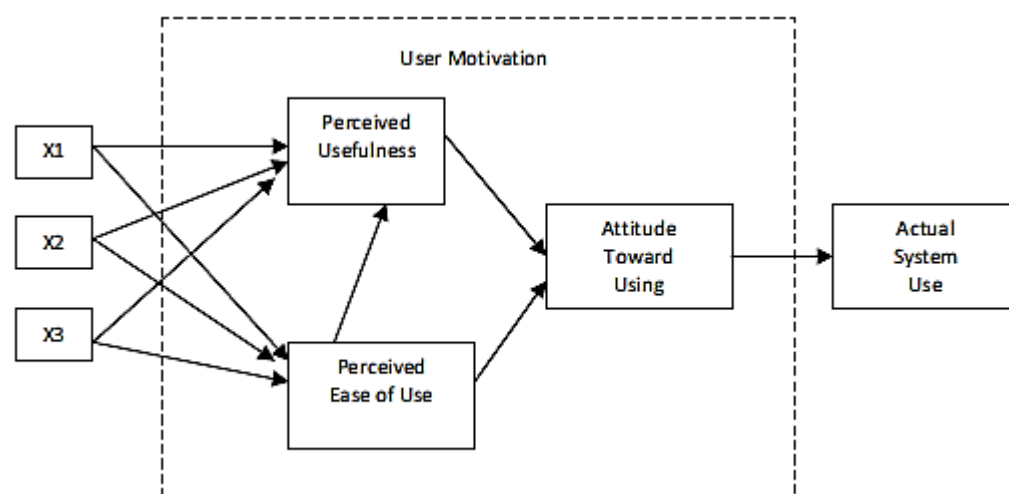
Since its introduction by Davis in the 1980s, the Technology Acceptance Model (TAM) has been one of the most tested and widely adopted acceptance models (Teo, 2009). TAM is derived from the theory of reasoned action (Ajzen and Fishbein 1980) and addresses the issue of how users come to acceptance and use a technology (Davis, 1989). TRA explains that; attitudes are influenced by beliefs, which consequently lead to intentions, which then guide or generate behaviours. The TAM explains and/or predicts belief, attitude, intention and behaviour of users towards information technology acceptance. As established in earlier information system research, technology adoption model (TAM) has proven to be a robust model for examining technology adoption (Davis, 1989; Davis et al., 1989).

Davis proposed that system use is a response that can be explained or predicted by user motivation. This, in turn, is directly influenced by an external stimulus consisting of the actual system's features and capabilities. When users are presented with a new technology, TAM suggests the decision whether and how they will use it is influenced by different variables. Two causal linkages influence this decision: perceived usefulness (PU) and perceived ease of use (PEOU) of the relevant technology. The model provides explanations of determinants of computer technology acceptance by tracing the impact of external factors on internal beliefs, intentions and attitudes (Davis, 1989; Kate, Haverkamp, Mahmood, & Feldberg, 2010). The TAM posits that

perceived usefulness and perceived ease of use are the two main factors determining an individual's intention to accept and use an IS.

Perceived usefulness is defined by Davis as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). On the other hand, perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free from effort” (Davis, 1989, p. 320). In this study, it is suggested that users' motivation can be explained by three factors: Perceived ease of use, perceived usefulness, and attitude toward using the system. He (Davis, 1989) hypothesized that the attitude of a user toward a system was a major determinant of whether the user will use or reject the system. The attitude of the user, in turn, was considered to be influenced by two major beliefs: perceived usefulness and perceived ease of use, with perceived ease of use having a direct influence on perceived usefulness. Finally, both these beliefs were hypothesized to be directly influenced by the system design characteristics, suggested that users' motivation can be explained by three factors: Perceived Ease of Use, Perceived Usefulness, and Attitude Toward Using the system (Davis, 1989). Finally, both these beliefs were hypothesized to be directly influenced by the system design characteristics, represented by X1, X2 and, X3 in

Figure 2.1.

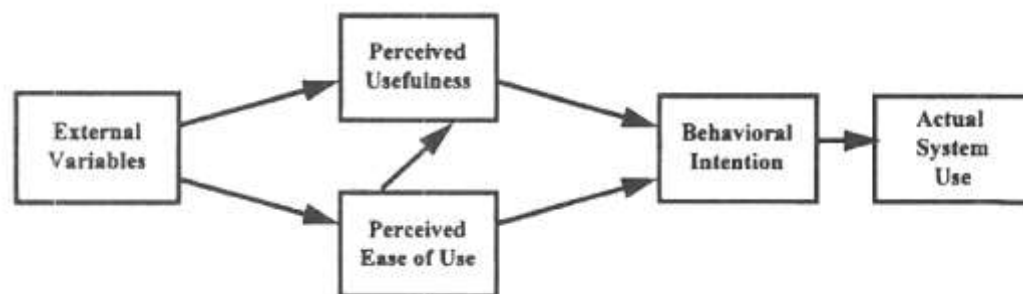


**Figure 2.1: Original TAM (Davis, 1986, p. 24).**

During later experimentation stages, Davis would refine his model to include other variables and modify the relationships that he initially formulated. Additionally, TAM was extended or changed from the original TAM by Davis (Venkatesh and Davis, 2000). These studies confirmed the model's validity and gave support for using it with different populations of users and different software choices.

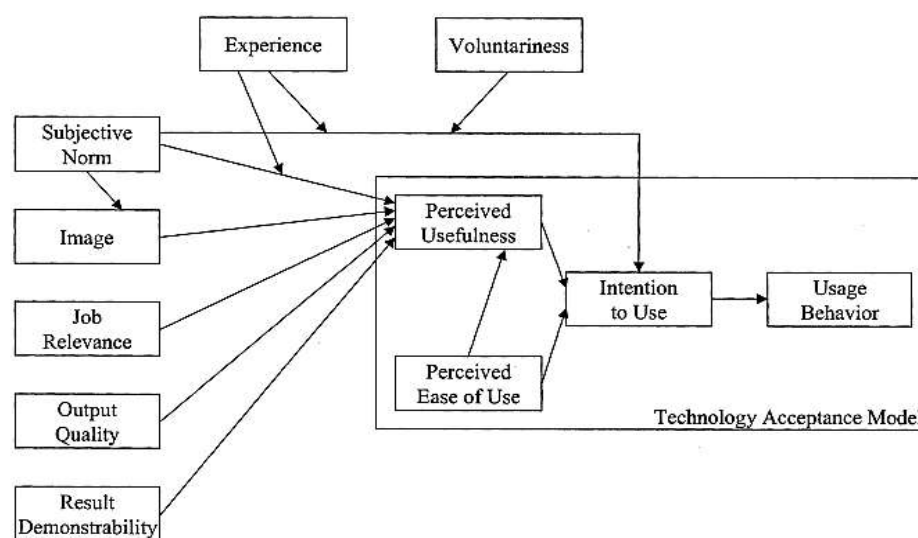
Later development of TAM would include behavioral intention as a new variable that would be directly influenced by the perceived usefulness of a system (Davis, Bagozzi & Warshaw, 1989). Davis et al. (1989) suggested that there would be cases when, given a system which was perceived useful, an individual might form a strong behavioral intention to use the system without forming any attitude, thus giving rise to a modified version of the TAM model. After further studies findings

indicated that; both perceived usefulness and perceived ease of use had a direct influence on behavioral intention, thus eliminating the need for the attitude construct from the model. This led to the development of the final version of TAM as presented in Figure 2.1.



**Figure 2.1: Final version of TAM (Venkatesh & Davis, 1996)**

One of the important extensions brought to TAM is by Venkatesh and Davis (2000) who proposed the TAM2 model. This was based on the realization that TAM had some limitations in explaining the reasons for which a person would perceive a given system useful, and so they proposed that additional variables could be added as antecedents to the perceived usefulness variable in TAM. These findings are indicated in TAM2 model as presented in Figure 2.2.



**Figure 2.2: TAM 2 (Venkatesh and Davis, 2000)**

TAM2 included all the original TAM elements but extended it by (among other constructs) social influences, since they increased the insights on perceived usefulness and usage intention constructs. Social influences were reflected in the subjective norm concept, which is defined as; the degree to which an individual perceives that important others believe he or she should use the new system (Venkatesh et al., 2003, p. 451). Social influence is defined as the perceived external pressure that individuals feel in the process of being informed about innovation and decide to use it, and the degree in which an individual perceives that important others believe he or she should use the new system (Fishbein & Ajzen, 1975). People tend to adjust their beliefs according to the group they are in. Individuals are also influenced by the majority: when a large portion of an individual's referent social group holds a particular attitude, it is likely that the individual will adopt it as well.



Kate et al. (2010) indicate that it is believed that individuals' trust, opinions and behavior are influenced by their network, an analysis of that network may help to provide some explanations on technology acceptance. TAM is used in this study to examine the influence of perceived ease of use and perceived usefulness on SNS preferences for accessing reproductive health information among undergraduate students in public universities.

### **2.2.3 Social Networking Sites and reproductive health information for the youth**

This section addresses the dependent variable on social network sites. SNSs are a subset of social media which is a broader concept that encompasses sites that allow users to generate and share content, such as blogs, wikis, and content communities, such as YouTube. SNSs are also characterized by user-generated content, but their defining characteristic is the ability to generate direct communication and 2-way interaction between users, thus generating networks of users (Moorhead, Hazlett, Harrison, Carroll, Irwin, & Hoving, 2013). Millions of people worldwide regularly access these types of services from mobile devices, applications, and websites McDowell & Morda, 2011).

While their key technological features are fairly consistent, the cultures that emerge around SNSs are varied. Most sites support the maintenance of pre-existing social networks, but others help strangers connect based on shared interests, political views, or activities. Sites also vary in the extent to which they incorporate new information and communication tools, such as mobile connectivity, blogging, and photo/video-sharing (Boyd & Ellison, 2007). What makes social network sites unique is not that they allow individuals to meet strangers, but rather that they enable users to articulate and make visible their social networks. This can result in connections between individuals that would not otherwise be made, but that is often not the goal, and these meetings are frequently between "latent ties" who share some offline connection (Haythornthwaite, 2005).

Boyd and Ellison (2013) define Social Networking Sites as a networked communication platform in which participants 1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-provided data; 2) can publicly articulate connections that can be viewed and traversed by others; and 3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site (Boyd & Ellison, 2013).

Further, Boyd and Ellison, (2013), elaborate that The term "social network site" rightfully emphasizes that these are sites that enable individuals to articulate public lists of connections - to present a social network and to view others' networks. The desire to communicate and share content is a primary driver of SNS use. These interactions are supported through a variety of communication-oriented features. Almost every aspect of SNS user activity is fundamentally enhanced by the ability of SNSs to lower the barriers to communication and sharing and thus reshape the kinds of networks that people are able to build and support. All SNSs support multiple modes of communication: one-to-many and one-to-one, synchronous and asynchronous, textual and media-based. On most social network sites, these features can be public or more private. (Boyd & Ellison, 2013).

Social Networks have undergone a dramatic growth in recent years. The importance of this new rapidly evolving field is clearly evidenced by the many associated emerging technologies and applications including online content sharing services and communities, multimedia communication over the Internet, social multimedia search, interactive services and entertainment, health care and security applications. SNSs are changing the way we communicate with others, entertain and actually live. SNS is one of the primary reasons that many people have become avid internet users; people who until the emergence of social networks could not find interests in the web (nextMEDIA, 2010).

Underpinning SNS is a change from a unidirectional model of communication to a multidirectional model of communication. Audience members are actively engaged in the communication and are not just receivers of information. Those who access social media can be both consumers and producers of media. This concept refers to user-led, collaborative processes of content creation (Thackeray & Neiger, 2009; Bruns, 2009). SNS access through mobile phone have been praised for being more convenient, straightforward, and do not rely on users to access computers at scheduled times. As mobile-phone users are likely to have their phone on them and within reach most of the time, it is easy for people to take part in interventions as they can participate at any time and anywhere. Such features are likely to be particularly advantageous for use with youth populations (Gold et al., 2010).

Evers, Albury, Byron, and Crawford, (2013) noted that the last several years, the use of Facebook, YouTube, Twitter and other social media tools to disseminate health messages has grown significantly, and continues to trend upward. Using social network sites tools has become an effective way to expand reach, foster engagement and increase access to credible, science-based health messages. Social network sites provide obvious benefits to the health domain, since offers the means to capture alternative views, personal experience, and tacit knowledge that is unlikely to be provided by official information resources and search engines (Anderson & Speed, 2010).

In addition to traditional forms of media, new forms of media have become important avenues for sexual and reproductive health education. The Internet is among the most popular source of information that youth use to learn about sexual and reproductive health (along with friends and family, schools, and health professionals). New forms of media provide access to discussions and portrayals of sexual behavior that can impact youths' conceptions of sexual attractiveness, romantic relationships, and sexual behavior (Boyar et al., 2011). New media (also known as digital media) is more than the conversion of traditional media to digital formats. It also involves interactivity and the ability to form groups (e.g., social networking sites) (Centre for Digital Media, 2014). Digital media can also include text messaging, blogs or chat rooms on websites, and internet social networking sites (e.g., Facebook), widgets and apps, podcasts, and online games (Williamson & Lawson 2015).

Young adults are a difficult-to-reach population with relatively low healthcare utilization, while at the same time being ubiquitous users and often the earliest adopters of social media (Wong, Merchant & Moreno, 2015). In a survey conducted by the opinion research corporation (Elkin, 2008) 34% of health searchers reported using SNS to delve into health and wellness

topics. The study further indicates that social media tolls especially SNS hold a particular appeal for 18-34 years old of health searchers. They are frequent healthcare users compared to younger children or older adults especially during a high-risk period for unintended pregnancy, sexually transmitted infections, substance abuse, unintentional injuries, violence, eating disorders and mental health disease. Another national survey around 90% of teenagers and young adults under 30 using social media for health related information (Mulye, Park, Nelson, et al., 2009; Wong et al., 2015).

The youths who are Digital natives; grew up alongside computers, the Internet and digital media. Social networking is the norm for communication for this generation. They are driving the use of social networks. Research suggests that much of the communication going on between 15-24 year olds happens through social networks (Wong et al., 2015). As this generation matures and carries this highly social behavior into the future, it is possible that social networks could become the most important communication channel across all age groups (Prensky, 2012; Paul, 2012).

Today's youth have exceptional access to communication technologies and are remarkable consumers of the internet, text messaging and gaming, with social media being the most utilized of the technologies (Paul, 2012). A Pew Research Center study detailing internet and social media usage in developing nations, showed that social media use is more popular among young people in these nations. Among respondents, 93 percent of internet users in the Philippines said they used social media, with Kenya coming in second at 88 percent. Among people in developing nations who have access to the internet a median of 82 percent use social networking sites, such as Facebook and Twitter. As with overall internet access, social networking is more popular among young people than among those ages 35 and older (Lafferty, 2015).

In Kenya for instance data shows that; mobile phone subscriptions reached 32.2 million in the April-June quarter. Internet use via the web or mobile has also risen - 14.0 million data/internet and 13.9 million mobile data subscriptions were recorded in the quarter (CAK, 2013). Axela (2014) reports that the most commonly visited websites in Kenya in 2014 are Google.com, Facebook.com, Youtube.com, Twitter.com, Ask.com and the email website, Yahoo. Mungai and Omondi (2014) presented a Consumer Insight study by IPSOS which showed that 87 per cent of the young in Kenya strictly used the internet for social networking. A later study by Miniwatts Marketing Group (2016) 5,000,000 Facebook users in Nov, 2015, a 10.9% penetration rate. Additionally, Kenyan urban youth spend at least \$250 million (K.Sh 2.2 billion) annually to access Facebook and Twitter on their mobile phones (Axela, 2014).

Levac and O'sullivan, (2010) indicate that Social media holds considerable potential for health promotion and other health intervention activities, as it addresses some of the limitations in traditional health communication by increasing accessibility, interaction, engagement, empowerment and customization. The use of social media increases the potential for easy access to preventive medicine, interaction with health care providers, inter-professional communication in emergency management, and public health. It is essential for health promotion organizations to capitalize on the opportunities provided by social media, in

order to modernize strategies to reach all age groups and to tailor programs to current communication trends, all of which are offered at a relatively low cost (Levac & O'sullivan, 2010; Teutsch & Fielding, 2013).

A study by FHI 360/PROGRESS & Ministry of Health, (2011) indicated that 17 out of 45 Youth serving organization (YSO) were using mass media to reach youth with SRH information. A number of organizations have improved on the approach to make it more interactive by either forming discussion groups after sessions or providing call-in options to the target group. Further the use of ICT (including the use of SNS and mobile communication) which was regarded as a relatively new approach of engaging youth that is being adopted by YSOs (10 out of 45). Only two development partners were supporting the approach despite its popularity among the youth (FHI 360/PROGRESS & Ministry of Health, 2011).

Without adequate sex education at home or school, the media becomes one of youth's primary sources of sexual health information (Strasburger, 2008). The Internet, in particular, is a valuable source of information for many youths. There are certainly benefits to attaining sexual health information through various forms of media like the Internet. As Williamson & Lawson (2015) note, these benefits include the fact that accessing information online affords privacy and allows for personal exploration around sensitive topics. However, the information accessed and/or received through these media may be inaccurate or misleading. As well, not all media source sexual health content is comprehensive and inclusive. This means that young people may not have the information they need to make fully informed choices related to their sexual health (Williamson & Lawson, 2015).

New forms of media, such as social networking sites and video sharing sites, have been showing promise as avenues for adolescent sexual health education and exploring individual sexuality and sexual relationships. They are largely used by youth for exploring and maintaining social, sexual, and romantic relationships because of presumed safety, perceived anonymity, transcendence from adult control, 24/7 availability, and the ability to communicate with peers. Additionally, many adolescents and the youth believe that the Internet is a valuable place to attain answers to embarrassing sex-related questions, to learn more about uncomfortable topics, to familiarize themselves with intimate body parts, and to gain perspective on sexual practices. The fact that so many youths are using new media for the purposes of accessing information related to sexual health suggests further investigation is needed, in particular, how new forms of media could be used to create effective sexual health and reproductive health messages for the youth (Brown et al., 2009; Williamson & Lawson. 2015).

Considering their growing affordability, availability, ease of use and confidentiality, online and mobile resources may be better placed to address adolescents' information needs in Kenya. This is especially so, considering the documented reluctance by young people to seek services and information from traditional health establishments. These technologies allow adolescents and the youth to explore sensitive topics, which they may not want to reveal to parents, healthcare staff, teachers, or acquaintances. A qualitative study by Family Health International found that young people in Kenya preferred accessing

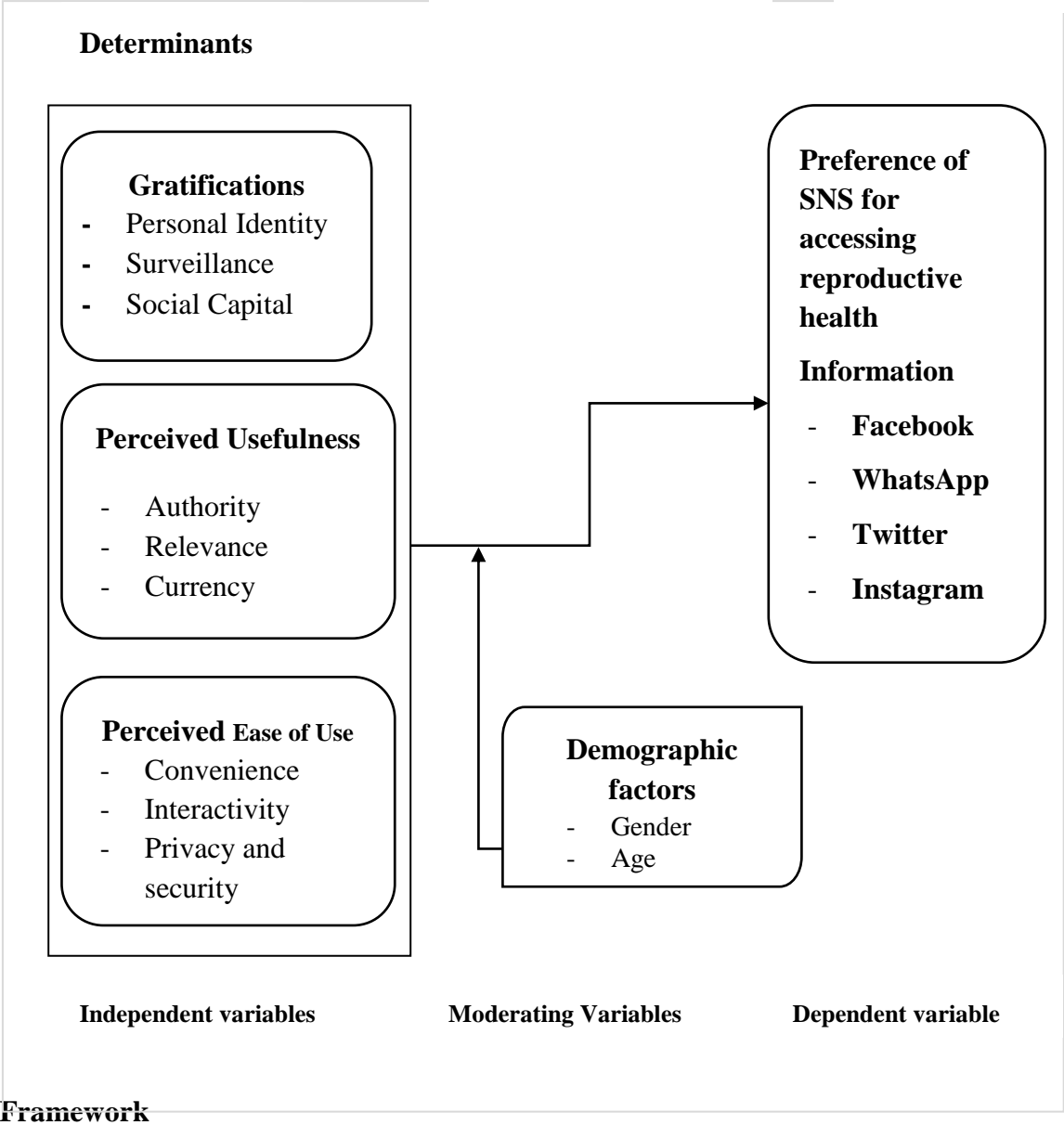
information on contraceptives through a mobile-based platform because of its simplicity and the fact that they could access the information by themselves, confidentially (FHI, 2012; Evelia et al., 2015).

Digital media have become an important source of information, and sometimes misinformation, about health problems (Donnerstein, 2009). Online search engines are often cited as the first place that youth go when they have questions about sex and reproduction. However, many adolescents are unfamiliar with specific sexual health education websites (Boyar et al., 2011). While Facebook remains the most used social media site by adolescents, other social media sites and apps are becoming increasingly popular (Lenhart, 2015). Newer social media sites and apps include Snapchat, Instagram, Vine, and Kik Messenger. Text messaging has also undergone a change in the past several years with the creation of smartphone-based messaging apps. Lenhart (2015) reports that up to 91% of adolescent mobile phone owners use text messaging, either directly through their mobile phones or through a messaging app like Kik or WhatsApp.

Williamson & Lawson (2015) indicate that there are two main concerns some researchers believe are associated with the use of new media to learn about sex and sexual health. First, is the accuracy (and credibility) of the information accessed and/or received which could be misleading; poor health literacy may compound this problem. In addition, not all sexual health websites are comprehensive and inclusive (Cecchino & Morgan, 2009). Secondly, the youth may rely on this form of information and turn away from real people in their lives (e.g., parents, teachers, physicians, community members) who can communicate certain values about sex (Brown et al., 2009; Williamson & Lawson, 2015). This study seeks to investigate the motivations and preferences of undergraduate students while accessing reproductive health information using SNS as a resource and examine their perspectives regarding the credibility of the content.

### **2.3 Conceptual Framework**

The conceptual framework presents the relationship between the research variables. The conceptual model was based on TAM by Venkatesh and Davis (2000) and Uses and Gratifications Theory. The model identified gratifications, perceived ease of use, and perceived usefulness as the independent variables while singling out demographic characteristics as the moderating variable. The dependent variable for this study was identified as preferred social networking site for accessing reproductive health information. The conceptual model illustrated in Figure 2.2 graphically showed the relationship between the independent and moderating variables and the bearing they have on the preference of SNS for accessing reproductive health information among university students.



**Figure 2.3: Conceptual**

## 2.4 Review of Variables

A variable is defined as anything that has a quantity or quality that varies (Mugenda and Mugenda, 2003). There are three types of variable in this study namely independent, dependent and moderating variables. Gratifications, perceived usefulness, perceived ease of use are the independent variables while preference of SNS for reproductive health was the dependent variable with demographic factors as the moderating variable.

### 2.4.1 Preferences of SNS for accessing reproductive health information

The concept of social media is loosely defined and used interchangeably with other related concepts such as social network sites and blogs (Kaplan & Haenlein, 2010). It's difficult to define because it involves two evolving dimensions of technology and sociology (Phang, Kankanhalli, & Sabherwal, 2009; Wiebe, 2010). The term Web 2.0 is often used to describe the technical dimension of social media or as an interchangeable concept to social media (Berthon et al., 2012). The Web 2.0 is a term that emerged to describe the way in which the internet is utilized to create content and applications.

Before defining SNS there is need to define social media. Kaplan and Haenlein (2010) define Social Media is a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content (UGC). Within this general definition, there are various types of Social Media that need to be distinguished further. With respect to social presence and media richness, social media applications can be classified into six categories; i) collaborative projects (e.g., Wikipedia) and ii) blogs, these are often text-based and hence only allow for a relatively simple exchange, iii) content communities (e.g., YouTube) and iv) social networking sites (e.g., Facebook) which, in addition to text-based communication, enable the sharing of pictures, videos, and other forms of media. v) virtual games and vi) social worlds (e.g., World of Warcraft, Second Life) (Kaplan & Haenlein, 2010).

The sociological dimension of social media can be described with reference to the related concept of User Generated Content (USG). USG is the content created on the social media platforms, such as Twitter and Facebook, by a user of the platform. Kaplan and Haenlein (2010) argue that USG can be seen as “*the sum of all ways in which people make use of social media*”. The form of the content can take many forms like text, words, pictures and videos (Berthon et al., 2012).

The discussion on the concepts of USG and Web 2.0 leads to a definition on social media from Kaplan and Haenlein (2010) “*Social media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content*”. The conceptualizations of social media leads to the three important realizations: firstly, social media must be analyzed on its technical foundations or more specifically what users technically are able to do with social media; secondly, social media must also be analyzed on the basis of how users are using it; and thirdly, the technical possibilities of social media and the ways in which social media is used are constantly evolving.

Kim *et al.* (2011) observes that the basic motivations underlying SNSs choice are considered similar and are motivated by global desires including include information seeking, entertainment, convenience, and social interaction. This study will focus on the popular SNS platforms based on recent studies. In Kenya for instance as noted by SNS Koross and Kosgei (2016) is playing an increasing role in public awareness to educate, impart knowledge and skills to members of the society.

According to Facebook, there are 6.1 million Kenyans, which is up 1.8 million users registered last year. Nendo report puts the number of monthly active users at 2.2 million with a million daily active users. This is up from the 700,000 monthly active users estimated last year. WhatsApp is an extremely popular chatting platform in Kenya, and it is estimated to have 10 million users in Kenya while the likes of Instagram and LinkedIn are estimated to have 3 million and 1.5 million respectively (Itimu, 2016).

### **Facebook**

Facebook launched in 2004, is the most popular social networking sites to date. Its users interact by updating their “status,” writing on other members “walls,” or sending direct personal messages. Users can create and join interest groups, ‘like’ pages, import and search for contacts, and upload photos and videos. Recently, Facebook live, a feature that allows for posting of live photos was added. Notably, that more than 350 million Facebook users access their accounts via their mobile phones. Among university students, a study by Mugeru (2015) established that Facebook was the most preferred SNS and attracts more users than other social networks; with the most friendly and interactive platform.

Studies indicate that students spend roughly 100 minutes per day on Facebook; with 82% of college students reported logging into Facebook several times a day (Knight-McCord, Cleary, Grant, et al., 2016. According to Facebook, there are 6.1 million Kenyans on Facebook (Bloggers Association of Kenya (BAKE) (2016).

### **Twitter**

Twitter is a social networking and microblogging service. Twitter, a real-time information network that connects users to the latest information about what they find interesting was launched in 2006. Users communicate via “Tweets” which are short posts limited to 140 characters, also allow embedded media links. Twitter users can “follow” or essentially subscribe to the updates of other users. Twitter’s uniqueness is the use of a hashtag (#) preceding the topic of interest or discussion or event for instance #reproductive health. It is an online version of text-messaging with the capability of sending the same message to several thousand people all at once (Ezumah, 2013).

Twitter is a great way to keep in touch with friends and quickly broadcast information about where you are and what you are up to. It can be used to broadcast latest news and blog posts, interact with followers; it enables easy collaboration and group communication (Reddy, 2014). There there are 2.2 million monthly active Kenyans on Twitter. 1 million of them use Twitter every day (BAKE, 2016).



## **WhatsApp**

WhatsApp messenger is a propriety cross-platform instant messaging client for smartphones. WhatsApp features simple, reliable messaging that uses an internet connection to communicate. Group chats, enables users to share messages, photos, and videos with up to 256 people at once. WhatsApp voice and video calls are cost-effective and international as they also use the internet. Users can send photos and videos on WhatsApp instantly. PDFs, documents, spreadsheets, slideshows and more can be sent without the hassle of email or file sharing apps. As of February 2016, the Facebook-owned WhatsApp most globally popular messaging application with a user base of up to one billion (WhatsApp Inc. 2016).

According to a study by Kaigwa, Madung, and Costello (2014), WhatsApp was the single defining trend of 2014 in Kenya. It features in many aspects and is expected to change many facets including business for the better. Social messaging, in general, has recently become a global phenomenon. WhatsApp has become an important channel for person-to-person communication and has become a driver of conversations on other social media platforms as content shared on WhatsApp finds its way on Twitter and Facebook (BAKE, 2016).

The high usage of WhatsApp among the youth is attributed to its high popularity among the youth, availability of affordable internet which makes internet-based communication prominent; availability of free Wi-Fi within most universities; Cellular service providers have lowered cost bundles especially for social media (such as Airtel's Unlimited bundles) making them cheaper than text-based messaging.

## **Instagram**

Instagram is an application that allows users to take pictures and videos and share them on a variety of social networking platforms. Facebook owns it. There are estimated 3 million Instagram users in Kenya (BAKE, 2016).

Instagram is a name coined by combining the words "instant" and "telegram." It facilitates sharing of images and photos on multiple platforms and services seamlessly. Image filters transform photos into professional-looking snapshots. Also, uploading is made fast and efficient. Photos can be shared on Flickr, Facebook, and Twitter and Foursquare. Many 'selfies' or self-portrait shots are shared via Instagram. On Instagram, a user can follow other users' photo streams as they post them and you can be followed back by those users (or other users) as well. Users can search for friends by name or find friends that are already connected to you on other social networks like Facebook or Twitter. Users can follow a person, like or comment on photos and browse to find new users to follow and creative photos to look at (Reddy, 2014).

### *Snapchat*

Snapchat is an application for iPhones, iPads and Android devices. Snapchat is a popular social media application that allows users to send and receive photos and videos. Users of the app can also post videos and pictures to their “MyStory” which can be viewed by all of their friends on the app. In recent years, the number of users of Snapchat has grown considerably, with one report finding that > 60% of 13 to 34- year-olds in the United States use the app (U.S. Age and Sex of the Census, 2015). Furthermore, in November 2015, Snapchat reached six billion videos daily (Matney, 2015). Snapchat users have a lot of options when determining what they would like to send and for how long. For example, the user can send either a photograph or a video. If the user sends a video, he or she has the option to edit the time, the filter, and incorporate different stickers and emoji's (Vaterlaus, Barnett, Roche, & Young, 2016). Another aspect of the app is that the photos and videos are self-destructing, which means that photos or videos that are sent will disappear. Although it is possible for the receiver to screenshot the snapchat, the sender will be notified which protects the sender, allowing her/him to see what is actually being kept (Vaterlaus et al., 2016). Snapchat gives users some amazing technology but also a great deal of responsibility as the App can be easily misused especially in connection with sextexting

#### **2.4.2 Gratifications for SNS use**

Ahn (2011) notes that the youth have varying motivations for using SNS. Such factors influence with whom youth interact, how they behave, and ultimately how they develop through their participation in SNS communities.

Another main theoretical foundation for this study lies in U&G perspectives. The U&G is one of the predominant theories used to explain audiences' choices and consumptions of media. The uses and gratifications theory by Blumler and Katz (1974) in examining the motivations of media users posits that; users choose media which best fulfills gratifications sought from available alternatives. These motivations are fulfilled by the system's features and capabilities whose usage is determined by Perceived Usefulness and Perceived Ease of Use, as informed by TAM.

##### *Personal Identity*

SNS provides a platform for the youth to develop personal and social identities. Personal identity refers to the use of media to reflect, reinforce or contrast their identity; that is, to gain insight into the development of their attitudes and beliefs. Developing identities in SNS is similar to offline contexts. They make explicit decisions to disclose information about themselves on their profiles, and their networks provide social feedback to those profile displays. This process of developing identity is salient to youths who are experiencing a time of rapid growth and development (Ahn, 2011a; Dayton & Zelley, 2011).

Collin, Rahilly, Third, and Richardson, (2010) note that young people experience online and offline social worlds as mutually constituted. Through SNS, young people connect and disconnect with others, debate, download, upload, and create. They use SNS for self-expression, to belong and not to belong, and to experiment with their identities (ethnicity, gender, sexuality, class, race, bodies, etc.). Young people negotiate intimate relationships online, including flirting, breaking up, and sexual encounters (Evers, Albury, Byron, Crowford, 2013).

One of the possible gratifications through maintaining an online persona, which is also integrated with one's offline persona, is the amount of self-disclosure the SNS user can communicate (Ellison et al., 2007; Tufekci, 2008, p. 546). Tufekci (2008) proposed several elements to self-presentation via SNS profiles: expressive internet, friendship and social ties, demographics and location, privacy, and social grooming (p. 547-548). These were the most important elements considering how the U&G model is applied about SNS self-representation.

Intimate self-disclosures help produce greater intimacy in computer-mediated communication than in face-to-face contacts. (Jiang, Bazarova, & Hancock, 2011). Individuals partake in selective self-presentation on social media sites to impress others. This is especially true for college students as they self-disclose frequently during this exploratory period (Jiang et al., 2011). Urista et al., (2009) found that young people created a virtual identity in which they fashioned an ideal self so that they would impress others. This method of improving social capital and appearance boosted one's self-concept and self-esteem in both

the online and the real world (Urista et al., 2009). This study further identifies how other motivations for using the Internet are related to the frequency and amount of time spent using social networking Web sites.

### *Surveillance*

This uses and gratifications theme is defined as using social media to seek out information or to self-educate. It involves finding relevant events, seeking advice, satisfying general interest or curiosity, learning, self-education, or gaining a sense of security through knowledge (Daiton & Zelle, 2011; Whiting & Williams, 2013).

Savolainen (2007) indicates that information behavior plays a vital role in individuals' daily life and is constituted by two major modes of information seeking: (1) seeking problem-specific information; and (2) seeking orienting information. The former refers to the acquisition of information that is needed to solve individual problems and the latter refers to the acquisition of information concerning current events or keeping up to date. Searching for health and wellness related information is a typical and popular type of everyday life information seeking, as an information source quickly gaining popularity, social networking sites have been touted as having great potential in promoting public health (Savolainen, 2007; Zhang, 2012).

### *Social capital*

Social capital is broadly defined as the sum of the resources, actual or virtual, that accrue to an individual or a group by possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition (Ellison et al., 2011). These are the benefits that one derives benefits, i.e., advice, information, or social support - through their network of relationships. SNS communities help individuals build social capital. They have the potential to widen a person's social networks and provide access to valuable resources, information, and social support (Ahn, 2011).

Based on uses and gratifications literature, social interaction is defined as using social media to communicate and interact with others (Whiting & Williams, 2013). The social component is the central (and most important element) in applying the U&G model to SNSs. Users who participate in SNSs to gratify socializing needs, typically, the users desire to meet new people, sustain offline relationships and create a sense of community (Ellison et al., 2007, p. 2; Park et al., 2009, p. 731). Raacke and Bonds-Raacke (2008) also stated that the more a user frequents an SNS, "the greater the likelihood his or her social well-being" (p. 170). In their findings, Ellison et al. (2007) found that most of their studied Facebook users gaining gratification from maintaining social bonds with existing offline relationships versus finding new friends (p. 22).

The gratification received from social information helps users feel that they are a part of a peer network of knowing what was going on about events and activities (Quan-Haase et al., 2010). Pascoe (2011) found that new media technologies are central parts of young people's social, romantic, and sexual lives. These communications are important in their practices of the

meeting, dating, and breaking up. New media technologies also provide important resources about sexual health and identities” (p. 5).

By providing Web links to other sites, resources, and people, social media allows media users to move from one point to others in cyberspace and offers connectedness to its users (Chan-Olmsted et al., 2013; Mayfield, 2008). Additionally, the public display and articulation of one’s connections often result in new connections between more individuals is what makes social media unique (Boyd & Ellison, 2007).

The researcher therefore formulated the following hypothesis

H<sub>01</sub> Gratifications have no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

#### **2.4.3 Perceived Usefulness of SNS**

Perceived usefulness is defined by Davis as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). Hence, in the context of this study, perceived usefulness can be explained to be the extent to which a prospective user believes that he or she will benefit from using social media. Perceived usefulness has a stronger influence on usage and that users are driven to adopt a technology primarily because of the functions it provides them, and secondarily because of the easiness of benefiting from those functions. Users are often willing to overlook some difficulties of usage if the service provides critically needed functions (Davis, 1983). Usefulness is used as a factor accounting for how useful SNS is perceived by individuals to assist in health behavior.

Consistent with the technology acceptance literature, the perceived ease of use of technology should lead to greater use of technology. Perceived ease of use is specifically conceptualized to describe a system that is “free of effort.” The application user can navigate the system easily, for their purpose (Davis, 1989; Shipp & Phillips, 2013). Technology is rejected by users if perceived not useful even if the technology was easy to use.

#### *Authority*

In their study, Evers et al., (2013) found out that credibility and trustworthiness are important to young people when they are seeking information online; and that young people use accredited types of institutions such as governmental or universities to identify a trusted source among the clutter of information.

Selkie et al, (2011) reported that trust was a major issue; the young adults want sexual and reproductive health resources to be trustworthy - both credible and confidential. In their study, they found out that many participants emphasized that when searching the Internet for sexuality information, they ultimately trust websites that appear credible by being related to health. However, some participants acknowledged that there was often no way to tell whether information on some websites was accurate. Several participants stated that if they were to ask questions about sexual health using SNSs or text messaging, they

would need to feel that the person answering the question is knowledgeable on the topic. Most participants agreed that having a notice somewhere on the website or SNS stating the credentials of the person answering questions (i.e., physician, nurse, social worker) would be sufficient (Selkie et al, 2011).

Because social networks are present on the Internet, they have some of the same issues that academics and scholars criticize and acknowledge as present on the Internet itself. One of the major issues is trust. A person who decides to use an Internet tool to receive informal information must trust the sender of information concerning its reliability (Mastromatteo, 2010). Valenzuela, Park & Kee (2009) revealed that social trust facilitates collaborative activities among members and is positively related to the intense use of Facebook. These sentiments are echoed by researchers who have two main concerns they believe are associated with the use of new media to learn about sexual and reproductive health. First, the information accessed/received may be inaccurate or misleading. Secondly, young people may not consider the true credibility of these social media websites (Williamson & Lawson, 2015).

#### *Currency*

Timeliness in SNS relates to the fact that information in demand or that is relevant to the environment can be shared easily, highly scalable, regular updates, social support when needed (McNab, 2009; Kaplan & Haenlein, 2010).

SNS allows for listening, collecting feedback and communicating in real-time. A unique characteristic of social media is that users can learn more about their audiences by paying attention to social media conversations at the aggregate level as they are unfolding in real-time. SNS can be used to scan publicly-available content to inform communication activities. SNS monitoring tools allow health organizations to learn more about what diverse audiences are saying regarding health topics, identify information gaps, and adjust messaging accordingly. SNS give insights into what health information may be important and interesting to users, in the moment. This real-time aspect of is a key component to ensuring that our communication efforts are relevant, meaningful, and useful to our audiences (Heldman, Schindelar & Weaver, 2013).

The public health community often has difficulty reaching certain vulnerable populations who may have the greatest need for services. The large user population and immediate nature of SNSs have the potential to increase the reach and efficiency of these core public health services. Some traditionally hard-to-reach populations, such as adolescents, use SNSs at a rate higher than the general population, providing a new opportunity for inexpensive public health communication to key demographics. Thus, SNSs provide new opportunities to effectively achieve the aims of public health (CDC, 2012; Capurro et al., 2014)

Generally, individuals receive social support from other users which helps to maintain existing relationships; this has been found to improve quality of life in college students. Obtaining comments from other users on pictures and wall postings improves images that individuals have on themselves. It is a way of receiving attention from a broad spectrum of people in an

indirect way. A timely response elicits gratification and good feelings of self and satisfaction of personal and interpersonal desires (Urista et al., 2009).

This was therefore hypothesized as follows:

H<sub>02</sub> Perceived Usefulness has no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

#### **2.4.4 Perceived Ease of Use of SNS**

Perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free from effort” (Davis, 1989, p. 320). Considering that human’s effort is a limited resource, an application perceived to be easier to use than another is more likely to be adopted by users (Davis et al., 1989). Slot and Frissen (2008) argued that new characteristics of media use have emerged in the Web 2.0 era where people no longer just consume media, but also create, share, facilitate and participate in the online communication. All of this makes the Internet, especially SNS, more attractive, interactive than traditional media (Slot & Frissen, 2008).

Acceptance of a social networking website tool is very much dependent on ease of use. Within a social networking website, the easier an individual finds the information they are looking for, the more positive the individual feels toward that technology (Davis, 1989; Shipp & Phillips, 2013).

### *Interactivity/Accessibility*

One of the most distinctive characteristics of social media is its participatory nature that allows interested parties an opportunity to engage in an interaction. By encouraging contributions and feedback from everyone who is interested, social media blurs the line between media and audience (Mayfield, 2008). SNS allows people to share and engage with each other so that they enable content shared (Rosso et al., 2008).

As a major component of interactivity is participation. Participation is defined as the extent to which senders and receivers are actively engaged in the interaction as opposed to giving monologues, passively observing, or lurking. SNS allow interactive communication in a one-to-one or one-to-many online scenario using different features. Usage may affect perceptions associated with the interaction with SNS features relating to communication and quality of the message. Participation is regarded as action-oriented interactivity. The user's perceived interaction regarding the social network site relates to the message as well as the users' feelings of control when using the SNS. The users' perceptions of the interaction may play a role in user satisfaction and whether people initially visit or continue to visit a site (Chan-Olmsted et al., 2013; Shipp & Phillips, 2013).

SNS encourages participatory contributions from users themselves, facilitating multi-way communication of information (Newbold, 2015). SNS is a popular means of interaction for young adults, in which they create, share, and exchange information in virtual communities and networks. It allows participants to be the creators and consumers of content that is then discussed, modified and shared (Wong, Merchant & Moreno, (2015). SNS allows for multi-directional flow of information. Participation involves partners and the public who contribute content in meaningful ways. Additionally, many social media channels facilitate social engagement, viral sharing of information and trust. Given the variable quality of health information available through social media, public health organizations cite the ability to provide credible information to consumers how and when they want it as their main motivation for reaching out via these channels (Schein, et al., 2010).

Content may have threads that allow discussions on topics. Content has a reply button that allows submitting new related content, such as comments. Afterward, new content appears below and often tabulated to the right. Content threads encourage engagement between users. Another functionality providing engagement is to cite or tag other users in content. This is typical in Twitter when users are cited in tweets by writing their name preceded by @. Other types of citation are facial recognition and photo tagging. The last one is very popular on Facebook, and many people use it as some heads up. SNS may also implement content search engines, a feature that enables users to find content that was uploaded to the network (Tapiador & Carrera, 2012).

Multidimensional interventions and participant interactivity are most successful at reaching diverse audiences. It is best to reach people multiple times, in multiple settings and from multiple sources. SNS has the potential to empower the user by



putting more control in their hands, as compared to traditional methods of communication (Neuhauser & Kreps, 2003; Thomas, 2006; Levac & O'sullivan, 2010). Akesson et al. (2007) found that patients who used interactive health communication had enhanced knowledge, confidence, and health and that their relationship with health professionals was reinforced due to the superior feeling of empowerment they felt.

Social media also helps to reach people when, where and how they want to receive health messages; it improves the availability of content and may influence satisfaction and trust in the health messages delivered. Likewise, tapping into personal networks and presenting information in multiple formats, spaces, and sources help to make messages more credible and effective (Brodalski, Brink, Curtis, et al., 2011).

#### *Convenience/Availability*

According to Heldman, Schindelar, and Weaver, (2013) social network sites allow users to share health information in new spaces. SNS allow health providers to share relevant content in new and emerging channels, test how messages resonate in different spaces and provide opportunities for multiple exposures to messages. They can connect “starting where the people are” by using social media. Levac and O'Sullivan (2010) argue that the evidence regarding the accessibility of social networking shows that it is ideal for reaching the general population. People can feel connected and experience a sense of support without the need for face to face interaction. The information is available 24 hours per day, 7 days per week, making it extremely accessible. It is an ideal way to communicate because busy people are able to trade information rapidly (Farhi, 2009). According to Kreps and Neuhauser (2010), the internet's vast scope and accessibility is perfect for providing people with motivational information concerning healthy behaviors. For example, explosive growth in the use of Instagram, a photo-sharing social media site, among African American and Hispanic audiences affords a great opportunity to determine the best ways within the channel to target public health messaging for these demographic groups (Heldman, Schindelar, & Weaver, 2013).

Besides, content-oriented SNS which usually provide means for their users to share content; SNS are built around some specific type of content (Tapiador et al., 2011b). Content types managed by SNS may be very different. Text comments are the most basic type of content. Examples of SNS built around content are Instagram for photographs, YouTube for videos, Github for code repositories. Even contact-oriented sites like Facebook support some kinds of contents such as pictures or events. One type of content that is very popular in contact-oriented networks is external links to other websites. Using this feature, contact-oriented sites become a forum for content exchange between affine people or groups (Tapiador & Carrera, 2012).

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of contents such as pictures or events. One type of content that is very popular in contact-oriented networks is external links to other websites. Using this feature, contact-oriented sites become a forum for content exchange between affine people or groups (Tapiador & Carrera, 2012).

#### *Perceived Privacy and security*

McCreary (2008) defines privacy as a form of self-possession - custody of the facts of one's life, from strings of digits to tastes and preferences. Matters of personal health and finance, are in most instances nobody's business but our own - unless we decide otherwise (p. 1). Clarke (1988) indicates that privacy refers to the interest that individuals have in sustaining their personal space, free from interference by other people and organizations. Specifically, information privacy is defined as the interest individuals have in controlling, or at least significantly influencing, the handling of data about themselves (Clarke, 1988).

Consumers' expectations of privacy depend on the type of media. While they do not pay much attention to privacy in traditional media, they want to control and protection of privacy in electronic media. Online, privacy is important because it builds a sense of trust in consumers, which can lead to increased use of websites (Cha, 2010).

Preservation of anonymity is specific concern participants expressed with using SNS as sexual and reproductive health education outlets since interactions on these sites are usually accompanied by a profile picture and link to personal identifiers as indicated by a study by Selkie et al., 2011).

Williamson & Lawson (2015) acknowledges that there are two main concerns some researchers believe are associated with the use of new media to learn about sex and sexual health. First, is the accuracy (and credibility) of the information accessed and/or received which could be misleading; poor health literacy may compound this problem. In addition, not all sexual health websites are comprehensive and inclusive (Cecchino & Morgan, 2009). Secondly, the youth may rely on this form of information and turn away from real people in their lives (e.g., parents, teachers, physicians, community members) who can communicate certain values about sex (Brown et al., 2009; Williamson & Lawson, 2015).

In SNS, privacy is a critical issue to those who use them. The vast amount of identifiable personal information such as full name, school, photos, and email address is available on many SNSs. Additionally, disclosing some personal information is necessary to network on such sites (Cha, 2010). Bart et al. (2005) discovered that privacy is an important driver of trust, particularly for community Web sites, because sharing information among members on these sites is prevalent; this results in users' susceptibility of risking private information.

There are different levels of information disclosure. Private content means that only the user that posted the piece of information to the SNS will have access to it. Other option may be sharing the content only with current contacts. An extended option may be using second-degree relations, so sharing the content until contacts of contacts. The audience can also

be picked up from groups or lists in contact management settings. For instance, Google+ allows choosing the audience of content from user-defined Google Circles. Another option is sharing with specific users, which may be chosen from existing contacts. Finally, content may be shared publicly (Tapiador & Carrera, 2012).

Access control mechanisms allow content to be shared only with a given audience. When posting content to the site, users can choose which users or groups of people they want to share with. The existence of different levels of content visibility may facilitate users to share more content. There are some sensitive pieces of information that would not be shared if the only option is publishing them to the public, but they might be shared with a restricted audience (Tapiador & Carrera, 2012).

Limited intergenerational understanding of young people's ability to navigate online environments can contribute to a disproportionate emphasis on the risks of SNS use. Additionally, young people are often proficient users of online and networked technologies. Harnessing, expanding and promoting their skills and understandings of SNS may hold the key to overcoming the issues of concern (Hitchcock 2008; ACMA 2009c; Collin et al., 2011).

There is some evidence. However, that young people are aware of potential privacy threats online, and many proactively take steps to minimize potential risks (Lenhart & Madden 2007). Although the risks are real and the consequences can be extremely serious, experts emphasize that it is important not to overstate fears or understate the complexity of the challenge (The Alannah & Madeline Foundation 2009:33). Harnessing, expanding and promoting young people skills and understandings of SNS may hold the key to overcoming the issues of concern (ACMA 2009c; Bauman 2007; Collin et al., 2011).

Web 2.0 tools allow and sometimes even encourages users to publish very personal information. Taraszow, Aristodemou, Shitta, Laouris, & Arsoy (2010) note that the youth, especially between the ages of 18 and 22, seem unaware of the potential dangers they are facing when entering real personal and contact information in their profiles while accepting 'friendship' requests from strangers (p. 2). More and more the users demand more privacy for their profile, in recent years we have seen improvements and revamped on SNS especially Facebook's privacy options. There has been some debate on the Internet especially about the case of Facebook, because of concerns among the public on how Facebook could use personal data and what amount of this data could be reaching other companies (Mastromatteo, 2010). Many youths express concerns about data mining and advertisements targeting. A study conducted by Center on Media and Human Development School of Communication Northwestern University, in 2015 found out that; more than two-thirds (69%) of the youth were concerned that SNS, might sell or give away information about what they do online and disagree with the notion that it's okay for companies to collect and sell this information. This following hypothesis was formulated:

H<sub>03</sub> Perceived Ease of Use has no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

#### **2.4.5 Demographic characteristics of gender and age**

According to Boyd (2013) gender and age appear to influence participation on SNSs. The motivations for using SNSs are that inherently, “older boys are twice as likely to use the sites to flirt and slightly more likely to use the sites to meet new people than girls of their age”. Lenhart et al., (2010), found out that about 57% of social network users are 18-29 years old and have a personal profile on multiple social media websites. Previous research suggests that much of the communication going on between 15-24 year old’s happens through social networks with around 90% of teenagers and young adults under 30 report using social media (Wong et al., 2015). Social networks are increasingly becoming the most important communication channel across all age groups (Prensky, 2012; Paul, 2012).

Generally, young people have been in the front line in creating and sharing content in new media. As social media continues to evolve, the pattern of social media use is also changing (Chan-Olmsted, Cho, Lee, 2013). According to Pew Research Center (2010), the popularity of blogs among adults over 30 has increased since 2006 while blogging of teens and young adults has dropped. Instead of blogging, the Millennial generation and adults under 30 are becoming more active in their use of SNSs.

Barker (2009) found that older adolescents who reported a disconnection from their peer groups and having negative collective self-esteem use SNSs to fulfill companionship. In a sense, SNSs allow older adolescents to seek identification with others whom they might have an easier time connecting with (Barker, 2009)

### *Gender*

According to Lenhart et al., (2010) gender is the only significant demographic variable affecting social media use, as there are some differences between use by men and women. Women are more likely than men to have a personal profile on Facebook, but men are more likely than women to sustain a profile on LinkedIn (Lenhart et al., 2010). Furthermore, women were four to five times more likely than men to use social networking sites (Tufekci, 2008). Additionally, Sheldon (2008) found that overall women were more likely to use social media for maintaining relationships with family and friends, passing time, and entertainment, but men were more likely to use social media to meet new people. College women were also more likely than men to use the Internet for relational communication, such as contacts with friends, family, and romantic partners. Educational experience of men and women seemed to play a factor in social media use as well. Men and women were more likely to use social network sites frequently if they had college experience (Lenhart et al., 2010).

Whereas there is no significant difference in the number of social network site use and sharing of user-generated media content between males and females, studies have shown some dissimilarity in social media preferences and motives by gender. Males use SNSs to expand their networks by making new friends, with the purpose of flirting and learning about events; while the major purpose of SNSs for girls is to maintain existing friendships, for communication, entertainment, and passing the time. (Pew Research Center, 2010; Barker, 2009; Chan-Olmsted et al., 2013; Raacke & Bonds-Raacke, 2008). An empirical study by Hargittai, (2007) found that women are more likely to engage in SNSs than men, reflecting that women

prefer person-to-person communication online to men. On the other hand, male's motivations have roots in social compensation, learning, and social identification gratifications. In other words, females use SNSs for relational purposes more frequently than their male counterpart (Chan-Olmsted, et al., 2013; Hargittai, (2007).

The hypothesis was formulated as follows:

H<sub>04</sub> Demographic factors of age and gender have no significant moderating effect on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

Madden and Savage (2000) found that age has an inverse relationship with Internet use. More recently, Pew Internet & American Life Project (2004) echoed the findings of Madden and Savage (2000). Similar findings can be found in the adoptions of specific Internet-related technologies such as online chat rooms and Webcasting (Peter, et al., 2006; Lin, 2004). Therefore, this study proposes the following negative hypotheses;

H<sub>04a</sub> Age will not significantly influence university students preference of Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

H<sub>04b</sub> Gender will not significantly influence Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

## **2.5 Empirical Review of the Literature**

Studies have examined the effectiveness of and implications for using social network sites and other digital media in health promotion and disease prevention endeavors. Others have issued calls to action for increased study and focus on SNS and other emerging technologies as part of a comprehensive public health communication strategy (Martin-Moreno, Apfel, Sanchez, Galea, Zsuzsanna, 2011). This section is structured according the main study variables namely; gratifications, perceived usefulness, perceived ease of use, demographic factors of age and gender; and SNS preferences.

### **2.5.1 Gratifications for using SNS**

Trautner (2013) explored how social media and its technological development has led to new opportunities for promoting health. The study found out that social media satisfy a role of socializing, creating content or information seeking; and can play an important role in engaging individuals in health and could be a cost-effective option to include as a channel in the promotion of health. Levac and O'sullivan (2010) agree with these findings. They add that Social media holds considerable potential for health promotion and other health intervention activities, as it addresses some of the limitations in traditional health communication by increasing accessibility, interaction, engagement, empowerment, and customization. Further, SNS increases the potential for easy access to preventive medicine, interaction with health care providers, inter-professional communication in emergency management, and public health. However, the findings also suggest that a clear understanding of social media is needed to achieve successful health promotion results. As social media offers fundamentally different rules

of communication both about traditional media but also across social media platforms (Trautner, 2013; Levac O'sullivan, 2010).

### **2.5.2 Influence of Perceived Ease of use of SNS**

According to Evers et al. (2013) SNS have been evolving and present opportunities and challenges for health professionals and young people alike, such as learning through interactivity and addressing concerns about privacy. Social media and other emerging communication technologies can connect millions of voices to: increase the timely dissemination and potential impact of health and safety information, leverage audience networks to facilitate information sharing, expand reach to include broader, more diverse audiences, personalize and reinforce health messages that can be more easily tailored or targeted to particular audiences, facilitate interactive communication, connection and public engagement and empower people to make safer and healthier decisions. (Evers, et al., 2013).

Social media adoption has been studied using technology acceptance model. Van Slyke (2007) noted that most people have adopted social media because of its perceived benefits and ease of use. Time and funding will be required to develop resources, foster technical skills, and management support in the way of permission, policy, and risk management. It (the study) also found that credibility and trustworthiness are important to young people when they are seeking information online. University or government branding is a signifier of these qualities, and young people use these types of organizations to identify a trusted source among the clutter of information online. Privacy and confidentiality should underscore a sexual health communication campaign involving SNS (Evers et al., 2013). Finally, Evers et al. (2013) argument is supported by an array of literature that it is crucial to keep information relevant, accurate, current, and accessible and to engage young people in the design, implementation, and evaluation of digital health campaigns (Livingstone & Brake, 2010).

Newman, Lauterbach, Munson, Resnick, and Morris (2011) revealed that Facebook might not be an effective venue for interacting with others about health concerns because people want to maintain a positive identity as a healthy person in their social network and, consequently, are selective about what they post on Facebook. When they want to be more open about their struggles and need for help, they prefer closed online communities that enable frank and open discussions. Similarly, Morris, Teevan, and Panovich (2010) and Zhang (2012) found that both adults and college students lack the intention to use social networking sites for serious health problems.

### **2.5.3 Influence of Perceived Usefulness**

As for college students, Zhang (2012) suggested that the use of social networking sites as a health information source could be influenced by various factors such as the usefulness of the information, usability of technology and subjective norms. Positive sides of these aspects (e.g., credible friends) encourage college students to use social networking sites, whereas negative views (e.g., potential security breaches) hinder use.

Knowing which health topics interest college students, which types of social media they frequently use and which factors are associated with social media use for health information could be useful for health information professionals to develop their services for college student users.

Health promotion specialists continually search for new and efficient methods of reaching people of various ages. According to Levac and O'Sullivan, (2010) The use of new technology, more precisely social media, could be a key strategy in helping to solve some of the challenges faced by those in the health promotion field. Interventions incorporating social media channels hold considerable potential for health promotion and address some of the limitations observed by traditional health communication strategies by increasing the potential for interaction, engagement, customization, and participation. They conclude that Health promotion agencies can increase the likelihood of reaching students by posting on a social networking site, rather than on a traditional government-run website (Levac & O'Sullivan, 2010).

According to Kreps and Neuhauser (2010), health behavior change requires changing shared social practices. People's attitudes, values, and beliefs about health are a direct product of social interaction. Therefore, SNSs provides users the opportunity to connect to one another, which could thus prove favorable for positive health behavior change. Norman (2012) further encourages people to look at the use of social media beyond facilitating behavior change. He states that a closer look at the opportunities and challenges that social media presents for health promotion requires going beyond technology toward a rethinking of the social relationships it helps to facilitate. In contrast to other media forms (e.g. radio, print, and television), the interactive capabilities of social media are advantageous for health promotion in being able to work towards strengthening community action, developing personal skills, and creating supportive environments (Norman, 2012).

#### **2.5.4 Influence of age and gender demographic factors**

The use of technology-based health communication approaches for the youth has been particularly encouraged due to technology's reach and popularity with this age group, and is seen as a 'new channel' for behavior change (Cullen, Thompson, Boushey, Konzelmann, & Chen, 2013). Research has shown that young people tend to prefer support from informal sources (Collin et al., 2011). They are therefore likely to be open to technology-based approaches. Technology-based approaches enable youth to seek help anonymously and autonomously, which may be particularly advantageous to young people when seeking help for sensitive health topics or stigmatized behaviours (e.g. alcohol consumption) (Khadjesari, Murray, Hewitt, Hartley, & Godfrey, 2011), and/or those who prefer self-help (especially males) (Ellis et al., 2013).

Gold et al., (2011) indicate that social networking is now an established part of the online environment, with young people being the most frequent users of social networking sites (Facebook, LinkedIn, Twitter). The increasing use of social media and its interactive functionality has prompted calls for its use in health promotion. They provide a medium of the enormous potential for health promotion both regarding audience reach and interactive functions that could be exploited for intervention

delivery (Gold et al. (2011). SNS should be used in conjunction with more traditional forms of promotion including broadcast and print media. In this way, it is used to complement existing media and is and to drive traffic to websites, telephones, or clinics (Newbold, 2015).

Again, gender difference in technology adoption has been studied (Selwyn, 2007). Jackson et al. (2008) noted that previous researches focusing on gender and information technology use have corroborated three main findings; males were found to have more favourable attitudes toward computers and its usage as compared to females; Both females and males perceive computer activities to be male activities; females are apathetic to computer courses and computer-related careers than are males (Brosnan, 1998; Meredith et al., 1998). The study found out that sexual health communication with young people involving social media and SNS-based health communication needs to be supported with adequate resources to allow for ongoing moderation and ongoing provision of content. Additionally, while SNS are popular among the young people, they still emphasized the importance of a central website as the online hub of any campaign information, which is easily understood, clear, accessible, and factual.

#### **2.5.5 SNS Preferences**

Serede Sikolia (2015) researched factors influencing the choice of social network sites among high school teenagers in Kenya. The findings of the study revealed that personal identity, surveillance and social capital significantly influenced the choice of SNSs among high school teenagers. The study concluded that social network sites usage among teenagers needs to be harnessed for positive outcomes. Manoti (2015), studied the factors influencing access to sexual reproductive health services among the student of the University of Nairobi. The study strongly recommended the adoption of internet/social media the conveyance of the sexual reproductive health services (RHS) to the youth. Kuchawo (2014), explored patterns of use and effects of using digital technologies and social media on sexual behaviors among the youth at the College of Health Sciences University of Nairobi. The study found the ownership and use of mobile, Internet-enabled digital devices and social media very common among students at the health science college of the University of Nairobi. The study also noted that the access to the social media equally contributed to the adverse impacts such risky sexual behavior such as having multiple sexual partners and inconsistent use of condoms

### **2.6 Critique of the Existing Literature Relevant to the Study**

As young people pass through puberty and adolescence, health needs related to sexual and reproductive health arise. Adolescents and youth have been perceived to have few health needs and little income to access to health services. As a result, they have generally been neglected by the health system though all need information on reproductive health and some need targeted services. The health system should provide information on; sexuality, pregnancy prevention, and prevention of HIV/AIDS and other sexually transmitted infections by providing information and skill-based approaches such as life



planning that can lead to favorable reproductive health outcomes (FHI 360/PROGRESS & Ministry of Health, 2011; Republic of Kenya, 2005; UNESCO, 2009).

Statistics and first-person anecdotes paint a mixed, but overall troubling portrait of the youth and young adult sexual landscape, despite many years of efforts in sexual and reproductive health education (Boyar, Levine & Zensius, 2011). Further, in Kenya, inadequate dissemination and implementation of existing policies have hampered the successful implementation of adolescent and youth sexual and reproductive health (AYSRH) programs. The youth and communities are not actively involved in some programs, thus compromising effectiveness and sustainability of interventions. The youth feel that there could be more involvement of the community and youth to adequately address issues specific to a community or population of young people (FHI 360/PROGRESS & Ministry of Health, 2011).

As global and national studies highlight, the sexual health of young people remains a critical concern. There is a growing consensus among those involved in social programming that unless young people are given a more significant voice in participating in dialogue about their sexual health, the current sexual health programs aimed at promoting safe sexual practices among youth are doomed to fail (UNAIDS, 2012, Ford, Odallo, & Chorlton, 2003; Mitchell & Murray, 2012).

Adverse SRH outcomes among the youth include unintended pregnancy, early childbirth, abortion, early marriage, and sexually transmitted infections including HIV. The results of risky behaviors include early sexual debut, substance abuse, sexual and gender violence, multiple sexual partners, and inadequate access to and use of contraceptives including condoms for dual protection (FHI 360/PROGRESS & Ministry of Health, 2011). An assessment conducted by the HIV Free Generation project in Kenya found that the top three fears of young people were unemployment, unintended pregnancy and HIV and AIDS (HIV Free Generation presentation, 2011).

Young people aged between 15 to 24 years have the highest rates of contracting sexually transmitted infections (STIs), including HIV. Rates of STIs also show the highest prevalence among 20 - 24-year-olds (UNICEF, 2011). A series of multifaceted barriers currently prohibits good reproductive health for the youth. Various political, societal, cultural, and religious factors create an inhibitive environment for discussion of ASRH as many societies hold a deeply embedded sense of disapproval of sexual activity; this is often demonstrated through the stigmatization of sexual health concerns, particularly STIs/HIV (Morris & Rushwan, 2015).

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Social media and other emerging communication technologies can connect millions of voices to: increase the timely dissemination and potential impact of health and safety information, leverage audience networks to facilitate information sharing, expand reach to include broader, more diverse audiences, personalize and reinforce health messages that can be more easily tailored or targeted to particular audiences, facilitate interactive communication, connection and public engagement and empower people to make safer and healthier decisions. (Evers, et al., 2013).

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## **2.7 Research Gaps**

One of the most notable gaps in from the literature, as evidenced in the empirical review is limited if any studies that interrogate the perspectives of the youths regarding SNS centered health promotion. Being the target audience of health promotion and communication initiatives; it is prudent to understand their perspectives to address their needs better. Past studies have been conducted on SNS use in various sectors were conducted in the European and North American settings. Very limited studies have been conducted on health and SNS in the African setting especially in relating to the youth and reproductive health (see Gold et al, 2011; Sambaiga, 2013; Pfeiffer et al, 2014).

In Kenya, there is a growing interest on social medial networking sites and reproductive health sector in the recent past. Settings based approach to SNS and RH (and health promotion in general) is one of the key approaches as recommended by the WHO. However, there is a very little evidence of studies that have been conducted to establish the youth's preference for certain SNS, their considerations especially when it comes to sourcing for reproductive health information. The current study seeks to address these gap by focusing entirely on the youth in universities as health setting and factors that motivate and influence their preference of SNS for RH. The universities under study are those in urban setting. Additionally, despite the various sources of reproductive health information online the study focuses on SNS as an online setting.

Although much of the research has been carried out in the West, studies of a similar nature have been done in Africa (Magogwe, Ogonnaya, 2015). These are few given that SNS use by undergraduate students is a relatively new phenomenon in Africa, it is important that we examine this phenomenon further. Previous studies have applied a number of lenses to explain the uses of SNS by students in Africa. The following reasons have been proffered in explaining why students use SNS. These are for information sharing, communication purposes, for sharing ideas amongst themselves, for educational purposes or for pure enjoyment.. A case in point was made by Oluwatoyin (2011) who stated that university students in Nigeria who used SNS spent less time studying which affected their grades As for college students, Zhang (2012) suggested that the use of social networking sites as a health information source could be influenced by various factors such as the

usefulness of the information, usability of technology and subjective norms. Positive sides of these aspects (e.g., credible friends) encourage college students to use social networking sites, whereas negative views (e.g., potential security breaches) hinder their use. These previous studies shed some light on the way people use social media for health information and factors influencing the social media use, but they tend to focus on a single social medium (mostly Facebook) or a single disease (e.g., diabetes) with a small sample size. To illustrate the broad landscape of social media in the health domain, the current study targeted undergraduate university students and their use of five popular types of social media, social networking sites for gleaning health information

In the health domain, research has been done on the usefulness of social media for health promotion from the perspective of health care providers rather than from the perspective of health information seekers (Barnes and Fagen, 2012). Privacy concerns, trust and usefulness of social media have been evaluated in a variety of settings in previous studies, but none of them focused on how undergraduate students consider these concepts in the health domain. Therefore, the current study investigated undergraduate students' general perceptions on privacy concerns, trust and usefulness of social networking sites for reproductive health information and compared and contrasted them across different kinds of SNS.

This study presents a paradigm shift in its approach as it merges two academic disciplines; Information communication technology and social network sites. Majority of the related studies as evidenced in the empirical review and critique of related literature (see section 2.5 and 2.6 respectively) are mainly focused on one domain of study such as health promotion/communication, technology, mass media. However, this study marries the two disciplines and the correlation between them in an effort to determine preference of SNS for RH. This presents a unique perspective that is applicable to both domains.

Another paradigm shift in the study relates to the theoretical underpinning; this relates to the theories on which the study is anchored on. UTG which is a media/communication centric theory and TAM which is technology based. The UTG seeks to explain the psychological and social motivations for social network site preferences for the youth. TAM, on the other hand, seeks to explain and address the technological motivations of for social network site preferences for the youth; and the overlap between the two theories relating to SNS preference (regarding the media and content) by the youth for reproductive health.

## **2.8 Summary of Literature Review**

This chapter has focused on presenting literature on SRH and SNS focusing on the youth. Firstly, SNS was discussed in-depth. The healthcare delivery gap for the youth was then presented both internationally, regionally and in Kenya; before SRH and service delivery for the youth was discussed

It is evidenced by the literature that the youth use digital media to access health information including that of reproductive health (Gold et al., 2011; Levac & O'sullivan, 2010) According to Capurro et al., (2014) inarguably, SNS has become an

integral part of the public health conversation and that they have the potential of increasing the efficiency and the accuracy of health information to the youth. Despite their uptake research on determinants of SNS use remains limited and varied Newbold (2015).

Additionally, a gap exists between the need for this information and appropriate information delivery and availability. The study was anchored on the U&G theory and TAM theory where the constructs for the conceptual framework were operationalized. Further, the empirical review has evidenced the limitation in the scope of application of the TAM model. In the previous research, the TAM technology adoption model has been used in isolation, however, in this research, it has been demonstrated that the TAM can be combined with the Uses and Gratifications theory to come up with a new framework that can be adopted when providing usable, relevant, interactive, and accessible reproductive health information for the youth.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the methodology and procedures used to conduct the research. More specifically, it describes the research design, population of the study, sampling frame, sample size and sampling, techniques, data collection procedure, instruments, validity and reliability of research instruments, ethical considerations, and data processing and analysis. This research objectives of the study were: (1) to examine the influence of gratifications on social network site preferences for accessing reproductive health information among university students, (2) to investigate the influence of perceived usefulness on social network site preferences for accessing reproductive health information among university students, (3) to examine the influence of perceived ease of use on social network site preferences for accessing reproductive health information among university students, and (4) to investigate the moderating effect of demographic factors on social network site preferences for accessing reproductive health information among university students.

#### **3.2 Research philosophy**

According to Guba and Lincoln (1994), research philosophy guides the researcher on how to conduct the research appropriately. There are four main research paradigms i.e. positivism, critical theory, constructivism, and realism (Saunders et al, 2009; Perry et al, 1999 and Guba and Lincoln, 1994). As per Guba and Lincoln (1994). Research paradigms are set of belief system which is based on ontological, epistemological and methodological assumptions. A paradigm (also known as the worldview) is a basic set of beliefs that guide action, hence playing a vital role in social sciences (Creswell, 2009; Livesey, 2011).

The second paradigm is critical theory which is based on the fact that reality is generally based on the historical structure. The aim of the researcher in this regard would be to criticize the historical point and bring about a transformation. Constructivism is the third paradigm, wherein it is assumed that trust is constructed based on a particular belief system related to the context which is being studied. It enquires about the ideologies and values underlying the research findings. The last research paradigm is realism which states that reality exists but is imperfect because there are flaws in intellectual mechanisms of humans and also the nature of phenomenon is intractable. Realism has some of the elements from positivism and constructivism (Perry et al 1999; Saunders et al 2009). For the present research study positivism research paradigm which embraces a pragmatic view was found appropriate. Working from the pragmatist paradigm, mixed methods researchers accept the idea that qualitative and quantitative methods are indeed compatible, thus researchers are not required to choose between the two methods. Instead they determine how both qualitative and quantitative methods will answer their research questions (Graff, 2013). This seemed most appropriate because pragmatists place importance to external validity and transferability of

findings, along with the idea that hypotheses are tied to time and context. The researcher would be able to study the phenomenon while ensuring internal validity and credibility.

### **3.3 Research Design**

Research design refers to the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the purpose of research with economy in the procedure (Rubin, & Babbie, 2010). Broadly speaking the study utilized a mixed method research design, which is a procedure for collecting, analyzing and “mixing” both quantitative (survey) and qualitative (key informant interviews) research methods in single study to understand the research problem (Creswell, 2012). More specifically, the study used the mixed sequential explanatory design (Creswekk & Clark, 2011). Johnson, Onwuegbuzie and Turner (2007) justified the use of mixed method research design by arguing that a combination of qualitative and quantitative methods enable or is used to develop analysis in order to provide richer data and that combinations are used to initiate new modes of thinking by attending to paradoxes that emerge from the two data sources. They further posit that “it offers a powerful third paradigm choice that often will provide the most informative, complete, balanced, and useful research results” (Johnson, Onwuegbuzie & Turner, 2007, p. 129). This combination is a suitable research design for the current study since it will allow for a more complete analysis of determinants of SNSs preferences for accessing reproductive health information among university students.

This design consists of two distinct phases where the first is quantitative then followed by the qualitative phase (Creswell, Clark, Gutmann & Hanson, 2003). This design enabled the researcher to collect and analyze quantitative (numeric) data on the degree to which the independent variable, namely gratifications, perceived usefulness, and perceived ease of use affect the dependent variable which is the preference of SNS for accessing reproductive health information. The design also enabled the researcher to assess the moderating effect of demographic characteristics on the preferences of SNS for accessing reproductive health information among university students. In the qualitative phase which emphasizes multiple perspectives and in-depth description, there was a shift to constructivist philosophical assumptions (Creswell & Clark, 2011).

### **3.4 Study Population**

The population for the study consisted of all undergraduate students enrolled in main campuses of public universities in Nairobi County. According to the latest Kenya National Bureau of Statistics (KNBS) (2017) analytical report on education, Nairobi has the highest number of students enrolled in undergraduate programs; their distribution is indicated in indicated in Tables 3.1. This formed the population of the study.

**Table 3.1: Undergraduate Students Enrolment in Public Universities in Nairobi**

University	No of students
Kenyatta University	41,397
University of Nairobi	58,760
The Technical University of Kenya	20,000
Multimedia university	15,000
Cooperative University	3,000
<b>Total</b>	<b>138,157</b>

Source: KNBS (2017)

### 3.5 Sampling Frame

It consists of a list of items/elements from which a sample is drawn (Scott & Morrison, 2007). A sampling frame is important because it defines the study population. The sampling frame for the study comprised of a listing of all undergraduate students enrolled in five public universities located in Nairobi County. According to KNBS (2017), there are 138,157 undergraduate students registered in the main campuses of public universities in Nairobi County.

### 3.6 Sample and Sampling Technique

A sample is simply a subset of the population that is representative of the entire population (Wimmer & Dominick, 2006). It is a manageable section of a population but elements of which have common characteristics. It is any portion of a population selected for a study and on whom information needed for the study is obtained, and generalizations or inferences about the population are made (Awoniyi; Aderanti & Tayo, 2011).

Graff, (2013) observes that probability sampling techniques are used most often in mixed methods research to obtain a sample that most accurately represents the entire population. To achieve a representative sample from the population the study used simple random sampling was used to select respondents from the five campuses of public universities in Nairobi based on student enrolment. Simple random sampling ensures that every member of the population has an equal chance of being selected for the study (Graff, 2013). Therefore, the sample was proportionally distributed based enrolment of undergraduate students in the four public universities in Nairobi county as indicated in Table 3.2.

**Table 3.2: Sampling Matrix of Undergraduate Students in Nairobi**

University	No of students	Percentage	Sample size
Kenyatta University	41397	30%	117
University of Nairobi	58760	42%	166
The Technical University of Kenya	20000	15%	57
Cooperative University	3,000	2%	2



Multimedial university	15000	11%	43
<b>Total</b>	138,157	100%	385

The qualitative phase of the study adopted purposive sampling to select Key Informants for interviews. They comprised of five chief medical officers each representing the main campus of the five public universities in Nairobi County.

### 3.6.1 Sample Size

According to Onwuegbuzie and Collins (2007), sampling is the process of selecting portions, pieces, or segments that are representative of a whole. Basil (1996) suggested that the use of student's samples is valid if the demographic group is of interest to the topic of study. The use of undergraduate students sample is reasonable in this study because the students represent a significant portion of the demographic age group that social networking sites target marketing (Market Watch, 2008). This resonates with Lenhart et al., (2010), who found out that about 57% of social network users are 18-29 years old and have a personal profile on multiple social media websites.

To determine the sample size for the study, Cochran's (1977) formulae designed for large populations using the formula  $n = \frac{Z^2 \cdot p \cdot q}{d^2}$  was used. Where;  $n$  = sample size,  $z$  = confidence interval (1.96 for a confidence interval of 95%),  $p$  = estimated population with attributes of interest which if infinite  $p = 0.5$ ,  $q = 1 - p$ , and  $d$  = degree of desired precision (0.05 for this study). Therefore, the sample size ( $n$ ) =  $\frac{(1.96^2) \times 0.5 \times (1 - 0.5)}{(0.05)^2}$ . This yielded a sample of 385 respondents.

### **3.7 Data collection methods**

There are four major forms of data collection outlined in the social sciences. These include; observational methods, survey research, which incorporates personal interviews and questionnaires, and qualitative research (Nachmias & Nachmias, 1996).

This study used quantitative and qualitative research data collection methods.

#### **3.7.1 Questionnaire**

The primary technique for collecting quantitative data was a self-developed questionnaire. According to Monette, (Monette et al. 2011) a questionnaire is a way to collect data in survey research that contains recorded questions that people respond to directly on the questionnaire form itself. The questionnaire was guided by the objectives and research questions in order to ensure the relationships between the variables. It contained items of different formats; multiple choice, asking either for one option or all that apply, dichotomous answers like “Yes” or “NO”, self assessment items measured on the 5-point Likert type and open-ended questions. The questionnaire was used because all the respondents were literate, could read, interpret the questions, and answer them appropriately. Questionnaires also enable easy and cheap collection of data, saves time, ensure confidentiality, and are free from interviewers bias giving rise to dependable and reliable results (Mugenda & Mugenda, 2003).

### **3.7.2 Key Informant Interview**

The qualitative data was collected using a key informant interview. An interview is a social relationship designed to exchange information between the participant and the researcher. The goal of any qualitative research interview is, therefore, to view the research topic from the perspective of the interviewees and to understand why they have a particular perspective. There are three types of interviews in educational research: standardized open-ended, semi-structured and structured interviews (Greeff, 2011; Vosloo, 2014). The interview guide was used to solicit in-depth information from health professionals. According to Mugenda and Mugenda (2003) the administration of the interview guide makes it possible to obtain required data to meet specific objectives of the study. The guide standardizes the interview situation so that the interviews ask the same questions in the same manner and allow for clarifications and elimination of ambiguity in answers.

Convenient sampling was used to select a purposive sample of four chief medical officers. There are a total of four chief medical officers in the four public universities. Each medical officer representing a public university was selected for interview. The medical officers were selected because of their expert knowledge of reproductive health matters and their constant interaction with students either directly while examining them or indirectly when reviewing their medical records. The interview guide comprised of open-ended questions which were aligned to the objectives of the study( Appendix IXV).

Secondary data was used in the development of the background of the study, and in explaining different facets of the study. Information was obtained from various journals, publications, websites, reports and other scholarly sources.

### **3.7.3 The validity of Research Instruments**

Validity is the degree to which a test or measuring instrument actually measures what it purports to measure; that is, how well a test or an instrument fulfills its function (JESR, 2012). There are various categories of validity including: (1) construct validity which is the extent to which a questionnaire or test measures a theoretical concept or trait (2) empirical validity, which is the relationship between a measuring instrument and the measurement outcomes, and (3) content validity, which incorporates face validity and sampling validity (Vosloo, 2014).

To ensure the validity of the study, the research was anchored on the Uses and Gratifications Theory and the Technological Acceptance Model. The study also used random heterogeneous samples and a sampling approach that ensures that the selection is reasonably representative of the population to which the results were generalized. To achieve this, the questionnaire and interview guide were structured based on the research objectives to ensure that the instruments had a logical link with the study objectives

### 3.7.4 Reliability of research instruments

Reliability of research instrument refers to the extent to which test scores are free of measurement error. The most common reliability coefficient is Cronbach's alpha which estimates internal consistency by determining how all items on a test are positively correlated to one another and to test the internal coherence of data. The reliability is expressed as a coefficient between 0.00 and 1.00. If the items are strongly correlated with each other, their internal consistency is high, and the alpha coefficient will be close to 1. The higher the coefficient, the more reliable is the test (Delport & Roestenburg, 2011; Sekaran & Bougie, 2010).

The Cronbach alpha coefficient was used for this study to evaluate the reliability of the research instrument, while Cronbach Alpha value was used to verify the reliability of the construct. Standards for consistency reliability assessment for Cronbach's Alpha coefficients vary from context, but a minimum of 0.70 is considered sufficient (Neuendorf, 2011). This study returned a Cronbach's alpha of 0.859 for 23 Likert scale items. Additionally, as presented in Table 3.4 Gratifications, Perceived Usefulness and Perceived Ease of Use returned Cronbach's Alpha values of 0.70, 0.774 and 0.772 respectively. All the constructs were considered reliable for use in the study.

**Table 3.4: Reliability Matrix**

Variable constructs	N of Items	Cronbach's Alpha	Comment
Gratifications	8	.669	Accepted
Perceived Usefulness	7	.744	Accepted
Perceived Ease of Use	8	.772	Accepted

### 3.8 Data Collection Procedure

The researcher got an introductory letter to National Commission for Science, Technology and Innovation (NACOSTI) from JKUAT. The researcher was issued with a research permit by the National Commission of Science, Technology and Innovation (NACOSTI) (see Appendix III). The researcher then organized a two days training targeting research assistants on the content of the questionnaire. The researcher and research assistants discussed the purpose of the study and meaning of items that proved unclear.

#### 3.8.1 Questionnaire

A total of 385 questionnaires with both open-ended and close-ended questions (see Appendix VI) were administered to the respondents. The researcher (and assistants) provided any clarifications whenever needed. A five-point Likert scale was used to capture responses for all the specific objectives of the study items. This enabled scores of either low or high value to

represent the extent of the knowledge, opinion, judgment, and experience of the respondents. Table 3.5 illustrates the relationship between the key study variables and associated hypotheses for testing the study objectives.

**Table 3.5: Variables and Survey Items**

<b>Independent Variable</b>	<b>Research Hypothesis</b>	<b>Rule</b>	<b>Survey Item</b>
<b>Gratifications</b>	H <sub>01</sub> . Gratifications have no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.	Reject H <sub>01</sub> if $p$ value < 0.05	Section B
<b>Perceived usefulness</b>	H <sub>02</sub> . Perceived Usefulness has no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.	Reject H <sub>02</sub> if $p$ value < 0.05	Section C:
<b>Perceived ease of use</b>	H <sub>03</sub> Perceived ease of use has no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.	Reject H <sub>03</sub> if $p$ value < 0.05	Section D:
<b>Moderating variable</b>	H <sub>04</sub> Demographic factors of age and gender have no significant moderating effect on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi..	Reject H <sub>04</sub> if $p$ value < 0.05	Section A

The researcher administered the questionnaire and where possible used research assistants to help in the issuing and collection of the questionnaires since they were self-administered tools. The research assistants then submitted to the researcher the already filled questionnaires every evening of the data collection exercise.

### **3.8.2 Key Informant Interview**

In the second phase, the researcher implemented the qualitative strand by collecting qualitative data using the in-depth key informant interview guide on a purposively selected sample of chief medical officers. The researcher sought to get firsthand information directly from respondents based on their expertise, experience, and proximity (and relationship) to university students that makes them knowledgeable on the subject matter. The researcher was guided by an interview schedule (See Appendix V) based on the study objectives, in which topics and questions were specified, reworded and administered relative to the respondents' ideal situation to ensure accuracy and minimize bias. According to Zohrabi (2013), this approach is preferred because it is flexible and allows the interviewee to provide more information. The open-ended data was collected and documented using note taking technique

### 3.9 Pilot Test

Bless, Higson-Smith, and Kagee (2006) defines a pilot study as a small study conducted before a larger piece of research to determine whether the methodology, sampling, instruments, and analysis were adequate and appropriate. As indicated by researchers (Bless et al., 2006), a pilot study represents a cornerstone of good research design and is an essential initial step in research to assess the validity and reliability of the study questionnaire. A pilot study was conducted to test the tool for validity and reliability before proceeding to the field to administer the questionnaires.

The researcher undertook steps to improve instrument validity. Firstly, a pre-test was used to assess the reliability of the procedures. The pilot study was conducted at Kenyatta University (public university) and the University of Nairobi. The two institutions were chosen because they met the inclusion criteria of the sampling frame of the study. After completion of the pre-testing, the questionnaire was improved according to the feedback. 1-10% of the main sample size is a reasonable number for conducting a pilot study (Hazzi, & Maldaon, 2015). For this study, 38 respondents were involved in the pilot study with 20 from University of Nairobi and 18 from Kenyatta university respectively. In the final study a total of 385 questionnaires were administered.

### 3.10 Data Processing and Analysis

According to Zikmund, Babin, Carr, and Griffin (2010), data analysis refers to the application of reasoning to understand the data that has been gathered with the aim of determining consistent patterns and summarizing the relevant details revealed in the investigation. Creswell (2009) opines that data analysis in mixed methods research consists of analyzing the quantitative data using quantitative methods and the qualitative data using qualitative methods.

After quantitative data collection using questionnaires, the completed questionnaires were checked for completeness and consistency before processing the responses. Data was transcribed, coded and emerging themes and patterns analyzed and interpreted based on theoretical underpinnings. The data was then statistically analyzed and interpreted on account of concurrence to objectives using Statistical Package for Social Scientists (SPSS) version 24 to communicate research findings. Descriptive statistics (percentages and frequencies) and inferential statistics (t-tests, correlation analysis and Mann-Whitney U tests) were generated and presented in statistical tables.

Further the study carried out multiple regression analysis to establish the relationship between the independent variables (gratifications, perceived usefulness, perceived ease of use) and dependent variable (preference of SNS for accessing reproductive health information) and measure the strength of the relationship based on the regression model below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \dots \dots \dots (3.1)$$

Where:

$\beta_0$  = is a constant, which is the value of dependent variable when all the independent variables are 0

$\beta_1 - \beta_5$  = Regression coefficients

$\varepsilon$  = Error of prediction

Y = Preferences of SNS

X1 = Gratifications

X2 = Perceived usefulness

X3 = Perceived ease of use

The study used ordinary least squares regression (OLS). OLS chooses the parameters of a linear function of a set of explanatory variables by minimizing the sum of the squares of the differences between the observed dependent variable (values of the variable being predicted) in the given dataset and those predicted by the linear function. The regression errors were tested for homoscedastic and serial correlation. Inferential statistics was used to analyze the relationship of the independent, dependent variables and the moderating effect of demographic factors of age and gender.

Research hypotheses were tested using *t*-tests, while group comparisons were tested using Mann-Whitney U tests (used to test moderating effect of demographic factors). The most useful nonparametric tests are based on the rank (place in order) of each observation in the set of all the data. The null hypothesis for the study was tested using the Mann-Whitney U test .

$$r = Z/\sqrt{N} \text{ where:}$$

N = the total number of observations

The significance of the joint/interaction effect was evaluated for significance at a p-value of 0.05 (2tailed). If reported p-value was less than 0.05, then the effect was considered to be significant.

Qualitative data were analyzed using thematic content analysis. Green and Thorogood (2009) argue that in this approach, the content of data is analyzed to generate and categorize recurring themes. Data analysis involved developing a detailed description of each variable; identification of information relevant to the objectives and research hypotheses. Here, data is coded and categorized until themes are identified or emerge. The researcher triangulated findings to strengthen validity and increase the utility of the study. Being a mixed study, the organization of the report is in a hybrid form combining both descriptive and statistical report forms.

### 3.11 Ethical Considerations

All researchers, regardless of research designs, sampling, techniques and choice of methods, are subjected to ethical considerations. Cooper and Schindler (2010) indicate that the goal of ethics in research is to ensure that no one is harmed or suffers adverse consequences from the research activities. The study acknowledges the importance of ethical issues in a



research study and therefore there is need to observe the ethical issues of confidentiality, integrity, honesty and respondent's rights (such as the right to privacy and freedom of expression) while dealing and getting information from the sources. Voluntary participation was upheld; participation was without compulsion or coercion. All respondents were informed the purpose of the research (only for academic purposes) to ensure they made an informed decision about their participation. Additionally, the respondents were assured of the confidentiality of their participation in the study. The researcher sought permission (formal and informal) from the institutions and participants who would provide data.

## **CHAPTER FOUR**

### **RESEARCH FINDINGS AND DISCUSSION**

#### **4.1 Introduction**

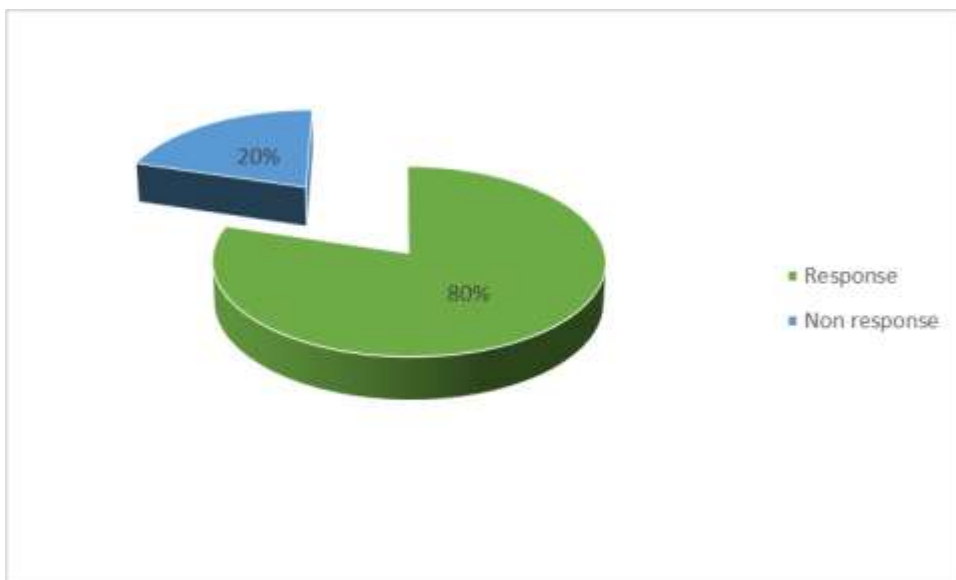
This chapter presents research findings, analysis and interpretation of study findings of the determinants of social network site preferences for accessing reproductive health information among undergraduate students in public universities in Nairobi County. The analyzed data is organized the research objectives.

Descriptive and inferential statistical analysis and interpretations of the data collected were undertaken using a 5-point Likert scale questionnaire. Three significant ranges for a 5-point Likert scale were used: negative (1 – 2.6), neutral (2.6 – 3.4), and positive

(3.4 - 5). One-sample t-test was used to determine the significance of the positive scores using a test value of  $\mu = 3.4$ . Study hypothesis were tested using the t-test which tests the sample mean where:  $H_0: \mu < 3.4$ , against  $H_1: \mu > 3.4$ . This approach has been used by researchers including Devos (2014). Additionally, the Mann-Whitney U Test was used to test the last hypothesis based on the last objective. In addition Analysis of Variance (ANOVA) was also computed and qualitative findings from the key informant interviews presented.

## 4.2 Response Rate

The response rate is an essential factor in assessing the value of research findings (Baruch & Holton, 2008). The number of questionnaires that were administered based on the sample population was 385 on public universities in Nairobi County. A total of 307 questionnaires were adequately filled and returned. This represented an overall successful (and adequate) response rate for the study of 79.74%. Babbie (2004) assert that return rates of 50% are acceptable to analyze and publish, 60% is good, and 70% is very good.



**Figure 4.1: Response Rate**

### 4.3 Demographic Characteristics

This section analyzes and presents the demographic characteristics of the respondents in this study. These include general descriptions of the respondents regarding their gender, age, and basic information regarding access to SNS for reproductive health information.

#### 4.3.1 Gender of the Respondents

Gender and age were considered demographic moderating variables for the determination of SNS preferences for accessing reproductive health information in this study. The findings of the study provide that the majority of the respondents were males (54.7%) while females constituted 45.3% as indicated in Table 4.2.

This age distribution is in line with the KNBS (2012) on gender distribution in universities places at 53.4% males and 46.6% females.

**Table 4.2: Gender of the Respondents**

Gender	Frequency	Percent (%)
Male	168	54.7
Female	139	45.3
<b>Total</b>	<b>307</b>	<b>100.0</b>

These findings show that most of the respondents had access to and preferred portable mobile devices that they used to access SNS. These findings are in line with those of Gold et al., 2010) who elaborated that mobile devices have features that are particularly advantageous for use with youth populations such as being more convenient, straightforward, and do not rely on users to access computers at scheduled times. DeSilver explains that continuous social media usage stems from increased mobile usage of social networking sites. As smartphones and tablets increase in popularity, many social media users rely on their mobile apps to access their favorite sites (DeSilver, 2014).

#### 4.3.2 Age of the respondents

The respondents were asked to indicate their age. The results reveal that majority of the respondents, 85% were aged between 18 – 22 years, 8% aged between 23 - 26, 4% were 27-29 while the rest (3%) were above 29 years. The results are illustrated in Table 4.3. This age distribution is representative of the majority of the regular undergraduate population. This is consistent with the findings by Smith (2013) that young adults of

18 -29 years are the most active users of social media. All the respondents in the study, therefore, fall within the definition of the youth as conceptualized in this study.

**Table 4.3: Age Distribution of the Respondents**

Age	Frequency	Percent (%)
-----	-----------	-------------

18-22	261	85
23-26	26	8
27-29	12	4
Above 29	8	3
Total	307	100

#### **4.3.4 The frequency of Use of social networking site**

The researcher sought to find out how often the respondents logged into SNS to determine the general intensity of use of these platforms. Majority of the respondents 63% indicated that they used SNS daily, 33.8% of them used SNS hourly. A minority of them admitted to using SNS weekly (2.6%) and monthly (0.7%) as presented in Table 4.4. These findings are in agreement with those of Coyle and Vaughn (2008) who found out that the average college student visits their social networking three times per day.

**Table 4.4: Frequency of Use of social networking sites**

Duration	Frequency	Percent (%)
Hourly	103	33.8
Daily	192	63.0
Weekly	8	2.6
Monthly	2	0.7
Total	307	100.0

#### 4.3.5 Preferred sources of reproductive health information

The study sought to find out the most popular sources of reproductive health information. Respondents were asked to indicate their preferred source of reproductive health information. From the study findings, the majority of the respondents (59.9%) preferred the internet while 33.2% preferred medical/health practitioner. Only 20.8% of the respondents preferred to source reproductive health information from friends, family, and books as illustrated in Table 4.5.

**Table 4.5: Preferred source of reproductive health information**

Information Source	Frequency	Percent(%)
Internet	184	59.9
Books	52	16.9
Friends/Family	64	20.8
Medical/Health practitioner	102	33.2

The findings from the qualitative research were not far from quantitative findings. A key-informant 1, a medical officer reported that:

*“Given the affordable access to mobile devices and even free internet access, most youths have turned to the Internet including social media as a primary source of information. They (youth) form the bulk of the social media users and use it to access a variety of information including reproductive health. They get this information from friends, groups, and pages they follow on social media.”*

#### 4.3.6 Preferred SNS used to access Reproductive Health Information

The study sought to find out the most popular (preferred) social network site for accessing reproductive health information by the respondents. The study found out that Facebook was the most popular SNS with 55%, followed by WhatsApp with 34.2%. A minority of the respondents used Twitter (5.8%), and Instagram (4.9%) as illustrated in Table 4.6.

These findings are in line with those of Mugeru (2015) who found out that Facebook was the most preferred SNS and attracts more users than other social networks and therefore it is the most friendly and interactive platform among university students. A study on social media use by the youth by Lenhart (2015) revealed that 66% of the respondents used Facebook while Smith (2013) found that 84% of 18-29 year olds are on Facebook, more than any other age group. These findings reveal that Facebook is the most preferred SNS among the youth both for general use and for accessing reproductive health information.

**Table 4.6: Social Network Site used to access Reproductive Health Information**

SNS Platform	Frequency	Percent (%)
Facebook	169	55
WhatsApp	105	34.2
Twitter	18	5.8
Instagram	14	4.9

The findings were in line with the Key-Informants 1. The Chief medical officer in an interview affirmed that:

*“Facebook is the most popular social networking site, I, therefore, would not be surprised if this popularity boils over to use for reproductive health information. It (Facebook) is popular because of the many features it has to offer, and it is easy to use. There are groups, pages and people that are dedicated to specific topics including health information. These among other reasons make it popular compared to the others. WhatsApp is also gaining popularity especially for people who know each other in the real world. I do not see a situation where the youth would change their preferred social networking site just because they are seeking reproductive health information. They, however, could use pseudo accounts”.*

#### 4.3.7 Type of Reproductive Health Information sought on Social Networking Site

The study proceeded to interrogate the type of reproductive health information respondents sought from these SNS. As presented in Table 4.7, the majority of the respondents (51.1%) looked for reproductive health problems and infections. Other significant health information sought from SNS were symptoms and diagnosis (39.4%); personal research and second opinion (33.2%); and experiences of peers, and others in reproductive health matters (31.9%). Other information sought was regarding pregnancy prevention and contraception (29.6%); medication details for reproductive health matters (27%); and reproductive health care providers and hospitals/clinics where one can physically be seen (23.8%).

**Table 4.7: Type of Reproductive Health Information sought from SNS**

Type of Health information	Frequency	Percent
Reproductive Health problems and infections	157	51.1
Reproductive Health symptoms and diagnosis	121	39.4
Pregnancy prevention/contraception	91	29.6
Experiences of peers, and others in reproductive health matters	98	31.9
Personal research and a second opinion on reproductive health	102	33.2
Medication details for reproductive health matters	83	27
Reproductive health care providers and hospitals/clinics where one can physically go for	73	23.8

A Key-informant 3. The Health officer added that:

*“The youth are in a phase in their lives where they are conscious about how others perceive them. Since they are going through reproductive health development and are experimenting, they are constantly looking for not just information about health but also what their peers are going through and comparing all this information. Social media provides them access and ability to do this. Top on their search list would be sexual and reproductive health infections details, and topics considered stigmatized by the society such as contraception, STIs and abortions. Those with pre-existing reproductive health conditions will predominantly search for information about them”.*

#### **4.3.8 The extent of SNS use to access Reproductive Health Information**

The study sought to establish the extent to which the respondents preferred to use SNS to access reproductive health information. The findings of the study indicated that 45% of the respondents used SNS to access reproductive health to some extent while a significant 31.9% used SNS to a great extent. A minority of the respondents used SNS for reproductive health to a very small extent and small extent with 11.8% and 11.4% respectively. The findings are presented in Table 4.8. All respondents in this study had used SNS to access reproductive health information, what varied was the extent of use.

**Table 4.8: The extent of SNS use to access Reproductive Health Information**

<b>Extent of SNS Use</b>	<b>Frequency</b>	<b>Percent</b>
Very small extent	36	11.7
Small extent	35	11.4
Some extent	138	45.0
Great Extent	98	31.9
Total	307	100.0

A cross tabulation was conducted to analyze the relationship between SNS platform used and extent of use of SNS to access reproductive health information. The results show that majority of the respondents used Facebook to access reproductive health information. More specifically, 73% of the respondents indicated that they use Facebook “to some extent and great extent” (n = 67+55 out of 168) to source for productive health information. Similarly, 83 respondents (n=49+34 out of 105), which represents 75% of WhatsApp users indicated that they use the platform to “some extent and large extent” to source for reproductive health information, a ratio of 1 to 1.6 of Facebook to WhatsApp. In aggregate, this study indicates that majority of the respondents who used social media significantly to access reproductive health information used Facebook and WhatsApp. The results are as presented in Table 4.9.



**Table 4.9: SNS platform used and extent of use of SNS**

Which social networking site do you use to look for reproductive health information						
		Very small extent	Small extent	Some extent	Great Extent	Total
	Facebook	23	23	67	55	168
	WhatsApp	11	11	49	34	105
	Twitter	2	0	11	5	18
	Instagram	0	1	11	3	15
Total		36	35	138	97	306

These findings echo those of the Key-informant 2 interview findings. The Chief Medical Officer reported that:

*“The youth are already using the social networks for accessing reproductive health. Facebook is very popular at the moment, so they use it to look for reproductive health information while WhatsApp groups are popular for those with similar interest mainly because of high interactivity, mostly they augment existing physical connections”.*

The findings are corroborated by Knight-McCord et al., (2016). In their study, the researchers found out that college students logged into Facebook several times a day. This factor is attributable to the convenience of access through mobile devices which the students have on them most of the time.

#### 4.4 Descriptive Statistics

A comparative analysis of the means of independent variables was undertaken. The results establish that overall, SNS preferences for accessing reproductive health information among university students in Nairobi was mainly determined by:- Perceived Ease of Use (M = 4.09, SD = .620), Perceived Usefulness (M = 4.02, SD = .571), and Gratifications (M = 3.99, SD = .568) as shown in the Table 4.10 below.

**Table 4.10: Comparative Analysis of the Means of Independent Variables**

	N	Mean	Std. Deviation
Gratifications	304	3.99	.568
Perceived Usefulness	304	4.02	.571
Perceived Ease of Use	303	4.09	.620

A further comparative analysis of the means of constructs of the independent variables was conducted. The results reveal the following scores: Personal Identity (M=3.785, SD = .739), Surveillance (M = 4.214, SD = .680), Social Capital ( M =3.853, SD = .946); Social capital under Gratifications scored a high of 94.6 %; Convenience (M = 4.434, SD =.574), Interactivity

(M = 4.403, SD =.847), and Currency (4.083 =.778) posted the highest means respectively as indicated in Table 4.11. The perceived ease of use is constituted by Convenience (M = 4.434, SD =.574), Interactivity (M = 4.403, SD =.847) and Privacy and security (M = 3.767, SD =.939). The aggregation of these constructs confirms the findings in section 4.4 that SNS preferences for accessing reproductive health information among university students in Nairobi was mainly determined by perceived ease of use.

**Table 4.11: Comparative analysis of the means of constructs of the independent variables**

	N	Mean	Std. Deviation
Personal Identity	307	3.785	.739
Surveillance	307	4.214	.680
Social Capital	307	3.853	.946
Authority	307	3.981	.681
Relevance	307	4.034	.763
Currency	307	4.083	.778
Interactivity	307	4.403	.847
Convenience	307	4.434	.574
Privacy and Security	307	3.767	.939

#### 4.4.1 Analysis of Study Variables

The first objective of the study was to determine the influence of gratifications on SNS preferences for accessing reproductive health information among university students in Nairobi. Five-point Likert scale items were used for measurement. The findings indicate that gratifications significantly influenced SNS preferences for accessing reproductive health information. This is evidenced by the high Means (M) on the Likert Scale items. The ability of SNS to help the respondents understand reproductive health matters better and easily was highly rated with the highest mean score of 4.38; followed by the fact that SNS help respondents to express themselves and participate in reproductive health discussions with, peers, medical professionals (4.25), etc. However, the personal identity factor of “SNS enable other people to understand me and my reproductive health information needs without judging” had a low mean (M = 3.41) and the highest Standard Deviation of 1.122 as indicated in Table 4.12

This means that gratifications significantly influence SNS preferences for accessing reproductive health information. According to Quan-Haase, and Young, (2010), the drive for users to use a particular SNS is often informed by gratification sought.

**Table 4.12: Influence of Gratifications on SNS preferences for accessing reproductive health information**

		SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviation
Personal Identity	SNS help me express myself and participate in reproductive health discussions with, peers, medical professionals etc.	1.6	.7	11.5	43.6	42.6	4.25	.809
	SNS enable other people to understand me and my reproductive health information needs without judging	6.6	13.5	29.9	32.6	17.4	3.41	1.122
	SNS enable me to choose whom I want to be when looking for reproductive health information by adjusting my profile	3.6	12.2	21.5	36.0	26.7	3.70	1.100
Surveillance	SNS enable me understand reproductive health matters better and easily	2.3	2.3	6.9	32.7	55.9	4.38	.887
	SNS allow me to keep track of specific reproductive health information, people and topics	1.0	4.3	14.2	42.9	37.6	4.12	.876
	SNS enable me to know what is happen regarding reproductive health matters	.7	2.7	15.7	39.8	41.1	4.18	.840
Social capital	SNS enable me to socialize, create relationships and form or join communities that are of interest to me	3.0	9.8	19.3	28.9	39.0	3.91	1.113
	SNS connects me to communities and groups that provide social support and advice on reproductive health matters	4.9	7.5	18.6	40.5	28.5	3.80	1.085

#### 4.4.2 Influence of Perceived Usefulness on SNS Preferences

The second objective of the study was to investigate the influence of perceived usefulness on social network site preferences for accessing reproductive health information among university students. Perceived usefulness was found to have a significant influence on SNS preferences as shown by the high Means in the Likert scale items presented in Table 4.13. This is consistent with Sago's findings that the frequency of use of social media services is positively impacted by the level of perceived usefulness provided by the social media services (Sago, 2013)

**Table 4.13: Influence of Perceived Usefulness on SNS Preferences**

	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviation
I can assess personal experiences and professional qualifications of the source to determine the credibility of the information	.7	3.6	13.4	43.0	39.4	4.17	.893
I can assess the information based on user ratings (e.g. comments, likes, shares, reviews)	1.6	3.6	17.4	44.4	32.9	4.03	1.032
I can access and assess trustworthy and credible reproductive health information	3.3	7.0	28.2	34.9	26.6	3.74	.911
I'm be able to get relevant, and specific reproductive health information	1.6	3.3	16.8	39.1	39.1	4.11	.885
I'm able to get personalized information according to my preferences and needs	1.6	3.9	19.4	46.7	28.3	3.96	.800
I access information that is frequently updated and therefore current	.3	3.0	13.5	44.4	38.8	4.18	1.051
Communication/, interaction and feedback is real-time i.e. timely	4.6	4.6	15.4	40.2	35.3	3.97	.893

Majority of the respondents indicated that they prefer using SNS for accessing reproductive health information because they can access information that is frequently updated and therefore current (M=4.18, SD = 1.051), and can assess personal experiences and professional qualifications of the source to determine the credibility of the information (M = 4.17, SD = .893). The ability to assess and access trustworthy and credible reproductive health information posted the lowest mean in this category (M = 3.74 SD = .911). This corresponds with Ye (2010) findings that no association was observed on testing the correlation between social trust on social networking sites and the use of online health information. However, for college students, Valenzuela, Park and Kee (2009) revealed that social trust facilitates collaborative activities among members and is positively related to the intense use of Facebook.

#### 4.4.3 Influence of Perceived Ease of Use on SNS Preferences

The third objective of the study was to investigate the influence of Perceived Ease of Use on social network site preferences for accessing reproductive health information among university students. The high Means of the Likert scale items of the study show that Perceived Ease of Use affected SNS preferences of university students in Nairobi when accessing reproductive health information.

Majority of the respondents indicated that through SNS they could access information anytime anywhere with internet (M = 4.54, SD = .668); and that SNS are easily accessible via mobile and other devices (e.g., mobile phone, desktops, tablet) M=4.50, SD = .713. This is in line with Sago (2013) findings that the perceived ease of use of the SNS is the reason for its frequent use. This is supported by the report of the Key-Informant 2- The Chief Medical Officer who stated that:

*“The youth are motivated to use social network sites to access reproductive health matters mainly because they can express themselves freely and in a language that they and their peers understand. They can ask and share specific reproductive health matters and get the latest information from their connections. By following certain connections and joining specific groups, the youth are able to get updates and new information on health matters that are of interest to them”.*

On privacy and security as a construct of perceived ease of use, the respondents indicated that they are confident their information will not be used for data mining and targeted advertising (M=3.67, SD 1.127). The respondent also felt that they had sufficient access control mechanism to determine who can see their content, activities of personal information (M=3.85, SD=1.143). Finally, they strongly felt that they were able to remain anonymous when accessing reproductive health information from the SNS (M=3.75, SD=1.234). According to Khadjesari et al (2011), the Technology-based information access approaches enable youth to seek help anonymously and autonomously when seeking sensitive information such as those related to their health. Williamson & Lawson (2015) note that the benefits of SNS include the fact that accessing information online affords privacy and allows for personal exploration around sensitive topics. The results are as shown in Table. 4.14.

**Table 4.14: Influence of Perceived Ease of Use on SNS Preferences**

		SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviation
Interactivity & Accessibility	Social networking sites are easy to use for interacting with others through comments, shares, likes, tags, retweets, mentions	1.3	2.3	9.1	29.3	58.0	4.40	.848
	Social networking sites are easily accessible via mobile and other devices	.3	1.7	5.7	32.4	59.8	4.50	.713
Convenience & Availability	I can conveniently access and store the type of content I prefer, e.g., text, photos, documents, and videos	1.7	2.3	7.3	42.2	46.5	4.30	.832
	I can access information anytime anywhere with internet	.3	1.4	3.7	33.4	61.1	4.54	.668
Perceived privacy & security	My personal information will not be shared/distributed/sold to any third party without my authorization	6.5	10.7	18.6	25.7	38.4	3.79	1.244
	My online activities will not be used for data mining and target advertising	3.9	12.2	24.7	30.9	28.3	3.67	1.127
	I have sufficient access control mechanisms which allow me to determine who can see my content, activities or personal information	5.9	7.5	15.7	37.3	33.7	3.85	1.143
	I can remain anonymous without fear of my true identity is revealed	6.6	10.5	20.3	26.2	36.4	3.75	1.234

An interview with a Key-informant 2, collaborates with the study findings. The informant noted that:

*“The youth in most cases will look for information they consider private and or embarrassing from social media. This information includes reproductive health infections, symptoms, contraception and pregnancy and other personal research on reproductive health matters”.*

#### **4.4.4 Moderating Influence of Demographic variables on SNS Preferences**

The final objective of the study was to investigate the moderating effect of demographic factors on social network site preferences for accessing reproductive health information among university students. This study used the demographic factors of Age and Gender. The Mann-Whitney U test was used to determine whether these demographic factors had statistical significance over the university students' SNS preference. The Mann-Whitney U test determines whether there is a statistically significant difference between two unrelated, independent groups on a dependent variable. To determine effect, the value of Z that is reported in the output is used to calculate an approximate value of r.  $r = z / \text{square root of } N$  where N = a total number of cases. This is then interpreted using Cohen (1988) criteria of .1=small effect, .3=medium effect, .5=large effect. Selwyn (2007) confirms gender differences exist for already adopted technologies and also among 16 to 25 year olds (Goh, 2011). The hypothesis of the study is;

H<sub>04</sub>. Demographic factors of age and gender have no significant moderating effect on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

This hypothesis was broken down into two sub-hypotheses. Findings are discussed in the subsequent subsections.

##### **4.4.4.1 Moderating Influence of Gender on Preferences of SNS**

The first sub-hypothesis under the influence of demographic factors on SNS preferences for accessing reproductive health was:

H<sub>04a</sub> Gender will not significantly influence Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

The Mann-Whitney U test conducted to evaluate this hypothesis towards determining whether gender influences SNS preferences for accessing reproductive health information among university students in Nairobi.

**Table 4.15: Influence of Gender on SNS Preferences**

	Gender of the respondent	N	Mean Rank	Sum of Ranks
To what extent do you use social networking sites to access reproductive health?	Male	167	142.50	23791.50
	Female	139	166.76	23179.50
	Total	306		

The results in Table 4.15 indicate that Female students used SNS to access reproductive health information to a greater extent with a mean rank of 166.76, than Male students with a mean rank of 142.50.

Further analysis reveals that there was a statistically significant difference between males and females;  $U (9763.500) = 9763.500$ ,  $Z = -2.559$ ,  $p=0.010$ ,  $\text{sig} < 0.05$ ,  $r = 0.146$  with Females indicating a greater extent of use than Males as indicated in the Tests Statistics Table 4.16. Therefore, the null hypothesis is rejected.

**Table 4.16: Test Statistics on Influence of Gender on SNS Preferences**

	To what extent do you use social networking sites to access reproductive health information?
Mann-Whitney U	9763.500
Wilcoxon W	23791.500
Z	-2.559
Asymp. Sig. (2-tailed)	.010
a. Grouping Variable: Gender of the respondent	

According to Lenhart et al., (2010) gender is the only significant demographic variable affecting social media use, as there are some differences between use by men and women. Additionally, Sheldon (2008) found that overall women were more likely to use social media for maintaining relationships with family and friends, passing time, and entertainment, but men were more likely to use social media to meet new people.

#### 4.4.4.2 Influence of Age on SNS Preferences

The second sub-hypothesis under the influence of demographic factors on SNS preference for accessing reproductive health information was:

H<sub>04b</sub> Age will not significantly influence university students preference of Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

The Rank Table from the Mann-Whitney U test indicated that respondents aged between 18-26 years scored a higher mean rank of 155.80 than those aged 27 and above years with a mean rank score of 127.62 as indicated in Table. 4.17.

**Table 4.17: Use of SNS according Age Groups**

	What is your age bracket?	N	Mean Rank	Sum of Ranks
To what extent do you use social networking sites to access reproductive health?	18-26	281	155.80	<b>43780.50</b>
	27-Above	25	127.62	<b>3190.50</b>
	Total	306		

Further analysis was undertaken to determine whether this difference is statistically significant. The results of the Test statistics of Mann-Whitney U indicate that there was no significant difference between the extent of use of SNS to access reproductive health information for respondents aged between 18-26 years  $U = 2865.50$ ,  $Z = -1.633$ ,  $p = 0.052$ ,  $sig > 0.05$ . The findings are presented in Table. 4.18 This analysis means that the distribution of extent of use of SNS for access to reproductive health information is the same across categories of age brackets; therefore, therefore the null hypothesis is retained as there is no relationship.

**Table 4.18: Test Statistics on the Influence of Age on SNS Preferences**

	To what extent do you use social networking sites to access reproductive health?
Mann-Whitney U	2865.500
Wilcoxon W	3190.500
Z	-1.633
Asymp. Sig. (2-tailed)	.102
Exact Sig. (2-tailed)	.102
Exact Sig. (1-tailed)	.052
Point Probability	.001
a. Grouping Variable: What is your age bracket?	

According to Chan-Olmsted, Cho, Lee, (2013), young people have been in the front line in creating and sharing content in new media as opposed to older people. According to Pew Research Center (2010), the popularity of blogs among adults over 30 has increased since 2006 while blogging of teens and young adults has dropped. Instead of blogging, the younger generation and adults under 30 are becoming more active in their use of SNS.

#### 4.5 Inferential Analysis

This was conducted to test the study hypotheses using t-tests. Group comparisons were tested using Mann-Whitney U tests in order to assess the effect of demographic factors.



#### 4.5.1 Influence of Gratifications on SNS Preferences

The first objective of this study sought to establish the relationship between gratifications and the preference of SNS for accessing reproductive health information. The first hypothesis being tested was:

H<sub>01</sub> Gratifications have no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

The results of the *t*-test used to test the hypothesis yielded  $t(306) = 18.488$ ,  $p(0.00) < 0.001$ . Therefore, the null hypothesis is rejected. Since Gratifications' identity index  $\mu > 3.4$ , the study confirmed that gratifications influenced SNS preferences for accessing reproductive health information as illustrated in Table 4.19.

**Table 4.19: One-Sample Test on Influence of Gratifications on Preferences of SNS**

	Test Value = 3.4					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Interval Difference Lower	Confidence of the Upper
Gratification	18.488	306	.000	.59957	.5358	.6634

According to Quan-Haase, and Young, (2010), the drive for users to use a particular SNS is often informed by gratification. Gratifications sought (also often referred to as “needs” or “motives”) refer to those gratifications that audience members expect to obtain from a medium before they have encountered it. Sometimes, the media surpasses the expected gratifications initially sought. This leads to the recurrent use of the medium and ultimately to predictable consumption habits. Otherwise the audience members will often become disappointed and will predictably cease utilizing the specific medium. This will lead audience members to seek a different medium that can provide the kinds of gratifications they are seeking as indicated by Palmgreen & Rayburn, (1979) and Quan-Haase, & Young, 2010.

Qualitative findings from the key informant interviews presented similar findings. The Key-Informant 3-Healthcare provider indicated that:

*“By their nature, social networking sites connect people with similar interest and connections physical or otherwise. These enable the youth to interact with similar minded people in a language that they understand. In this context of sexual reproductive health which is sensitive and involves personal topics; the youth feel free to discuss and ask questions. They are freer than they would be in a physical health facility where some feel the environment is not conducive enough or they will be judged by the health service provider”.*

From the study findings, social networking site preference is highly dependent on the kind of gratifications that users get from a particular SNS based on their interest. As a result, users are rational and choose the preferred SNS platform(s) that best fulfills these gratifications.

#### 4.5.2 Influence of Perceived Usefulness on SNS Preferences

The second objective was to find out the influence of Perceived Usefulness on Preferences of SNS by the university students when accessing reproductive health information. The following hypothesis was tested:

H<sub>02</sub> Perceived Usefulness has no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

The results of the *t*-test yielded  $t(306) = 19.188$ ,  $p(0.00) < 0.001$ . Therefore, the null hypothesis is rejected. The findings showed that there is a positive relationship between the two factors. The Perceived Usefulness identity index was  $\mu > 3.4$ , and therefore, the study concludes that SNS preferences in accessing reproductive health are determined by Perceived Usefulness as illustrated in Table 4.20.

**Table 4.20: One-Sample Test on Perceived Usefulness and SNS Preferences**

Test Value = 3.4						
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
PU	19.118	306	.000	.62313	.5590	.6873

According to Rubin, (2009) and Scherer (2010), perceived media usefulness is based on the needs or motives of each user and the act of fulfilling needs positions the user as an active consumer of media. Also, the theory by Blumler and Katz (1974) underscores that media usefulness plays an active role in the choice and use of a particular media platform. The users take an active part in the communication process and are focused on their media use. The researcher further observes that a media user seeks out a media source that best fulfills their needs with the assumption that the user has choices to satisfy their needs.

This is in line with a key Informant 1- Chief Medical Officer who opined that:

*“Firstly, social networking is real-time. Therefore communication is instant, and the information is always updated. Two, these sites give the user a lot of power to determine the type of information they receive and from whom; personalized information. Users can look into the background of their connections through their profiles across the social media platforms and online in general to vet them and their information. These, in my opinion, makes them useful for the youth when accessing reproductive health information.”*

The finding of this study concerning Perceived Usefulness of social networking sites by the youth when accessing reproductive health, concurs with both the literature review and the key informant responses.

#### 4.5.3 Influence of Perceived Ease of Use on SNS Preferences

The third objective explored the influence of Perceived Ease of Use on Preferences of SNS for accessing reproductive health information where the null hypothesis was:

H<sub>03</sub> Perceived ease of use has no significant influence on Social Network Site preferences for accessing reproductive health information among students in public universities in Nairobi.

The finding demonstrate that there is a positive relationship between the variable with a *t*-test results returned  $t(306) = 19.717$ ,  $p(0.000) < 0.001$ . Therefore, the null hypothesis is rejected. Perceived Ease of Use identity index  $\mu > 3.4$ , shows that Perceived ease of Use influenced SNS preferences for accessing reproductive health is by as illustrated in Table 4.21

**Table 4.21: One-Sample Test for Perceived Ease of Use (PEOU)**

Test Value = 3.4						
T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference		
				Lower	Upper	
19.717	306	.000	.69805	.6284	.7677	
PEOU						

According to Davis (1989), user motivation and increased system use is directly proportional to ease of use. This, in turn, is directly influenced by an external stimulus consisting of the actual system's features and capabilities. When users are presented with new technology, different variables influence the decision whether and how they will use it.

Perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free from effort” (Davis, 1989, p. 320). Therefore according to Davis (1989), perceived usefulness and perceived ease of use are the two main factors determining an individual’s intention to accept and use an SNS. In conclusion, perceived usefulness of a particular SNS is directly influenced by perceived ease of use. Quantitative findings were not far from the qualitative findings of the key informant interview. When interrogated about the influence of Perceived Ease of Use, the Key Informant 1-The Chief Medical Officer indicated that:

*“As with most technological adoptions, the ease with which a user can get any technology to do what the user wants it to do plays a significant role in not just adoption but the extent of use. Social Network Sites have a feature that makes them easy to use and appealing to the youth when accessing information. They are accessible anywhere with internet connectivity across all devices; there are platforms that are either photo-centric such as Instagram or predominantly text-based or a combination such as Facebook, plus internet is affordable. All these features make these sites very convenient and highly accessible.”*

Key informant 2-The Health Officer opined that:

*“The main advantage of social networking site as a reproductive health information source over other sources is convenience, in terms of access and availability. All the youth need now to access is any devices with access to the internet. Mobile phones and internet are very affordable nowadays; they do not have to visit health facilities to get most of the information they need. It is all literary in their hands and easy to use*

The study confirms that the preference of SNS is strongly influenced by Perceived Ease of use, with a correlation identity index  $\mu > 3.4$  which is further supported the literature and the results from the key informants.

## 4.6 Regression analysis and Correlation analysis

### 4.6.1 Regression Diagnostics

To assess the influence of gratifications, perceived ease of use and perceived usefulness on preference of SNS, this study used ordinary least squares regression (OLS) model whose general form is stated in chapter three. OLS modeling is based on specific assumptions. Thus it was necessary perform diagnostics to determine how well these assumptions were upheld before the results of the model were presented. Various diagnostic tests were conducted to ensure that the coefficients of the estimates were consistent and could be relied upon in making inferences. As argued by Greene (2002) regression can only be accurately estimated if the basic assumptions of multiple linear regressions are observed. The study thus performed tests for linearity, homoscedasticity, autocorrelation, multicollinearity and normality taking remedial action where necessary as presented below.

### 4.6.2 Homoscedastic Test Results

One of the assumptions of linear regression analysis tested in this study was homoscedasticity; this implies that the error terms along the regression line were equal. According to Barley (2009), the violation of homoscedasticity which is otherwise known as heteroscedasticity makes it difficult to gauge the true standard deviation of the forecast errors, usually resulting in confidence intervals that are too wide or too narrow. Particularly, if there is an increase in the variance of the error term over time, confidence intervals for out-of-sample predictions will tend to be unrealistically narrow. In that case, heteroscedasticity may also have the effect of giving too much weight to a small subset of the data (namely the subset where the error variance was largest) when estimating coefficients. Thus, to prevent such scenario when conducting research, it is expedient to test for homoscedasticity before carrying out a regression analysis. Therefore, this study tested the null hypothesis that the data collected was homoscedastic in variance using Breusch pagan test.

**Table 4.22: Breusch Pagan Test for Homoscedasticity**

Test Statistics	Degree of Freedom	P-Value
139.234	3	1.000

The result of the test presented in Table 4.22 revealed that the test statistics was 139.234 while the p-value was 1 indicating that the data collected was not heteroscedastic in variance and thus necessitating the acceptance of null hypothesis that the data collected was homoscedastic invariance and can be relied on for regression analysis.

### 4.6.3 Autocorrelation Test

Durbin Watson Statistic was conducted to test for autocorrelation in the data before accepting it for regression analysis. According to Kothari and Garg, (2014), autocorrelation occurs when the residuals are not independent of each other. In other words, when the value of  $y(x+1)$  is not independent of the value of  $y(x)$ . Therefore, the null hypothesis that there was no autocorrelation in the data collected for this study was tested with use of Durbin Watson Statistics. The results revealed that the Durbin Watson Statistics for lag 1 was 1.624 which was between the two critical values  $1.5 < d < 2.5$ . Therefore the null hypothesis which stated that there was autocorrelation in the data was rejected. This implies that the residuals were independent of each other. Similarly, the result satisfied the rule of thumb, which states that values of  $1.5 < d < 2.5$  show that there is no autocorrelation in the data (Barley, 2009).

**Table 4.23: Autocorrelation**

<b>Model Summary</b>					
Model	R	R Square	Adjusted R Square	Std. The error of the Estimate	Durbin-Watson
1	.731 <sup>a</sup>	.534	.575	.62141	1.624

### 4.6.4 Normality Test

The results presented in Table 4.24 showed a K-S statistic whose probability values were greater than 0.05 which was an indication the data was normally distributed.

**Table 4.24: Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Gratifications	.182	307	.560	.941	307	.970
Perceived usefulness	.207	307	.078	.903	307	.110
Perceived ease of use	.150	307	.430	.938	307	.380
Preference of SNS	.167	307	.980	.930	307	.479

a. Lilliefors Significance Correction

### 4.6.5 Test for Multicollinearity

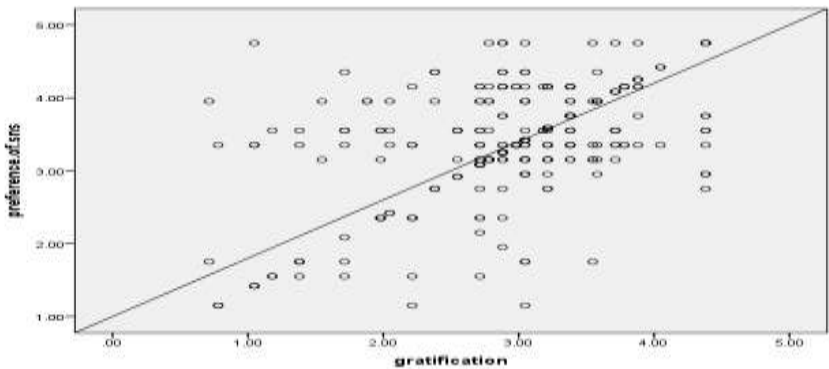
The results in Table 4.25 show that the independent variables had a variance inflation factor of less than ten which was an indication of non- existence of multicollinearity.

**Table 4.25: Tests of Multicollinearity**

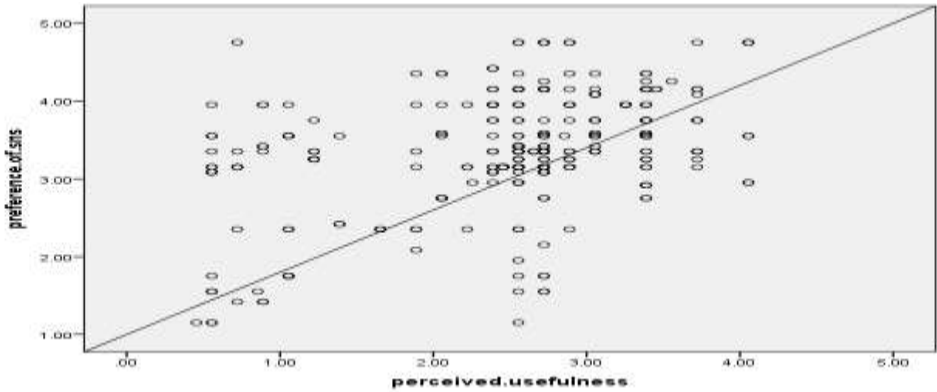
Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Gratifications	.618	1.619
Perceived usefulness	.487	2.055
Perceived ease of use	.503	1.987

**4.6.6 Test for linearity**

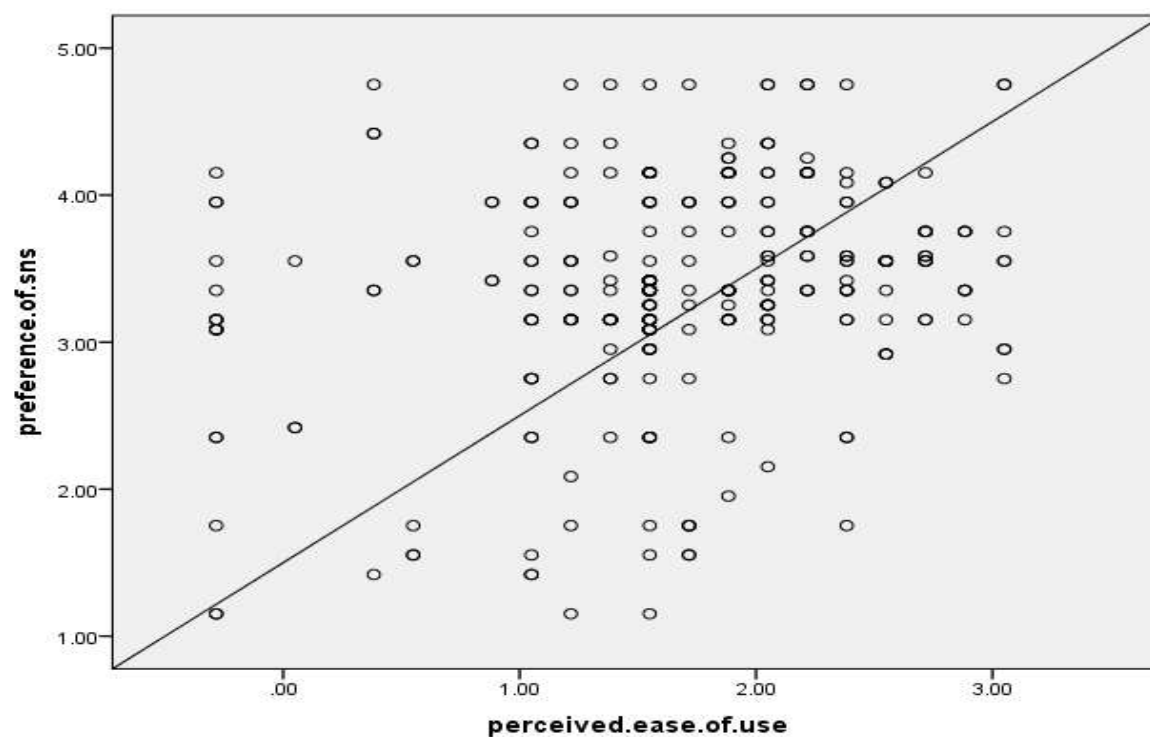
This was performed to test the linearity of plots of independent variables of Gratifications, Perceived usefulness, and Perceived ease of use of SNS preferences for accessing reproductive health information among university students. The results of the linearity plots in the following figures show the independent variables had observations, which were balanced on a straight line, which was an indication that the linearity test was satisfied.



**Figure 4.2 a linearity plot of gratification**



**Figure 4.2 b linearity plot of perceived usefulness**



**Figure 4.2 c Linearity plot of perceived ease of use.**

#### **4.7 Correlation Analysis**

In order to specify the strength and direction of the linear relationship between the independent variables and SNS preferences, bivariate correlations between the computed study variables and the dependent variables were conducted.

##### **4.7.1 Correlation of Gratification Sub Variables on the SNS preferences**

The study sought to find out the effect of gratifications on the SNS preferences. Gratification was further unpacked into sub-variables of personal identity, surveillance and social capital. The study found out the correlations between independent variables, namely; personal identity, surveillance and social capital were significant since they had P values less than the standard P value of 0.05. The personal identity reported a,  $P=0.008$  and an  $r=0.650$ , surveillance  $P=0.001$  and of  $r=0.196$ , and social capital  $r=0.570$ ,  $P=0.004$ . Surveillance was found to have the highest significance while personal identity reported the lowest. The finding compare with Daiton and Zelle, 2011 and Whiting & Williams, (2013) who opined that surveillance as a sub-theme of uses and gratification theory involves finding relevant events, seeking advice, satisfying general interest or curiosity, learning, self-education, or gaining a sense of security through knowledge. On the other hand, personal identity scores the lowest since intimacy leading to self-disclosures are hard to create since the youth fear the disclosure of their health information that they deem to be very private (Jiang, Bazarova, & Hancock, 2011). This was illustrated in Table 4.26.

**Table 4.26: Correlation of Gratifications Sub Variables on the preference of SNS**

		<b>Correlations</b>			
		Preference of SNS	Personal identity	Surveillance	Social capital
Preference of SNS	Pearson	1	.650	.196**	.570
	Correlation				
	Sig. (2-tailed)		.008	.001	.004
	N	307	307	307	307
Personal identity	Pearson	.650	1	.176**	-.035
	Correlation				
	Sig. (2-tailed)	.008		.002	.003
	N	307	307	307	307
Surveillance	Pearson	.196**	.176**	1	.212**
	Correlation				
	Sig. (2-tailed)	.001	.002		.000
	N	307	307	307	307
Social capital	Pearson	.570	.005	.002**	1
	Correlation				
	Sig. (2-tailed)	.004	.003	.000	
	N	307	307	307	307

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### **4.7.2 Correlation between Perceived Usefulness sub-variables and SNS preferences**

The study found a significant correlation between the perceived usefulness and preference of SNS for assessing reproductive health information. The study further sought to find the correlation of individual sub-variable of perceived usefulness namely; relevance, currency and authority. The study results found out that the Correlations between variables, namely; relevance, currency and authority were significant since they had P values less than the standard P value of 0.05(relevance (r=0.590,P=0.020), currency(r=0.114,P=0.05) and authority(r=0.020,P=0.007). Authority was found to have the highest significance. According to Selkie et al., (2011), trust was found to be major since the young adults want sexual and reproductive health resources to be trustworthy, that is both credible and confidential. The youth feel comfortable when searching information from sites that seem to be credible. Currency was found to have no impact at all since its P was equal to 0.05 which is the threshold of determining if a variable is significant or not. The Timeliness in SNS relates to the fact that information is in demand or that is relevant to the environment, can be shared easily, highly scalable, regular updates, social support when needed (McNab, 2009; Kaplan & Haenlein, 2010). The information in the SNS is generated in real-time and updated continuously, and therefore they deem it to be current and therefore not a major concern when accessing the reproductive health information. Heldman, Schindelar and Weaver, (2013) argued that the real-time aspect of information is a key component in ensuring that our communication efforts are relevant, meaningful, and useful to our audiences. This is illustrated in Table 4.27.



**Table 4.27: Correlation between Perceived Usefulness sub-variables and SNS Preferences**

<b>Correlations</b>		Preference of SNS	Relevance	Currency	Authority
Preference of SNS	Pearson Correlation	1	.590	.114	.020
	Sig. (2-tailed)		.020	.058	.007
	N	307	288	276	286
Relevance	Pearson Correlation	.590	1	.023**	.143*
	Sig. (2-tailed)	.020		.000	.018
	N	288	288	273	275
Currency	Pearson Correlation	.114	.023**	1	.206**
	Sig. (2-tailed)	.048	.000		.001
	N	276	273	276	261
Authority	Pearson Correlation	.020	.143*	.206**	1
	Sig. (2-tailed)	.007	.018	.001	
	N	286	275	261	286

#### 4.7.3 Correlation of Perceived Ease of Use sub-variables and preference of SNS

Finally, the study sought to find out the impact of the unpackaged sub-variables of perceived ease of use. The results show that the Correlations between variables, namely; Convenience ( $r=0.10$ ,  $P=0.008$ ), Interactivity ( $r=0.61$ ,  $P=0.000$ ) and Privacy and Security( $r=0.500$ ,  $P=0.004$ ) were found to be significant since they had P values less than the standard P value of 0.05. Interactivity reported the highest significance of 0.000, followed by privacy & security while convenience had the lowest significance. Interactivity is one of the most distinctive characteristics of social media owing to the participatory nature that allows interested parties an opportunity to engage in an interaction (Mayfield, 2008). By encouraging contributions and feedback from everyone who is interested, social media blurs the line between media and audience. The SNS allows people to share and engage with each other so that they enable content sharing (Rosso et al., 2008). The interactivity relates to the message as well as the users feeling in control when using the SNS leading to users satisfaction (Chan-Olmsted et al., 2013; Shipp & Phillips, 2013). On the other hand, convenience score the lowest. The SNS are already available if you have a smart device of a computer According to Heldman, Schindelar, and Weaver, (2013) social media allow us to share health information in new spaces. This was illustrated in Table 4.28.

**Table 4.28: Correlation between Perceived Ease of Use sub-variables and SNS Preferences**

		Correlations			
		Preference of SNS	Convenience	Interactivity	Privacy and security
Preference of SNS	Pearson	1	.100	.610	.500
	Correlation				
	Sig. (2-tailed)		.008	.000	.004
Convenience	N	307	307	307	307
	Pearson	.100	1	.180**	.014
	Correlation				
Interactivity	Sig. (2-tailed)	.008		.002	.805
	N	307	307	307	307
	Pearson	.610	.180**	1	.670
Privacy and security	Correlation				
	Sig. (2-tailed)	.000	.002		.007
	N	307	307	307	307
	Pearson	.500	.014	.670	1
	Correlation				
	Sig. (2-tailed)	.004	.005	.007	
	N	307	307	307	307

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### 4.7.4 Correlation Results for Dependent and the Independent variables

Correlations between independent variables, namely; gratifications, perceived usefulness and perceived ease of use and dependent variable- SNS preferences were found to be significant at 0.05 level of significance as illustrated in Table 4.29.

**Table 4.29: Correlation Results for Dependent and Independent Variables.**

		Gratification	Perceived ease of use	Perceived. usefulness	Preference of SNS
Gratifications	Pearson	1	.555**	.575**	.489**
	Correlation				
	Sig. (2-tailed)		.000	.000	.000
Perceived ease of use	N	307	307	307	307
	Pearson	.555**	1	.675**	.255**
	Correlation				
Perceived usefulness	Sig. (2-tailed)	.000		.000	.000
	N	307	307	307	307
	Pearson	.575**	.675**	1	.417**
Preference of SNS	Correlation				
	Sig. (2-tailed)	.000	.000		.000
	N	307	307	307	307
	Pearson	.489**	.255**	.417**	1
	Correlation				
	Sig. (2-tailed)	.000	.000	.000	
	N	307	307	307	307

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### 4.8 Regression Analysis

The study performed regression analysis to examine the influence of independent variables on the dependent variable as outlined in the next section.

#### 4.8.1 Regression Analysis of Gratifications on the SNS Preferences

The study sought to examine the influence of gratifications on the preference of SNS using objective 1 and the hypothesis as follows:

**Objective 1:** To find out how gratifications influence preference of SNS

**H<sub>01</sub>:** gratifications has a significant effect on the preferences of SNS

To determine the relationship, the model  $Y = \beta_0 + \beta_1 X_1 + \varepsilon$  was fitted. The regression results in Table 4.30 show that the effect of gratifications on the preference of SNS was significant (F (1, 305) =96.082, p=0.000<0.05). With R =0.789 and R<sup>2</sup> = 0.623, the model implies that about 78.9% of preference of SNS changes were accounted for by gratifications, while a variation of 62.3% in preference of SNS was brought about by gratifications.

**Table 4.30:Results of Influence of Gratifications on the SNS Preferences**

Model Summary						
Model	R	R Square	Adjusted R Square		Std. The error of the Estimate	
1	.789 <sup>a</sup>	.623	.637		.63763	
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	39.065	1	39.065	96.082	.000 <sup>b</sup>
1	Residual	124.006	305	.407		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	1.967	.147		13.346	.000
		.481	.049	.489	9.802	.000
	Gratification					

The F test was significant with a p-value =0.000 which was less than the standard

p-value of 0.05, and this meant that the model was significant. From ANOVA, since

p-value p=0.000 and was lower than p=0.05 (p-value 0.000<0.05), then the contribution of gratification to the preference of SNS was significant, and the conclusion is that gratification causes preference of SNS to increase. The equation that was fitted for the model was:

$$Y = 1.967 + 0.481X_1$$

The coefficient for gratifications ( $\beta$ ) was also significant ( $\beta = 0.481$ ,  $t = 9.802$ ,  $p = 0.000<0.05$ ) indicating that gratifications increased preference of SNS by about 0.481 units. Since p-value =0.000< 0.05, the null hypothesis was rejected and concluded that there was a statistically significant relationship between gratifications and preference of SNS.

#### 4.8.2 Regression of the Influence of Perceived Usefulness on the Preferences of SNS

The study sought to investigate the influence of perceived usefulness on the preference of SNS using objective 2 and the hypothesis as stated below.

**Objective 2:** To find out how perceived usefulness influence preference of SNS in accessing reproductive health information,

**H<sub>02</sub>:** Perceived usefulness has a significant effect on the preference of SNS

To determine the relationship, the model  $Y = \beta_0 + \beta_2 X_2 + \varepsilon$  was fitted. The regression results are as shown in Table 4.31 show that the effect of perceived usefulness on the preference of SNS was significant ( $F(1, 305) = 64.139$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.417$  and  $R^2 = 0.174$ , the model implies that about 41.7% of preference of SNS changes were accounted for by perceived usefulness, while a variation of 17.4% in preference of SNS was brought about by perceived usefulness.

**Table 4.31: Regression results of Perceived usefulness on the Preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. The error of the Estimate		
1	.417 <sup>a</sup>	.174	.171	.66465		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	28.334	1	28.334	64.139	.000 <sup>b</sup>
1	Residual	134.737	305	.442		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.477	.117		21.084	.000
	Perceived usefulness	.357	.045	.417	8.009	.000

The F test was significant with a p-value =0.000 which was less than the standard

p-value of 0.05, and this meant that the model was significant. From ANOVA, since

p-value  $p = 0.000$  and was lower than  $p = 0.05$  ( $p\text{-value } 0.000 < 0.05$ ), then the contribution of perceived usefulness to the preference of SNS was significant, and the conclusion is that perceived usefulness causes preference of SNS to increase. The equation that was fitted for the model was

$$Y = 2.477 + 0.357X_2$$

The coefficient for perceived usefulness ( $\beta$ ) was also significant ( $\beta = 0.357$ ,  $t = 21.084$ ,  $p = 0.000 < 0.05$ ) indicating that perceived usefulness increased preference of SNS by about 0.357 units. Since  $p\text{-value} = 0.000 < 0.05$ , the null hypothesis was

rejected and concluded that there was a statistically significant relationship between perceived usefulness and preference of SNS. Extant literature has shown perceived usefulness to have a significant effect on user adoption and satisfaction across a range of technologies (Davis et al., 1992).

#### 4.8.3 Regression Analysis of Perceived Ease of Use on the Preference of SNS

Perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free from effort” (Davis, 1989, p. 320). The study sought to determine the influence of perceived ease of use on the preference of SNS using objective 3 and the hypothesis as stated below.

**Objective 3:** To find out how perceived ease of use influences preference of SNS

**H<sub>03</sub>:** perceived ease of use has a significant effect on the preference of SNS

To determine the relationship, the model  $Y = \beta_0 + \beta_3 X_3 + \varepsilon$  was fitted.

The regression results in Table 4.32 show that the effect of perceived ease of use influence on the preferences of SNS was significant (F (1, 305) =21.211, p=0.000<0.05). With R =0.655 and R<sup>2</sup> = 0.429, the model implies that about 65.5% of preference of SNS changes were accounted for by perceived ease of use, while a variation of 42.9% in preference of SNS was brought about by perceived ease of use.

**Table 4.32: Regression Results of Perceived Ease of Use on the Preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. The error of the Estimate		
1	.655 <sup>a</sup>	.429	.432	.70703		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	10.603	1	10.603	21.211	.000 <sup>b</sup>
1	Residual	152.468	305	.500		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.959	.097		30.414	.000
	Perceived ease of use	.246	.053	.255	4.606	.000

The F test was significant with a p-value =0.000 which was less than the standard p-value of 0.05, and this meant that the model was significant. From ANOVA, since p-value p=0.000 and was lower than p=0.05 (p-value 0.000<0.05), then the contribution of perceived ease of use to the preference of SNS was significant, and the conclusion is that perceived ease of use causes preference of SNS to increase. The equation that was fitted for the model was

$$Y = 2.959 + 0.246X_3$$

The coefficient for perceived ease of use ( $\beta$ ) was also significant ( $\beta = 0.246$ ,  $t = 4.606$ ,  $p = 0.000 < 0.05$ ) indicating that perceived ease of use increased preference of SNS by about 0.246 units. Since  $p$ -value  $= 0.000 < 0.05$ , the null hypothesis was rejected and concluded that there was a statistically significant relationship between perceived ease of use and preference of SNS. The study findings concur with TAM which explains that in a social networking site the more comfortable the user gets the information they are looking for, the more positive they feel toward the technology. (Davis, 1989; Shipp & Phillips, 2013). Use, perceived ease of use and perceived usefulness of social networking media are considered as the critical factors on the behavioral intention of accepting and using of technology amongst the students in the university (Elkaseh, Wong, & Fung, 2016). A study by Lane, and Coleman, (2012) on the technology ease of use through social networking media revealed that higher perceived ease of use led to greater intensity of use of a particular social networking media.

#### 4.8.4 Multivariate regression analysis of independent variables and preference of SNS

The study sought to determine the influence of gratifications, perceived ease of use and perceived usefulness on the preference of SNS using objective 4 and the hypothesis as stated below.

**Objective 4:** To find out how gratifications, perceived usefulness and perceived ease of use influence preference of SNS for accessing reproductive health information among university students in Nairobi.

**H<sub>04</sub>:** gratifications, perceived ease of use and perceived usefulness have a significant effect on the preference of SNS for accessing reproductive health information among university students in Nairobi.

To determine the relationship, the model  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$  was fitted.

The regression results in Table 4.33 show that the effect of gratifications, perceived usefulness and perceived ease of use on the preference of SNS was significant ( $F(3, 303) = 39.764$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.731$  and  $R^2 = 0.534$ , it implies that about 73.1% of preference of SNS changes were accounted for by gratifications, perceived ease of use and perceived usefulness, while a variation of 53.4% in preference of SNS was brought about by gratifications, perceived usefulness and perceived ease of use.

**Table 4.33: Regression Results of gratifications, perceived ease of use and perceived usefulness on the preference of SNS.**

Model Summary						
Model	R	R Square	Adjusted R Square		Std. The error of the Estimate	
1	.731 <sup>a</sup>	.534	.575		.62141	
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	46.066	3	15.355	39.764	.000 <sup>b</sup>
	Residual	117.005	303	.386		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.824	.148		12.361	.000
	Gratifications	.410	.061	.417	6.737	.000
	Perceived usefulness	.253	.060	.296	4.238	.000
	Perceived ease of use	.170	.066	.176	2.565	.011

The F test was significant with a p-value =0.000 which was less than the standard

p-value of 0.05, and this meant that the model was significant. From ANOVA, since

p-value p=0.000 and was lower than p=0.05 (p-value 0.000<0.05), then the contribution of gratifications, perceived usefulness and perceived ease of use to the preference of SNS was significant, and the conclusion is that gratifications, perceived ease of use and perceived usefulness cause preference of SNS to increase. The following equation is fitted for the model:

$$Y = 1.824 + 0.410X_1 + 0.253X_2 + 0.170X_3$$

The coefficient for gratifications, perceived usefulness and perceived ease of use ( $\beta$ ) were also significant with p-value <0.05) indicating that gratifications, perceived usefulness and perceived ease of use increased preference of SNS by about 0.410, 0.170 and 0.253 respectively. Since p-values were less than 0.05, the null hypothesis was rejected and concluded that there was a statistically significant relationship between gratifications, perceived ease of use and perceived usefulness and preference of SNS.

#### **4.8.5 The Moderating effect of Demographic factors on Perceived Usefulness to Preferences of SNS**

The regression results in Table 4.34 below show that the effect of perceived usefulness on the preference of SNS was significant (F (1, 305) =81.806, p=0.000<0.05). With R =0.460 and R<sup>2</sup> = 0.211, the model implies that about 46% of preference of SNS changes were accounted for by gratifications, while a variation of 21.1% in preference of SNS was

brought about by gratifications. **Table 4.34: Demographic Moderating effects on Perceived Usefulness and Preference of SNS**

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate		
1	.460	.211	.209	.64929		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	34.488	1	34.488	81.806	.000
1	Residual	128.583	305	.422		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.657	.112		23.689	.000
1	Perceived usefulness*Demo	.074	.008	.460	9.045	.000

The F test was significant with a p-value =0.000 which was less than the standard

p-value of 0.05, and this meant that the model was significant. From ANOVA, since

p-value p=0.000 and was lower than p=0.05 (p-value 0.000<0.05), then the contribution of perceived usefulness to the preference of SNS was significant, and the conclusion is that perceived usefulness causes preference of SNS to increase in the presence of demographic characteristics of age and gender.

The coefficient for gratifications ( $\beta$ ) was also significant ( $\beta = 0.074$ ,  $t = 9.045$ ,  $p = 0.000 < 0.05$ ) indicating that gratifications in presence of demographic characteristics increased preference of SNS by about 0.074 units.

#### 4.8.5.1 Demographic Variable moderating effect on Perceived Ease of use to SNS Preference

The regression results in Table 4.35 show that the effect of perceived ease of use on the preference of SNS was significant ( $F(1, 305) = 38.374$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.334$  and  $R^2 = 0.112$ , the model implies that about 33.4% of preference of SNS changes were accounted for by perceived ease of use, while a variation of 11.2% in preference of SNS was brought about by perceived ease of use in the presence of demographic characteristics.



**Table 4.35: Demographic Variable Moderating Effect on Perceived Ease of Use to the Preference of SNS**

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate		
1	.334	.112	.109	.68914		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	18.224	1	18.224	38.374	.000
1	Residual	144.847	305	.475		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.922	.118		24.664	.000
1	Perceived ease of use*demo	.052	.008	.334	6.195	.000

The F test was significant with a p-value =0.000 which was less than the standard p-value of 0.05, and this meant that the model was significant. From ANOVA, since p-value p=0.000 and was lower than p=0.05 (p-value 0.000<0.05), then the contribution of perceived ease of use to the preference of SNS was significant, and the conclusion is that perceived ease of use causes preference of SNS to increase in the presence of demographic characteristics.

The coefficient for gratifications ( $\beta$ ) was also significant ( $\beta = 0.052$ ,  $t = 6.195$ ,  $p = 0.000 < 0.05$ ) indicating that gratifications increased preference of SNS by about 0.246 units.

#### 4.8.5.2 Demographic Variable moderating effect on Gratifications to SNS Preference

The regression results in the Table 4.36 show that the effect of gratification on the preference of SNS was significant ( $F(1, 305) = 21.211$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.443$  and  $R^2 = 0.196$ , the model implies that about 44.3% of preference of SNS changes were accounted for by gratifications, while a variation of 19.6% in preference of SNS was brought about by gratification in the presence of demographic characteristics.

**Table 4.36: Demographic Variable Moderating Effect on Gratification to Preference of SNS**

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate		
1	.443	.196	.193	.65568		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	31.945	1	31.945	74.305	.000
1	Residual	131.126	305	.430		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.731	.109		25.010	.000
1	Gratifications*demo	.070	.008	.443	8.620	.000

The F test was significant with a p-value =0.000 which was less than the standard

p-value of 0.05, and this meant that the model was significant. From ANOVA, since

p-value p=0.000 and was lower than p=0.05 (p-value 0.000<0.05), then the contribution of gratification to the preference of SNS was significant. The coefficient for gratifications ( $\beta$ ) was also significant ( $\beta = 0.07$ ,  $t = 8.62$ ,  $p = 0.000 < 0.05$ ) indicating that gratifications increased preference of SNS by about 0.07 units.

#### 4.8.5.3 Moderating Effect of Age on Gratifications to the Preference of SNS

The regression results in Table 4.37 show that the effect of gratification on preference of SNS was significant ( $F(1, 305) = 53.49$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.386$  and  $R^2 = 0.149$ , the model implies that about 38.6% of preference of SNS changes were accounted for by gratifications, while a variation of 14.9% in preference of SNS was brought about by gratifications.

The F test was significant with a p value =0.000 which was less than the standard p value of 0.05 and this meant that the model was significant. From ANOVA, since p value p=0.000 and was lower than p=0.05 (p value 0.000<0.05), then the contribution of gratifications to preference of SNS was significant, and the conclusion is that gratification causes preference of SNS to increase when moderated by age

**Table 4.37: Moderating Effect of Age on Gratification to the Preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.386 <sup>a</sup>	.149	.146	.67445		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	24.332	1	24.332	53.490	.000 <sup>b</sup>
1	Residual	138.739	305	.455		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.589	.113		22.891	.000
	Gratification*age	.246	.034	.386	7.314	.000

The coefficient for gratifications ( $\beta$ ) was also significant ( $\beta = 0.246$ ,  $t = 7.314$ ,  $p = 0.000 < 0.05$ ) indicating that gratifications when moderated by age increased preference of SNS by about 0.246 units.

#### 4.8.5.4 The Moderating Effect of Age on Perceived Usefulness to Preference of SNS

The regression results in Table 4.38 show that the effect of perceived usefulness on preference of SNS was significant ( $F(1, 305) = 43.271$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.352$  and  $R^2 = 0.124$ , the model implies that about 35.2% of preference of SNS changes were accounted for by perceived usefulness, while a variation of 12.4% in preference of SNS was brought about by perceived usefulness.

**Table 4.38: Moderating Effect of Age on Perceived Usefulness to Preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.352 <sup>a</sup>	.124	.121	.68427		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	20.261	1	20.261	43.271	.000 <sup>b</sup>
1	Residual	142.810	305	.468		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.787	.097		28.873	.000
	Perceived usefulness of use*age	.214	.033	.352	6.578	.000

The F test was significant with a p value = 0.000 which was less than the standard

p value of 0.05 and this meant that the model was significant. From ANOVA, since

p value  $p=0.000$  and was lower than  $p=0.05$  (p value  $0.000<0.05$ ), then the contribution of perceived usefulness to preference of SNS was significant, and the conclusion is that perceived usefulness causes preference of SNS to increase when moderated by age

The coefficient for perceived usefulness ( $\beta$ ) was also significant ( $\beta = 0.214$ ,  $t = 6.578$ ,  $p = 0.000<0.05$ ) indicating that perceived usefulness when moderated by age increased preference of SNS by about 0.214 units.

#### 4.8.5.5 The Moderating Effect of Age on Perceived Ease of Use on Preference of SNS

The regression results in Table 4.39 shows that the effect of perceived ease of use on preference of SNS was significant ( $F(1, 305) = 20.236$ ,  $p=0.000<0.05$ ). With  $R = 0.249$  and  $R^2 = 0.062$ , the model implies that about 24.9% of preference of SNS changes were accounted for by perceived ease of use, while a variation of 6.2% in preference of SNS was brought about by perceived ease of use.

**Table 4.39 : Moderating Effect of Age on Perceived Ease of Use on Preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.249 <sup>a</sup>	.062	.059	.70809		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	10.146	1	10.146	20.236	.000 <sup>b</sup>
1	Residual	152.925	305	.501		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.026	.086		35.240	.000
	perceived.ease.of.use*age	.189	.042	.249	4.498	.000

The F test was significant with a p value  $=0.000$  which was less than the standard

p value of 0.05 and this meant that the model was significant. From ANOVA, since

p value  $p=0.000$  and was lower than  $p=0.05$  (p value  $0.000<0.05$ ), then the contribution of perceived ease of use to preference of SNS was significant, and the conclusion is that perceived ease of use causes preference of SNS to increase when moderated by age

The coefficient for perceived ease of use ( $\beta$ ) was also significant ( $\beta = 0.189$ ,  $t = 4.498$ ,

$p = 0.000<0.05$ ) indicating that perceived ease of use when moderated by age increased preference of SNS by about 0.189 units.

#### 4.8.5.6 The Moderating Effect of Gender on Perceived Usefulness to Preference of SNS

The regression results in Table 4.40 shows that the effect of perceived usefulness on preference of SNS was significant ( $F(1, 305) = 25.654$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.279$  and  $R^2 = 0.078$ , the model implies that about 27.9% of preference of SNS changes were accounted for by perceived usefulness, while a variation of 7.8% in preference of SNS was brought about by perceived usefulness.

The F test was significant with a p value  $= 0.000$  which was less than the standard p value of 0.05 and this meant that the model was significant. From ANOVA, since p value  $p = 0.000$  and was lower than  $p = 0.05$  (p value  $0.000 < 0.05$ ), then the contribution of perceived usefulness to preference of SNS was significant, and the conclusion is that perceived usefulness causes preference of SNS to increase when moderated by gender.

The coefficient for perceived usefulness ( $\beta$ ) was also significant ( $\beta = 0.109$ ,  $t = 5.065$ ,  $p = 0.000 < 0.05$ ) indicating that perceived usefulness when moderated by gender increased Preference of SNS by about 0.109 units.

**Table 4.40: Moderating Effect of Gender on Perceived Usefulness to Preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.279 <sup>a</sup>	.078	.075	.70227		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.652	1	12.652	25.654	.000 <sup>b</sup>
	Residual	150.419	305	.493		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.969	.088		33.647	.000
	Perceived.usefulness*gender	.109	.022	.279	5.065	.000

#### 4.8.5.7 The Moderating Effect of Gender on Perceived Ease of Use to Preference of SNS

The regression results in Table 4.41 show that the effect of perceived ease of use on preference of SNS was significant ( $F(1, 305) = 14.648$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.214$  and  $R^2 = 0.046$ , the model implies that about 21.4% of preference of SNS changes were accounted for by perceived ease of use, while a variation of 4.6% in preference of SNS was brought about by perceived usefulness.

**Table 4.41: Moderating Effect of Gender on Perceived Ease of Use and Preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.214 <sup>a</sup>	.046	.043	.71425		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	7.473	1	7.473	14.648	.000 <sup>b</sup>
1	Residual	155.598	305	.510		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.105	.080		38.922	.000
	perceived.ease.of.use*gender	.109	.028	.214	3.827	.000

The F test was significant with a p value =0.000 which was less than the standard p value of 0.05 and this meant that the model was significant. From ANOVA, since p value p=0.000 and was lower than p=0.05 (p value 0.000<0.05), then the contribution of perceived ease of use to preference of SNS was significant, and the conclusion is that perceived ease of use causes preference of SNS to increase when moderated by gender

The coefficient for perceived ease of use ( $\beta$ ) was also significant ( $\beta = 0.109$ ,  $t = 3.827$ ,  $p = 0.000 < 0.05$ ) indicating that perceived usefulness when moderated by gender increased preference of SNS by about 0.109 units.

#### 4.8.5.8 The Moderating effect of Gender on Gratification to SNS Preference

The regression results in table 4.42 show that the effect of gender on gratifications to preference of SNS was significant ( $F(1, 305) = 25.518$ ,  $p = 0.000 < 0.05$ ). With  $R = 0.278$  and  $R^2 = 0.077$ , the model implies that about 27.8% of preference of SNS changes were accounted for by gratifications, while a variation of 7.7% in preference of SNS was brought about by gratifications.

**Table 4.42: Moderating Effect of Gender on Gratification to the Preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.278 <sup>a</sup>	.077	.074	.70241		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	12.590	1	12.590	25.518	.000 <sup>b</sup>
1	Residual	150.481	305	.493		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.920	.097		30.060	.000
	Gratification*gender	.105	.021	.278	5.052	.000

The F test was significant with a p value =0.000 which was less than the standard p value of 0.05 and this meant that the model was significant. From ANOVA, since

p value p=0.000 and was lower than p=0.05 (p value 0.000<0.05), then the contribution of gratifications to preference of SNS was significant, and the conclusion is that gratifications causes preference of SNS to increase when moderated by gender. The coefficient for gratifications ( $\beta$ ) was also significant ( $\beta = 0.105$ ,  $t = 5.052$ ,  $p = 0.000 < 0.05$ ) indicating that gratifications when moderated by gender increased preference of SNS by about 0.105 units.

#### 4.9 Regression Analysis

The study sought to find out how gratifications, perceived ease of use and perceived usefulness in the presence of demographic characteristics influence the preference of SNS using objective 5 and the hypothesis as stated below.

**Objective 5:** To find out how gratifications, perceived ease of use and perceived usefulness in the presence of demographic characteristics influence preference of SNS

**H<sub>05</sub>:** gratifications, perceived usefulness and perceived ease of use in the presence of demographic characteristics have a significant effect on the preference of SNS

To determine the relationship, the model

$$Y = \beta_0 + \beta_1 X_1 * M + \beta_2 X_2 * M + \beta_3 X_3 * M + \varepsilon \text{ was fitted.}$$

The regression results in Table 4.43 show that the effect of gratifications, perceived ease of use and perceived usefulness in the presence of demographic characteristics on the preference of SNS was significant (F (3, 303) =38.615, p=0.000<0.05).

With  $R = 0.726$  and  $R^2 = 0.527$ , the model implies that about 72.6% of preference of SNS changes were accounted for by gratifications, perceived ease of use and perceived usefulness in the presence of demographic characteristics, while a variation of 52.7% in preference of SNS was brought about by gratifications, perceived ease of use and perceived usefulness in the presence of demographic characteristics.

**Table 4.43: Combined Effect of gratifications, perceived ease of use and perceived usefulness in the presence of demographic characteristics on preference of SNS**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. The error of the Estimate		
	.726 <sup>a</sup>	.527	.569	.62397		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	45.103	3	15.034	38.615	.000 <sup>b</sup>
	Residual	117.968	303	.389		
	Total	163.071	306			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.469	.093		26.647	.000
	Gratification*demo	.106	.021	.504	5.007	.000
	Perceived usefulness*demo	.113	.025	.510	4.602	.000
	Perceived ease of use*demo	.152	.030	.572	5.131	.000

The F test was significant with a p-value =0.000 which was less than the standard p-value of 0.05, and this meant that the model was significant. From ANOVA, since p-value p=0.000 and was lower than p=0.05 (p-value 0.000<0.05), then the contribution of gratifications, perceived ease of use and perceived usefulness to preference of SNS was significant, and the conclusion is that gratifications, perceived ease of use and perceived usefulness in the presence of demographic characteristics cause preference of SNS to increase. The equation that was fitted for the model was

$$Y = 2.469 + 0.106X_1 * M + 0.113X_2 * M + 0.152X_3 * M$$

The coefficient for Lane, M., & Coleman, P. (2012) ( $\beta$ ) were always significant with p-value <0.05) indicating that gratifications, perceived ease of use and perceived usefulness increased preference of SNS by about 0.106, 0.152 and 0.113 respectively. Since p-values were less than 0.05, the null hypothesis was rejected and concluded that there was a statistically significant relationship between gratifications, perceived ease of use and perceived usefulness in



presence the presence of demographic characteristics and preference of SNS. Lane and Coleman, (2012) assert that higher perceived ease of use lead high percived usefulness of a particular SNS which ultimately results in greater intensity of use of the social networking media. This concurs with a study by Isaac et al (et al.) who asserted that there exist strong a relation between ease of use and usefulness.

The intention to use a technology is more directly influenced by the individual's perception of its usefulness even if they did not have a positive attitude toward using the technology (Venkatesh & Davis, 1996; Venkatesh & Davis, 2000). Gratification is purposive as it makes users to actively seek to fulfill their needs from a variety of use of different media (Katz, Blumler, and Gurevitch, 1974).

Luo, Remus, and Chea (2006) explored and integrated TAM model and Uses and gratification model. The validated model showed evidence of the interrelation of ease of use, perceived usefulness, and gratification in the choice of a particular technology

Lin and Chen (2017) explored the combination of Technology Acceptance Model and Uses and Gratifications which informed this study. The study found out that perceived usefulness (PU) directly influenced gratification, with gratification being indirectly influenced through perceived ease of use, and further that that gratification was significantly and positively related to usage intention and attitude toward attractions. This is because the university students were tech savvy and their intention to use SNS to access reproductive health is more directly influenced by the individual's perception of its usefulness even if they did not have a positive attitude toward using the technology

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

#### **5.1 Introduction**

The research sought to assess the determinants of social network site preferences for accessing reproductive health information among undergraduate university students in Nairobi. The chapter presents a comprehensive summary of the major findings, conclusions of the study. It also presents valuable recommendations as well as areas for further research for further research regarding design requirements of SNS to spur sustainable use by the use the youth while seeking reproductive health information.

#### **5.2 Summary**

The summary of the findings were organized around the objectives of the study, namely; This study sought to fulfill the following specific objectives:

1. To examine the influence of gratifications on social network site preferences for accessing reproductive health information among university students.
2. To investigate the influence of perceived usefulness on social network site preferences for accessing reproductive health information among university students.
3. To determine the influence of perceived ease of use on social network site preferences for accessing reproductive health information among university students.
4. To establish the moderating effect of demographic characteristics on the independent variables of gratifications, perceived ease of use, and perceived usefulness on SNS preferences for accessing reproductive health information among university students. This the summary of the findings was presented as per each objective.

##### **5.2.1 Gratifications and Social Network Site preferences**

The first study objective sought to find out how gratifications influence SNS preferences of undergraduate students in public universities in Nairobi County when accessing reproductive health information. The study findings revealed that gratifications significantly influence SNS preferences for accessing reproductive health information. The study findings revealed that gratifications significantly influence SNS preferences for accessing reproductive health information with surveillance having a high M of 4.38. The influence is because users choose media which best fulfills gratifications sought from available alternatives. The research further revealed that majority of SNS allow “users to express themselves well and participate in

reproductive health discussions among themselves, peers and medical professionals”. In addition, SNS users can understand their reproductive health information as well as help users to choose specific information that suits their needs without prejudice.

### **5.2.2 Perceived Usefulness and Social Network Site Preferences for Accessing Reproductive Health Information**

The second research objective sought to find out the influence of perceived usefulness on SNS preferences by undergraduate students in public universities in Nairobi County when accessing reproductive health information. The research findings established that perceived usefulness significantly influenced the choice of a particular SNS. Currency (4.083 ) and Relevance(4.034) were key constructs of perceived usefulness. The information on SNS can be accessed frequently and instantly and always update. The ability to verify the personal information and professional qualification of the information source also featured prominently. The media users often seek out a media source that best fulfills their needs with the assumption that the user has choices that can satisfy their needs.

The study, further found Facebook to be the most widely used SNS followed by WhatsApp, Twitter, and Instagram. This is because of the perceived usefulness. The SNS are perceived to be useful as they are instant, facilitate real-time interaction, always up to date in content, provide the user with freedom of choice from whom to receive information from in addition to the power to verify the source of information from the profiles of the users. The users, also, may decide to remain unanimous from the other users since reproductive health personal information is very private.

### **5.2.3 Perceived Ease of Use and SNS Preferences for Accessing Reproductive Health Information**

The third objective of the study was to determine the influence of perceived ease of use on SNS preferences on undergraduate students in public universities in Nairobi County when accessing reproductive health information. The study established that perceived ease of use of the social network sites was significant in influencing its preference for accessing reproductive health information. The easier an individual finds the information they are looking for, the more likely they are to use the social network site regularly owing to convenient access (4.434) to information anywhere through mobile phones and other portable devices, and the interactive nature (4.403) of SNS design which also provides sufficient access control mechanisms that allow users to determine who can view the content, activities or personal information. Within a social networking website, the easier an individual finds the information they are looking for, the more favorable the individual feels toward that technology. Hence these SNS tend to attract larger audiences providing an opportunity for health organizations and reproductive health promoters to tap into vast potential users of such information more efficiently. The ease of use of SNS has been precipitated by easy access to the mobile phone devices since users are likely to have their phone with them and within reach most of the time, and therefore they can take part in interventions at any time and anywhere. These qualities give SNSs the potential to

expand and enhance core reproductive health functions. For instance, research, surveillance, health education, and linking people with health resources are essential public health services.

#### **5.2.4 Effect of Demographic Factors of Age and Gender on SNS Preferences**

The fourth objective was to establish the moderating effect of demographic characteristics on the independent variables of gratifications, perceived usefulness, and perceived ease of use on SNS preferences of undergraduate students in public universities in Nairobi County when accessing reproductive health information. The further study unpacked age and gender in order to determine to moderating effects on gratification, ease of use and usefulness when choosing a preferred SNS for accessing the reproductive health information.

##### **5.2.4.1 Effect of Gender as Moderating Variable on Independent Variables and SNS Preferences**

Gender was a significant factor in social network site preference and participation. The study found out that more ladies are likely to use SNS when accessing the reproductive health information than men. Gender as a moderating variable for gratification, perceived ease of use and perceived usefulness was found to increase the preference of choice for access of reproductive health information.

##### **5.2.4.2 Effect of Age as Moderating Variable on Independent Variables and SNS Preferences**

The study found that age generally had no influence on SNS preference when the students were accessing reproductive health information though 18-26 years used SNS more frequently than those above 27 years to 29 years. Past research have confirmed that the young people are more massive consumers of the internet and social media than their older counterparts.

### **5.3 Conclusion**

This research showed that social network site preferences is influenced by gratification, perceived usefulness ease of use with demographic factor having a mediating effect. The research findings confirm that it is essential for productive health information stakeholders to embrace SNS technologies to ensure that the youth who are technology savvy are adequately covered.

Similarly, the study found the dimensions of perceived ease of use to be significantly predictive of the preference of SNS for accessing reproductive health information which is in line with evidence from extant literature (Burton-Jones and Hubona, 2013). Perceived ease of use was found to be the highest influencer of the preference of an SNS by the university student when searching for reproductive health information. This was because the student is already techno-savvy and therefore find it easy to adopt the SNSs. The respondents confirmed that the ease of use greatly influences the preference of choice of use of a social network site for accessing reproductive health information. This was because the information could be accessed from

the internet and from anywhere especially through the mobile phone device. The respondents were less concerned with remaining anonymous when accessing the information.

The perceived usefulness of the SNS platforms also profoundly influenced social network site preference for access of reproductive health information. This owes to the facts that the information on SNS easily accessible can be accessed frequently and instantly and always update. The ability to verify the personal information and professional qualification of the information source also featured prominently. The ability to access trustworthy and credible information having the least effect.

Furthermore, it was found in this current study that social media adoption is a result

of the fact that the interfaces of most social media are user friendly, it is easier to navigate the websites create user account and interact easily on a social media platforms. Again, the user does not need any special skills in information technology to use social media. This finding is consistent with most previous studies. For example Setterstrom et al. (2013) and Sago (2013) note that people adopt some technology because they are less complex to use.

The research found gender to be a mediating factor to the preference of choice of a particular SNS with female users are more likely to use social network sites compared to their male counterparts. The age was found to have some influence although younger people use SNS than older people.

## **5.4 Recommendations**

### **5.4.1 Recommendations for researchers and health care providers**

The research recommends the adoption of the mixed model approach of the uses and gratification and technology adoption model. The research has shown that both gratification, ease of use and perceived usefulness together influence the choice of SNS in the adoption of new technologies especially the social network sites. Further, there is strong evidence of age and gender on the adoption of the technologies. The study recommends the adoption of technology-based intervention mechanisms when doing promotion and advocacy of reproductive health information to the youth and more specifically the social network sites. Past research has found out that, the youth are already using these technologies to a greater extent and therefore it is easier to reach them where they are already, compared to the traditional media which is mostly preferred by the older generation. The study further recommends the stakeholders to consider factors such as gratifications, perceived ease of use, perceived usefulness, and demographic factors such as age and gender when choosing the type of SNS to use to reach a broad audience when passing or promoting reproductive health information to the youth.

This study has implications for developers of information systems based on the evidence of the dimensions of the perceived ease of use construct of the TAM adopted for this study. The interfaces must be more user-friendly and providing relevant, engaging, and accessible content. Furthermore, improving adoption of information systems will mean the system is relevant to the target users. The system must add value to the life, enhance their self-esteem and create for them a status of symbol.

#### **5.4.3 Recommendations to policymakers**

The increasing popularity of SNSs offers a range of possibilities for public health practice and research, specifically on their use in reproductive initiatives for the youth. The study recommends to sexual and reproductive health care providers to allocate more learning resources on use of social network sites in reaching the youth with reproductive health information. The government should also come up with policies that encourage the adoption of social media networking sites when dealing with the youth initiatives to increase coverage. Further, healthcare providers should ensure the youth are adequately involved in the design and the implementation of the technology-based initiatives targeting the youth. This study serves to inform public health practitioners and health informatics researchers of the state of knowledge in the field and gaps where more research is needed.

#### **5.4.3 Recommendations Based on Study Variables**

This section provides recommendations aligned to specific study constructs;

- **Gratifications** - The study recommends SNS used for reproductive health communication and promotion should meet surveillance and social capital process and content gratifications for that target university students.
- **Perceived usefulness-** The use of SNS by university students to access reproductive health information is influenced by currency, relevance authority constructs of the TAM adopted for this study. The study recommends that reproductive health content should be appealing in layout, real time, credible, reliable and easy to navigate.
- **Perceived ease of Use** – SNS for providing youth friendly reproductive health information should be designed to provide good user experience with regard to interactivity, usability, accessibility, and efficient to use
- **Demographic factors of age and gender-** SNS should be used to provide reproductive health information that satisfies specific gender and age gratifications.

#### **5.5 Suggestions for Further Research**

It is obvious the use of social network sites is meaningful and beneficial to healthcare organizations and promoters in improving the total health care information audience, engagement, and subsequently, improved health care. Consequently, this research adds to more empirical evidence that supports the opinion that the relationship between the use of social network

sites and access to healthcare is positive. This research focused mainly on the preference of choice of SNS among students in the main campuses of public universities in Nairobi County. The research recommends further study to focus on undergraduate students in other public university campuses located in Nairobi county other than main campuses only. In addition, further studies may focus on the influence of specific features of a given SNS and the influence of gratification, ease of use and usefulness on the preference of SNS for accessing reproductive health information by students in public universities.

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## APPENDICES

### Appendix I; letter of introduction



**JOMO KENYATTA UNIVERSITY  
OF  
AGRICULTURE AND TECHNOLOGY**  
P.O. BOX 62000-00200, CITY SQUARE, NAIROBI, KENYA.  
TELEPHONE: (067) 52711/52035 THIKA  
School of Communication & Development (SCDS)  
Email: [scds@jkuat.ac.ke](mailto:scds@jkuat.ac.ke) Website: [www.jkuat.ac.ke](http://www.jkuat.ac.ke)

Thursday, 13<sup>th</sup> July 2017

Ref: JKU/ HD421-3040/2011

#### TO WHOM IT MAY CONCERN

**RE: NANCY MACHARIA**

This is to confirm that the above named is a bona fide student at Jomo Kenyatta University of Agriculture and Technology in the School of Communication and Development Studies(SCDS) in the Department of Media Technology and Applied Communication(MTAC) pursuing a PhD in Mass Communication. The student has completed her coursework and is currently working on her Thesis. We kindly request you to allow the student to collect data for her research.

Her research proposal is entitled, "*Determinants of Social Network Site Preferences for Accessing Reproductive Health Information among University Students in Nairobi*".

Any assistance accorded to her is highly appreciated.

Yours sincerely,

  
**PROF. HELLEN MBERIA**  
**DEAN, SCHOOL OF COMMUNICATION AND DEVELOPMENT STUDIES**



JKUAT is ISO 9001:2008 and 14001:2001 Certified  
Setting Trends in Higher Education, Research and Innovation

## Appendix II: Research Authorization



### NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: 020 400 7000,  
0713 788787, 0735404245  
Fax: +254-20-318245, 318249  
Email: [dg@nacosti.go.ke](mailto:dg@nacosti.go.ke)  
Website: [www.nacosti.go.ke](http://www.nacosti.go.ke)  
When replying please quote:

NACOSTI, Upper Kabete  
Off Waiyaki Way  
P.O. Box 30623-00100  
NAIROBI-KENYA

Ref. No. **NACOSTI/P/17/03539/19421**

Date: **3<sup>rd</sup> November, 2017**

Nancy Wambaire Macharia  
Jomo Kenyatta University  
of Agriculture and Technology  
P.O. Box 62000-00200  
**NAIROBI.**

#### **RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on ***“Determinants of social network site preferences for accessing reproductive health information among university students in Nairobi”*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **3<sup>rd</sup> November, 2018**.

You are advised to report to the **County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

  
**GODFREY P. KALERWA MSc., MBA, MKIM**  
**FOR: DIRECTOR-GENERAL/CEO**



Copy to:

The County Commissioner  
Nairobi County.

The County Director of Education  
Nairobi County.



Appendix III: Research permit

<p>THIS IS TO CERTIFY THAT: <b>MS. NANCY WAMBAIRE MACHARIA</b> of JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, 62000-200 Nairobi, has been permitted to conduct research in <i>Nairobi County</i></p> <p>on the topic: <b>DETERMINANTS OF SOCIAL NETWORK SITE PREFERENCES FOR ACCESSING REPRODUCTIVE HEALTH INFORMATION AMONG UNIVERSITY STUDENTS IN NAIROBI.</b></p> <p>for the period ending: <b>3rd November, 2018</b></p> <p>..... Applicant's Signature</p>	<p>Permit No : NACOSTI/P/17/03539/19421 Date Of Issue : 3rd November, 2017 Fee Recieved : Ksh 2000</p>  <p>.....  Director General National Commission for Science, Technology &amp; Innovation</p>
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**Appendix iv: Survey Informed Consent Letter**

**DETERMINANTS OF SOCIAL NETWORK SITE PREFERENCES FOR ACCESSING REPRODUCTIVE  
HEALTH INFORMATION AMONG UNIVERSITY STUDENTS IN NAIROBI**

Dear Respondent,

You are herewith invited to participate in an academic research study conducted by Nancy Macharia a PHD candidate at Jomo Kenya University of Science and Technology.

The study seeks to establish the “**Determinants of social network site preferences for accessing reproductive health information among university students in Nairobi**”. The study is purely academic and will be treated with utmost confidentiality. You will not be mentioned or identified in any of the research reports emanating from this research.

The findings of the study may be published in academic journals. You will be provided with a summary of the findings upon request.

Your participation in this study is very important. You may however choose not to participate or withdraw from the study at any time.

I, ....., herewith give my consent to participate in the study. I have read the letter and understand my rights regarding participating in the research.

\_\_\_\_\_  
**Respondent’s signature**

\_\_\_\_\_  
**Date**

**Appendixv: Key Informant Interview Informed Consent Letter**

**Consent to Participate in Key Informant Interview**

You have been asked to participate in a focus group for academic research study conducted by Nancy Macharia a PHD candidate at Jomo Kenya University of Science and Technology. The purpose is to determinants of social network site preferences for accessing reproductive health information among university students in Nairobi”. The information learned in the interview will be purely for academic purposes.

You can choose whether or not to participate in the interview and stop at any time. Although the interview will be recorded, your responses will remain anonymous and no names will be mentioned in the report.

We would like to hear your perspective based on your experience and qualifications. Please be as honest as possible.

I, ....., herewith give my consent to participate in the study. I have read the letter and understand my rights regarding participating in the research.

\_\_\_\_\_  
**Respondent’s signature**

\_\_\_\_\_  
**Date**

Appendixvi: Questionnaire

DETERMINANTS OF SOCIAL NETWORK SITE PREFERENCES FOR ACCESSING REPRODUCTIVE  
HEALTH INFORMATION AMONG UNIVERSITY STUDENTS IN NAIROBI.

I am Nancy Macharia; a PHD student At Jomo Kenyatta University of Agriculture and Technology. I am conducting a research on “**Determinants of Social Network Site Preferences for Accessing Reproductive Health Information Among University Students in Nairobi.**”. Kindly fill this questionnaire honestly, exhaustively and to the best of your knowledge. This research is purely academic, and will be treated with utmost confidentiality.

DEFINITIONS

*Reproductive health - is a state of complete physical, mental and social well-being and, in all matters related to the reproductive system and to its functions and processes.*

Section A: Demographic Information (use √ to indicate your response)

1. Please indicate your gender?

Male	Female

2. What is your age bracket?

18 - 22	23 - 26	27 - 29	Above 29

3. What is your marital status?

Never married	Married	Divorced	Separated	Widowed

4. What is your employment status?

Employed	Self-employed	Student (Full-time)	Working part-time

Other (Please explain) .....

5. What is your preferred source of reproductive health information? (select all that apply)

Internet	Books/ Newspapers	Friends/Family	Medical/health Practitioner

Others (Please specify) .....

6. How often do you use the following devices to access networking sites e.g. Facebook, Instagram, WhatsApp, Twitter etc.?

Device	Hourly	Daily	weekly	Monthly
Mobile device (phone or				

tablets)				
Laptop				
Desktop computer				
Others (specify)				

7. How frequently do you use social networking sites e.g. Facebook, Instagram, WhatsApp, Twitter etc.?

Hourly	Daily	Weekly	Monthly	I don't Know

8. To what extent do you use your social networking site to access reproductive health information?

Great Extent (<5hrs)	Some extent (4-5hrs)	Small extent (3-4hrs)	Very small extent (2-3hrs)	minimal(2>-hrs)

9. Which is your preferred social networking platform for accessing reproductive health information?

Social Networking Site	
Facebook	
WhatsApp	
Twitter	
Instagram	
LinkedIn	

Others (Please specify) .....

10. Which type of reproductive health information do you look for on social networking sites? (use √ to select all that apply)

Type of Reproductive Health Information	
Reproductive Health problems and infections	
Reproductive Health symptoms and diagnosis	
Pregnancy prevention/contraception	
Experiences of peers, and other people in reproductive health matters	
Personal research and second opinion on reproductive health	
Medication details for reproductive health matters	
Reproductive healthcare providers and hospitals/clinics where one can physically go to for reproductive health	

Others (Please specify) .....

## **Section B: Motivations for Using Social Network Sites for Accessing Reproductive Health Information**

*NB: The following set of statements are about your reasons/motivations using social network sites to look for reproductive health information.*

<b>Directions for questions 11 to 18:</b> Please tick [√] the response that most closely reflects the level to which you agree with <b>EACH</b> statement.  I prefer to look for reproductive health information from social networking sites because ...	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>Personal Identity</b>					
11. They help me express myself and participate in reproductive health discussions with, peers, medical professionals etc.					
12. They enable other people to understand me and my reproductive health information needs without judging					
13. They enable me to choose who I want to be when looking for reproductive health information by adjusting my profile					
<b>Surveillance</b>					
14. They enable me understand reproductive health matters better and easily					
15. They allow me to keep track of specific reproductive health information, people and topics					
16. They enable me to know what is happen regarding reproductive health matters					
<b>Social capital</b>					
17. They enable me to socialize, create relationships and form or join communities that are of interest to me					
18. They provide me with connections to communities and groups that provide social support and advice on reproductive health matters					

## **Section C: Perceived Usefulness**

*NB: This section seeks to find out how useful the content/messages on social networking sites are when looking for reproductive health information.*

<b>Directions for questions 19 to 25:</b> Please tick [√] the response that most closely reflects the level to which you agree with <b>EACH</b> statement.  Using social networking sites ...	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>Authority – credibility, trusted sources</b>					
19. I can assess personal experiences and professional qualifications of the source to determine the credibility of the information					
20. I can assess the information based on user ratings					

(e.g. comments, likes, shares, reviews)					
21. I can access and assess trustworthy and credible reproductive health information					
<b>Relevance</b>					
22. I'm be able to get relevant, and specific reproductive health information					
23. I'm able to get personalized information according to my preferences and needs					
<b>Currency /timeliness /Responsiveness</b>					
24. I access information that is frequently updated and therefore current					
25. Communication/, interaction and feedback is real-time i.e. timely					

#### **Section D: Perceived Ease of Use**

***NB:** This section seeks to determine how easy it is to use social networking sites to access reproductive health information.*

<b>Directions for questions 26 to 34:</b> Please tick [√] the response that most closely reflects the level to which you agree with EACH statement.  I prefer using social networking sites for reproductive health because ...	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>Interactivity/Accessibility</b>					
26. They are easy to use for interacting with others through comments, shares, likes, tags, retweets, mentions					
27. They are easily accessible via mobile and other devices					
<b>Convenience /availability</b>					
28. I can conveniently access and store the type of content I prefer e.g. text, photos, documents, and videos					
29. I can access information anytime anywhere with internet					
30. I can access them from various supported devices (e.g. mobile phone, desktops, tablet)					
<b>Perceived privacy and security</b>					
31. My personal information will not be shared/distributed/sold to any third party without my authorization					
32. my online activities (e.g. search history, downloads) will not be used for data mining and target advertising					
33. I have sufficient access control mechanisms which allow me to determine who can see my content, activities or personal information					

34. I can remain anonymous without fear of my true identity being revealed					
--	--	--	--	--	--

Do you have any other opinion, view, comments on determinants of social networking sites preference for accessing reproductive health information that this questionnaire did not address?

.....

.....

.....

.....

**THANK YOU FOR YOUR VALUABLE CONTRIBUTION.**



## **Appendix IV: Key Informant Interview Schedule**

### **Introduction**

1. A copy of the interview schedule will be availed to the respondents prior to the interview
2. Thank the interviewee for participating in the study and introduce the researcher

### **Interview Guidelines**

3. In your opinion, do the youth use social network sites for accessing reproductive health?
4. What motivates the youth to use social network sites for accessing reproductive health?
5. How useful are the content/messages on social networking sites to the youth as a source of reproductive health information?
6. How easy is it for the youth to use social networking sites to access reproductive health information?

### **Conclusion**

1. Respond to, and clarify any issues raised by the interviewee
2. Thank the interviewee for their time

## **Appendix V: Accredited Public and Private Universities in Nairobi County**

### **Public Universities**

Kenyatta University

Multi- Media University

Technical University of Kenya

University of Nairobi

Cooperative University of Kenya?

### **Private Universities**

Africa International University

Aga Khan University

Catholic University of Eastern Africa

Daystar University

International Leadership University

KCA University

Kenya Methodist University

Management University of Africa

Pan Africa Christian University

Pioneer University

Riara University

Strathmore University

United States International University