

**THE E-TEEN PHENOMENON: A CONCEPTUAL MODEL FOR NEW MEDIA  
TECHNOLOGY USE AND APPROPRIATION**

by

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## DECLARATION

I, **Theodora Dame Adjin-Tettey**, Student Number: **57635757**, declare that **THE E-TEEN PHENOMENON: A CONCEPTUAL MODEL FOR NEW MEDIA TECHNOLOGY USE AND APPROPRIATION** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher educational institution.



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SIGNATURE  
Theodora Dame Adjin-Tettey (Mrs.)

07 August 2018

DATE

## **DEDICATION**

To my four children, Aretha Naa Ayikailey Adjinn-Tettey, Sherise Naa Ayikaikor Adjinn-Tettey, Jason Nii Okaidja Adjinn-Tettey and Jeremy Nii Ayikuma Adjinn-Tettey. And to the yet-to-be-born one, you sure are an additional blessing who needed to come. God could not have given me any better children than you. You are my treasure. Your helpful and long-suffering nature is forever cherished. You sure are a motivation enough for this great achievement. God bless and make you great!

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## ABSTRACT

Born at a time of abundance of technology, including new media, e-teens have their lives woven around the use of new media technologies to the extent that they virtually do everything with the aid of these technologies, including learning, playing, socialising and communicating. E-teens, besides, demonstrate marked expertise in the use of these technologies. Although there have been various studies done on this group of users supported by models and theories on the use, gratifications and appropriation of new media technologies, the premise of this study was on two assumptions. First, there are limited studies that have been conducted in the sub-Saharan African context, especially, Ghana. Second, most available theories and models that guide the study of e-teens' use, appropriation and the use of new media technologies are generalized and do not sufficiently highlight the unique attributes and gratification needs that are tied to their developmental stage. In light of these assumptions, the study was undertaken to provide empirical evidence on the types of new media e-teens have access to; the types of new media used by e-teens in their scheme of things and e-teens' purposes for using new media. It also sought to find out the gratifications sought and obtained from the use of new media technologies by e-teens; the key features of new media appropriation and experience among e-teens and to identify the features of new media technologies which are most appealing to e-teens. The other objective, which serves as the main contribution of this study, was to develop a conceptual model representing new media use and appropriation among e-teens, thereby filling the theoretical or conceptual gap that exists in this context. The study adopted a quantitative approach whereby data was collected using close-ended questionnaires. The target population were teens from age 13 to 19 in senior high schools in the Greater Accra region of Ghana, selected using a simple random sampling. The results of the study show that, overall, the most popular new media technology that e-teens had access to and owned was the smartphone. Leading among the apps that e-teens found to be appealing were educational, entertainment and information/news, with communicative and participatory features of new media technologies appealing to e-teens highly. Also, educational, sociability and social inclusion, respectively, were the most popular gratifications sought and obtained by e-teens. It is submitted that social inclusion, educational and sociability gratifications are considered to be directly in line with the unique developmental needs of e-teens. However, it is recommended, among other things, that educational use of new media, which was one of the strong points for new media use, should be further encouraged as new media provides borderless opportunities for

learning. The researcher believes that the conceptual model for e-teen use and appropriation of new media technologies provide a firm ground for further research on topics related to this subject matter. To provide support and substance to the e-teen model, other researchers are encouraged to test and extend it where necessary. In conclusion, the findings provide evidence that new media technologies are highly appropriated by e-teens because the technologies help them meet their unique gratification needs. Therefore, the study recommends that, although new media use among e-teens can be encouraged, it is important to ensure proper usage, which will not be detrimental to them.

**Keywords**

E-teens; new media technologies; uses and gratifications; technology appropriation; digital natives; technology acceptance; young people; conceptual model; social inclusion; educational; sociability; digi-teens; adoption; Ghanaian teens; high appropriation.

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### **LIST OF ACCRONYMS**

C-TAM-TPB: Combined Technology Acceptance Model and Theory of Planned Behaviour

DTPB: Decomposed Technology of Planned Behaviour.

IS: Information Systems

LISREL: Linear Structural Relations.  
MTA- Model of Technology Appropriation.  
SAFT: Safety Awareness Fact Tools.  
SEM: Structural Equation Modelling.  
TAM: Technology Acceptance Model.  
TPB: Theory of Planned Behaviour.  
TRA: Theory of Reasoned Action.  
U&G: Uses and Gratifications.  
UTAUT: Unified Theory of Acceptance and Use of Technology.  
UNICEF: United Nations Children's Fund  
WASHS: West Africa Senior High School.  
WHO: World Health Organisation

## **CHAPTER ONE**

### **INTRODUCTION AND BACKGROUND TO THE STUDY**

#### **1.1 INTRODUCTION**

The general expression used to describe all that is associated with the Internet and the interaction between technology, images and sound is “new media” (Socha & Eber-Schmid 2014). In similar tone, new media has been defined as comprising “the emergence of digital, computerised or networked information and communication technologies in the latter part of the 20th century” (Manovich 2003:17). New media are ever-evolving and so its definition keeps changing. What may be considered a latest new media technology at one point in time may easily be thought of as outmoded since upgraded ones are introduced on the market. Logan (2010:4) also defines new media as “digital media that are interactive, incorporate two-way communication, and involve some form of computing as opposed to “old media” such as the telephone, radio, and television”. O’Connell and Groom (2010:56) also refer to it “as a media system where traditional media such as books, television, and radio are converging with digital media, specifically interactive media and media for social communication”. Gathering from aforementioned definitions, new media technologies have the unique feature of being a merging of old media platforms, computerized, digital with user- interactivity and information manipulation, creative participation and feedback.

To Lister, Dovey, Giddings, Grant and Kelly (2009), new media represent wide-ranging changes in media production, dissemination and use which go beyond mere technological changes but textual, conventional and cultural shifts. Consequently, these authors stressed some unique characteristics of these technologies – digitality, interactivity, hypertextuality, dispersality and virtuality - which set them apart from old analogue media. Unlike analogue media, which has to convert input data into another physical object, the digital attribute of new media allows data to be decoded and received as screen displays or output as hard copy. New media is also interactive as it allows for manipulation of media through hypertextual navigation, immersive navigation, registrational interactivity and interactive communications. Interactivity of new media technologies provides avenue for new modes of engagement such as playing, experimenting and exploring. Also, hypertextuality of new media technologies provides a network of links to other texts that are external to itself in an easy and instantaneous manner. Lister and colleagues also refer to the dispersality as new media having no clear distinction between consumers and producers in

their use and consumption while virtuality of new media means usage and processes are mainly technologically simulated or take place and is existent online (Lister et al. 2009:13-32).

Recent observations by a number of researchers have shown that the usage of new media technologies such as mobile phones, iPods, PCs, laptops and tablet computers, particularly among teens, is rife (Duggan, Smith & Pew Research Center 2014; Le 2012; Basson 2009 & Kreutzer 2009). In a contemporary Pew study, it has been discovered that 73% of teens in the United States (US) have access to a smartphone; 15% have only a basic phone (analog mobile phone); more than half of teens have access to a tablet; 87% have a desktop or laptop; 81% of teens have access to gaming consoles and 91% of teens use the Internet on a mobile device (Lenhart et al. 2015).

Livingstone (2002) has confirmed this in a submission that the availability of various forms of communications technologies has paved the way for numerous new interpersonal communication channels among children during the course of the previous decade. The lifestyle page of July 16, 2010 edition of *The Guardian* newspaper quotes sixteen-year-old Philippa Grogan talking about how she could not imagine her survival without a mobile phone if she were born at a time when there were no mobile phones. She was quoted as saying “I’d rather, give up, like, a kidney than my phone. How did you manage before? Carrier pigeons? Letters? Going round each other’s houses on bikes?”

Adolescents and teens are one of the heaviest users of technology as a group (Subrahmanyam & Greenfield 2008). They are a critical set of end users of new media technologies such as laptops, smartphones and their accompanying platforms like instant messaging, text messaging, social networking sites, blogs, photo and video sharing (Subrahmanyam & Greenfield 2008). Carr (2010) describes teens as digital natives, having been born and raised during the digital age, whereas the older generation are classified as digital immigrants who were born at a time of no communications technology and have travelled (lived) into a time of the prevalence of new media technologies.

Also trying to make an attempt to describe them, this is how Prensky (2001b:1) describes modern-day teens and young people generally:

What should we call these “new” students of today? Some refer to them as the N-[for Net]-gen or D-[for digital]-gen. But the most useful designation I have found for them is Digital Natives. Our students today are all “native speakers” of the digital language of computers, video games and the Internet (2001:1).

Growing up literally surrounded by new media, these young ones enter the teen years, heavily reliant on a round-the-clock access to all that the information superhighway has to offer (Seal-Warner 2007). They can therefore be considered a critical component of end-users, if not leading experts in the digital world. According to Seal-Wanner (2007), teens who grow up in the digital age are conditioned to expect powerful and creative technological tools for work (in the context of teenagers, work includes using new media technologies to learn), play and to define themselves and their personal space. According to her, this is the first generation of youth that say they prefer computers to TV if they are compelled to choose.

If teens are a critical set of new media users, it is only right to study them exclusively and to make conceptualisations out of such research, and so the relevance of this study. This opening chapter introduces the context, motivation, background and significance of this study. This part of the thesis, besides, details the problem, the research questions and research objectives. The chapter concludes with an outline of the thesis.

## **1.2 BACKGROUND TO THE STUDY**

New media technologies were distantly known and utilised by teens. On the other hand, teens in contemporary times have become extremely digitally or electronically inclined (Williams 2017). This denotes that modern-day teens virtually cannot live a day without such technologies and, therefore, not having access to them could make them feel utterly cut off from the entire world. It is no wonder this group of users has been, fittingly, labelled as “digital teens” (digi-teens) or “electronic-teens”. The lives of “electronic-teens” (e-teens) often revolve around new media technologies. This, unsurprisingly, can be considered to be a global phenomenon as evidence abounds from every region of the world about how teens are attracted to and effortlessly take up new media technologies. It is not strange to have e-teens turning to their phones, tablet computers or laptops to check messages first thing in the morning. They may also log on to their social media accounts to read messages left on their walls, probably, take a “selfie” and tag friends in the picture and write a statement to “update their status” on a daily basis. On top of it all, they could also make

a call or two, “WhatsApp” or send text messages and possibly Skype with a friend or two before getting out of bed.

The role new media technologies play, at this stage in the lives of e-teens, is very critical since the technologies offer them the opportunity to meet any of the needs which the Uses and Gratifications Theory predicts, including the opportunity to meet affective, cognitive and escapism needs by associating and interacting with people of different backgrounds through the technologies. Arnett (1995) says most of the time adolescents use media in forming identity, entertainment, seeking sensation, coping and for youth-culture identification. The mobile phone and even the personal computer, to a great extent, give effortless opportunity to teenagers to meet these needs. Teenagers or adolescents can “facelessly” contract friendships in the hope of attaining emotional and belongingness gratifications. Without belongingness, Chen (2004) suggests that a sense of isolation, alienation and loneliness can easily affect teenagers at this stage of development. To do away with the grievous emotions of being rejected by others, teenagers partake in activities that may increase the probability of being included in special groups (Fu 2007). New media technologies such as the smartphone, personal computer and tablet provide opportunities to join group associations (which in this case is virtual) by offering platforms such as chatrooms and social networking sites for communication.

This has, consequently, become a new cultural norm which, until recently, was not common. It is remarkable to note that about a decade or two ago, the status quo was entirely different. Contemporary teens have always known new media technologies but this was not the same for most of their parents, uncles and aunties, not to mention their grandparents. Researchers from the University of California interviewed over 800 youth (including teens) and young adults in the United States as well as over 5000 hours of online observations, with the intent to investigate youth new media use. They found that the predominant fixtures of youth culture in the United States are online games, social network and video-sharing sites and gadgets such as iPods and mobile phones (Ito et al. 2008). Again, a 2007 Pew study found that more than four-in-ten teens (45%) in the United States personally had both a computer and a mobile phone, with the communicative functions of the Internet and mobile phones being the main reason for their new media technology use (Lenhart 2007).

In the sub-Saharan African region, mobile phone networks are widespread, causing a transformation in communications among the young (including teens) and old alike. According to Lenhart et al. (2015), mobile phone use in Africa is on the rise with data as far back as 2002 showing that about one-in-ten had ownership of a mobile phone in Uganda, Tanzania, Kenya and Ghana. Pew further reports that the prevalence of mobile phone usage in Nigeria and South Africa is similar to that which one will find in the United States, with smartphones significantly used as well. Throughout the sub-Saharan African countries surveyed, even those who did not own mobile phone had access to mobile phones owned by other people. Among the popular uses recorded for this study are texting, taking pictures or videos, making financial transactions, accessing social networks and accessing political news and information.

A more current Pew study reported by Poushter (2016) discusses that there has been a visibly high rise in Internet use in emerging and developing nations, with most respondents saying they own smartphones and use the Internet regularly. The study notes that the rest of the world (including African nations) is catching up with new media users in developed economies who use the Internet and own more high-tech gadgets. Social network users, the study accounts, are found in regions with low Internet rates, such as the Middle East (86%), Latin America (82%) and Africa (76%), compared with 71% in the United States and 65% across six European nations, demonstrating a noteworthy usage pattern among developing countries including Africa. More so, in every developing country studied, younger users were more likely to be smartphone and regular Internet users who participated in social networking sites at higher rates compared with older ones, a pattern that is comparable to that which is found in advanced nations. Overall, Internet users in emerging economies and developing countries are more likely to frequently patronise social media as compared to those in the developed world. Other new media devices and platforms are not likely to be any different and teens are the most probably the active players in all of these.

Another evidence of widespread use of new media technologies and platforms by teens (e-teens) from Africa is from a pilot study conducted by Kreutzer (2009) in South Africa. This study yielded that mobile phones were used by almost all respondents, with the most important uses of the gadget on a typical day being personal communication (91%), entertainment use, including music, photos and videos (82%), visiting websites (71%), and instant messaging (47%). This study was meant to

obtain a better understanding of mobile phone usage among South African youth who were grade 11 students at a-not-so-economically-endowed urban township school. Many of the respondents were recent users of the mobile phone technology and a lot of them had lower literacy levels in English and so the extent of their uptake of this technology is noteworthy. This makes a strong case for how attractive new media technology is and the tendency for young people (e-teens) to easily take it up no matter their economic backgrounds and location.

Even respondents without personally-owned handsets were found to be equally active mobile phone users. Although respondents were from a low socioeconomic background, the Java platform or Web browsers on the mobile phones made room for them to use media-rich web applications. In a much more positive light, a revelation from this study was that respondents invested in high-end mobile phones with inbuilt features that allowed for handset-independent Java applications, games, or mobile websites to have access to mobile learning or social development content to assist them in their quest for tertiary education (Kreutzer 2009).

The Uses and Gratifications Theory attempts to predict motivations for media use. It essentially provides answers to the question of why people use media. The Uses and Gratifications Theory emanating from the functionalist paradigm of social science suggests how and why people adopt specific media based on social or psychological needs. E-teens may decide to use new media technologies to meet certain unique needs. Ruggiero (2000) put forward some of the needs to be informational including seeking information about current affairs or happenings, seeking guidance on day-to-day issues one has to grapple with and filling inquisitiveness. It could also be of personal identity which includes seeking reinforcement of personal values, looking for models of behaviour and gaining insight into oneself.

Specific studies into gratifications sought from new media technologies have yielded wide-ranging explanation for their use. Motivations for the use of mobile phone, for example, is constantly expanding because of its mobile nature, uninterrupted access (except in the case of network failure or battery failure) and possibilities to add and access content (Leung & Wei 2000). According to Leung and Wei (2000), people use mobile phones for reasons such as instrumentality, affection/sociability, entertainment, fashion/status, psychological reassurance, mobility and immediate access. They, however, note that uses and gratifications vary based on location and

audience. For example, using mobile phones on vehicles and trains is related to the uses and gratifications (U&G) of mobility and immediate access, whereas communicating with business partners is related to the U&G of instrumentality and talking to family relations is associated with the U&G of mobility and affection. Correspondingly, the motivations for the use of new media technologies and their attendant platforms by e-teens may not hold true for the motivations for the use of old media such as print, radio, television and even new media technologies by their predecessors.

By inference, gratifications sought from the use of new media technologies may be varied and possibly different from what the Uses and Gratifications Theory predicts, but it is vital not to disregard the potential adverse uses of new media technologies by e-teens - the fact that having access to them means having access to limitless content some of which can have undesirable effects on teen users. Many are of the apprehensive view that teens are wasting time online by playing video games, watching movies or chatting but Ito et al. (2008) look at it with positive eyes and assert that the digital world has paved way for young people to explore personal interests; face with social norms; cultivate technical abilities; and try new modes of expressing one's identity.

### **1.2.1 Contextualising technology use in Ghana**

Ghanaian teens share in this experience of new media technologies (Borzekowski, Fobil & Asante 2006). A 2009 study found that 63% of a random sample of 778 Ghanaian teens reported using the Internet at least once (Fazekas & Moffett 2009). Computer technology use for teaching and learning has also been on the national agenda for more than a decade now. The Information and Communications Technology (ICT) in Education Policy of Ghana requires the use of ICT for teaching and learning at all levels of the education system (Osei-Akoto 2008). Both public and private basic and secondary schools have incorporated ICT education in their curricula and have computer laboratories to help in the teaching of this programme.

Ghana is also considered to be one of the first countries in Africa to connect to the Internet (Internet World Stats) with the first Internet service operator coming onto the scene in 1993. Mobitel in 1992 introduced the first cellular phone service in Ghana (Ghana web n.d.). During that same year, 19,000 Ghanaians acquired mobile phones. According to a 2012 International Telecommunications Union (ITU) report, Ghana has been ranked the country with the highest

mobile broadband penetration in Africa. Apart from the personal computer, laptop, mobile phone and tablet computer, the smartphone to a large extent offers the opportunity for e-teens in Ghana to embrace the digital world. On the individual level, many teenagers in the first and second cycle institutions in Ghana own mobile phones or smartphones even under circumstances where it is not allowed. Boarders hide their new media gadgets in their trunks and chop boxes and in the middle of the night stay up and use them to meet various needs. Ownership of new media technologies, therefore, offers some level of “freedom” to experience these technologies through interacting with them and thereby appropriating the same.

Markwei and Appiah (2016) assert that patterns of young people’s social media use in Ghana, for instance, is similar to studies of youth in other countries. DeSanctis and Poole (1994) consider the appropriation of technology as an unending exercise whereby users, while interacting with the technologies, consciously and keenly select structures of use out of a larger set of possibilities. They pointed out four features of the appropriation process: appropriation moves, faithfulness, instrumental uses and attitudes. Some of these aspects of appropriation, come to play as e-teens engage new media technologies. Since appropriation is somewhat related to internalization of the technologies, new media technologies become cultural artefacts which bring into being a new way of life originally non-existent in a particular culture. The indigenous Ghanaian culture would have teens principally communicating with family members orally. This means their body language and choice of words were measured by virtue of being involved in face-to-face communication.

But the new cultural norm is for an e-teen is to send text messages or WhatsApp messages filled with shorthand writing and emoticons (written depictions of the mood or facial expressions of a writer in the form of icons) which would have been unacceptable years ago. This is a norm perpetrated by the use of new media technologies. This phenomenon is gradually being extended as more teens get exposed to new media technologies and content, and is gradually becoming a part of a cultural norm of the teen population all over the world.

Markwei and Appiah (2016) consider studies on new media practices in Ghana as wide in scope, by few paying attention to the youth (e-teens) social media use. This assertion calls for an extensive investigation into what exactly teens (e-teens) use new media technologies for (and not just social media), especially, in the African context and specifically in Ghana where there is limited research

as being claimed. This empirical exercise would also aid in drawing conclusions on the appropriation levels, uses and gratifications of new media technologies by e-teens and, possibly, predict actions and attitudes. The development of a conceptual model to depict how e-teens use and appropriate new media technologies also come in handy. This stems from the fact that much attention has not been paid to that by researchers, even though it is well-timed in view of the widespread use of these technologies by this group of people which has been supported by many empirical studies.

### **1.2.2 The concept of e-teen**

Typically, the age numbers of teens or teenagers have “teen” as a suffix. Thus, teenagers are persons aged thirteen (13) to nineteen (19) years. Teenagers in the context of this study are those born from 1998 to 2004 as such people would have been at least 13 years of age and at most 19 years of age at the time of data collection. Teenagers can also be counted as adolescents because they are in the transitional period of childhood to adulthood. For all teens this stage of life is a time of learning, changing and experimenting. They seek more independence even in decision-making. Since time immemorial, teen years (especially early stages) have been marked by significant emotional turmoil as teenagers begin to be more aware of themselves and find their identities as well as self-esteem. This leads them to pour out their emotions and concerns to significant others. Rapini, Farmer, Clark, Micka and Barnett (1990) found that these youngsters share concerns about self-esteem and identity development with friends while that of openness of family communication, satisfaction with family relationships and family cohesion were shared with parents. This means that, on a larger scale, issues related to their emotional, psychological and social well-being were shared with friends who may not necessarily wield the right knowledge in managing such critical issues of life. Communication becomes a key driver for stabilising and managing such critical concerns. And, new media technologies make it far easier for them to communicate and share such anxieties. At this crucial moment of developing self-identity and finding a sense of belongingness, teens can effortlessly seek audience with peers through these platforms. That is why teens tend to have an interest in taking up these technologies on a larger scale, even if they do not own one personally.

This brought about the concept of “e-teen”. According to Delmonico and Griffin (2008:431) “e-teens” are teenagers who use the Internet regularly. Their regular use of the Internet means this

group uses new media gadgets regularly as well, owing to the fact that the Internet could be accessed only through those technologies. Both the Internet and the gadgets that house the Internet can be counted as new media technologies. Therefore e-teens are regular Internet users and at the same time regular users of the technologies that house the Internet - new media technology gadgets. Such people have also been referred to as part of the “net generation” (Oblinger & Oblinger 2005; Tapscott 2008) and “digital natives” (Prensky 2001a, b) as their lives are woven around the use of new media technologies. They are part of the leading generation to basically grow up digital (Tapscott 2008; Wesner & Miller 2008).

Tapscott (2008) discusses e-teens’ high involvement in multitasking with new media technologies and day-to-day activities, employing communications technologies to interact, work and socialise, and how they are transforming democracy with the use of the same technologies. E-teens are expert users of new media technologies and, accordingly, are regarded as high appropriators of new media technologies. Their heavy use of the technologies along with their attendant platforms is also a common unique feature shared by the majority, if not all. Bolton et al. (2013:245-246) say such an adept user “actively contributes, shares, searches for and consumes content – plus works and plays – on social media platforms”. Not only do they participate in and consume social media content, they also highly depend on these technologies for entertainment and to shed loneliness, find self-esteem and belongingness by engaging and consuming music, videos, gaming apps, chatting among others.

In essence, the researcher’s definition of e-teens is that they are teenagers who are high appropriators of new media technologies and platforms, their use of which is marked by their heavy and the frequent use of new media technologies for their daily tasks and activities and they also show expertise in the use of these technologies.

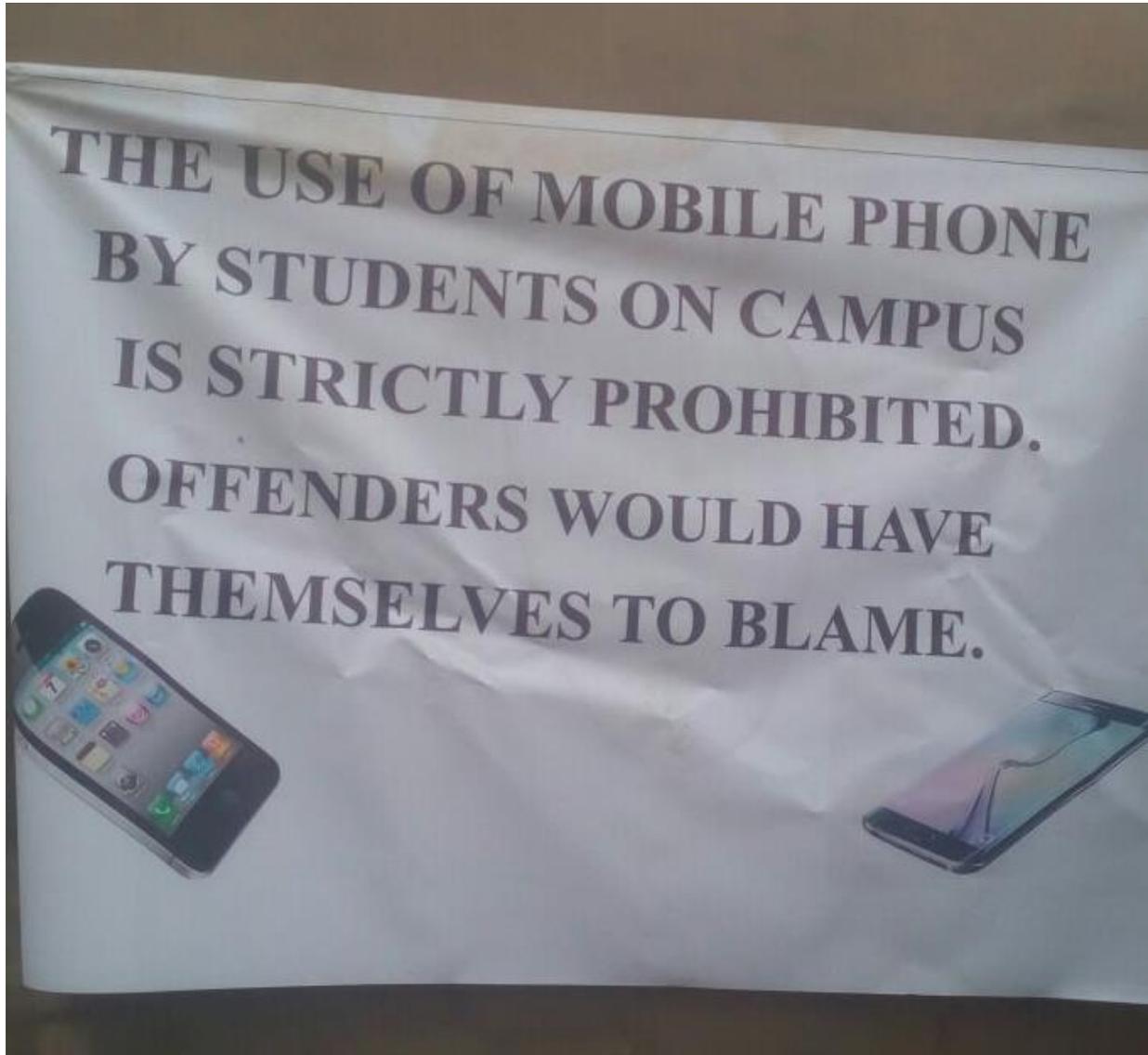
### **1.3 RESEARCH PROBLEM FOR THE STUDY**

The use of new media technologies by teens has been looked at with much apprehension and suspicion with some saying that the technologies can be used to acquire information which can be detrimental to the social and psychological growth of teens. Some teachers complain that it affects teens’ academics as these teenagers stay up late in the night surfing the Internet, chatting, watching

movies and playing games which cause them to sleep in class or pay little attention because of tiredness or lack of sleep the previous night.

In Ghana, students up to senior high school level are not allowed to use personal mobile phones, laptops and other new media gadgets in school (see figure 1.1) because of implications such as those enumerated above. On the other hand, some, including those in prominent positions in government, have called for a rethink of such a directive by the Ministry of Education. In a report by Zainabu Issah in the August 15, 2013 edition of the *Daily Graphic*, the Director of ICT of the Ghana Education Service, Francis Avugbey, held that the Ghana Education Service reconsiders the ban on the use of mobile phones in schools. He made this call during the opening ceremony of a two-day workshop for a committee of experts who were charged with updating the National ICT in Education Policy. He backed his stance with the claim that mobile phone affords students the opportunity to do independent studies and to network with the global community through various social networking sites.

Francis Avugbey mentioned that modern day ICT had moved from desktop machines to mobile phones which are handy and more accessible, making it the first-choice gadget for any research work. He also said banning the use of mobile phones will make it difficult for students to study as they would experience research constraints. But the questions begging for an answer are how teens are appropriating new media technologies and what possible implications this has on their lives.



**Figure 1. 1:** Cautionary notice on the prohibition of mobile phone usage during school hours hanging on a wall of one of the study sites (Ideal College)<sup>1</sup>

The uncertainty about what teenagers precisely use new media technologies for has raised eyebrows about the probable negative influence of such technologies with many suggesting that parents set up realistic media guidelines such as prohibiting new media, such as computers and mobile phones, in the bedrooms of teenagers (McKee 2012). This uncertainty makes it important to establish how e-teens are appropriating new media technologies and what possible benefits or effects that brings to them through an empirical study such as this one.

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<sup>1</sup> This was found on entering the campus of Ideal College, one of the study sites for this research. There were a number of them displayed on strategically conspicuous walls of the school compound to reiterate the point of no use of mobile phones in the school.

A lot of studies have been conducted on appropriation of technology, including new media technologies among young people (Carroll et al. 2001; Jenkins et al. 2006; Anderson 2003 & Rheingold 2008; Malik, Dhir, & Nieminen 2016; Florenthal 2015; Sheldon & Bryant 2016; Pittman & Sheehan 2015; Mahmud, Ab Rahim & Miskon 2016; Albayrak & Yildirim 2015; Aluri & Tucker 2015; Muraina, Osman, Ahmad, Ibrahim & Yusof 2016; Pruet, Ang & Farzin 2016) with less concentration on Ghanaian teens. Markwei and Appiah (2016) report that a review of the literature shows limited empirical studies investigating the use of new media by youth in Ghana [including e-teens]. They mention that the bulk of literature merely relates to ordinary Ghanaians and opinion leaders discussing the undesirable effects of social media in the print media. This, without a doubt, makes a case for a thorough empirical exercise such as this. Most of them have also been based on general theories and models on technology use and appropriation, such as Uses and Gratifications Theory, Media Systems Dependency theory and Model of Technology Appropriation which considers every user of technology as homogenous. This study, however, takes a different line of attack to some degree.

Again, the author of this study considers e-teens as one set of new media users who have different characteristics, attitudes, motivations and needs concerning new media use and therefore have to be studied in a different context than any other group. E-teens, to a large extent, have been born into an epoch of prevalent technology and have the likelihood of being able to appropriate new media technologies inversely and possibly have different uses and gratifications needs. Consequently, this study, lengthily, dwells on previous literature and theories on how e-teens are appropriating new media technologies in terms of their unique characteristics, attitudes, uses and gratifications sought and level of appropriation to serve as a basis for the development of an e-teen model which is authenticated by collecting primary data with the view to test the model.

Essentially, the argument being put across is that, if researchers continue to use general theories of use and appropriation to study e-teens without considering them as a unique set of new media users as have been done with previous studies, the tendency is that generalised assumptions and conclusions are going to be made. This is why a theoretical model or framework solely suited to this set of new media users becomes expedient. Overall, this study tows a different line, unlike studies on new media technology use and appropriation that are usually grounded in general theories relating to uses and gratifications (Raacke & Bonds-Raacke 2008; Grinter & Eldridge

2003; Bryant, Sanders-Jackson & Smallwood 2001); Model of Technology Appropriation (Livington 2011; Sey 2011; Johnsson-Smaragdi 2001); and technology acceptance (Rauniar, Rawski, Yang & Johnson 2014; Alt, Seer & Pal 2012). This study critically looks at the unique attributes of the group being studied (e-teens), such as the competency, age and unique developmental needs, and looks at the distinctive attributes of “digital native e-teens”, who are appropriating technologies considered to be highly participatory and interactive and develops a conceptual model tailored to them.

### **1.3.1 STATEMENT OF THE PROBLEM**

One major shortfall of the theories that explain the adoption of technology is that they are not predictive enough about the different groups of users of the technologies. Also, these theories have not been able to establish a causal relationship between media choice and use for different groups of users, for example, teens (e-teens). The assumptions made are rather generalised, disregarding the varied motivations and competencies of different sets of users. Again, most of the theories looking at the adoption of technology in societal and organisational contexts are noted for not considering how audiences interpret media messages; the economic relationships between media and the user; production processes and the strong impact of media on audience as an interpretation of use.

Another observation is that attention is solely on the individual user of media rather than the content or unique characteristics of media as a motivating factor for media usage. A typical example is a critique of the U & G theory as relying on self-reports rather than observation, which makes a case for the argument in this study. This particular study, to a certain extent, tows a different line by attempting to consider the distinct attribute of “digital native” e-teens who have better knowledge, control and positive attitude towards new media technologies while looking at the exact attractors of new media technologies which will motivate them to use and not merely listing or asking them for their “likely motivations”. This study, therefore, looks at the unique attributes of the technologies which informs use among e-teens. In making conceptualisations for the development of the proposed model, the use of new media technologies in a social context is also considered. The E-teen Model considers that high appropriation (which accounts for extensive new media use) partly occurs in a social context under content sharing, content participation and content participation.

When new media users are both participants and producers, they have added control over that medium as the lines of producers and consumers are blurred (Meyers 2012) because they get the opportunity to interact with and express themselves more with the technology than being mere consumers. When the user is able to perform this dual role, it is an additional pointer that the user is appropriating the medium quite well. This can result in the capability of the individual users to specially make a choice of medium or media product that best gratifies their needs. It goes without saying that the distinct features of new media technologies make it imperative to study the uses, gratifications and appropriation of new media technologies in an exceptional light by looking at the unique attribute(s) of the medium. Together an attempt is made to find a link between the user and the technology to predict medium usage and what gratifications are sought and met by their use. This is because distinct groups of people use new media technologies differently for various reasons based on which features appeal to them the more and depending on how competent they are in appropriating those technologies (level of appropriation). This thesis highlights motives and gratifications for new media use by e-teens who are considered to be more competent in the use of new media technologies.

The study connects how Ghanaian e-teens (as well as data on e-teens reported in previous studies) use new media technologies with their being “digital natives” who, furthermore, select specific features of the technologies to meet crucial developmental needs. These conceptualisations are then translated into a conceptual model (the e-teen model) explaining new media use and appropriation by e-teens.

#### **1.4 AIMS AND PURPOSE OF THE STUDY**

The aim of the study was to find out how e-teens use and appropriate new media technologies and motivations for their use. In addition, the study sought to develop a conceptual model depicting how e-teens use and appropriate new media technologies and test hypotheses concerning relationships within the proposed model.

#### **1.5 OBJECTIVES OF THE STUDY**

To realize the goal of the study, the following theoretical and empirical objectives were addressed:

1. To establish types of new media Ghanaian e-teens have access to.

2. To identify types of new media used by Ghanaian e-teens (as well as what previous studies found) in their scheme of things.
3. To find out Ghanaian e-teens' purposes for using new media.
4. To find out the gratifications sought and obtained from the use of new media technologies.
5. To identify key features of new media appropriation and experience among e-teens.
6. To identify the features of new media technologies which are most appealing to e-teens.
7. To develop a conceptual model explaining new media appropriation by e-teens.

## **1.6 RESEARCH QUESTIONS.**

To arrive at certainty regarding teen new media use and appropriation, this study sought to find answers to the following:

1. What types of new media technologies do Ghanaian e-teens have access to?
2. What types of new media technologies are used by Ghanaian e-teens (as well as what previous studies found) in their scheme of things?
3. For what purposes do Ghanaian e-teens use new media technologies?
4. What are the gratifications sought and obtained from the use of new media technologies?
5. What are the key features of new media appropriation and experience among e-teens?
6. What features of new media technologies are most appealing to e-teens?
7. What conceptual model explains how e-teens appropriate new media technology?

In the following section hypotheses to be tested are formulated

## **1.7 HYPOTHESES**

A hypothesis is a formal statement that presents the expected relationship between independent and dependent variables (Creswell 1994). It is usually tested to establish if the relationship is true or otherwise (Trochim 2006). Hypotheses are neither too specific nor too general and are usually a prediction of consequences and considered valuable even if proven false (Prasad, Rao & Rehani 2001). In simple terms, a hypothesis predicts what a researcher expects to happen in a study and it usually has a theoretical basis. In the test of hypotheses, characteristically, two hypothesis statements are formulated - one that describes the actual prediction (alternative hypothesis) and one that describes all other possible outcomes with respect to the hypothesized relationship [null hypothesis] (Trochim 2006). Hypotheses formulated for this study are grounded in the reviewed

literature and the assumptions of the three theories serving as the basis for the study - Uses and Gratifications (U&G), Technology Acceptance Model (TAM) and Model of Technology Appropriation (MTA).

For this study the following hypotheses were formulated and tested against the proposed conceptual model for e-teen use and appropriation of new media technologies:

*H<sub>0</sub>: There is no relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies.*

*H<sub>1</sub>: There is a relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies.*

**Rationale:** According to Rogoff (1995) there is a deep link between appropriation and participation. The reason is that appropriation extends to the fabric of human culture where one learns as one interacts with one's environment. In the design of new media technologies, there is a lot of emphasis on interactivity, through the generation and sharing of content, and participation, which provides the opportunity for users to learn to use the technologies in other ways besides what they were originally created for. Selwyn (2009) concluded that the use of Web 2.0 tools and services can add on to the institution of unconventional environments for informal learning. This informal learning could be simply getting to know more about the technology through interaction with other users by creating content (sending a message or video chatting to enquire about how to use an application on a new media device) and sharing (sending any relevant information to other users about a new application and how to use it) and participation (through taking part in discussions on new media platforms). Feedback received from content new media users generate or received can propel one to find more details about that new media technology and master its use. Essentially, because of its interactive nature, new media technology users who constantly engage with such technologies (through sharing, generating and participating in content) tend to know more about the technologies and even explore other ways of using them aside the popular usage patterns.

In this study content generation, sharing and participation is measured by the extent or frequency to which respondents create (generate), share, receive content as well as partake in exchanges on

new media platforms while appropriation is measured by the usage abilities and the frequency with which they use new media technologies.

*H<sub>0</sub>: Behavioural intentions and actual usage of new media technologies by Ghanaian e-teens are not motivated by the unique communicative and participatory attributes of the technologies.*

*H<sub>2</sub>: Behavioural intentions and actual usage of new media technologies by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technologies.*

**Rationale:** Jenkins et al. (2006) described new media as a “participatory media culture”, whereas Gibbs (2007) has described the engagement around new media as “hypersociality”. Ito et al. (2008) subtly link teens to participatory forms of new media engagement. They intimate that youth participation in these media forms is high, leaning towards networked gaming and social media sites such as MySpace, Facebook or YouTube. They claim this has captured the public limelight and added fuel to the discourse of a digital generation.

The Committee on Communication for Behavior Change in the 21st Century (2002: 31) defines behavioral intention (BI) as a person's perceived likelihood or "subjective probability that he or she will engage in a given behavior" while Armitage and Conne (2001) say BI is behavior-specific and operationalized by direct questions such as "I intend to [behavior]," with Likert scale response choices to measure relative strength of intention in addition to representing it in measurement by other synonyms. In this study BI is measured by Likert scale responses to the question “I will continue to use new media technologies the rest of my life.” This was matched against respondents’ choice for most appealing apps. Actual use is also measured by the frequency of use of new media technologies.

It is assumed that, most likely, e-teens would have the intention to and/or use new media technologies because features of the technologies allow for interactions and socialisation, as well as satisfying their quest for information which is important for shedding off their concerns at this stage of their lives. The reason being that, new media technologies become useful tools to handle key developmental issues and personal concerns. Besides, the Technology Acceptance Model (TAM) predicts that perceived usefulness (PU) and perceived ease of use (PEOU) of an information system is a motivating factor for its use. Thus, in this study, it is assumed that a very

strong motivating factor for the use of new media technologies for e-teens is the interactivity/communicative feature of those technologies. The inherent user-friendliness feature of Web 2.0 applications which allows for content generation and instant feedback, making room for e-teens to stay in touch with networks (to satisfy their quest for belongingness and identity formation) and for information/knowledge acquisition is likely a strong attraction or influence for new media technologies usage by e-teens.

Drawing from these, e-teens are most likely going to engage chat applications, social media applications, video calling applications, instant messaging and similar apps that allow for engaging with other users on a regular basis to meet their individual needs.

*H0 There is no relationship between e-teens' use of new media technologies and social inclusion, educational and sociability gratifications.*

*H3 There is a relationship between e-teens' use of new media technologies and social inclusion, educational and sociability gratifications.*

**Rationale:** By their nature, teens want to have a sense of belonging. At that moment of their lives, there is a great longing/yearning for social connectivity and belongingness (Chen 2004) which can manifest itself in contracting friendships online and posting pictures, commenting and eliciting comments on social media sites with the aim of getting feedback in the form of “likes”. It is assumed that because of their nature and peculiar longings, e-teens will seek social connectivity and sociability as the number one gratification sought. Having access to new media technologies means e-teens will find that sense of belongingness they crave through communication without necessarily contracting face-to-face friendships.

Additionally, e-teens are likely to seek gratifications along the lines of their educational pursuit. Since educational content is in abundance on Internet platforms such as Learning Management Systems, educational websites, academic institution websites, search engines, and others, e-teens, who are usually students, will fall on these platforms for learning purposes. They would not only retrieve educational content from educational sites, but will equally rely on interactive platforms like social media to discuss class projects and share educational content. E-teens' adeptness and heavy usage of new media technologies and the fact that these technologies provide the platform

to retrieve academic content, as well as serve as an extension of the classroom in a lot of ways means that they likely will rely extensively on these technologies to meet their educational gratification needs. In testing this hypothesis, e-teens' responses to new media technologies they have access to are matched against gratifications sought and obtained. If gratifications sought and obtained are in line with entertainment/leisure, communication, image and relationship- building, it is categorised as sociability and social inclusion gratifications, whereas academic use is educational gratification.

*H<sub>0</sub>: Ghanaian e-teens are not likely to have a positive attitude towards new media technology use.*

*H<sub>4</sub>: Ghanaian e-teens are likely to have a positive attitude towards new media technology use.*

### **Rationale:**

Attitude reflects an individual's overall feelings towards a specific object (Dolondo 2014:11). In that regard e-teens' attitude towards new media technologies means the general feeling they have about new media technologies. Attitude has long been identified as a cause of intention (Suki & Suki 2011:3), while actual system usage is precipitated by intention and also accounts for actual system usage. According to TAM the attitude of a user of technology can be favourable or unfavourable based on the perceived usefulness (PU) and perceived ease of use (PEOU) of the technology. Other researchers who extended TAM included other external variables like social influence as a factor of attitude. When attitude is favourable, it means the user has a positive or favourable feeling or perception about the usefulness of the technology (that is how the technology will be able to help the user to be more effective). Perception about how easily features of the technology can be used with less struggle will also be favourable or positive.

In this study, positive attitude means that e-teen users will have a favourable attitude or perceptions about ease of use and usefulness of new media technologies. Teens have been described as "digital natives" (Carr 2010) having been born in the digital age where technology is part of their lives. Seal-Warner (2007) also believes teens, having been born in the digital age, have a pre-conditioned mind to use technology for various activities in their lives. For this reason, e-teens are expected to have a strongly positive perception about the usefulness of new media technologies in their lives. This will, almost inevitably, make e-teens have a positive or favourable attitude towards new media technologies. Thus, e-teens will not find it as challenging making new media technologies

an integral part of their lives which naturally leads them to highly appropriate the technologies. In this study attitude is measured by the respondents' response to perceptions about usefulness and self-ratings about attitude.

Another hypothesis which the researcher interested in testing, but not directly related to the E-teen model was:

*H<sub>0</sub>: There is no positive relationship between social influence and the use of social media platforms by e-teens.*

*H<sub>5</sub>: There is a positive relationship between social influence and the use of social media platforms by e-teens.*

**Rationale:** Latane (1981) stated that a person's behaviour is heavily influenced by the behaviour and the presence of others. This is what he regarded as the psychological concept of social influence which could be rooted in the usage of the information system and can be extended to social media usage. In line with Latane's exploration of social influence, this study posits that the mass of users in social media connected to a user could be a critical component to explain social media usage behaviour. This is because, as the name implies, social media dwells on other users to thrive. The concept of social influence is also associated with social identity theory which emanates from the social psychology perspective and propounded by Henri Tajfel and John Turner in the 1970s (Turner & Reynolds 2010). Gaining foundations in the 1970s, the social identity theory was significantly developed at the start of the 1980s to generally explain group processes as well as characteristics of the social group (Hogg 2016). The theory has been considerably extended through a range of sub-theories that focus on social influence and group norms, leadership within and between groups, as well as self-enhancement. Others are, uncertainty reduction motivations, deindividuation and collective behaviour, social mobilization and protest, and marginalization and deviance within groups (Hogg 2016:3). This is why the researcher finds it relevant to discuss it along the lines of social influence as motivation for social media participation, which equally has a place in the Technology Acceptance Model (TAM).

While Malhotra and Galletta (1999) and Ventakesh et al. (2003), in extending TAM, accounted for social influence, Davis (1986) and Davis, et al. (1989) had earlier stated that the construct for

subjective norm (SN), social influence, needed to be accounted for as a factor of influence for information system usage, although they observed that the conceptualization of SN based on TRA (Theory of Reasoned Action) has theoretical and psychometric problems Malhotra & Galletta (1999). Malhotra and Galletta operationalised social influence along the lines of Kelman's (1961) processes of compliance, identification and internalization, which are similar to the social identity theory's explanation for certain intergroup behaviours based on supposed group status variances, the seeming permanency and acceptability of those status variances, as well as the perceived ability to move from one group to another (Tajfel & Turner 1979; Turner 1999). Compliance is when an individual adopts the induced behaviour, not because she believes in its content, but with the expectation of gaining rewards or avoiding punishments. Identification is when an individual accepts influence because she wants to establish or maintain a satisfying self-defining relationship to another person or group and internalization is when an individual accepts influence because it is congruent with her value system (Malhotra & Galletta 1999:3)

Social influence could affect behavioural intention (BI) indirectly through attitude (A), owing to internalization and identification processes, or influence BI directly through compliance (Davis et al. 1989:986). On the other hand, Malhotra & Galletta (1999:4) advanced all the three processes of social influence (identification, compliance and internalization) will have a positive effect on behavioural intention (BI) as well as attitude (A), sequentially will affect usage behaviour. Essentially the argument is that humans, being social animals, are insusceptible from the influence of others. Therefore, in spite of one's independent mindedness oftentimes, the attitudes and behaviours we exhibit are influenced others around.

This study, consequently, has the hypothesis that social influence is the main factor for the signing up to and the use of social media platforms. This means that friends and relations (family) of e-teens who are on social media platforms serve as a major factor of influence to other e-teens to sign up to the same. Social influence in this context can come about in two major ways. In one breadth these family members and friends would convince e-teens about how fun it is to be on those platforms and also make efforts to send friend requests to e-teens. In addition, the social influence of social media use could come about as a result of the non-e-teen user getting to know that a friend or relation is on a social media platform and as a result this makes him/her also sign up to it. In that instance, the influence occurs in a passive way (without the object of influence

making any efforts to persuade the e-teen). Social influence in this study was measured by asking respondents who or what influenced them to use social media they have signed up to and their reason for joining social media. Responses that point to influence from social networks such as friends and family are categorised as social influence. And those that were borne out of respondents' curiosity and/or content on social media are considered as non-social influence.

## **1.8 JUSTIFICATION OF STUDY**

Uses of new media technologies by teens have been reported in various studies from around the world with two main opposing notions of childhood. According to Livingstone (2011:3) one notion sees children as “vulnerable, undergoing a crucial but fragile process of cognitive and social development to which the Internet tends to pose a risk by introducing potential harms into the social conditions for development, necessitating in turn a protectionist regulatory environment”. Reference is often made to studies that highlight this, such as, Ephraim's (2013) qualitative analyses of significant secondary data which showed that children and youths between the ages of 13 and 30 years makeup Africa's heaviest users of social media and among the negative consequences of their use of social media were: abuse; cyberbullying and violence against girls and women. Many also allude to studies that put on the pedestal the adverse effect new media has on academic performance of students. A study by Owusu-Acheaw and Larson (2015), for instance, reported that the majority of respondents in a Ghanaian tertiary institution studied admitted having mobile phones which were Internet enabled. These respondents also had knowledge of the existence of many media sites, with most respondents confirming they visited social media sites using their phones and spent between thirty minutes to three hours with them on daily basis. The researchers also found that the use of social media sites had affected academic performance of the respondents negatively and that there was a direct relationship between the use of social media sites and academic performance.

The contrary view (notion) is that children are perceived as competent and creative agents in their own right whose “media-savvy” skills tend to be underestimated by the adults around them, the consequence being that society may even fail to provide a sufficiently rich environment for them (Livingstone 2011:3)”. Rather than doubting their usefulness and, perhaps, banning or restricting their use, Plockey and Amuda (2013), for example, say new media technologies such as iPods, e-books, social media, e-readers and smart phones can be used to support the goals of promoting

reading habits among the youth, especially in Africa, as these technologies appear to subjugate student's out-of-school time.

Mosco (2004) has noted that the apprehension about new media can be shed off only when new media becomes conventional culture as many adults are uncomfortable with the changing social norms, a reality that increases the potential for inter-generational conflicts and misunderstandings. Mosco, therefore, advocated continued research into young people's experiences with new media technologies. Also, Ito et al. (2008) observes that although there is a widespread assumption that new media technologies are tied to fundamental changes in how young people (teens included) are engaging with culture and knowledge, there is little research investigating how the dynamics operate on the ground. More so, much has not been done in the context of sub-Saharan Africa, especially, in Ghana, where the use of new media technology is prevalent with mobile phone usage penetration crossing 100% as at 2013, according to a report by the National Communications Authority of Ghana (NCA). This, therefore, partly motivated the researcher to explore the uses, gratifications and the extent of appropriation of new media technologies by e-teens in the Ghanaian context.

This particular study looks into what e-teens do with new media technologies and the motivations behind them in an attempt to develop a conceptual model to explain how and why they use these technologies. This is a significant novelty the researcher brings to the field of use and gratifications research in the sense that many of the extensions done with regard to gratifications research have been associated with legacy media. This work, therefore, breaks new grounds and, to a certain extent, serves as an extension to Uses and Gratifications Theory research in relation to new media.

The study, therefore, makes a practical, empirical and theoretical contribution to conceptualizations on the subject of uses, gratifications and appropriation of technologies, specifically, new media technologies. This study will also benefit the government and policy makers by serving as valuable reference material for how e-teens are appropriating and using new media technologies. This will assist in serving as grounds for policy decisions relating to the Internet accessibility, security and filtering; new media technology incorporation into teaching and learning; and new media usage controls, amongst others. The thesis, further, highlights areas for

future research that will aid in enhancing studies pertaining to appropriation, uses and gratifications for new media technologies.

## **1.9 OPERATIONAL DEFINITIONS OF KEY TERMS/ CONCEPTS**

Coleman (2004) discusses the need to define terms used in the field of knowledge for the reason that fields of knowledge have boundaries. Afagbegee (2016:28) notes that there is no one universally accepted definition of concepts to which Bracken (2004:186) confirms by noting that “concepts vary in their inclusiveness, generalizability, precisiveness, and importance” and that “there is no one definition of what constitute a basic concept.” It is in line with this thinking that some key variables used in this study have been defined to draw out their inclusiveness and preciseness as can be found below:

**New media technologies:** They are applications meant to transfer information through digital techniques, computerized systems or data networks (Chavis 2015). New media technologies emerged after the advent of the computer and the Internet. They hold out a possibility of on-demand content access at any point in time and accessible on any digital device, usually containing interactive user feedback and creative participation (Socha & Eber-Schmid 2014). According to Chavis (2015) this technology is typically associated with information transfers meant to be manipulated in some way. They are commonly interactive and contain compressed data. The most prevalent examples of new media technologies include Internet-based concepts, like websites, or digital media such as DVDs, video games, and mobile phone applications such as games and video calling. Anything that is considered old media, such as television, film or paper-based products, are not part of new media (Socha & Eber-Schmid 2014). The uniqueness of new media technology is in its sharing capability and its interactive nature. New media technologies considered in this research are mobile phones, personal computers, laptops, iPods, video games and tablets and their interactive platforms such as instant messaging, text messaging, games, social networking, blogs, photos and video sharing platforms.

**Adoption:** Acceptance and use of new media technologies such as mobile phones, laptops and computers. According to the Technology Acceptance Model (TAM), which was originally developed by Davis in 1986, there are causal linkages between two key sets of constructs which are Perceived Usefulness (PU) and Perceived Ease of Use (PEOU); and technology user’s attitude

(A), behavioural intentions (BI) and actual computer usage behaviour. Simply relating TAM to this study, the impression a potential user has about how useful and user-friendly a new media technology is positively or negatively influences that person's attitude, his desire to use and the consequent usage of that new media technology. Another perspective about adoption of new media technologies has to do with participation as a predictor of appropriation which is related to adoption. The study investigates whether the variables in TAM, such as attitude and participation, which lead to adoption/appropriation, can be applied to e-teens' new media usage.

**Usage:** Unlike older theories such as the magic bullet and the hypodermic needle, which suggested that the audience can be easily manipulated by the media rendering the audience passive and helpless, the Uses and Gratifications Theory considers the audience to be an active user of the media who intentionally seeks after one medium over the other for specific purposes. The theory explores the motives behind the media use as well as gratifications obtained. Contrasting some older theories, the uses and gratifications approach emphasises positive motivation and active use of media content that can gratify individual recipient's needs (Griffin 2012). Katz, Gurevitch and Haas, (1973) categorise the needs into cognitive needs – acquiring information; affective needs – aesthetic and emotional experiences; personal identity – self-confidence and the need for self-respect; integration and social interaction; escapism – the need to escape, tension release. This investigation into usage of new media technologies looks at the way in which new media technologies are used by e-teens and what needs they intend to fulfil.

**Teenagers (Teens) /Adolescents:** According to UNICEF teens are within the ages of 13-19. Usually such people have not reached legal adulthood. The Merriam-Webster Dictionary also defines an adolescent as a young person who is developing into an adult and a teenager as the years 13 through 19 in a person's lifetime. Both adolescents and teenagers are in the process of developing into adulthood, however, an adolescent may not necessarily be a teenager as adolescence starts earlier in a person's life. The World Health Organization defines an adolescent as any person aged 10 to 19. By this definition, although not all adolescents are teenagers, all teenagers are adolescents. In this study a teen or adolescent is a male or female between the ages of 12 to 20 years. This person must, at least, be thirteen years or at most, nineteen years. In this study, teens and adolescents are sometimes used interchangeably.

**Ghanaian Teenagers (teens) /Adolescents:** Based on the definitions by UNICEF and WHO (indicated above) and the operational definition provided above, Ghanaian teenagers are teens of Ghanaian heritage between the ages of twelve (12) to twenty (20) years. These persons must be, at least, thirteen years or at most, nineteen years.

**E-teens:** Delmonico and Griffin 2008:431 refer to e-teens as “adolescents who use the Internet regularly” In this study e-teens refer to people from age thirteen to nineteen who are ardent users and show expertise in the use of new media technologies and associated platforms such as social media and gaming sites.

**Web2.0 tools:** Tools over the World Wide Web (WWW) that allow end-users to engage in dialogue with other users, generate content, have access to and create rich content such as videos, music and graphics, share and even edit content over the web. Some of the tools allow users to integrate videos into content created. New media technologies permit podcasting, blogging and sharing content, whereas community tools allow for social networking. The term was first coined by Darcy DiNucci in 1999 and made popular by Tim O'Reilly and Dale Dougherty at the O'Reilly Media Web 2.0 Conference in late 2004 (Graham 2005; O'Reilly 2005). The interactive nature of new media applications may be a motivation for their use. TAM posits that perceived ease of use (PEOU) influences the usage of technology. By its nature, Web 2.0 emphasises content generated by users, usability and interoperability (Strickland 2007). It could be taken as read, therefore, that there is an inherent feature of user-friendliness which serves as the motivation for e-teens to make those technologies a part of their lives, leading to different levels of appropriation - faithful appropriation or task-oriented - as suggested by the Model of Technology Appropriation.

**Gratification:** The Oxford Dictionary defines gratification as pleasure, especially when gained from the satisfaction of a desire. The Uses and Gratifications Theory discusses gratifications in a similar light. The theory says media users consciously choose media that will satisfy given needs such as enhancing knowledge, social interactions, relaxation or escape (Severin & Tankard 2000; McQuail 2010). Gratification is, in consequence, generally defined in this study as the satisfaction provided through the usage of new media technologies. In the proposed E-teen model gratifications considered as satisfying the needs of E-teens are: sociability, social inclusion and educational.

**Social inclusion and sociability gratification:** A person's craving to belong to a community of like-minded people (Korhan 2010) is social inclusion. Quan-Haase and Young (2010) say the opportunity Facebook gives its users to continue interactions with offline connections in spite of their location means Facebook serves a sociability function. Sociability in this context is operationalized as the feature or function of new media technologies which make it possible to communicate, connect, interact, contract friendships, have leisure and spend virtual time with networks. Essentially, the sociability function of new media technologies provides gratifications in the areas of communication, entertainment and relaxation. In this study, seeking social inclusion and sociability gratification means engaging in activities that offer companionship to fill the quest of belongingness and also engaging in activities that lead to socialization, interacting with others, building relationships and participating in social discussions with others with the aid of new media technologies. Such activities include joining and participating in chatgroup activities, visiting social media sites, creating and sharing content on social media, video calling, instant messaging and joining social media platforms. It also, inherently, means usage of communicative apps on a regular basis counts as social inclusion and sociability.

**Social influence:** Schmitz and Fulk (1991:497) define social influence as a process that involves complex cognitive processes of multiple direct and indirect information cues embedded in the individual's social world. It is a change or influence that occurs as a result of influences from another person, group or groups. Social influence results from social interaction and gradually provides a reason to select and use new media technologies. This simply means that as non-users see other people within their social environment use new media technologies in exciting ways, it draws their attention to these technologies. With time, they get influenced as they see and hear about the benefits of such technologies. This study defines social influence as any influence from the social environment of e-teens (such as friends, family and colleagues) to use new media technologies and platforms.

**Communicative attributes of new media technologies:** Friedman and Friedman (2008) suggest that new media technologies are for communication in one form or another. They also assume that communication with the aid of new media are characteristically collaborative, unidirectional, rapid or networked. This is because of the unique features of new media technologies which make it possible to have instantaneous communication via text, voice or video. This study defines

communicative attributes of new media technologies as the functions of new media technologies that allow for communications in various forms, including voice/video communication, text and instant messaging. These attributes enable interaction among users and provides sociability gratification (aiding social contacts and interaction) as well as educational gratifications (extending academic interactions outside the classroom).

**Participatory attributes of new media technologies:** Bowman and Willis (2003) describe participatory media as media which lets the audience or user to play an active role in the process of collecting, reporting, analysing and disseminating content. Participatory media, therefore, blurs the lines between the media content producer and the audience or user as the media audience or user is able to also create and share content with other users and, at the same time, become the receiver of content. Hence, participatory attributes of new media technologies are the features of new media technologies that allow users to take part in group activities such as sharing of content and participating in discussions. These features provide social inclusion, sociability and educational gratifications to e-teens. This is because participatory features provide the opportunity for teens (e-teens) to have a sense of belongingness, socialise and meet academic needs since they are able to join or associate with virtual groups which enhance interaction in order to shed of loneliness, find a sense of belongingness and sharing of educational content.

**Appropriation:** The process of exploring, evaluating, adopting and adapting technology (Carroll et al. 2002a). Based on this definition when a technology user is able to understand how a technology is used as well as integrate that technology into his or her lifestyle, one can assume that that user has appropriated the technology. In this study, appropriation means having a reasonable knowledge about how to use new media technologies and fitting in them into daily practices.

**Appropriation of technology:** Gonzalez, Kraemer and Castro (2009) say technology appropriation is the effort made by users to make sense of technology within their own circumstances. It has also been defined as the process of adopting and adapting technology by users or groups of users to integrate it into their lives, practices, and (work) routines (Janneck 2009). In this sense appropriation goes beyond a user having the know-how of a technology but how that technology is embraced and the personalisation of it in the individual's lifestyle to meet specific needs. Technology appropriation, in this study combines these two ideas. Therefore, it

means the process of taking on new media technology to the extent of having proficiency in the use of the technology as well as the alteration in lifestyle that occurs as a result of the adoption of technology.

**High appropriation:** When a user highly appropriates new media technologies that individual has adapted technologies to the extent that he or she depends on and uses the technologies regularly as well as exhibit significant proficiency in the usage of new media technologies. Such persons also generate, share and participate in new media content. Indeed, it is essentially through this that they tend to have the upper hand over the use of new media technologies.

**Content generation:** This is when users of new media technologies create and initiate the sharing of content through new media technologies. In this instance the new media user becomes the producer and disseminator of content through new media technologies.

**Content sharing:** This is when a new media user distributes content, be it self-generated or one received or retrieved from an external source. The user, therefore, becomes disseminator of content via new media technologies. This can be in the form of sharing a post on social media.

**Content participation:** This is when new media users engage in discussions through new media technologies.

**Conceptual model:** Afagbegee (2016:44) says it is the process of conceptualizing or thinking about a natural or social structure of phenomena, resulting in the formulation or creation of conceptual models. Conceptual models are intellectual. This means they are carved out in the mind as representations of the structures and processes of natural and social phenomena or activities (Afagbegee 2016). Conceptual models are usually representations of mental structure/s in pictorial or the form of diagrams expressing relationships and processes of ideas representing a real or imaginary phenomenon, reality, entity or activity (Afagbegee 2016). Conceptual models are tested for their verifiability and generalizability through empirical investigations. These investigations can be carried out through different types of inquiries and methods to produce knowledge and understanding about the reality that the models represent (Poetschke 2003; de Gialdino 2009). For this study the conceptual model comes in the form of graphical representation of concepts sourced

from three theories (TAM, MTA and U&G) with additional backing of empirical literature describing how e-teens appropriate and use new media technologies. The proposed model was tested by collecting quantitative data from the target group (e-teens) and discussed extensively.

## **1.10 STRUCTURE OF THESIS**

This thesis is made up of eight chapters as detailed below:

- Chapter 1: Introduction and background to the study  
This chapter provides an overview of and provides a foundation for the rest of the thesis. It, principally, gives the background to the study and explains its objectives, rationale and relevance of the study. It also specifies both the general and specific research questions driving the study.
- Chapter 2: Literature review  
This provides an overview of works that have been done on the new media technology use and appropriation with emphasis on studies with regard to teens. The literature review is organised based on the objectives of the study and discusses methods, dimensions of variables used, the results and conclusions reached and highlights their importance to the thesis.
- Chapter 3: Theoretical framework  
This chapter looks at theories explaining media use and appropriation. It critically examines three theories serving as foregrounding for the study which culminates in the development of a model explaining teen use of new media technologies.
- Chapter 4: Research methodology  
The research approach, methods, population, sampling, reliability and validity are discussed in this chapter.
- Chapter 5: Data analysis  
Results and analysis from the survey conducted are presented in this chapter.
- Chapter 6: Proposed conceptual framework  
It discusses and presents the proposed conceptual model for the study.
- Chapter 7: Discussion of findings  
This chapter returns to the research questions and discusses the results extensively while relating them to the proposed conceptual model.

- Chapter 8: Summary, conclusions and recommendations

The curtains are finally drawn in this chapter with the summary, limitations, recommendations, and conclusions of the research study.

### **1.11 SUMMARY**

This chapter contextualized the study by giving the background, motivation, research problem aims and rationale for the study. There was also a ‘sneak-peak’ at the methodological and theoretical perspectives serving as the basis of the study.

Chapter two reviews some of the literature available for use and appropriation of new media technologies. It specially aims to discuss literature based on the objectives of the study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

A literature review shows what other authors have said about the topic under study, what theories addressed it and what they say (Babbie 2001:113). In more detail, Boote and Beile (2005) describe a literature review as an evaluative report of studies found in the literature related to one's selected area of study. Fink (2014) says a literature review critically evaluates, describes and summarises scholarly articles, books and other texts or works pertinent to the subject under study. This is done with the object of giving an overview of works the researcher has studied in the course of investigating the topic in an attempt to establish how the research fits within a larger field of study. In like manner, Boote and Beile (2001) advocate that the review describes, summarises, evaluates, clarifies and gives a theoretical basis for the research and should help one to determine the nature of the research. They, further, recommend the selection of a limited number of works that are central to the study area rather than trying to collect a large number of works that are not as closely connected to the topic area.

Amongst others, the following have been identified as the purpose of literature review: provide a context for the research; justify the research, describe the relationship of each work to the others under consideration; identify new ways to interpret prior research; expose any gaps that exist in the literature and settle seeming contradictions that exist in previous studies. Others are: situate one's research against the backdrop of existing literature and enables the researcher to learn from previous theory or theories on the subject and identify gaps in previous research (Jesson 2011; Ridley 2012; Boote & Beile 2001). Bearing these in mind, this chapter reviews previous works that have been done on the subject matter of this study. Literature is, primarily, discussed in relation to the objectives of the study. The review is anticipated to help build the context for the study further in order to ultimately meet the objectives of the study.

#### **2.2 CHARACTERISTICS OF E-TEENS**

Everybody is exposed to new media technologies (Lievrouw & Livingstone 2006); nonetheless, Livingstone (2011) asserts that children, young folk and their relations are apt to be at the forefront of new media adoption. Livingstone (2011) has confirmed this observation by reasoning that amongst the early and most enthusiastic adopters and consumers of information and

communication technologies are children and young people. This makes homes with children leaders in the new media diffusion process. She further suggests that children (which in this context are the e-teens) are considered more flexible, creative users of technologies than adults and are much oriented toward innovation and change. McMillan and Morrison (2006:89) report that college students who were studied on their new media use “described older siblings as less adept at using interactive technologies, while younger siblings were often described as far ahead of the participants in their use of the technologies”. In 2008, Livingstone described parents of teens as “dinosaurs” in the information age who have been inhibited by the demands of the computer interface (Livingstone 2008a).

Prensky (2001a) had earlier alluded to this by observing that it is the demanding nature of the computer that makes many parents “digital immigrants” in the age of information populated by their ‘digital native’ children. Prensky (2001b) asserted that today’s students, from the lower levels of education through to the highest level, epitomise the first generation to grow up with new media technologies. These “digital natives” throughout their whole lives have been surrounded by and have used videogames, computers, video cameras, digital music players, mobile phones, smartphones, the Internet and other information technology and digital tools of contemporary era. According to Prensky:

Today’s average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not to mention 20,000 hours watching TV). Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives (2001b:1).

Prensky (2001a) indicates that young people confirm the popular notion of them being “digital natives” through rather unusual news headlines of young hackers breaking national security codes, teenage moguls getting rich through E-Bay and crowning it all with recent successes such as Google, Facebook and YouTube which were originated by young people, as it were, digital natives. Similarly, based on previous research, Ito et al. (2008) point out that youth (e-teens) tend to be earlier adopters of new media technologies than adults. These teens often have authoring, programming or coding capabilities and their experience and interaction with new media is voluminously rising and becoming complex. A story is told of 15-year-old Stephanie Perez, a High School junior in the United States, who was so proficient in computer use to the extent that she trained adults how to use computers as part of the Digital Connectors programme in the US. The

programme was meant to train teens in computer skills after which they were to pass on the knowledge gained. She was not alone, but had other teens in her company who taught clients of the Stanislaus Literacy Center, which provided services in the area of reading skills and high school equivalency exams for adults (McCray 2010).

Two Nigerian teens, Osine Ikhianosime and Anesi Ikhianosime, also made the headlines in the media with a mobile web browser they developed called “Crocodile Browser Lite”. The duo, 13 and 15, co-developed the browser with both brothers writing the code and Anesi designing the user interface (Adesulu 2015). These are just two out of countless examples showing how new media technologies have become an integral part of e-teen’s lifestyles and also reflecting a fact that e-teens can effortlessly take on such technologies because they have been born into them. Such competencies portrayed by e-teens may not be typical of the older generation because they took up such technologies in the latter stages of their lives.

Prensky (2001a) makes an analogy between the “digital immigrant” and a real-life immigrant who always retains, to some degree, his “accent”, which Prensky considers is that immigrant’s “foot in the past”. He notes a main distinction between the “accent” of the digital native and the digital immigrant as showing up in instances like the digital immigrant relying on the Internet for information as a second thought instead of the first one, or reading the manual for a programme rather than supposing that the programme itself will direct him as to how to use it. Prensky (2001a:2) observes that:

Today’s older folk were "socialized" differently from their kids, and are now in the process of learning a new language. And a language learned later in life, scientists tell us, goes into a different part of the brain. There are hundreds of examples of the digital immigrant accent. They include printing out your email (or having your secretary print it out for you – an even “thicker” accent); needing to print out a document written on the computer in order to edit it (rather than just editing on the screen); and bringing people physically into your office to see an interesting web site (rather than just sending them the URL).

Buckingham (2006), on the other hand, debates that technological changes do not affect only the young person (e-teen) but all, including adults. He argues that the consequences of technology depend on what we use it for. He suggests that there may be social variations and variations in what adults and young people do with new media technologies. Buckingham (2006) refers to the

research by Entertainment Software Association carried out in 2005 suggesting that on the average the age of game players is now thirty, although computer games are often associated with children or young people. He was, however, quick to state that it is a fact that young people might not be playing the same types of games that adults do, or possibly playing same games differently.

Drotner (2000) described young people as “cultural pioneers” and notes three key ways in which young people may be said to be exhibiting this unique attribute in their use of new media technologies - innovation, interaction and integration. Livingstone (2011:6) explains what Drotner meant by these three:

Under ‘innovation’, she notes how young people combine multiple media, multitask, blur production and reception and so make creative use of the opportunities available. By ‘interaction’, she points to how young people engage with each other within and through different media and media contents, opening up opportunities for intertextuality and connectivity. By ‘integration’ she points to the transformation of the distinction between primary (or face-to-face) and secondary (mass mediated) socialisation, resulting in diverse forms of mediated communication.

These, amongst others, confirm that e-teens are commonly participatory media biased as they find amity with technologies that help them to stay in touch with acquaintances. It is based on empirical literature such as these that are the focus of two of the hypotheses of this study: “*Behavioural intentions and actual usage of new media technologies by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technologies*” and “*there is a relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications*”. New media researchers have different views on the extent to which practices related to new media usage are associated with the particular stage in one’s life or are tied to a generational cohort identity (Ito et al. 2009). For instance, turning attention to mobile phone use, Ling and Yttri (2005) have held that communicative patterns are associated with the age-related needs of adolescents and teenagers who are negotiating their social identities and belonging, a view which this study largely shares. Baron (2008), on the other hand, believes the uptake of informal forms of online writing by young people is as a result of the wider set of social and cultural changes in printed and written communication. But, as has been indicated already, this study shares in the notion that e-teen users of new media technologies are taking up the technologies extensively due to the fact that it helps them negotiate their peculiar developmental

needs of finding a sense of identity and belongingness through communication and participation on new media platforms.

It is obvious e-teens, who are digital natives are pros in the appropriation of new media technologies including mobile phones, computers, laptops, tablets, iPod, gaming consoles and their attendant platforms such as email, games, social media, messaging, videos, voice and video calls. Having been born in an age of abundance of new media technologies, e-teens are likely to have a positive attitude towards new media technologies and, thereby, appropriate them easily. Many studies point to this fact. Perhaps, Livingstone (2011:12) assists to sum it all up in the following quote:

For children and young people, then, the Internet appears to be ‘their’ medium; they are the early adopters, the most media-savvy, the pioneers in the cyber-age, leading for once rather than being led, this is reversing the generation gap as they gain confidence and expertise.

A lot of studies have confirmed the high appropriation and use of new media technologies by e-teens. It has been advocated that owing to the fast spread of communication technologies in children’s daily environment, the focus of study into new media use should be, above all, on children, (Kaare, Brandtzaeg, Heim & Endestad 2007). Kaare et al. (2007) submit that children of today have access to tools which allow them to do away with restrictions on peer-communication in more fluid and nomadic settings which became evident in their study of pre-teens in Norway. New media technologies are personal in nature and afford “freedom” and privacy for users in the sense that they can easily be used without the knowledge of others. Mobile phones, tabs, laptops and computers can be used during times that parents or guardians are not around. Smaller devices can be hidden and used during odd hours. What makes it worse is that if e-teens have digital immigrant parents who do not have good knowledge about the use of such technologies, e-teens could easily use them to access inappropriate content without parents’ knowledge. This is the number one reason many, including researchers, parents and guardians, harbour apprehension about the use of such technologies by e-teens.

Use of new media technologies has also become much personalised. Charlie Schlick, Product Manager of Nokia, is said to have stated at the m-Learn conference in 2007 that talking on mobile phones has become “our new private parts” alluding to the personal nature of new media devices

and how they are closely linked to identity formation. It, therefore, comes as no surprise that Rettie (2005) refers to personal mobile devices as becoming “embodied”. Pertierra (2005:27) also says:

Unlike desktops and other immobile technologies, mobile phones [for that matter new media technologies] more closely resemble tools or prosthetic devices as extensions of the body. They become extensions of the hand, allowing us to connect anytime, anywhere, with anybody. Bodies themselves become writing devices as phoneurs negotiate new urban spaces.

Another term, “cyber kid”, is informally used to refer to a child of the information or digital media age. Holloway and Valentine (2003) state that a cyber kid is one who is familiar with new media technology. Predominantly, such a person is likely to have been born during the time of high penetration of new media technologies and is, therefore, a digital native. This study shares the view that characteristically, e-teens have been born at a time of abundance of new media technologies and are adept and regular users of same.

### **2.3 TECHNOLOGY APPROPRIATION PATTERNS AMONG E-TEENS**

Bar, Pisani and Weber (2007:1) perceive appropriation of new media technologies such as mobile phones as the process through which users go beyond mere adoption to make the technology their own and embed it within their social, economic, and political practices. They consider the fundamental process of appropriation as a bargain about power and control over technology configuration, its uses, and distribution of its benefits. As a result, while appropriating new media technologies, users exhibit certain levels of competencies reflecting how much such technologies have been rooted in their lives.

Endestad et al. (2011) found four specific user types of new media technologies which reflect users’ competence and use. Two groups of users were referred to as advanced users and offline gamers. These two groups of users do not necessarily use new media a lot more than other user groups, but just decide on different and more advanced activities. Such users were also identified by Johnsson-Smaragdi (2001), as well as Roberts and Foehr (2004). In the case of Roberts and Foehr (2004), they were referred to as “the enthusiasts”, whereas Johnsson-Smaragdi (2001) branded them as “PC and games specialists”. Advanced tasks included creation of a homepage and demo production and for more regular Internet tasks such as browsing, music download and online gaming.

The next group of users, instrumental users, were involved in activities advanced users were involved in but not as considerably vigorous as advanced users. No gender differences were recorded for instrumental users. There were also the sporadic/low users, who were indifferent to new media technologies. The sporadic users were typically made up of girls, affirming findings from previous studies that revealed that girls seldom chose new media as compared to boys (Johnsson-Smaragdi 2001; Roberts & Foehr 2004). Johnsson-Smaragdi found “Low Media Users” to be the biggest group, defined by spending insignificant amount of time with media technologies. Roberts and Foehr, in their study, referred to this type of users as “Media Lite”. They had little access to the media, and an “Indifferent” attitude, although, they lived in a rich media environment. However, other studies in which “low media users” used media to a low extent the “low user” in the Endestad et al. (2011) study did use new media technologies to some extent. Endestad et al (2011) consider the low users as an interesting group for the reason that they illustrated how personal choice plays an important role in a media-saturated society and shows how even children are not passive absorbers of the media that are available (Endestad et al. 2011). This is because some children chose to use new media less frequently even if they had access to them.

There have also been studies reflecting new cultural and behavioural norms as a result of new media usage which reflect different levels of appropriation. Ito et al. (2009:20) report that youth (including e-teens) exhibit new social behavioural norms, “technical and media literacy by exploring new interests, tinkering, and “messaging around” with new forms of media”. Further, they state that these people are able to take on new media skills such as creating a video or game, or customising their social networking site page. Another norm reported is “geeking out” and diving into a topic or talent expressed as “an intense commitment to or engagement with media or technology, often one particular media property, genre, or type of technology” (Ito et al. 2009:28). Geeking out is learning that is peer-driven, but concerned with acquiring deep understanding and expertise in particular areas of interest. It requires an ongoing access to digital media as such access is what makes participation possible (Ito et al. 2009:28).

There was also “hanging out” which is a virtual means of spending time (hanging out) with social relations. Whereas parents and teachers in the study considered this as time-wasting as it did not support learning, kids and teenagers involved in the study made a lot of effort to create and find opportunities to “hang out”. Most teenagers developed “work-arounds” or ways to topple

technical, institutional and social hindrances to hanging out. These work-arounds were ways through which children socialise together, even under unofficial circumstances for hanging out, for instance, in the classroom where talking socially with peers is unquestionably prohibited (Ito et al. 2009:13). While hanging out, they would chat, amongst others, about their interests in music, television and movies.

All the same, in certain instances, new media appropriation only reinforces already-existing cultural norms. Kibere (2016:47), for instance, argues that although the mobile phone enhances easy communication and strengthens existent social ties for the youth of Kibera, a town in Kenya, it still perpetuates the hierarchical nature of Kenya, where “class and place of residence are distinctive social markers in the process of social networking” Therefore, the Kiberan young primarily use and appropriate the mobile phone to link up with those in the same lower income strata.

On another dimension, according to Cooper (2002), mobile technologies drive communities and discussions into physical, public and private spaces which alter how we manage our interaction as we now have to cope with a more fluid environment. The private “is no longer conceivable as what goes on, discreetly, in the life of the individual away from the public domain, or as subsequently represented in individual consciousness” (Cooper 2002:22). Bull (2005) says new media technologies (specifically mobile ones) are re-appropriating public space such that users attempt to “inhabit” the spaces within which they move. Sheller (2004:5) advances that there is now “a constant flickering of conversation” as mobile devices are also eroding physical place as a predominant attribute of space. Gergen (1996) talks about “absent presence” referring to a situation where a group of people is physically together, but are connected elsewhere, whereas Traxler (2010) affirms that mobile technologies are redefining discussion and conversation. Bull intimates that:

The use of these mobile sound technologies informs us about how users attempt to ‘inhabit’ the spaces within which they move. The use of these technologies appears to bind the disparate threads of much urban movement together, both ‘filling’ the spaces ‘in-between’ communication or meetings and structuring the spaces thus occupied (2005:334).

Many studies look at the social impact of technologies, specifically examining how science and technology (including new media technologies) change our personal lives or cultural attitudes or environment (Eglash 2004) as a way of describing appropriation of technologies. Ito et al. talk about how new media technologies are being appropriated by young people who are essentially digital natives or e-teens:

Through participation in social network sites such as MySpace, Facebook, and Bebo (among others) as well as instant and text messaging, young people are constructing new social norms and forms of media literacy in networked public culture that reflect the enhanced role of media in their lives (Ito et al. 2009:14).

A study by Tully (2003) shows how mobile technology has been appropriated by young people to the extent that it has become a common fixture of communication and important social status symbol. One of the study participants was quoted as saying:

If you want to go to a disco or somewhere else on weekends, you no longer fix a time in advance like you used to on the fixed-line network. Attitudes have changed, and young people now say, “we’re taking the car” and decide appointments on the cell phone while they’re driving (Tully 2003:450).

This reflects a change in lifestyle as well as a new communication pattern which confirms a cultural norm and artefact gradually weaving its way through the lives of users of new media technologies. DeSanctis and Poole (1994) refer to this as the prosocial aspect of appropriation of appropriation. This is explained as “a process of cultural interaction with technology and the resulting establishment of new structures for using the technology” (Bar et al. 2007:11). In the same vein, Traxler (2010:3) says new media technologies “express part or much of the value, affiliations, identity, and individuality of their owners through their choice and use”. In this vein, student users, for example, can engage with information and discussion “as part of real life as they move about the world, using their own devices to connect with people, ideas and information of their own” while at the same time “using these same devices to produce, consume, and store content and conversation.”

New communities have also sprung up: the virtual community. Ownership of new media technologies links users to such communities. Rheingold (2002) says mobile technologies have become a catalyst for the springing up of transient and ephemeral communities such as the ‘smart

mobs' which are groups of interconnected people forming a distributed intelligence, around particular political, artistic or social issues. Traxler (2010:152) believes each of these groupings come with new norms, expectations, ethics and etiquettes which shifts ideas about the self and identity. Traxler further argues that social networks of individuals significantly shape the construction of identities because who we are is as a result of what we learn, who we meld with and who we are at ease being seen associating with and, more and more, online social networks also aid us construct identities for ourselves.

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to be the biggest group, defined by spending insignificant amount of time with media technologies. Roberts and Foehr (2004), in their study, referred to this type of users as “Media Lite”. They had little access to media, and an “Indifferent” attitude, although, they lived in a rich media environment. However, other studies in which “low media users” used media to a low extent the “low user” in the Endestad et al. (2011) study did use new media technologies to some extent. Endestad et al. (2011) consider the low users as an interesting group for the reason that they illustrated how personal choice plays an important role in a media-saturated society and shows how even children are not passive absorbers of the media that are available (Endestad et al. (2011). This is because some children chose to use new media less frequently even if they had access to them.

Besides, there was “messaging around” which is a transitional period between hanging out and more interest-driven participation, which involves experimenting and exploring with relatively minimal consequences to trial, error and even failure. This stage is marked by “an interest in and focus on the workings and content of the technology and media themselves, tinkering, exploring, and extending understanding” (Ito et al. 2009:20). E-teens have been found to be engaged in these as some are involved in the creation of apps amongst other things. Involvement in these makes e-teens high appropriators of new media technologies because they get to understand the technologies better and make them a part of their daily activities.

Teenagers possess positive attitudes towards using mobile devices and perceive same as useful for gaming, entertainment as well as learning because they are very convenient, have a fast response and easy to use to access knowledge or information (Kee & Samsudin 2014). The Technology Acceptance Model submits that positive attitude and perception about usefulness and ease of use of media technologies enhances acceptance and use of the technologies. This only proves that teens’ acceptance of the use of new media technologies is high and impacts on appropriation levels as well. That is why this study holds the view that new media technologies have indeed become the extension of e-teens’ communications and social lifestyles as it is self-evident that e-teens are effortlessly and comfortably using these technologies for. Therefore, in the proposed conceptual model, e-teens are considered “high appropriators of new media technologies”.

## **2.4 A CASE OF DIGITAL INEQUALITIES AMONG DIGITAL NATIVES (E-TEENS)**

Although teens have been touted as being proficient users of new media technology, some scholars have cautioned against making broad generalisations asserting that this group of users exhibits different tendencies and aptitudes in their use of the technologies. Weber and Dixon (2007:4) note that not every child is “born into new technologies” to a very similar degree. Weber & Dixon cite North America, which is supposed to have a lot of the population being knowledgeable in new media technologies. They still have homes, deprived of computers or the Internet and not each teen having a video gaming console, cell phone or an MP3 player at the time of their study. A study by Facer and Furlong (2001), to some extent, corroborates the above observation by Weber and Dixon (2007). In their study, they explore the relationship between having access to computers at home and attitudes to computer technologies of 855 school students who were aged 9-14 from eight schools in Southwest England and South Wales. Facer and Furlong (2001) concluded that, there is a relationship between having access to computers at home and income levels and other factors like non-existence of family culture and experience of placing economic, educational and cultural value on the computer and everyday family usage. The authors agreed that the idea of seeing every youth or teen as a ‘cyber kid’ is a myth which could have counterproductive consequences for young people and their education. They also concluded that if schools persistently draw on the cyber kid myth, digitally-marginalised young people may be disadvantaged in the assumption that their ‘natural ability’ with new technologies does not make it obligatory for schools to provide necessary resources like time and space which will make room for them to gain confidence with computers and other new media technologies.

Worthy of note, however, is that Facer and Furlong (2001) found that kids without computer access were good with other portable new media, entertainment technologies, making proficiency of e-teens in the use of computer technologies not a sole marker of new media appropriation. There was a reality of kids who did not have competency in the use of computers, but exhibited a lot of competency in other new media technologies. So, to the extent that skill with computers is identified as a marker of successful childhood makes children who are minimal users of computers count themselves out of those assumed to be ‘doing childhood’ properly. This, the researchers thought, may lead to those in the category of not having the upper hand over computers either rationalising their situation or adopting an oppositional stance toward the norms from which they are excluded.

Likewise, Brown and Czerniewicz (2010) have strongly argued that the notion of “digital native” is problematic and propose the concept of “digitizen” which recognises the variations in the use as well as competency of use of ICTs. They contend that the cohort regarded as “digital natives” “have more complicated identities and engage in the digital world in far more complex and heterogeneous ways” (Brown & Czerniewicz 2010:10). These variations are equally evident among the “digital immigrants” as their study found that across age groupings (from 22 - 44 years) there were those with low, medium and high levels of experience in ICT usage showing that the experiences were acquired at different stages of their lives. This finding shows that one cannot assign specific characteristics and abilities to a particular generation and that has been corroborated by many studies carried out elsewhere (example, Bullen et al. 2008; Margaryan & Littlejohn 2008; Sherry & Fielden 2005).

They also debated that the term “digital native” could be offensive in certain contexts. For instance, in South Africa, where a “native” brings to mind the unfortunate colonial and apartheid era which connoted backwardness, and the “immigrants” and suggesting civilization, it casts a rather sarcastic insinuation about the digitally marginalised groups in Africa. This could be due to several factors such as lack of network accessibility, practical accessibility and socioeconomic factors. Brown and Czerniewicz (2010) say the range of skills across generations should send signals that, there cannot be one core group of people who have upper hand over new media technologies, and another group who does not have an upper hand. For this reason, Brown and Czerniewicz (2010) identified a sub-group in the so-called “digital native group called the “Digital strangers”. This group of people, they said, are made up of more women with difficult and very poor access to ICTs and usually use public facilities. The “digital strangers” also rate their ICT skills as poor and average and come from low socioeconomic backgrounds and are non-English speakers.

This evidence is not totally new in the Ghanaian context and most likely other African countries as illiteracy rates are prevalent among those from low socioeconomic backgrounds. The requirements of use of new media technologies also make it imperative for some level of formal education and so those without formal education, even though they may be categorized as “digital natives” because of the period they were born, may not have the abilities which a true “digital native” exhibits. This is why being born into something as a criterion for determining who one is and which cannot be altered is considered tricky (Brown & Czerniewicz 2010). Interestingly

Madden, Lenhart, Duggan, Cortesi and Gasser (2013) found that, even in developed countries such as the United States, in terms of overall Internet use, teens, ages 12-17, who were living in lower-income and lower-education households, to a certain degree, unlikely used the Internet in any capacity, be it wired or mobile. Nonetheless, those who were in lower socioeconomic groups were in the offing and in certain instances more likely than those from higher income and highly educated households to use their cell phones as a principal point of access. Uche and Obiora (2016), also identified factors limiting the use of social media in Nigeria to include: inadequate electricity supply, poverty and inconsistent network signal which provides evidence for inequalities in the use of new media technologies.

Mention should be made that, although there may be traces of the “digital stranger” due to some of the factors mentioned above, digital marginalisation or inequalities are also being eroded through mobile technology in many parts of the world, especially in Ghana and other African countries (James 2016; Aker & Mbiti 2010; Madden, et al. 2013; Kreutzer 2009; Chigona et al. 2009; Bosch 2008; Deliotte 2013; Hilbert 2010). The bottom line, however, is that there is an underscoring fact that there are groups of users of ICTs, including new media technologies, who have more superiority over the use of the technologies while others do not. Again, certain constraints make some groups of new media users less exposed to the technologies even if they were interested in knowing and using the technologies. This is why there is contention about the terms used to describe digital natives and makes the term more context driven. There is, hence, the need to recognise the sub-groups under each core group of users who exhibit different characteristics.

Boyd (2007) also finds a fact which is along the lines of the digital inequality argument - two categories of non-participants of social networking sites - for which new media technologies have paved the way and are a major platform for e-teens - disenfranchised teens and conscientious objectors. He explains disenfranchised teens as consisting of “those without Internet access, those whose parents succeed in banning them from participation, and online teens who primarily access the Internet through school and other public venues where social networking sites are banned” (Boyd 2007:3).

Boyd also describes conscientious objectors to be obedient teens who have accepted and agreed to with their parents' safety or moral anxieties and teens who have been marginalized and who have the impression that social network sites are for the "cool kids" which they do not consider themselves to be and teens who feel that they are "too cool" for these sites (Boyd 2007). Boyd, however, indicates that many conscientious objectors have created profiles to which they log in at times although they may deny being users. It has also been found that in many instances friends of non-participants of social media create accounts for them (Boyd 2007). This, somewhat, makes a case for popular findings that a lot of teens go online and regularly visit social media sites for various purposes.

Again, although research indicates that young people (e-teens) have been exposed to new media technologies all their lives, Livingstone (2008a) believes that both children and adults may tussle with becoming proficient at new media technologies. She argues that not all children or young people (e-teens) have the same enthusiasm for such technologies.

For some, the Internet is an increasingly rich, diverse, engaging and stimulating resource of growing importance in their lives. For others, it remains a narrow and relatively unengaging if occasionally useful resource (Livingstone 2008a:1).

Similarly, Brown and Czerniewicz (2010:1) share in this position and call attention to the point that categorising a group of people as "digital immigrants" and another as "digital natives" only brings about "polarization". "Polarization" makes the concept less flexible and more deterministic in that it implies that if a person falls into one category, they cannot exhibit characteristics of the other category". By the same token, Buckingham (2006) alludes to the fact that, whether young or old, one needs the same flair to be able to play whatever game one may be interested in on the computer. This may be true, but one cannot deny the fact that e-teens and adults are appropriating new media technologies differently with the e-teens leaning towards "high appropriation" by creating new cultural artefacts with the technologies.

By Prensky's, definition of the 'digital native' such a person is a one from the millennial generation; one who has grown up with digital technology; one who comes to university already familiar with computers; and one who is purported to learn to use computers informally. These groups are either teaching themselves or learning through social networks such as family and

friends – rather than needing to be taught (Prensky 2001a, b). It is based on this that e-teens were selected for the study with greater emphasis on those who have grown up with new media technologies, have the upper hand over the technologies, constantly use the technologies and have learnt to use computers informally (in the social context). By these criteria, it is believed that it is not wrong to consider the e-teen as a digital native as well since they exhibit the signs of ownership and control of the technologies.

It is essential to look into what younger generations (e-teens/digital natives) do with these technologies, looking critically at the motivating factors in order to predict their usage patterns, understand them better and to draw up precautionary measures where necessary and to encourage them to use new media technologies in a positive way.

## **2.5 NEW MEDIA TECHNOLOGIES USED BY E-TEENS**

In this section the researcher reviews studies on new media technologies that e-teens own, have access to and use on regular basis. New media technologies here include the physical devices (hardware) such as analog mobile phones, smartphones and PCs.

In Ireland, SAFT (2003)<sup>2</sup> observed that a high number of children aged 9-16 appear to be using computers with 95% of them admitting using PC or any other computer. In the United States (US) Madden, Lenhart, Duggan, Cortesi and Gasser (2013) conducted a study on teen technology usage based upon a representative national phone survey of 802 parents and their 802 teens ages 12-17 in America. Some of the findings were that American teens were increasingly adopting smartphones, whereas mobile Internet access was equally widespread. It was found that 78% of teens had cell phones, and almost half (47%) of those teens owned smartphones. This translated into 37% of all teens in America who had smartphones. One-in-four teens said they mostly went online using their phones rather than devices like desktop or laptop computer. One-in-four teens (23%) had a tablet computer, analogous to the general American adult population. Also, nine-in-ten (93%) teens had access to a computer or home computer access. Seven-in-ten (71%) teens who had access to a computer at home said the laptop or desktop they frequently used was one they shared with other members of the family.

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<sup>2</sup> SAFT - Safety Awareness Fact and Tools - is a project to highlight the potential uses of the Internet and also to raise awareness amongst target audiences of the risks associated with the virtual world.

Generally, young people, including teens, are considered to be core users of new media technologies, especially smartphones with more and more people, especially the young, are going wireless and using the web to gather information, especially through mobile phones (Oyewusi & Ayanlola 2014:116). According to Rivera and van der Meulen (2014), smartphone sale share in the mobile device market space was 66% in 2014 and has been projected to reach 88% by 2018 while Deloitte (2013), based on a global mobile survey in 2013, confirms that smart phones are popular among the youth, with a penetration of about 72% among youth of developing countries including Ghana.

Apart from the portable devices, desktop computer use has evidently grown as well (Rideout, Foehr & Roberts 2010). However, although computers are used quite often in accessing the Internet, mobile devices are also making room for the use of “mobile Web” which provides a convergent platform of mobile phone technology that provides voice communication, text messaging and instant access to information over the Internet without the use of a desktop or laptop computer. Considerably, many teens are accessing the Internet through mobile devices rather than using the computer. Lenhart et al. (2010) report that 20% of teens who do not otherwise go online said they accessed the Internet on their mobile phones. Also, teens from low-income households, particularly blacks, are much more likely than other teens to go online using a mobile phone. The trend of using mobile phones to access Web content is gradually becoming a norm and may not necessarily be related to a person’s economic circumstance. A 2010 study by the Pew Hispanic Center brought to the fore that, irrespective of age, 51% of black mobile phone users and 40% of Latino users use the mobile phone to access the Internet compared to 34% of whites (Livingston 2011).

The study by Hyden and Cohall (2011) also found that 20% of media consumption occurred on mobile devices such as cell phones, iPods, or handheld video game players. Also, ownership of mobile phones seems to also be shifting to ever-younger teens. According to Rideout, Lauricella, Wartella (2011), 58% of 12-year olds owned mobile phones which is a high jump from a mere 18% in 2004. Also, most teens and young adults are consuming or using new media technologies to watch videos, play games, and listen to music on mobile devices such as mobile phones and iPods (Rideout, Lauricella & Wartella 2011). Among teenagers in the Netherlands, statistics point to the fact that the tablet and smartphone ownership among teenagers (Statista 2016). Close to 65

% of the teenagers between 13 and 17 years old owned a tablet with smartphone ownership among teenagers being significantly higher than the national average.

According to Dlodlo and Mahlangu (2013:874), in South Africa, there has been an exponential growth in the number of active mobile device users estimated at over 70% of the total population (approximately 35 million) and adolescents and youth between the ages of 15-24 representing the largest demographic group owning and using mobile devices as a social accessory. Kreutzer (2009) conducted a survey of two grade 11 classes (who were teenagers) in Cape Town and the results were that 75% of respondents personally owned mobile phone devices with SIM cards, while the rest admitted using mobile phones but did not own them. Additionally, it was found that there were no statistically significant differences between the features available to cell phone owners and non-owners. Of those who owned cell phones, 24% had had their handsets for less than 9 months while 15% had had their phone for more than three years. The researcher, therefore, concluded that there was likely going to be growth in the second-hand mobile phone market and the subsequent rise in the technical capabilities of young phone users, be it personally owned or otherwise.

Another significant finding in the Kreutzer study was that cell phones enjoyed much familiarity among respondents compared to the desktop and laptop computer with computer access and usage being rather low, unlike mobile new media technology access and usage. Considering the period of the study and bearing in mind recent trends in other African countries in addition to global trends, it can be safely settled that current statistics about ownership of mobile new media devices among teens in that country as well as other African countries has grown tremendously. For example, a Nigerian study by Oyewusi and Ayanlola (2014) found that almost all the respondents owned mobile phone.

There is much data to demonstrate that mobile phone, smart phone, tablet computers and other mobile communications devices use in Africa is on the high with many teens gaining access, owning and using such devices just as is the case in many other developed countries. A Pew report attests that mobile phones are now as common in South Africa and Nigeria as they are in the United States, with working landline telephones virtually non-existent in Africa (Poushter 2015:2). eMarketer (2016) also admits that a large majority of teens have smartphones while estimating that 88.3% of 12- to 17-year-olds would have mobile phones in 2016 with 84.0% of those with mobile

phones having smartphones. They also indicated that usage is alarmingly higher among those who have smartphones, while projecting that smartphone penetration would be 74.2% of this whole age bracket which would be a sharp increase from 2013 when just under half of this age cohort had smartphones.

This trend is unlikely to be any different in many African nations and is not surprising as it affirms how new media technologies can help meet teens' (e-teens') distinct needs of social inclusion, sociability and educational gratifications, hence, accounting for e-teens' high appropriation of the technologies.

## **2.6 TECHNOLOGY USAGE PATTERNS AMONG E-TEENS**

This section reviews literature on new media technology usage patterns among e-teens. Literature centred on how e-teens are using platforms, services that new media technologies provide are the focus. Close attention is given to the general use of the Internet and Internet platforms, smart gadget applications and services, among others.

Internet use is higher among teens generally. Accessing the Internet through other means apart from the computer is also high among teens. Between traditional computer access and newer mobile Web access on cell phones and tablet computers, 93% of teens ages 12 to 17 go online, just as 93% of young adults ages 18 to 29 (Lenhart, Madden & Hitlin 2005). SAFT (2003) also found that 80% of Irish children, 73% of children in Norway and 77% of Danish children stated they had an Internet connection at home making Internet penetration among children in those three countries very high.

Although there are statistics to show general Internet usage among Africans and African teens specifically, they seemed to be rather dated with most teen studies having been conducted over a decade ago. It is not surprising because Internet use in sub-Saharan Africa took full force at the time while current studies delve more into social media usage patterns. Most of the studies on teen use of the Internet also centred on the use of Internet sexual health information.

In a Ghanaian study by Borzekowski, Fobil and Asante (2006) on Internet access by adolescents for health information, the researchers used a representative sample of in-school adolescents and

a convenience sample of out-of-school adolescents. In the end, a total of 778 fifteen to eighteen-year-olds completed a detailed media and health information questionnaire. Some of the conclusions made based on the results were that two-thirds (66%) of the in-school youth and slightly more than half (54%) of the out-of-school youth had had a prior online experience. Out of these users, 53% had sought online health information, a percentage which did not considerably change with age, gender, social status or ethnicity. Youth expressed high efficacy levels, extreme interest and favourable perceptions of online health information. Being a study that dates back to over a decade, it shows that the numbers could go up at present if the study were conducted again, it will significantly show that e-teens' use of new media technologies has long existed in Ghana and new data on new media use by e-teens in Ghana could give higher figures

There is evidence to the effect that there is rapid Internet growth even in resource-limited settings (Ybarra, Kiwanuka, Emenyonu & Bangsberg 2006). The number of Internet users in Uganda, for instance, grew from 1.6 per 1,000 in 2000 to 7.2 per 1,000 in 2004 according to a report by the World Bank in 2005 with a total of 2,496 Internet hosts were providing Internet access to 200,000 users as far back as that time (Central Intelligence Agency 2005). Anecdotal reports also suggest that Internet access was available in almost all of Uganda's major urban centres (Travel Uganda 2006; Briggs 2003). Considering that the reports date back into time, one can only imagine that Internet penetration in that part of Africa is even higher in contemporary times with even rural dwellers having a feel of the Internet move.

Evidently, Ybarra, Kiwanuka, Emenyonu and Bangsberg (2006) studied Internet use among adolescents (ages 12–18 years) in Mbarara, a rural municipality and found that 45% of respondents had ever used the Internet with 78% having gone online in the previous week. Almost two in five respondents (38%) said they had already used a computer or the Internet to search for health information. Over one-third (35%) had used the Internet to find information about HIV/AIDS, and 20% had looked for sexual health information. The use of the Internet to search for HIV/AIDS information was found to be considerably associated with visiting chat rooms using the Internet weekly, emailing and playing online games.

Ling and Yttri (2005) suggest that teenagers prefer the privacy that mobile phones offer compared to landline phones, because they provide them with greater freedom to do what they want to and

to have new opportunities for engaging in peer-group communication. More so, over a period, e-mail, which was once “cutting edge and ubiquitous with online access”, has been dwindling in popularity among teenagers. Other activities (which are more interactive and entertainment-based) have rather taken over. Among the frequent activities teens engage in and do when online, are chatting and instant messaging ("IMing") - 69%, visiting social networking sites - 66%, watching online videos - 63%, and playing video games – 58% (Boyar, Levine & Zensius 2011). Lenhart, Purcell, Smith and Zickuhr (2010) submit that three of the world’s most popular online destinations are social-media related (Facebook, YouTube, and Wikipedia) and that 74% of wired American teens (e-teens) now have profiles on social networking Web sites, which is a significant increase from previous surveys that showed that 55% used social networking sites in November 2006 and 65% in February 2008.

It has been suggested by Lenhart, Arafeh, Smith, and Macgill (2008) that location of use has an influence on the quality of time spent on online by adolescents. They stated Internet speed, time of day online and parental monitoring as influencing what sites they visit. There are no dissimilarities in the use of the Internet by the two genders as it was in time past. The justification for this assertion is based on the fact that in 2006 females were more likely to use social networking sites than males, a pattern which changed by 2009 when a difference was recorded in the amount of use between the two genders (Lenhart et al. 2010).

Milton (2014) study found that Facebook, LinkedIn, Twitter and Google+ were the most frequently used SNSs. The study also identified 32 uses of SNSs, from which 30 different types of SNSs’ users were inferred; they are: Networkers, Chatters, Buddy’s Info Seekers, Content Makers, Professors, Hobby Vicars, Reporters, Preachers, Frequent Communicators, Status Stealers, Self-Broadcasters, Philosophers, Pet Lovers, Attractive Posters, Best Wishers, Attention Grabbers, Vernacular Posters, Like Likers, Responders, Silent Observers, Social Stars, Players, Endorsers, Dedicated Followers, Daters, Feature Lovers, Career Seekers, Learners, Political Campaigners and Info Pilfers.

Duggan and Smith (2014) found that more teens were on social media than adults - 81% teens and 72% adults. Also, adults and teens were split on which social network sites they liked to use. The research found that both groups used Facebook the most - 71% of teens and 67% of adults.

However, more adults were on Instagram while teens were more active on Twitter. Ito et al (2008) submit that social media sites such as YouTube, Facebook, online gaming sites and MySpace have great youth participation. They also alluded to the fact that older generations were more likely to prefer instant messaging to email as preferred communication tools.

Africa is also increasingly gaining prominence in the sphere of social networking (Ephraim 2013:275). Ephraim says social media is progressively becoming conventional in Africa, as it serves as an important tool for facilitating interpersonal communication, business and educational activities with qualitative analyses of relevant secondary data showing that children and youths aged between 13 and 30 constitute Africa's heaviest users of social media. Uche and Obiora (2016) identified Facebook and WhatsApp as the most prevalent social networks used by Nigerian students, the majority who were in their youthful ages with Facebook counted among the three most visited sites in Nigeria (African News 2011). Amofah-Serwaa and Dadzie (2015) studied social media use and its associations on child behaviour in a basic school in Ghana and found that all respondents were aware of social media and regularly patronised WhatsApp, Facebook, Twitter, Skype and Yahoo Messenger.

More than half of teens (54%) in the United States used text message services daily (Lenhart et al. 2010). Remarkably, the Bjørnstad and Ellingsen (2002) study found that boys in particular were more able to flirt and make known their feelings through both SMS and Instant Messaging (IM). They also found varied sexual communication among children. A lot of the boys reported using SMS to circulate animated pornographic pictures to girls with most of the girls claiming to abhor the pornographic content. According to Hyden and Cohall (2011), in 2005 teens were highly involved in multitasking with new media technologies. An example was watching TV while surfing the Internet and instant messaging friends. Lenhart et al. (2010) in their Pew Internet survey report that young adults' access to new media technologies is increasingly changing with very high numbers taking up those technologies. They report that about 75% of 12- to 17-year-olds in the United States owned mobile phones in 2010 which was a quantum leap from 45% in 2004. From trends that have been reported in various studies, the use of mobile phones, especially smart phones, has become an indispensable tool in teen communication patterns (Lenhart et al. 2010).

In the year 2014, the Internet World statistics revealed that approximately 1,630,420 Ghanaians were using Facebook (Internet World Statistics 2014) out of which the greater majority will, not surprisingly, be e-teens, although statistics do not reflect it. Markwei and Appiah (2016) have reported that social media usage is popular among the youth who regularly visited Internet cafés in two communities in the capital of Accra (Nima and Maamobi) with 76% of respondents having profiles. The most popular SNS used among the participants were Facebook and WhatsApp - 83.3% and 70.6%, respectively. Other SNS used by study participants in downhill order were Yahoo Messenger, Twitter, YouTube, Skype, and MySpace.

Nonetheless, pervasive culture among e-teens and their use of new media technologies are storing content on new media devices, gaming, sharing of content, listening to music, watching videos, making videos and uploading videos among others. Teens often exhibit their musical tastes and preferences on their profiles on social networking sites and in “other online venues by posting information and images related to favourite artists, clips and links to songs and videos, and song lyrics” (Ito et al. 2009:14). This goes to affirm one of the cases this study makes that communicative and participatory attributes of new media technologies are what attracts e-teens to use these technologies.

## **2.7 TIME E-TEENS SPEND ON NEW MEDIA TECHNOLOGY**

A recent study from Pew found that facilitated by the mobility of new media devices, 92% of teens in the United States said they went online daily - including 24% who said they went online “almost constantly,” more than half (56%) of teens -ages 13 to 17 - went online several times a day, and 12% reported that they went online once a day. In that report, only 6% of teens reported going online weekly, and 2% going online less often (Lenhart et al. 2015). On average, 7th- to 12th-graders spent 1.5 hours a day text messaging. On the whole, two-thirds of teens who used text messaging said they were more likely to use their cell phones to text their friends than to engage in voice service communication (Lenhart et al. 2010).

Hyden and Cohall (2011) indicate that young people (teens) in the US spent an average of almost 6.5 hours per day with media, which actually translated to experiencing 8.5 hours' worth of media content, owing to multitasking with new media technologies. This is what Seal-Warner (2007) referred to: that e-teens with the help of new media technologies get to study, entertain themselves,

socialise and transact business all at once without leaving the couch. Furthermore, five years down the line (in 2010), young people augmented the amount of time they spent consuming media from 6:21 to 7:38, with 20% of the time spent on a computer. More so, in the case of multitasking, young people actually experienced 10 hours and 45 minutes' worth of media content within those hours. A striking revelation was that almost another hour of content consumed consisted of "old" content (TV or music) which was conveyed by means of computers through iTunes or YouTube services found on the Internet (Rideout, Foehr & Roberts 2010).

On general Internet use, fewer Irish children were using the Internet regularly with only 12 per cent of Irish children admitting using the Internet no less than once a day compared to 46% of Swedish children who admitted making use of the Internet every day (SAFT 2003). Approximately two-thirds of US teen Internet users (63%) used the Internet every day - 36% of teens do that several times a day, and 27% access the Internet nearly once a day (Lenhart, Madden & Hitlin 2005). Statistics from these studies actually point to the fact that, across the board, teens are heavy users of the Internet as projections into the future, based on statistics at the time of data collection, as well as contemporary statistics show. Rideout, Foehr and Roberts (2010) report that 8- to 18-year-olds spent an average of 1.5 hours per day using computers outside of school work, reflecting an increase of nearly 30 minutes compared with five years earlier. Among Asians they spent 3:07 minutes daily in mobile media use, 2:53 among Hispanics, 2:52 among blacks, and 1:20 among whites (Rideout, Lauricella & Wartella 2011).

The patterns of new media technology and attendant platform usage seem no different in Africa. In Swaziland, for instance, 43% of young people (digital natives) between the ages of 10 and 24 participating in a study admitted using social media sometimes, 40% used it always, and 17% used it often (Hlatshwayo 2014). A study in Nigeria revealed that the majority of the students used social media more than five hours per day (Buhari, Ahmad & HadiAshara 2014), whereas a Mauritius study reported 52% of the respondents accessed SNS daily, 35% weekly, 6% twice a month, and 7% once a month (Khedo, Ally, Suntoo & Mocktoolah 2013).

## **2.8 REASONS/MOTIVES FOR TECHNOLOGY USE BY E-TEENS**

Due to the rapid adoption of smartphones, monitoring teens' online behaviour appears to be difficult. A McAfee study, which studied digital activity across multiple computing devices in

2012 found that 70% of teens consciously hid their online behaviour from their parents (Le 2012). Smartphone, by its nature, is designed for personal/individual use which is in sharp contrast with a family computer stationed in the living room, making it hard for parents to know what their children do online (Hall 2013). Some studies, however, have been able to reveal what teens do with new media technologies including their online behaviour. According to Livingstone & Bober (2005), a tally of online activities discloses how children and young people are using the Internet to discover, network, release tension, share, learn and create. A 2004 study in the United Kingdom of 9-19-year olds who used the Internet at least weekly found varying uses of the Internet as shown below:

- 90% do schoolwork
- 94% search for information
- 72% send/receive emails
- 70% play games
- 55% instant messaging
- 55% (aged 12+) visit civic/political sites
- 46% download music
- 44% (12+) search careers/education info
- 40% (12+) search goods/shop online
- 40% visit sites for hobbies
- 34% made a website
- 26% (12+) read the news
- 28% visiting sports sites
- 25% (12+) seek personal advice
- 23% info on computers/Internet
- 22% voted for something online
- 21% visit chat rooms
- 17% post pictures or stories
- 10% visit a porn site on purpose

Source: Livingstone & Bober (2005)

According to Duggan and Smith (2014) teens and adults differ in their use of new media technologies, including what they do with such technologies. Youth in Nigeria use social networking to meet social needs like friendship and their sharing activities chiefly centre around friendship and entertainment (Wok, Idid, Mismam & Rahim 2012). A year after, Alabi (2013) also found that among Nigerian undergraduates 'meeting people' and 'chatting' were the most frequent activities of undergraduates on Facebook with 'Facebook chat', 'Wall post', and 'Picture

uploading' being the features they employed the most. The majority of respondents also logged on to Facebook every passing hour, every two hours and every day. A survey of 600 students in three polytechnic institutions in Ghana suggests that the social network site, WhatsApp, is becoming a predominant platform for communication among students. The study found that students preferred to use WhatsApp application for their day-to-day communications than mobile voice calls. However, it was found that circumstances pertaining to the communication determined what choice respondents made. Besides formal communications, most respondents said they chose to use phone calls for situations which called for the need to be more expressive and effective. However, when it came to communications among peers and mates with the intent to exchange pleasantries and share academic materials, WhatsApp was the preferred choice. It was found that, although, voice calls still remain more important to them as they rely on it in certain situations and circumstances for their communication (Tawiah, Nondzor & Alhaji 2014).

Research has also established findings pointing to certain patterns of usage of new media technologies based on gender. Madden, Lenhart, Duggan, Cortesi and Gasser (2013) found that teens with a smartphone, half (50%), used the mobile device to connect to the Internet with girls having a stronger tendency than boys to use the smartphone as their primary device for Internet access. Walker (2004) and Seiter (2005) confirm that boys are more apt to play video games than are girls. This was what Gee in 2003 was concerned about. Gee (2003) believed that video games can function as an important learning tool. Gee argues that video games provide an environment in which game players learn decision-making skills in a virtual domain. She believes that those skills can be transferred to real-life decision-making processes. Girls are inclined to use mobile phones and SMS than boys (Drotner 2001; Skog 2002).

Wartella et al. (2000) also found that girls tend to use new media technologies for social activities such as emailing and chatting. On the other hand, Kaare et al. (2007) found that both boys and girls use new media technologies for the same communicative functions. Kaare et al. (2007) discovered that the use of new media for communication for both boys and girls had six categories which were:

- a) communication mediating practical information and messages;
- b) communication mediating interests and hobbies;
- c) communication seeking to establish contact with others;

- d) communication with a strong symbolic and/or emotional content;
- e) communication with or about the opposite sex; and
- f) communication intended as bullying and harassment ('flaming').

Source: Kaare et al. (2007:610)

There were still some gender differences in other areas. They found that generally, girls opt for pictures and symbolic drawings expressing close and devoted relationships, such as, hearts, flowers and rings which are envisioned to reinforce friendships, love and family relations. Although boys also pass such symbols around, it was discovered that it is rather minimal. In contrast, however, many boys prefer to pass on pornographic and obscene pictures and symbols. On the other hand, some experts/researchers have suggested that as society becomes increasingly media-saturated, demographic characteristics may be of little significance with some recommending looking at the uses and gratifications of particular media (e.g., Endestad et al. 2011; Rogers 2003).

Generally, teens have been shown to prefer the use of text messages to communicate their feelings of friendship or love among themselves as compared to other features of new media technologies. Skog and Jamtøy (2002) report that one-third of their study participants said they had made new acquaintances by using SMS. Kaare et al. (2007) also finds that both boys and girls admit that it is much easier to get a "sweetheart" when communication is done through text messaging than face-to-face. Kaare et al. suggest this is the case because of the likely decrease in social cues and the social limitations existing in media settings, which facilitates social contact as confirmed by this quote from Kaare et al. (2007:614):

Boys, 12 years old: You dare to say more by SMS than on the phone.

Interviewer: Do you really?

Boys: It's most embarrassing face-to-face, followed by ringing up and then SMS, which is least embarrassing.

Certain studies have revealed that young people (teens) ascribe specific phone functions with particular circles of social relationships. As said by Green (2003:39), voice communication was associated with family relations, whereas text messaging (by far preferred) was associated with friends. Kaare et al. (2007) confirmed this through a series of 88 semi-structured, individual and

group interviews conducted in Norway. The explanation the interviewees gave for their choice was that they could not afford to talk much on their mobile phones with friends because of financial constraints. They further explained that they did voice communication with their parents because it is their parents who called them. However, they used the cheap SMS service to contact their peers. They believed that mobile phones are essential tools for socialisation among peers:

Boys: If we want to do something together, we call around and gather the whole lot in order to go sledging or something else. It is very practical to have a mobile phone – without it, you cannot join the crowd.

Source: Kaare, Brandtzaeg, Heim, & Endestad (2007:611).

Weiser (2001) mentioned that the Internet is used to meet a particular need or end result and so how new media technologies are used yield particular ends. In essence, he pointed out that the total well-being of an individual depends on the gratification or need met by using a particular medium. Gathering from this, the new media audience becomes paramount in the total experience, in which case e-teens who are users of new media technologies are not left out as they also have needs gratifications that are expected to be met.

Accordingly, Alpizar (2010:23) notes:

Adolescents are not puppets sitting in front of a computer screen mindlessly communicating. They make decisions about how and why they communicate. Although individuals may be dependent on new media to accomplish daily tasks in this high-tech world, they are not at its mercy. Ultimately, children and adolescents have power and control over how and why they use the Internet, computers, and cell phones. Individuals, both young and old, can distinguish healthy use from addiction and are capable of balancing their off and online worlds.

A study by Davis (2012) disclosed that teens regarded high level Internet connectivity to be vital for their socio-cultural development helping them to prevent social isolation. However, it was established in that study that teens' online engagements did not include interactions with parents which, naturally, breeds some level of apprehension within the ranks of stakeholders in teens' lives. Senior Researcher and Director of the Teens and Technology Initiatives for the Pew Research Center, Amanda Lenhart, is quoted in the Pew research report as remarking that:

The shift to mobile Internet use changes the ways teens access information and creates new challenges for parents who wish to monitor their children's Internet use. Given bandwidth constraints and the fact that many websites are not yet optimized for mobile devices, teens who access content primarily on their cell phone may have to work harder to get important information. On the other hand, for parents who may wish to restrict access to their children's exposure to certain kinds of content online, mobile devices can make it more difficult for parents to use the passive monitoring strategies they tell us they prefer, instead requiring more technical solutions. (Lenhart et al. 2013)

Researchers from the Oxford Internet Institute and Parent Zone, Davies and Eynon (2013), have also suggested a possible solution to this. In their survey of more than 2,000 children aged 14 to 17 across the UK, they found that children who had positive offline relationships with their parents were more likely to navigate the web in a sensible way. They, therefore, concluded that supportive and enabling parenting has more positive impact on Internet use than restricting or monitoring Internet use. Teenagers who were left to self-regulate their Internet and social media use were more likely to teach themselves new skills online and maintain positive online relationships (Davies & Eynon 2013).

The researchers recommended that, rather than restricting or monitoring Internet use, parents should rather let their children discover the good and the bad of the Internet themselves. Children and young people's encounter with the Internet can be described as an esteemed new avenue for social exploration and self-expression (Holloway & Valentine 2003). Stern (2008) contends that content on the Internet which are created by girls (and not for girls) afford girls the opportunity to create a self-presentation through which they can speak to each other in an alternate voice. This can build up confidence and help girls share their experiences, woes and build each other up in a positive way. Many studies have found that teens reinforce relationships and have positive experiences with Internet usage. LaRose, Eastin and Gregg (2001:1) have said:

First, Internet communication with people we know can alleviate depression, at least among socially isolated and moderately depressed populations . . . Second, stressful interactions with the Internet itself, rather than inadequate interactions with other people through the Internet, may lead to depression, but self-efficacy reverses the effect of that stress.

Morgan and Cotten (2003) have found that users' constant use of the Internet for instant messaging, and chat rooms decreases symptoms related to depression and Internet gaming. Online research

and shopping have a propensity to escalate depressive symptoms suggesting that using the Internet for communication has a positive influence on one's well-being. Valkenburg and Peter (2007:45) added their voices and observed that the ability of communication over the Internet to impact well-being is likely to occur during the teen years and further added that the Internet helps teens to maintain already contracted friendships.

Subrahmanyam, Reich, Waechter and Espinoza (2000) noted that the differences in the use of new media technologies by teens (digital natives) and their parents (digital immigrants) may in a way foster a good relationship between the two rather than the opposite. Subrahmanyam et al. (2000) noted that much of the time children spend alone with their computers "appears actually to be spent extending social relationships by connecting with others through interpersonal communication applications via the Internet" (Subrahmanyam et al. 2000:131). They indicate that if children can help parents learn about new media technologies it is likely going to enhance a positive relationship between communication within the home and new media while giving children a sense of importance and increasing interpersonal communication.

Grinter and Eldridge (2003) show that teens have a core group of close friends they regularly communicate and socialise with, both in person and through text messages. They found that text messaging was the means through which friends planned future meetings and was, therefore, found to be a very effective complementary tool for enhancing interpersonal relationships among teens who had long-established friendships. Bryant, Sanders-Jackson and Smallwood (2006) also confirm this in their study that teens' use of text messaging was to keep up a correspondence with friends or plan events with friends. Bryant et al. (2006) stated that those engaged in text messaging share a set of norms, supporting "the idea that text messaging is generally utilized to strengthen the pre-existing network of an individual" (Bryant et al. 2006:582). Bryant et al. (2006:579) again noted that:

Young people's use of technology to communicate with one another is certainly nothing new; consider the telephone in the 1950s and 1960s. What has changed in the past decade, however, is the form that communication takes. New text-based technologies are picking up where phones left off. Email and text messaging allow for rapid, asynchronous communication within one's peer network; IM allows for

synchronous communication among many friends at once. Moreover, these SITs<sup>3</sup> are relatively inexpensive, especially when used to contact friends who would normally be a long-distance or international call away.

Boyd and Ellison (2007:211) consider social networking sites (SNSs) such as Facebook, Twitter and blogs as online services that allow users to (1) construct a public or semi-public profile within a bounded system, (2) publicly show a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. Ellison et al. (2007) assert that users of Facebook are able to maintain and add value to their social capital. They also observe that Facebook has a powerful and positive tendency for its users to maintain their relationships with the communities they were previously engaged in such as school mates. They conclude that Facebook users tend to have stronger social interactions, which has a positive correlation with the social well-being of users who have low self-esteem or lack self-confidence.

Numerous studies have revealed that Facebook offers a sociability function – one that permits users to sustain immediate and distant offline relationships (Quan-Haase & Young 2010). A recent Pew study into the use of Facebook indicates that 71% of U.S. teens (e-teens) aged 13–17 used Facebook (Lenhart et al. 2015). It further suggests that Facebook is used and adopted primarily to maintain both established close associations (bonding social capital) and staying in touch with high school associates (maintaining social capital). This, in essence, means users used it to maintain contact with offline connections. (Ellison et al. 2007; Lampe et al. 2006). Lampe et al. (2006) discovered that Facebook is used by students for “social searching” – learning more about someone they know offline, instead of using it to find new networks - “social browsing”. Students report using Facebook to “keep in touch with an old friend or someone I knew from high school” (Lampe et al. 2006:168). In terms of bonding social capital, Ellison et al. (2007) suggest that Facebook may provide an easy and cost-effective avenue for users to stay in touch and in the know with what friends are up to. The opportunity to maintain social capital is reflected in keeping in touch with “weak ties such as high school acquaintances who may be able to relay valuable new information and resources”. In sum, these studies show that Facebook serves a sociability function – one used to keep offline acquaintances or relationships whether far or near.

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<sup>3</sup> SITs- socially interactive technologies

Quan-Haase & Young (2010) suggest that the dimension of “keeping in touch” with compatriots through Facebook (social media) has two functions: “(1) surveillance – the desire to see what old contacts and friends are up to, how they look, and how they behave; and (2) social searching, that is, the desire to maintain and reconnect with offline connections” (Quan-Haase & Young 2010:5). This affirms Madden, Lenhart, Cortesi, Gasser, Duggan, Smith and Beaton’s (2013) claim that teens’ Facebook friends are reflection of their offline social network of friends. This means they personally “know most of their Facebook friends, which include friends from their school and other schools, and friends of members of their extended family, parents, and siblings, teachers, coaches, and celebrities such as musicians and athletes” (Markwei & Appiah 2016:6). In Ghana, the youth, primarily used social media to make new friends (73.3%), stay connected, which included conversing with old friends (74%), and stay in contact with family members (62.6%) (Markwei & Appiah 2016). A Nigerian study studying 932 polytechnic students between the ages of 15 and 29 years reveals that students prefer to use Facebook and WhatsApp to share information; communicate with friends; access movies, photos, and music; search for jobs; propagate their religion; and conduct business (Buhari, Ahmad & HadiAshara 2014). Another Nigerian study by Uche and Obiora (2016) found that users of Facebook and WhatsApp in Nigeria used *the platforms for socializing, entertainment and informational purposes while* a Mauritius study of teens in secondary schools found that the teens (e-teens) used Facebook to keep in touch with friends and family members, make new friends, discuss schoolwork, and share pictures, music, and videos with their friends (Khedo et al. 2013).

Other uses and gratifications from the use of Facebook in Ghana reported by Markwei and Appiah (2016:12) were entertainment, such as listening to music (44%) and watching movies (38.6%) and sports (30%). Sharing of content, such as sending messages (74.6%); posting and updating statuses and timelines (40%) were also found. They also found education, such as sharing or discussing school-related information (53.3%) and learning about new topics of interest (28%) and new technological skills (30%); and finally promoting/doing business (30%) and shopping online (15.3%). Amofah-Serwaa and Dadzie (2015) found that basic school children, who are predominantly teens, used WhatsApp, Facebook, Twitter, Skype and Yahoo Messenger to communicate with friends and family and for entertainment purposes, including watching videos and playing games.

Similar studies reveal a significant use of social media in other parts of Africa. It has been reported in a South African study that young people use social media as a source of cultural, economic, political, educational and social information (Hlatshwayo 2014). In Kenya, young people from ages 17 to 23 accessed social media at Internet cafés and on their mobile phones. Their uses of and gratifications from Facebook use span communicating with their friends and relatives abroad, monitoring the social status of their friends, looking for romantic partners, accessing temporary job opportunities through friends, marketing their business enterprises, keeping up with fans, seeking remittances from friends and family members abroad for emergencies to reading Bible verses posted by friends (Wyche, Forte & Schoenebeck 2013).

The Uses and Gratifications Theory proffers that each medium has specific gratifications it provides because of its unique characteristics in terms of format and content and attribute and exposure situations [nature of interactions supported] (Quan-Haase & Young 2010). To attest to this, Huang and Yen (2003) found that in their use of mobile phone users prefer instant messaging (IM) to email and telephone for maintaining and supporting relationships, mostly with significant others who are in distant locations, whereas the telephone is preferred to email and IM for fulfilling sociability needs of users. Leung (2001) found that IM was used primarily to meet affective, entertainment and relaxation needs, whereas Facebook was used primarily to keep in touch with friends (Raacke & Bonds-Raacke 2008).

In another study, Quan-Haase and Young (2010), the principal motivation for joining Facebook was on account of a friend's request. The second motivation came from the perception among respondents that everybody they knew was on Facebook and finally respondents desired to stay in touch with others. It has been realised that friendship plays an important role in the use of social networking sites as it is either a friend who suggests it, the longing to be in touch with friends or the perception that all friends have signed up that is the main reason for joining Facebook. Facebook and IM were meant for similar uses and used to fulfil similar communication and socialisation needs in that study. Both features were used as a leisure activity and to offer a means of escape from daily stress and duties. They also served as a sociability function in the lives of users (Quan-Haase & Young 2010).

Although small, it has been established that each type of social media offers different gratifications out of which users obtain peculiar gratifications. This is central to the manner in which users experience and use the two tools. It has been found that Facebook offers social information about social events, activities friends are engaged in, and social information about peers, whereas IM does not. IM rather permits users to be in the “social know” only when friends communicate, to learn about plans, whereas information in the Facebook context is broadcast to the whole network. Moreover, Facebook permits non-simultaneous communication “via the personal wall and does not necessitate users to be online simultaneously as IM does” (Quan-Haase & Young 2010:16). But the lines are even blurring further as Facebook now has an instant messaging feature making real-time or instantaneous communication possible.

Females are more likely to use media to satisfy their lack of family relationships, whereas males use it to do away with their feeling of loneliness, according to Wang, Fink and Cai (2008). Tufekci and Spence (2007) found that women were more interested in using SNSs for keeping relationships they had contracted offline while men used them for seeking new friends and those with whom they had common interests. Haridakis and Hanson (2009:329) have also identified that “socially active, young males view YouTube videos for the purposes of leisurely entertainment and information seeking”. They find a social component of YouTube, which is reflected in social interaction and co-viewing. “The underlying elements of the co-viewing motive suggest that people watch, share, and discuss videos they like with family and friends” (Haridakis & Hanson 2009:130). This social interaction shows how new media technologies are highly interactive and likely to be a big motivating factor in their use.

Cho et al. (2003) looked at it from the socioeconomic angle and found that young individuals from high socioeconomic levels were more likely to use the Internet as their desired gratification, while those of the opposite background used the Internet to gain their learning gratifications. A comparative study between Facebook and MySpace SSNs has established that a very popular U&G for having a Facebook account includes connecting with friends, posting and looking at the pictures, making new friends, and locating old friends. In that study, there were relatively low responses for uses and gratifications to learn about events, to post social functions and for academic purposes (Raacke & Bonds-Raacke 2008).

A study looking into social network participation and academic performance in senior high schools in Ghana using the mixed method approach found that the majority of respondents used WhatsApp and Facebook for making friends, chatting, sharing ideas, discussing and sharing examination questions among themselves. The high addiction rate was also discovered among students who used social media networks to the extent that respondents' heavy social media participation had negatively affected their grammar and spelling. Such respondents also regularly submitted assignments late and studied less leading to poor academic performance (Mingle & Adams 2015). Singaporean students use SNSs to, primarily, socialise. A significant percentage (42%) use SNSs to both keep in touch with friends and 'have fun' while Brazilian students use social networking sites to both socialize and discuss their studies (Santos, Hammond, Durli & Chou 2009). Many other studies have shown that motivations for using SNSs are mainly for keeping in touch with friends and family, seeking new friends and facilitating social relationships (Acquisti & Gross 2006; Clark, Lee & Boyer 2007; Pempek et al. 2009; Lampe, Ellison & Steinfield 2006; Sheldon 2008; Subrahmanyam, Reich, Waechter & Espinoza 2008).

Other motivations that have been discussed include, shedding off boredom and loneliness, reputation enhancement ("being cool"), entertainment and keeping track on what people are doing on social media (Joinson 2008; Sheldon 2008; Tosun 2012); the quest for information, entertainment, and social needs (LaRose & Eastin 2004:360-361); desire for social interaction, seeking information and entertainment (Ancu & Cozmo's 2009). Also, teens who possess iPods claim to use their iPods almost every day and it is meant to entertain them. A teen, Corner, says he puts his volume all the way up to get the full sound affect. He is quoted as saying:

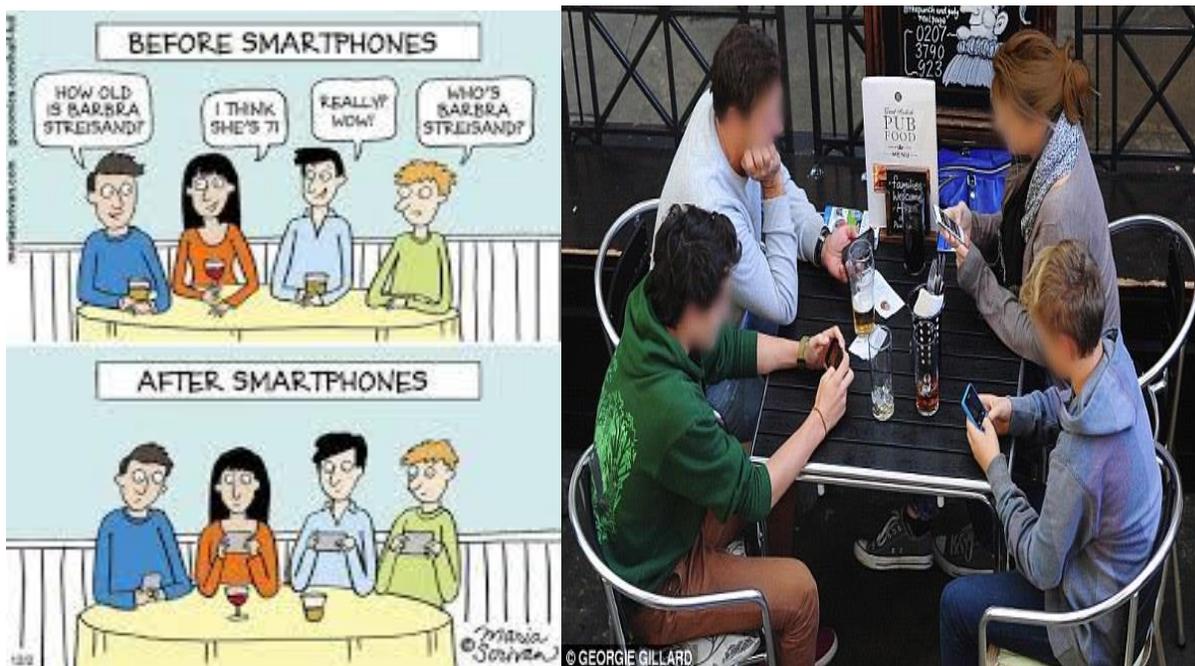
Sometimes I get sleepy but the iPod entertains me. I put the volume all the way up to get the full effect of the song (Livescience 2009).

According to the Palo Alto Medical Foundation, positive gratification that can be obtained from listening to music on an iPod by teens is helping teens to relax from their busy schedules. It is seen as a good way to manage stress after a busy day at school and, because teens will face challenges for the rest of their lives, learning this at an early age is considered very positive (Rush 2013).

Drawing from the reviewed literature, it needs to be said that social connectivity and interactivity (sociability gratification) seem to be the driving force for e-teens to use new media platforms such

as Facebook, IM, YouTube, Myspace and Twitter which can be accessed through computers, tabs and mobile phones. The need to shed loneliness, entertain oneself and keep in touch with friends can be achieved through connecting with significant others. Teens are people who constantly want and need affection. For this reason, they could easily be attracted to new media technologies which happen to be highly interactive, thereby, affording teens the needed companionship they so desire.

E-Teens may also socialize as they chat with others or swap playlists, however, they are likely to lose the opportunity to interact with others (in the physical world) and build an isolated environment for themselves. If this continues over a long period, e-teens will become less connected with their communities (Thompson 2013). The following images retrieved over the Internet clearly illustrates this point:



**Figure 2. 1: Images depicting pervasive versus non-pervasive impact of smartphone use of face-to-face interaction. (Credit: failbluedot.com and dailymail.com)**

There is, also, an opportunity to learn as new media gadgets, such as iPod, can stream useful educational content and hold similar content that has been downloaded from the Internet. Applications on these gadgets can, as well, help track homework dates, provide study tips, provide information on current events and learn new languages. This informs one of the hypotheses for the

study: *There is a relationship between e-teens' use of new media technologies and social inclusion, educational and sociability gratifications.*

It is evidently clear that social connectivity and interactivity (sociability) in the form of communication and social inclusion (sense of belongingness) are vital to e-teens and are likely to be the number one gratification sought for in the use of new media technologies. Mostly, communication is the number one reason for signing up to social networking sites. Lenhart et al. (2008:37) confirm this:

Fully, 95% of social networking teens used their profile to communicate with their friends in one way or another, with adding comments to a friend's picture and posting messages on a friend's wall or profile page being the most popular methods.

In a study by Kaare et al. (2007) in Norway, a 10-year-old boy gave the justification for why he needed to carry a personal mobile phone with him, while on a camping trip with his father during his summer holidays, as the need to keep in touch with his friends. Communication (staying in touch) seems to be the leading reason for teens to want to own new media technologies. This is not an isolated case as other findings from their (Kaare et al. 2007) study suggested that that is a general pattern as children report frequent use of text messaging to stay in touch with peers, during the holidays and more typically when they are away physically from friends on occasions such as Christmas Eve and New Year's Eve, which are considered periods to be with family and a time when children are most of the time within closed circles comprising close family and relations. But under these circumstances, the children use their mobile phones to keep in touch with their friends and schoolmates, which was only possible to a very limited extent a few years ago (Kaare et al. 2007:620).

## **2.9 OVERVIEW OF REVIEWED LITERATURE**

Literature shows that, although everyone is exposed to new media technologies, e-teens have proved to be enthusiastic, creative users of these technologies as compared to their older counterparts. On the other hand, it is not all e-teens who are into the "digital emancipation" idea as there are some (relatively few) who are at the bottom or in the middle as far as the appropriation is concerned - "non-appropriators" or "low appropriators". There is also a great presence of new

media technologies in the day-to-day activities and lifestyles of users. Among digital natives/e-teens it is even more ubiquitous. Since e-teens are considered indigenes of the digital world, they are native speakers of the new media technology, language and consequently comfortable in the use of same, therefore the hypothesis; *“Ghanaian e-teens are likely to have a positive attitude towards new media technology use”*.

The major factor of influence for the use of new media technologies by e-teens has been seen as the communicative attributes of these tools. The fact that these tools help teens to meet the need to stay in touch with significant others at this time of their lives when the need to have a sense of belonging is primary to them is thought to draw e-teens to new media technologies and so the hypothesis that *“behavioural intentions and actual usage of new media technologies by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technologies”*.

Last but not least, the trend of new media technology usage is geared towards communication which offers sociability and social inclusion gratifications across the board for e-teens. Although, gender differences in the use and appropriation of new media technologies had been reported in previous studies - girls tend to use new media technologies for more social activities, whereas boys used them more for gaming activities. This study, accordingly, projects that *“there is a positive relationship between e-teens’ use of new media technologies and social inclusion and sociability gratifications”*. Another gratification they seek is also in line with education. This is because predominantly e-teens, through the communicative and participatory attributes of new media technologies, are moving from the traditional ways of acquiring information, such as through the classroom and physical library, to engaging in virtual interactions and acquisition of information for educational purposes.

## **2.10 SUMMARY**

This chapter presented an overview of literature on teens’ acceptance, use, gratifications and appropriation of new media technologies. The chapter focused on some of the important trends and issues that are related to new media use and appropriation with emphasis on e-teens by exploring issues such as ownership patterns, gratifications sought, key features or expression of expertise in the use of new media technologies.

The uses of new media technologies by teens, based on the reviewed literature, is on the high side as compared to the older generations. Teens have appropriated these technologies to the extent that they are considered experts in the digital world. The chapter adds to the context of a study that looks at building a model to depict teens' use and appropriation of new media technologies. The next chapter reviews the theories grounding the study and serving as the basis for the construction of the e-teen model.

## **CHAPTER THREE**

### **THEORETICAL FRAMEWORK**

#### **3.1 INTRODUCTION**

This chapter looks at the foundational theoretical frameworks that were used in the development of the proposed conceptual model for e-teens' use and appropriation of new media technologies. Theory is used to establish the relationship between or among constructs that explain a phenomenon by going beyond a local event and trying to connect it with similar events (Mertens 2005:2). A study investigating the use of new media technologies has linkage with theories in the communication field that depict how new media technologies are used and appropriated and what factors account for that. The Uses and Gratifications (U&G) theory, Technology Acceptance Model (TAM) and Model of Technology Appropriation (MTA) formed the basis of the study. Each theory is extensively discussed below.

#### **3.2 USES AND GRATIFICATIONS (U&G) THEORY**

Before the Uses and Gratifications Theory, the reigning theory in mass media research was the Magic Bullet or Hypodermic Needle theory which considered the mass media as being all powerful and the audience being homogeneously helpless and susceptible to depictions in the media because they could not form their own opinions (McQuail & Windahl 1993). However, some researchers admit that the audience members have control over their media exposure and can therefore filter messages, thereby challenging the widely-held belief society had on the subject of the powerful effects of media messages (Ballard 2011:5). The U&G theory is one of the theories which was developed to challenge the notion researchers and theorists at the time held that the audience members were passive, uncritical and homogenous. The Uses and Gratifications Theory puts the audience at the centre of the media consumption equation and conceives them as rationale beings. As a result, users seek out media to meet specific needs and not the opposite which sees the media as a hypodermic needle, injecting its norms and depictions into audience who cannot make critical choices in relation to what the media depict. The theory assumes that audience members choose media to meet peculiar needs which are considered to be the motives for using media products and channels (Papacharissi & Mendelson 2007).

### **3.2.1 Core assumptions of U&G theory**

The Uses and Gratifications Theory deals with the use of media instead of media's impact on the audience. According to Blumler and Katz (1974) media audiences are active and their media use goal-oriented. People also choose a particular medium over others for their own gratification or satisfaction (Brandtzæg & Heim 2009). The basic assumptions of the theory are that audience members are conscious of their taste and preferences and can recognise and point out their reasons for media use; media use is, hence, goal-directed; media consumption can fulfil a wide range of needs; and the audience are active in selecting those which will fulfil particular needs. In a general sense, this theory identifies psychological orientation needs, motives and gratifications as the main reasons for media use and tries to make the attempt to explain how individuals, groups and the society use media and what functions the media performs in their lives (Severin & Tankard 2001).

In their initial statement, Blumler and Katz's Uses and Gratifications Theory outlined five major values according to Cummings (2008):

- a) The audience is an active user of mass media.
- b) Each user must detect which medium best gratifies his or her needs for a specified use.
- c) Media cannot satisfy all human needs; there is a competition with the other sources of gratification.
- d) Empirical experience can help determine the goals of mass media consumers since users are self-aware enough to accurately describe their motivation.
- e) Judgment about the cultural relevance of mass media must be withheld in order to avoid speculation on popular culture.

Blumler and Katz (1974) put emphasis on the important role played by the user of mass media in choosing the medium that fits his or her needs in order to be gratified. Therefore, Uses and Gratifications Theory is an audience-oriented theory. Secondly, the audience must be aware of and know the medium that best meets their needs. The fourth point talks about the need for research to find out from the audience what gratifications the media help them satisfy since it is the audience who actively seek out the media and even media content to meet unique gratification needs. The final point admits that culture matters in the consumption of media content and so studies should be placed in cultural contexts.

Primarily, the theory assuming that individual members of the audience actively seek out mass media to satisfy their needs makes the Uses and Gratifications Theory go beyond mere lists of what audience use the media for. It rather enquires from the audiences what gratifications they seek to meet in their choice of media. Matei (2010) says that Blumler and Katz, in the development of the original conceptualizations of the U&G theory, take a non-prescriptive and non-predictive perspective on media effects and suggest that people mix and match uses with goals in line with particular needs, context and social backgrounds. This makes the individual to be seen as an active media consumer. Matei (2010) quotes Derek Lane as affirming his opinion:

... uses and gratification theory suggests that media users play an active role in choosing and using the media. Users take an active part in the communication process and are goal oriented in their media use. The theorist says that a media user seeks out a media source that best fulfills the needs of the user. Uses and gratifications assume that the user has alternate choices to satisfy their needs.

### **3.2.2 Brief historical background of the U&G theory**

First described in an article he wrote in 1959 in reaction to a claim by Berelson (1959) that the area of communication research seemed to be dead, the Uses and Gratifications Theory is attributed to Elihu Katz. Katz in 1959 put forward an argument that most communication research during that time concentrated more on what the media did to people and suggested turning to studying what people did with the media such as television, newspapers and radio (Severin & Tankard 2001).

In the 1930s and 1940s, audiences at the time were very much interested in radio quiz shows. This made Herza Herzog question why such shows were popular among audiences and reasoned that there must be different reasons audiences listened to radio as compared to others (Miller 2002). This led researchers to begin looking into how to incorporate the needs of audiences into mass media programming. This is considered the early beginnings of the Uses and Gratifications Theory. But it was not until the mid-1960s and early 1970s that the Uses and Gratifications Theory was straightened up to become a coherent theoretical framework (Miller 2002). The original statement to explain the theory came from Katz, Blumler and Gurevitch in 1974 who enumerated basic points of the framework which is often quoted in most studies with grounding in the Uses and Gratifications Theory. According to Katz, Blumler and Gurevitch (1974:20):

... (1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) the mass media or 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.

Two theoretical developments are note-worthy when looking at what uses the media serves its users or audience. It has been suggested that the lists can be categorised into different types of gratifications (Miller 2002:243). Cutler and Danowski (1980) identified content versus process gratifications, whereas McQuail (1984) found cognitive versus affective or imagination gratifications, and instrumental versus ritual gratifications was identified by Rubin (1994). Swanson (1992) suggested that these distinctions reveal that there is pleasurable gratification which is realised during consumption and one that results from using information received from the media into practical use. Others, such as Rayburn (1996), have also called for the need to distinguish between gratifications sought (GS) and gratifications obtained (GO), which is considered another stage in the theory's advancement.

West and Lynn (2010) regard the Uses and Gratifications Theory as trailblazing for the reason that the theory builds on Herzog's research which resulted in a paradigm shift from how media influences people to how audiences use the media, weakening the argument that media had strong effects on its audience. McQuail (1984) said that the Uses and Gratifications Theory reverses the long-standing simplistic perception that the media always has strong effects on the audience to looking at it from the angle of how people are using the media. McQuail introduced the idea that users have "taste" based on which they selected media to meet those tastes, yearnings, desires or needs. Fiske (1989:172) argues that it is the audience, not the media that wields the most power. This could mean the media does not simply affect its audiences and, for that matter, should there be any effect of the media on its audience it is likely to be at the will of the latter. The U&G theory is considered one of the successful theoretical frameworks to provide an answer to the question of "how" and "why" individuals use media to satisfy particular needs (Karimi et al. 2014). Although U&G was originally developed at a time when traditional media such as newspaper, radio and TV were prevalent, contemporary research into new media have employed the U&G framework (Flanagin 2005; LaRose & Eastin 2004; Leung 2001).

### **3.2.3 Early applications of U & G theory**

Early studies on Uses and Gratifications Theory were chiefly descriptive and sought to classify the data gathered from respondents into meaningful classes or categories. Herzog in 1940 suggested that there are four categories of appeals of radio quiz programmes - self-rating, educational, competitive and sporting - and in 1944 documented three types of gratifications in connection with listening to radio soap operas. These are wishful thinking, emotional release and gaining advice (Rubin 1981).

Berelson (1949) took the opportunity of a New York newspaper strike to ask readers why they read. The responses were broken into five key categories:

- reading for information;
- reading for social prestige;
- reading for escape;
- reading as a tool for daily living; and
- reading for a social context.

Mendelsohn in 1964 came up with six generalized functions of radio listening - companionship, bracketing the day, changing mood, counteracting loneliness or boredom, providing useful news and information, allowing participation in various events, and aiding social interaction (Rubin 1981:3).

During the 1970s, U&G researchers carefully studied the motivations of audience members, and with that information, came up with further categories of the uses, audiences put media to in order to gratify social and psychological needs. This is thought to have partially been in reaction to the barrage of criticisms from other mass communication scholars (Ruggiero 2000). According to West and Turner (2010), McQuail, Blumler and Brown in 1972 proposed that regarding the uses of different types of media, four categorisations can be developed: surveillance, diversion, personal identity and personal relationship. Katz, Gurevitch and Haas (1973) developed five categories which were grounded in works on the social and psychological functions of the mass media: cognitive needs, affective needs, personal integrative needs, social integrative needs and tension release needs. Greenberg (1974) identified seven categories of child and adolescent television

viewing motivations - learning, habit, escape, relaxation, companionship, passing time and arousal and while Rubin (1977) and Rubin (1979) identified six child and adolescent television viewing motivations as habit, learning, passing time, companionship, escape, relaxation and arousal.

In recent times researchers have used U&G in the study of new media technologies. In the context of e-teens it is even more critical as they are appropriating new media technologies at an exponential rate. Considering the fact that new media technologies are highly interactive convergent platforms, it is easy for one to selectively give audience one content and ignore the other. It is being argued in this study that the motivations for e-teens' new media use are different and exact, with the gratifications sought leaning towards social connectivity and companionship as Quans-Haase & Young (2010) similarly discuss. This is because at this stage of their lives e-teens tend to want to have a sense of belonging as it is a time of self-discovery. The nature of new media technologies makes it easy for e-teens to select content that will help them meet this peculiar need on a platform which is the convergence of print, radio/audio and TV/visuals. It is also relatively possible to predict the exact uses to which e-teens put new media technologies since new media technologies provide numerous options to teens out of which they select the ones that afford them the opportunity to meet their unique gratification need of belongingness. Thus, the hypothesis of this study that "there is a relationship between e-teens' use of new media technologies and social inclusion, educational and sociability gratification".

### **3.2.4 Modern applications of U&G theory**

Although, the Uses and Gratifications Theory is old, it has become a significant framework which serves as the basis for looking into trends in usage for Internet-based media [new media technologies] (Stafford & Schkade 2004). Ruggiero (2000:27) asserts that the U&G theory has provided "a cutting-edge approach in the initial stages of each new communication medium: newspaper, radio, television, and now the Internet". The arrival of new media technologies has brought about deep interest in the research into the use of such technologies from the U&G perspective (Ruggiero 2000). Different forms of media continue to emerge as technologies evolve, a trend that is challenging researchers' understanding of mass communication and the Uses and Gratifications Theory (Ballard 2011).

Chua, Goh and Lee (2012) state that the uses and gratifications for mobile content contribution contrast with U& G for mobile content retrieval. They identified uses and gratifications for contributing content are easy access, leisure, passing time and entertainment, while the gratifications for retrieval were identified as efficient access to information resources/services and the need for high quality information. Stassen (2010) indicates that social media could gratify the need for a place for information distribution, an avenue for feedback, a platform to promote organisations or even an opportunity to participate in a community of connected individuals. Moody (2010) believes social media can be powerful tools for engaging, teaching and learning. Leung (2013) has found forums to be the leading media for expressing negative feelings. Raacke & Bonds-Raacke (2008:171) realised that very prevalent uses and gratifications for having an account on MySpace or Facebook (in order of highest choice) were: “to keep in touch with old friends, to keep in touch with current friends, to post/look at pictures, to make new friends and to locate old friends”. Gratifications obtained from Facebook usage included: killing time, affection, fashion, sharing problems, sociability and social information (Quan-Haase & Young 2010).

On why people accessed political websites based on gratifications obtained from visiting political websites, Ancu and Cozmo (2009) concluded that the gratifications sought were 1) a desire for social interaction, 2) information seeking and 3) entertainment. A similar study completed by Park, Kee, and Valenzuela (2009) found socialization, entertainment, information seeking, and status seeking behaviour as gratifications obtained by joining a Facebook group.

A lot of studies have delved into the new media technology use under the microscope of the Uses and Gratifications Theory (LaRose et al. 2001; Lee 2008; Papacharissi & Rubin 2000; Stafford, Stafford, & Schkade 2004). This study looks at it from the angle of the e-teen users of new media technologies with the unique attribute of being “digital natives” and high appropriators of the technologies in order to predict and describe their motivations and uses of such technologies through the proposal of a conceptual model.

### **3.2.5 Gratifications sought versus gratifications obtained**

The understanding of the U&G theory has been made richer as researchers began making expansions to the concept of gratifications by making a distinction between gratifications obtained (GO) and gratifications sought [GS] (Kink & Hess 2008). The gratifications that audience

experiences after using a specific medium is known as gratifications obtained (GO). By contrast, 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 actually come into contact with it” (Danesi 2013:690). Palmgreen and Rayburn (1979) suggested that in order to better predict media use, attention must be given to gratifications obtained and that, if a medium is able to meet or surpass gratifications sought by a user, there will be recurrent usage. Researchers have posited that appreciating the gap between these two types of gratifications is essential for investigating how different audience groups use different media and media products, their expectations before media use and the gratifications they in reality obtain from coming using different types of media products (Palmgreen & Rayburn 1979).

For new media technologies it is believed that gratifications sought will be obtained because there is abundance of choice. For that matter, an e-teen is likely to go in for exactly what will meet his or her needed gratification. Among e-teens, gratification sought from new media technologies, which most likely is obtainable in all probability, is social inclusion, educational and sociability gratification. The predictions of gratifications e-teens seek and obtain are incorporated into the development of the e-teen model.

### **3.2.6 Critique of the U&G theory**

Becker (1979) raises doubts about defining and measuring gratifications, since it is an audience’s perception and not that of the investigator. This makes it difficult to indicate the extent of gratification or satisfaction achieved, although it is claimed that a person chooses a particular medium for specific gratification needs. So, for Becker, satisfaction as put forward by the developers and supporters of Uses and Gratifications Theory is vague. This makes this current study significant as it predicts and tests exactly what gratifications are obtained by e-teens when they use new media technologies.

Further, Swanson (1979) sees Uses and Gratifications Theory as a “framework” that brings together many theories suggesting “ambiguities” and inconsistencies. To Swanson, the definition proponents of Uses and Gratifications Theory give is too narrow in its statement, in a manner that it does not take into consideration the positive or negative effects of media on their users. Moreover, according to Blumler (1979) and Windahl (1981) Uses and Gratifications is best

approached as an umbrella concept that includes several theories. Wimmer and Dominick (2009) have claimed that these early studies had little theoretical consistency and were driven by the inescapable need of media practitioners to know audience motivations so as to provide effective service to them. If it is an umbrella concept under which several theories gather, then this study becomes essential and probably sets the foundations for the development of a theory to explain new media use and appropriation in particular. This is because the study draws from the U&G theory while incorporating concepts from other theories to develop a conceptual model to predict and explain e-teen use of new media technologies.

The theory was also criticised by Defluer (1998) and Swanson (1992) as being individualistic and narrow without taking into consideration the big picture of the processes through which audience members interpret presentations in the media and ignoring economic relationships and production processes, as well as, ignoring instances where media has had a strong impact on audiences. This particular study, to a certain extent, finds a solution to that by attempting to consider the distinct attribute of the “digital native” teen (e-teen) who has better knowledge, control and positive attitude towards new media technologies while looking at the exact attractors and/or specific gratifications sought from the use of such technologies and not merely listing “likely motivations”.

Nonetheless, because of the unique informational characteristics of the Internet, some scholars have called for a review of the traditional audience concept (Ruggiero 2000). Abrahamson (1998) saw the Internet evolve from a mass-market medium to a “vehicle for the provision of very specific high-value information to very specific high-consumption audiences” (Abrahamson 1998:15). He conceived that a mass Internet audience is “fractionated” into smaller, more elite audiences. The nature of the Internet is such that it does not particularly target a community or people living in a geographical space, but rather looks out for common interests (Dicken-Garcia 1988). This makes the motive for the study very relevant with the attempt to identify how a particular group of people with common interests, motivations and other similar characteristics use new media technologies.

Also, observably, the prevalent media at the time the theory was developed, were print media, radio and television, bringing to mind the question of whether it could be applied to new media technologies which are predominantly personal in nature. New media technologies are basically convergent platforms, allowing for both the consumption and production of content at one go. The

individual, therefore, becomes both originator and consumer of content, blurring the lines between the media and the audience. This concept and reality leads to a prediction (hypothesis) in this study that there is a relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies. The reason for this predictive statement is that once people do both production and consumption of media content, they express two levels of abilities and by so doing they acquire and exhibit more knowledge in the use of new media technologies and attendant platforms than one who does not. This, therefore, gives those who exhibit the “dual roles” afforded by new media better control and fosters more interest leading to better appropriation of the technologies. This is not far from the view of Shao (2009) who said a person has more control over a medium when he is both a participant and producer in the appropriation equation and can also lead to the ability of the individual to specifically select which will best gratify his needs.

There are no qualms about the fact that the distinct features of new media technologies make it imperative to study the uses, gratifications and appropriation of new media technologies in an exceptional light by looking at the unique attribute(s) of the medium and attempt and find a link between the user and the technology in order to predict how it will be used and what gratifications are likely to be sought and met by their use. This is because different groups of people use new media technologies differently for different reasons depending on how competent they are in appropriating those technologies (level of appropriation).

This study throws the spotlight on motives and gratifications for new media use by e-teens who are considered to be more competent in the use of new media technologies (Batat 2008). It connects how e-teens use those technologies in line with the Uses and Gratifications Theory but in the light of the users being “digital natives”. This, then, is translated into a conceptual model.

### **3.2.7 Justification for using U&G theory**

Recent studies into the Uses and Gratifications Theory have been concerned with the link between the reason for media use and the actual gratifications obtained. As a result, U&G researchers are developing the theory to be more predictive and explanatory by linking the goals, benefits, needs and consequences of media consumption to use together with individual factors (West & Lynn 2010) which this study seeks to do. Shao (2009) made a valid assertion that when the media end

user doubles as participant and producer, as new media technologies make room for, that person then has control over the medium which consequently leads the individual to create or interact with the media which best suits his gratification needs. Matei (2010) affirms that, theoretically, the social media landscape, so to say new media technologies, reflects the needs of its audience/participants in a manner which could not be associated with traditional mass media (Matei 2010). Matei referred to Donohew et al. (1987) as identifying the need to analyse different lifestyles of media consumers because “media needs have rarely been visualized as springing from a combination of multiple and interacting circumstances” (Donohew et al. 1987:258).

Even though different types of uses and gratifications exist within many different media, Ballard (2011) advances that researchers must be hesitant in generalising uses and gratifications, presuming that it applies to new social media. According to Matei (2010), though Swanson points out many of the uncertainties or limitations within the body of U&G research, social media U&G analysis and, as a matter of fact, new media generally may lead to the clearing up of some of Ballard’s concerns.

Besides, according to Cummings (2008), because a user of necessity actively seeks a need before, that need is gratified, there is no automatic gratification. He, further, asserts that, unlike traditional media, there is an abundance of choice for new media technologies both in terms of gadgets and content. For this reason, there is likely to be a more relative effort made to seek out content/media that will satisfy particular needs which, invariably, is the exact gratification being sought and subsequently obtained. To add to that, Ruggiero (2000) suggests that the theoretical models of U&G theory must be expanded in contemporary times to include concepts such as demassification, interactivity, asynchronicity and hypertextuality. These are which are distinctive to new media technologies. This study adopts the U&G theory to specifically study e-teens and through that develop a conceptual model and describe how e-teens appropriate and use new media technologies looking at the unique attributes of both the user and the technologies.

### **3.3 THE RELEVANCY OF U&G THEORY IN THE STUDY**

This theory is relevant to this study because it looks at what and how e-teens use new media technologies and proposes explanation for the motives for media use. This is what the U&G theory also explains. The explanations given by this theory, together with trends in literature, shapes the

argument for what e-teens do with new media technologies and the possible factors that promote use. The predictions made in the e-teen model are largely based on predominant themes that have been drawn out of studies based on the Uses and Gratifications Theory.

### **3.4 THE TECHNOLOGY ACCEPTANCE MODEL (TAM)**

Studies have exposed that, because of limited user acceptance, many technologies may possibly have been underutilised or even abandoned (Liu, Liao & Pratt 2009; Park 2009; Teo 2009). The Technology Acceptance Model (TAM) emanated from Information Systems discipline and portrays how users accept and use a technology. It was proposed by Davis to describe computer-usage behaviour. The model suggests that a number of factors or elements influence one's decision about how and when to use a technology when one is presented with a new information system. These factors are termed behavioural intentions (BI) which result from conscious decision-making processes. Behavioural intention (BI) is also associated with two belief factors, namely, perceived usefulness (PU) and perceived ease of use [PEOU] (Shroff et al. 2011).

The objective of TAM is “to provide an explanation for the determinants of computer acceptance that is general and capable of explaining user behaviour across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified” (Davis et al. 1989:985). Venkatesh and Davis (2000) suggest that TAM is in the league the most important models in the stream of research on information system acceptance and usage.

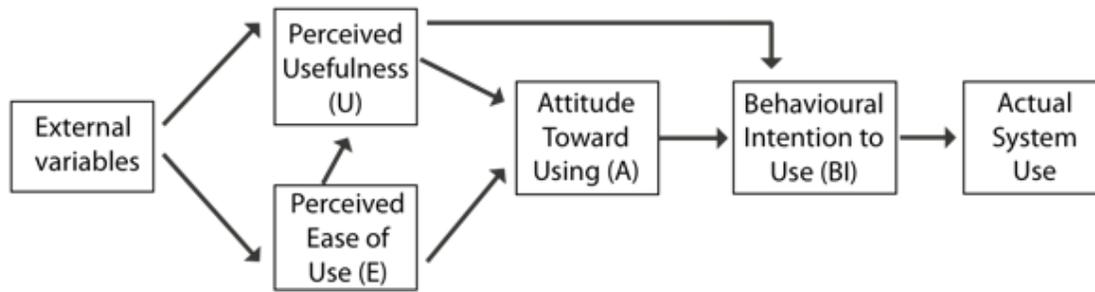
#### **3.4.1 Brief historical background**

The theoretical basis for most of the research into how users take on IT comes from the Technology Acceptance Model [TAM] (Fidock 2011:20). The Technology Acceptance Model (TAM) was an adaptation of the Theory of Reasoned Action (Fishbein & Ajzen 1975) by Fred D. Davis in 1989 in a dissertation presented to the Slone School of Management at Massachusetts Institute of Technology (Davis 1989). Davis' dissertation was titled “A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results”. Out of the dissertation, Davis subsequently published “Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology” in MIS Quarterly in 1989 (Kripanont 2007). Besides, together with Bagozzi and Warshaw, he published yet another paper titled “User

Acceptance of Computer Technology: A Comparison of two Theoretical Models” in Management Science in 1989. These two works published in the two journals are considered the original works on TAM. Now a professor at Sam M. Walton College of Business of the University of Arkansas, Fred D. Davis is the most notable researcher in this field of study because of the Technology Acceptance Model (Kripanont 2007).

### **3.4.2 Assumptions of TAM**

TAM uses the Theory of Reasoned Action (TRA) as the theoretical base to explain causal ties between two significant sets of constructs, that is, Perceived Usefulness (PU) and Perceived Ease of Use [PEOU] (Kripanont 2007). Other constructs in TAM are: user’s attitude (A), behavioural intentions (BI) and actual computer usage behaviour. PU is defined as the user’s “subjective probability that using a specific application system will increase his or her job performance within an organizational context”. PEOU refers to “the degree to which the user expects the target system to be free of effort” (Davis et al. 1989:985). Both PU and PEOU predict attitude toward using a system or technology, defined as the user’s eagerness or crave to use the system. Perceived usefulness and perceived ease of use impacts the individual’s attitude towards using technology (A). A and PU has an effect on the individual’s BI to use the system while the actual use of the system is as a result of BI. According to TAM, intention to use technology will determine whether a person will use the technology or not [behaviour] (Kamel 2004). TAM theorises that external variables like training, the development process and system characteristics have an effect on intention to use a system and these variables are also mediated by perceived usefulness and perceived ease of use. Perceived ease of use also influences Perceived usefulness because, should that other factors or conditions stay the same, the easier it is to use a system (technology), the more useful that the system can be (Venkatesh & Davis 2000). Figure 3.1 below presents TAM as represented by Davis et al. (1989:985):



**Figure 3. 1: The Technology Acceptance Model by Davis et al. (1989)**

Kripanont (2007:54) talked about how relevant and important TAM is:

Davis (1989) developed and validated better measures for predicting and explaining use which focused on two theoretical constructs: perceived usefulness and perceived ease of use, which were theorised to be fundamental determinants of system use. Aside from their theoretical values, better measures for predicting and explaining the system use would have great practical value, both for vendors who would like to assess user demand for new design ideas, and for information systems managers within user organisations who would like to evaluate these vendor offerings.

The suggestion by TAM about PEOU and PU as a factor for use of a system is one that can be linked to e-teen’s use of new media technologies. For instance, the popularity of new media technologies among e-teens, undoubtedly, can be attributed to the “communicative and participatory” attributes of new media technologies which afford e-teens the ability to meet social inclusion (belongingness, identity, educational) and sociability (communication, socialisation, educational) needs. The usefulness of the technologies to this set of users is accounted for in this sense. Also literature points to the fact that, barring some inequalities showing up among this set of users, the majority of e-teens (teens) are usually at ease with using new media technologies, meaning e-teens’ PEOU about the technologies are predominantly positive.

For Rauniar, Rawski, Yang and Johnson (2014) the intense hyper-personal communication, which Walther (1996) discusses, and overall favourable social media usage experience is what makes users have a positive attitude towards the technologies that house them. Rauniar, Rawski, Yang and Johnson (2014) further argue that continual voluntary usage and engagement with social media

will endure if only the perceived benefits lead to a positive attitude towards social media. Rauniar, Rawski, Yang and Johnson (2014) say that if the usage behaviour of social media by the individual users is primarily voluntary, then the causes of these behaviours have to be rooted in the behavioural intentions and motives. This argument can be extended to general new media technology usage by e-teens. Hence, this study reasons in line with these suggestions that PEOU and U of new media technologies by e-teens are positive, so the consequent assumptions that behavioural intentions and actual usage of new media technologies (by Ghanaian e-teens) are motivated by the unique communicative and participatory attributes of new media technologies which help e-teens to meet social inclusion, educational and sociability gratification needs.

### **3.4.3 Applications of TAM**

TAM has been used by researchers to understand the acceptance of different types of information systems (Surendran 2012:177). One of such is a study by Koenig and Schlaegel (2014) which investigated the applicability of TAM in the acceptance of a corporate blog. Koenig and Schlaegel also intended to analyse the system design factors that influence corporate blog acceptance through an online questionnaire survey in three languages - English, German, and Russian - with the motive of attracting Internet users from three countries that belong to different cultures. The respondents were invited through placing links to several social networking sites including Facebook, Twitter, and YouTube. The results pointed to the fact that by ensuring usefulness, ease of use, and enjoyment of corporate blogs, firms can positively influence the attitude and intention towards the corporate blog by paying attention to content value, entertainment value, blog management, interaction, usability, and marketing messages (Pujani & Khairunissa 2015). This means that the user friendliness, usefulness and fun attributes (enjoyment) of corporate blogs were the main attractors to such new media platforms meant for organisations and their publics.

Park (2009) looked into how university students adopted and used e-learning systems. With a sample of 628 students, Park employed the structural equation modelling (SEM) technique with the linear structural relations (LISREL) statistical software package. The results attested TAM to be a good theoretical tool to appreciate user acceptance of e-learning systems. The study put forward that attitude (A) towards e-learning systems significantly affected intention to use them (Park 2009). A study by Cheong and Park (2005) yielded that the positive perception about how easy a system functions, make the users have the impression that the system is useful. Their study

of mobile Internet acceptance in North Korea confirmed this as findings showed that perceived ease of use had a positive effect on perceived usefulness (Cheong & Park 2005). In the same vein, Park and Chen (2007) conducted a study in the USA using doctors and nurses as a sample to test user acceptance and adoption of innovative use of smartphones. It was found that perceived usefulness positively influenced perceived ease of use with a further striking revelation that the relationship between perceived usefulness and perceived ease of use are substantially coherent (Park & Chen 2007). These findings, therefore, make a case for the causal relations (PEOU, PU and A) that TAM predicts for the use of systems or technologies. Other studies that used TAM include LMS (Adjin-Tettey 2014; Ma & Yeun 2011), computers (Horzum et al. 2014), websites (Moon & Kim 2001; Riemenschneider, Harrison & Mykytyn 2003), e-learning, m-learning (Iqbal & Bhatti 2015) and e-services (Shih & Fang 2004).

There have also been further extensions to TAM in recent times. According to a model developed by Pikkarainen et al. (2004) to explain the acceptance of online banking in Finland, two factors - perceived usefulness and information in online banking - play a very important role in the acceptance of online banking. Ervasti and Helaakoski (2010) also developed a model based on TAM and the Theory of Planned Behaviour (TPB) to understand mobile service adoption and projected that perceived usefulness is the strongest factor in adoption. In line with this, the current study predicts that a major factor that attracts e-teens to new media use is the communicative and participatory attributes of such technologies. It also assumes that e-teens have a positive attitude and mastery over the use of new media technologies and so are high appropriators of new media technologies. In that regard, they do not struggle to use the technologies once they know the technologies can help them meet social inclusion, educational and sociability gratification needs which they so desire.

#### **3.4.4 Extensions of TAM**

Years down the line, TAM has had some extensions. Social and control factors on behaviour which were non-existent in TAM have been found to be an important key determining factors of behaviour towards the use of technology (Mathieson 1991; Taylor & Todd 1995b; Moore & Benbasat 1991; Thompson, Higgins & Howell 1991). Taylor and Todd (1995a), therefore, proposed the “Augmented TAM” or “Combined TAM and TPB” (C-TAM-TPB) models of information system usage for both proficient and unskilled users, which serves as an explanation

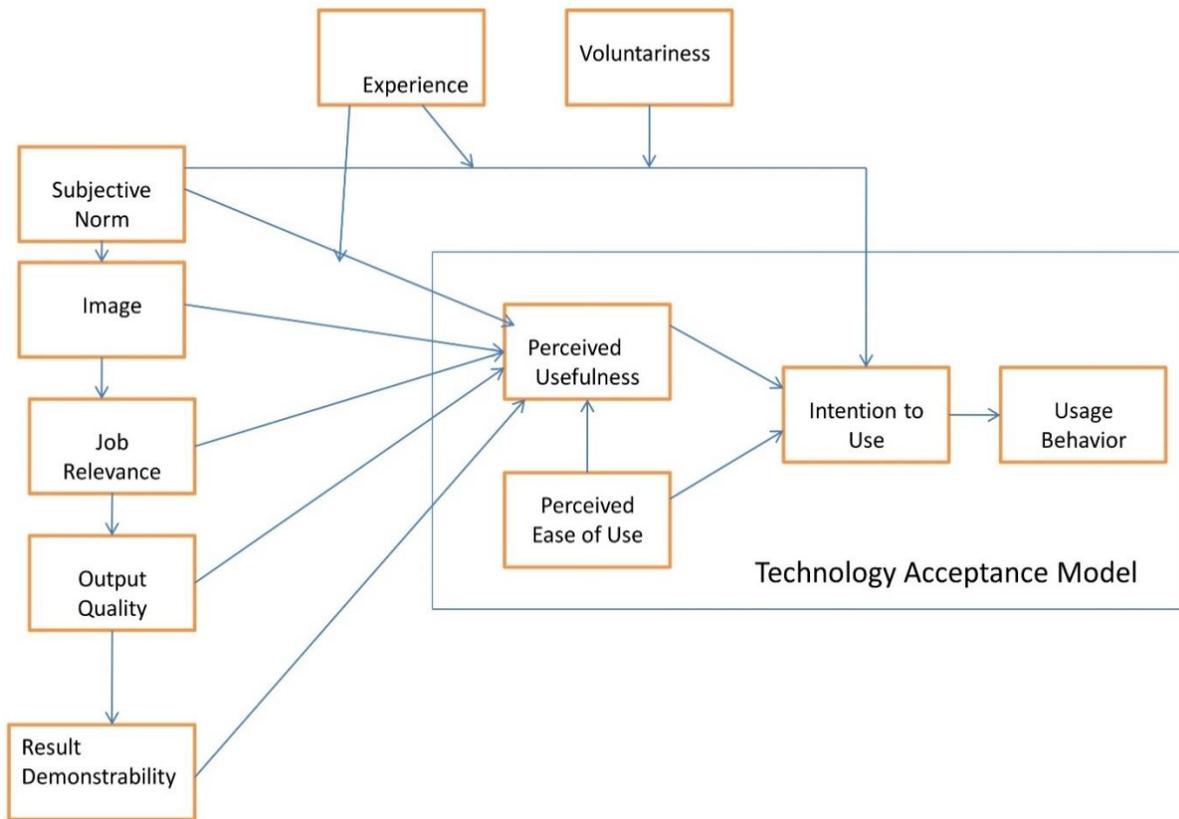
for a reasonable proportion of the difference in intention and behaviour. The augmented TAM “can be used to predict usage for people who have never used the technology before” and also for people who have used or are familiar with the technology (Kripanont 2007:58).

Afterwards, Taylor and Todd (1995b) made a comparison of TAM and the traditional version of the Theory of Planned Behaviour (TPB) and the decomposed version of TPB (DTPB) to evaluate which model provides better understanding of the usage of information technology, while introducing seven more constructs to enable the DTPB be more predictive than TAM (Kripanont 2007). The DTPB model includes the design characteristics of a system that TAM pays attention to. It, additionally, recognises normative and control factors that organisations can employ to facilitate integration of an information system into their procedures. The additional components of the DTPB - normative beliefs, self-efficacy and facilitating conditions - which DTPB proposes is thought to help system managers to successfully implement the deployment of IT systems.

Then came TAM2, which was first introduced in Management Science in 2000 in the research paper titled, “A theoretical extension of the Technology Acceptance Model: four longitudinal field studies” by Venkatesh and Davis (2000). According to Kripanont (2007:56) TAM2 brought in the following:

- (1) additional key determinants of TAM that explain perceived usefulness and usage intentions in terms of subjective norm and cognitive instrumental processes, and helped to understand;
- (2) how the effects of these determinants change with increasing user experience over time with the target system.

Below is a graphical image of TAM 2 adopted from Venkatesh and Davis (2000)



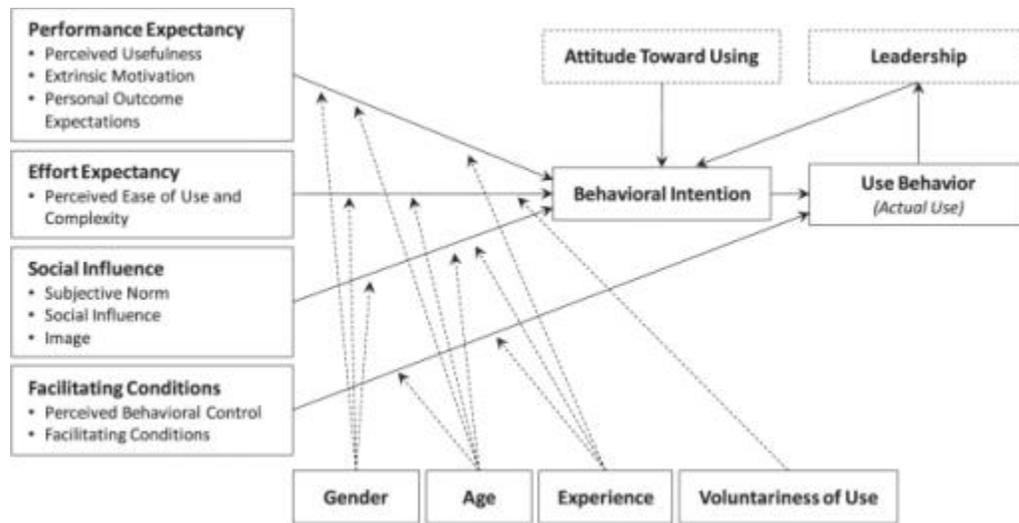
**Figure 3. 2: TAM 2 as proposed by Venkatesh and Davis (2000)**

The determinants for PU were meant to allow for the design of organisational interventions that would raise user acceptance and the use of new technologies. Longitudinal data collected from four different systems in four separate organisations involving two voluntary usage and two mandatory usage, were used to test TAM2 (Kripanont 2007). In each organisation, model constructs were measured at three different stages including pre-implementation, one-month post-implementation, and three months post-implementation. The extended model got the strongest support in all four organisations at all three points of measurement as subjective norm, voluntariness, and image as well as cognitive instrumental processes (that is, job relevance, output quality, result demonstrability, and perceived ease of use) significantly influenced user acceptance (Venkatesh & Davis 2000).

The assumption of TAM2 is that attitude toward using technology, self-efficacy, and anxiety are not to be direct determinants of intention, but recognizes that the key moderators in the model are gender, age, voluntariness, and experience (Venkatesh & Davis 2000). As another extension to

TAM, Venkatesh, Morris, Davis and Davis (2003) introduced the Unified Theory of Acceptance and Use of Technology (UTAUT) proposing four constructs that are direct determinants of user acceptance and usage behaviour of an information system: performance expectancy, effort expectancy, social influence and facilitating conditions. UTAUT views the determinants of intention and behaviour as evolving over time and assumes that most of the key relationships in the model are moderated. For example, UTAUT research shows that age and gender moderate the key relationships in the model (Kripanont 2007). In the UTAUT, social influence represented the subjective norm which Vankatesh et al. (2003) introduced in TAM 2.

Below is an image for UTAUT:



**Figure 3. 3: The Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003)**

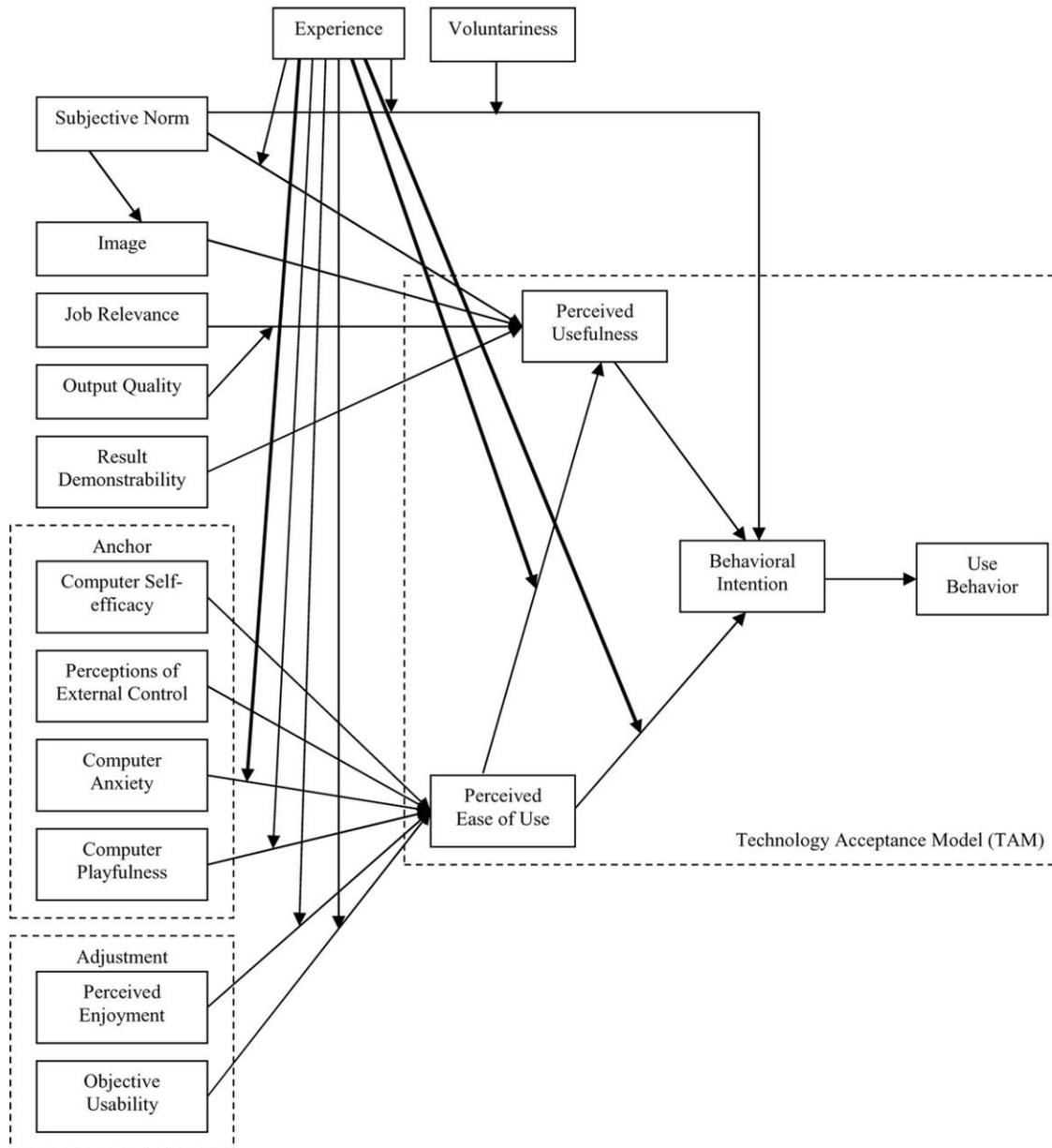
In 2008, Viswanath Venkatesh and Hillol Bala published a paper which sought to extend TAM. Called the simplified Technology Acceptance Model 3 (TAM3), the researchers wanted to address the gap in literature on IT implementation that deals with the role of interventions to aid managerial decision making. Particularly, they wanted to understand how various interventions can influence the known determinants of IT adoption and use (Venkatesh & Bala 2008:273). Their work centred on identifying the determinants of perceived usefulness and perceived ease of use to develop a comprehensive unified model of the determining factors for the adoption and the use of IT.

The developers of TAM3 put forward that experience will moderate the relationships between three relationships: perceived ease of use and perceived usefulness; computer anxiety and perceived ease of use; and perceived ease of use and behavioural intention. In terms of PEOU and PU being moderated by experience, they hypothesised that with increasing hands-on experience with a system, a user will have more information on how easy or difficult the system is to use (Venkatesh & Bala 2008:281). Their argument was based on the action identification theory developed by Vallacher and Kaufman (1996) which clearly distinguishes between high-level and low-level action identities, with high-level identities relating to individuals' goals and plans, and low-level identities relating to the means to achieve those goals and plans. In the context of TAM3, Venkatesh and Bala referred to Davis and Venkatesh (2004) and Venkatesh and Davis (2000) who submitted that PU and PEOU are considered high-level and low-level identities respectively. Venkatesh and Bala (2008:281), consequently, suggested that, with increasing experience, the influence of perceived ease of use (a low-level identity) on perceived usefulness (a high-level identity) will be stronger as users will be able to form an assessment of their likelihood of attaining high-level goals (i.e., perceived usefulness) based on information gained from experience of the low-level actions (i.e., perceived ease of use).

Another argument put forward was that with increasing experience, the consequence of computer anxiety, theorised as an anchoring belief that prevents users from having a positive opinion about how easily a system can be used (Venkatesh, 2000), on perceived ease of use will be reduced, if not eroded. Venkatesh (2000) argued that over time, system-specific objective usability and perception about system enjoyment will be greater while effects of general computer beliefs (e.g., computer anxiety) will lessen. This is because users will develop the right awareness about the effort needed for the completion of specific tasks (i.e., objective usability), besides, they will be able to learn about features of a system that bring about enjoyment or otherwise as they increase in experience. Based on this Venkatesh and Bala (2008) argued that the impact of computer anxiety on perceived ease of use will wane as individuals increase in experience because they will be able to accurately determine the effort needed to use a system.

In similar light, they projected that experience will moderate the impact of PEOU on BI such that with experience, the effect PEOU on BI will weaken. They belief was that PEOU is an initial hurdle for system users (Venkatesh, 2000). For that matter, once individuals get used to the system

and gain practical experience, the effect of PEOU on BI will be positive for the users now have the required procedural knowledge about using the system. Below is TAM3 as proposed by Venkatesh and Bala (2008).



Thick lines indicate new relationships proposed in TAM3.

**Figure 3. 4: TAM3 by Venkatesh and Bala (2008)**

Essentially, TAM3 highlights the importance of experience as a factor for behavioural intention, whereas TAM two regarded subjective norm and other constructs as factors for behavioural

intention and actual system usage. UTAUT on the other hand, concentrated on social influence among other constructs as accounting for BI and ultimate system use.

Although there have been several extensions to the TAM, a lot of studies admit its relevance in studies of IT systems or general technology usage (Priyanka & Kumar 2013). This study partly has some grounding in TAM in making some assumptions in the proposed model explaining e-teens use of technology. One of them is that because e-teens are “digital natives” they generally have a positive attitude towards the use of new media technologies and easily accept and appropriate the technologies faster and better than “digital immigrants”. This study also postulates that a major factor that attracts e-teens to new media use is the unique communicative and participatory attributes of such systems.

### **3.4.5 Critique of the TAM**

Just like any other theory, TAM has never existed without criticisms. Rauniar, Rawski, Yang and Johnson (2014:8) say “TAM was developed with an original emphasis on the design of system characteristics and fails to take into account some salient characteristics of social media”. In the view of Rauniar, Rawski, Yang and Johnson (2014), the original assumption of TAM was that information systems were used in organisational settings to improve the efficiency of the workers, overlooking the fact that information systems could win individual users who would not use such systems in the context of the work environment and could inherently provide “entertainment” value for such users (Rauniar, Rawski, Yang & Johnson 2014). This is where this study becomes relevant because it considers the use of information systems like new media technologies in a context outside the work environment or organisational setting.

Rauniar, Rawski, Yang and Johnson (2014) further argued that TAM does not incorporate social factors such as the roles of other users in influencing an individual’s attitude towards social media, and consequently the usage behaviour. They consider this problematic since numerous psychological researches proved that individual behaviour is influenced by other people’s behaviour surrounding them (Christakis & Fowler 2007; Christakis & Fowler 2008; Rosenquist, Murabito, Fowler & Christakis 2010). This study recognizes and predicts that social media usage among e-teens is largely influenced by social factors.

Again, according to Venkatesh et al. (2003), TAM deduces that behavioural intention is a consequence of careful decision-making processes. Another assumption is that, given sufficient time and knowledge about a particular behavioural activity, an individual's stated preference to perform the activity (i.e. behavioural intention) will in fact closely resemble what they do (use). However, to Ajzen and Fishbein (1980), whose theory formed the basis of the TAM, this postulation only applies when the behaviour is under the volitional control of the person (Venkatesh et al. 2003). Furthermore, in assuming that the behavioural intention leads to actual system usage, TAM intrinsically upholds that once there is the intent to act (use a system) there can never be any impediments once there is an intention (Venkatesh et al. 2003) but Bagozzi (1992) argues that the myriads of constrictions in the real world, such as unconscious habits, time constraints, limited ability, organisational limits, serve as a limit to the free will to act which, he argues, TAM does not acknowledge.

To round up on the criticisms of TAM, although a considerable number of researchers support TAM as a significant model which depicts the acceptance of information system/information technology (IS/IT) or technology in general, there have been questions about its applicability to every instance of IS/IT adoption and implementation (Lee, Hsieh & Hsu 2011). Countless empirical studies propose combining TAM with other theories to deal with the rapid changes in IS/IT to enhance its specificity and explanatory attribute (Carter & Belanger 2005; Legris, Ingham & Colerette 2003). That is exactly what this study attempts to do. It incorporates TAM with U&G and MTA to develop a conceptual model which adequately explains how e-teens use technology including their motivations and the exact usage.

#### **3.4.6 Justification for using TAM**

Various studies have been done to depict the explanatory power of the TAM with regard to information system acceptance and usage with consistent results over time (Igarria, Zinatelli, Cragg & Cavaye 1997; Venkatesh & Davis 2000; Horton, Buck, Waterson & Clegg 2001). Researchers such as Chin and Todd (1995) as well as Segars and Grover (1993) have settled that TAM is a valid theory that predicts user acceptance of various IT systems including new media technologies.

Arbuckle (1995) says TAM is the commonly used model in information system research to ascertain technology adoption processes and acceptance factors. As has been established consistently, previous studies have proven perceived usefulness (PU) and perceived ease of use (PEOU) as the valid constructs of TAM for the prediction of acceptance of technologies by individuals (Adams, Nelson & Todd 1992; Horzum et al. 2014; Iqbal & Bhatti 2015). However, researchers like Legris, Ingham and Collette's (2003) reflection is that the model is unable to define the exact external factors affecting perceived usefulness and ease of use and the view of others (Rauniar, Rawski, Yang & Johnson 2014). The purpose of designing the TAM was for organisational context rather than for everyday life context. It calls for more reflection on how groups of people use the technologies in a socio-cultural context. This theory must be observed in socio-cultural context, bearing in mind the likely resultant actions. This may call for the incorporation of other technology acceptance, use and appropriation theories to come up with other explanations for the use of technologies may not have been captured in TAM.

This study looks at aspects of the model that have a specific bearing on e-teens' use of new media technologies and incorporates other relevant theories to explain teens' usage and appropriation of new media technologies. The major predictions based on TAM are that: *Behavioural intentions and actual usage of new media technologies by e-teens are motivated by the unique communicative and participatory attributes of the technologies, Ghanaian e-teens are likely to have a positive attitude towards new media technology use and there is a positive relationship between social influence and the use of social media platforms by e-teens.*

### **3.5 THE RELEVANCY OF TAM TO THE STUDY**

In the emerging field of new media appropriation, the Technology Acceptance Model (TAM) is one of the theories that provides the underlying theoretical framework. For this study TAM becomes relevant because it represents how users accept and use technology. The suggestion of a number of influencing factors for the use of technology sets the foundations to predict what influences e-teens to use new media technologies by factoring in use and gratifications trends.

### **3.6 MODEL OF TECHNOLOGY APPROPRIATION (MTA)**

Related to the Technology Acceptance Model (TAM) is the Model of Technology Appropriation (MTA) which was first introduced in IS by DeSanctis and Poole in 1994 as part of their Adaptive

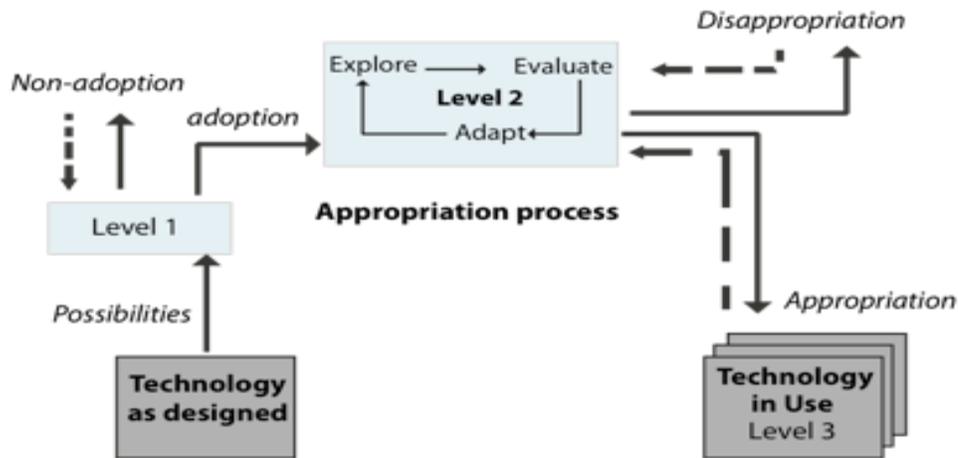
Structuration Theory (Alberts 2013). The MTA was further “developed by Carroll et al. to provide an understanding of the process of appropriation” (Fidock 2011:3). Carroll et al. (2002a:10) define technology appropriation as:

The process through which technology is evaluated by people over time and adopted, adapted and incorporated into their work practices; and through which the design of technology is completed through use.

Appropriation is “the use of cognitive and physical resources by individuals in their daily practices” (Simoes & Gouveia 2011:22). The appropriation process starts with people experiment with the technologies, modelling them to their needs and then making it an integral part of their lives (Carroll et al. 2002a). As people use technology over time, they can be thought of as taking possession of the technology (Carroll 2004). Wirth, Von Pape and Karnowski (2008) put forward that the upsurge use of rapidly evolving third-generation mobile end devices and services has taken mobile communication to a new level begging for the question about how people use their mobile devices rather than who uses mobile devices. This question can be extended to all new media technologies where an explanation is sought for the process of appropriation. Principally, the MTA pays attention to how people engage with technology and the patterns of behaviour that result from that process.

### **3.6.1 Assumptions**

According to Alberts (2013), Carroll et al. did not provide any reference for the concept of appropriation, but presented technology appropriation as a given part of information systems (IS) literature. There are three main components of the model: technology-as-designed, the process of appropriation, and technology-in-use. Technology-as-designed is basically what comes out of the factory (Alberts 2013), This component is further specified with attractors and repellents (Carroll et al. 2002), aspects of the technology that make a potential user want to engage with it, or leave it alone. If the technology is discarded, this is called ‘non-appropriation’. If, however, the user chooses to engage with the technology, the process of appropriation is entered. The MTA predicts that the design of a technology is completed as people appropriate a technology, evident in the move from technology-as-designed to technology-in-use, which shows up in the day-to-day activities and lifestyles of users (Fidock 2011). The model below was developed by Carroll (2004) to depict how technology is appropriated as discussed above:



**Figure 3. 5: The Model of Technology Appropriation (Carroll 2004:5)**

There are three main levels in technology appropriation as presented in the model above: exposure, adaptation and incorporation. Technology users do an evaluation of the technologies with diverse influences on these evaluations and resultant decisions and actions (Fidock 2011). When technology is presented to users, intrinsically, the user is provided with an opportunity to meet a need. The user then evaluates the technology against possible outcomes. The assessment the user makes about the technology leads to a decision being made about the technology. When the decision turns out to be positive towards the technology, the user adopts the technology.

During the adaptation stage, evaluations continue. This time the user gets to know more about the technology and considers how the technology aids in his or her practices and activities, leading to adaptation. When the practices surrounding technology use become routine, the incorporation level has been entered which is also called ‘appropriation’ in the model. If the technology does not fit with the user, that is, if the technology does not live up to the user’s needs, the technology is disappropriated. Disappropriation can occur at a later time in a case when the demands of the user have changed (Alberts 2013).

Although the manner, the type and outcomes of technology appropriation cannot be resolutely projected (Sey 2011), DeSanctis and Poole (1994) suggest that desired outcomes are most likely to come about under the following settings: high number of “appropriation moves”; task/process-oriented; faithful appropriations; and positive attitudes towards appropriation. In this context,

“appropriation moves” is the process of determining how a structure is used – directly, indirectly, in a modified manner, or negated (Bar, Pisani & Weber 2007). Faithfulness is the degree to which a structure is used in accordance with the intent of the technology’s designers (Bar et al. 2007). However, Alberts (2013) says appropriation of a technology may also be unfaithful, which simply means that its use is not in line with the technology’s spirit, whereas instrumental uses have to do with what the technology is used for such as task activities, managing group processes, or influencing others. In theoretical terms, whereas getting to grips with a tool consists of acquiring the needed skills to use it, appropriation goes further than that and also take account of the development of competency to use that tool in a social context (Simões & Gouveia 2011).

Overdijk and van Diggelen (2006:93) reason that “technology appropriation occurs when someone puts into use a technology in a “goal-directed” activity while the properties of the technology and the acts required to accomplish the goal by means of the technology are unacquainted”. So, the person finds out about the technology and what it is used for and looks for how to use it. It is the same for groups, but it follows that adaptation and appropriation, in this instance, occur in a joint activity (Overdijk & van Diggelen 2006). High appropriation occurs when the user has a need which could be fulfilled by the use of the technology. So, technology appropriation does not merely mean the attainment of knowledge about a technology or learning how to do or apply something with the technology, but how there is a simultaneous transformation of the user and the technology (Overdijk & van Diggelen 2006:94), as the technology now is incorporated into the lifestyle of the user and the user explores other ways of using the technology.

Consequently, appropriation becomes a form of internalization because it is not only the display of knowledge about using technology effortlessly but taking ownership of technology that had not previously belonged to that individual (Rogoff 1995). The term “appropriation” is used by Rogoff (1995:150) to mean “the process by which individuals transform their understanding of and responsibility for activities through their own participation”. In this instance, what is appropriated are cultural tools, like procedures, language, or ‘technical tools’ that are attached to a particular practice (Overdijk & van Diggelen 2006). Wertsch (1995) believes that cultural tools ‘appropriation’ can be set apart from ‘mastery’ as a form of internalization where ‘mastery’ refers to “knowing how to use a mediational means with facility”, appropriation refers to “taking something that belongs to others and making it one’s own” (Wertsch 1998:50). So, appropriation

in this case is not merely having knowledge about a system and using it, but having knowledge to the degree that that system plays out in every facet of the lives of users. Therefore, the first and major step in the appropriation process is having knowledge about a system and trying it out.

It is in this line of thinking that Carroll et al. (2002a) defined appropriation as a process in which technology user explores, evaluates and adopts or rejects technology. Carroll et al. (2002a) contend that users exploit certain features of a technology and abandon or ignore others so as to gratify their needs. Alberts (2013:24) says technology-in-use can be strengthened by three higher-order-drivers- identity, power and fragmentation- resulting from the importance young people place on these three themes (struggle with identity and power, and leading a fragmented life). Therefore, any technology that resonates with these themes is likely to account for more durable or high appropriation. In other words, if the technology fits the user's needs related to these drivers, its use will be reinforced. These three drivers (identity, power and fragmentation) were later called reinforcers in the extension of the model. In the same way, Carroll et al. (2002a) believe that the appropriation of mobile technologies (and indeed other new media technologies) by young people results from the interface between the desires of users, the abilities or features and implications of the technology and the situation of use. This means that the major factors of new technology use are the ability of the technology to meet certain needs of the user, the competency to use the technology and the social environment in which it is used. It can be drawn from this that if new media technologies did not satisfy certain needs and desires of teens, the technologies would have been distantly away from them by now.

DeSanctis and Poole (1994) look at appropriation in a different light by linking their argument to Ollman (1971) who defines appropriation as constructive utilization. According to DeSanctis and Poole (1994), 'appropriations' of a technology are immediate, visible actions that evidence deeper structuration processes. Whereas Carroll et al. (2002) place appropriation on the level of the individual user, DeSanctis and Poole (1994) conduct an institutional analysis, and define appropriation on the level of the organisation. DeSanctis and Poole (1994) maintain that the "agents" appropriate rules and resources that become available as groups interact while using advanced information technology. But, generally, technology appropriation can be described as a process that takes place at different levels of social organisation, that is, on the level of the individual user, a group of users, or on the level of the larger socio-cultural environment (Overdijk

& van Diggelen 2006). This is the socioconstructivist approach to technology appropriation. This view focuses on the fact that technologies are socially shaped, and that their use and effects depend on human contingencies, suggesting that a technology gets its form and meaning through interactive use (Overdijk & van Diggelen 2006). Hutchby (2001) explains that both the form and meaning of technological artefacts are socially shaped as opposed to being the clearly defined products of particular inventors or innovators. Jonsson (2004) corroborates this by stating that while appropriating technology participants become more and more proficient in the use of a set of tools in the context of a social practice.

Overdijk and van Diggelen (2006:6) also discuss that fundamental to the concept of appropriation is mutual shaping which implies a process of social construction in which the actions and thoughts of the technology user are shaped through the use of the technology, while at the same time the meaning and effects of the technology are shaped through the users' actions. In recent times, it is evident that new media technologies have given new meaning to the art of communicating because social media has become the chief platform for sending and sharing information among e-teens to the extent that certain people miss out on events as a result of them not being on such platforms (Overdijk & van Diggelen 2006). There are now new ways of contracting friendships, and the notion of privacy has also changed a great deal as people post personal information on social media (Alberts 2013) which is even sometimes used as a news story in mainstream media. People can also partake in revolts or protest marches with influence from other users of new media technologies. All of these and many other uses point to how new media technologies are shaping thoughts and actions, serving as evidence for how the technologies have been appropriated over time.

For new media technologies, Sawyer and Chen (2012) say a major factor of influence for the use of new media technologies is social influence. Using it with friends, using it to communicate with friends and finding ways of using it in different contexts and even improving upon it lead to greater appropriation. There have been many instances when friends invite others to take part in new games they have chanced upon over the Internet and downloaded. In addition, features of mobile phones, hitherto unknown, are revealed to a user of a similar phone and the new "knowledgeable" user explores it and gets used to it, and new applications are developed for new media technologies by people who are not original producers of the technologies. Also, as new cultural artefacts are

developed, new media technologies are used interactively and gradually become symbolic cultural norms which create identities for individual users, and these technologies (new media technologies) are then appropriated.

Also, certain brands of new media technologies have become image tools. Alberts (2013:13) says one can ascribe one's identity into the phone that one uses as it provides a sense of identity, such as a person being an iPhone-user or an Android-user. This can be counted as a higher-order- driver or reinforcer (identity) for new media or technology use which has been discussed earlier. It has been suggested by Montemayor and Eisen (1977) that teenagers, in particular, often communicate who they are by the possessions they have as well as by the brands they use. Carroll et al. (2001) pointed out with a quote from two participants in their study about how the mobile phone technology, for example, has become a lifestyle tool:

I feel kind of naked without my phone” and “It [the mobile phone] gives you an identity: this is who I am, this is my number (2001:5).

Clearly, ingrained in the above quote is the fact that when technologies are appropriated intensely they become another cultural artefact of that group of users. The study takes a stance that e-teen users of new media technologies are high appropriators of the technologies, because the technologies ubiquitously play out significantly in their regular lifestyles (as discussed above) and are adept users of the technologies.

### **3.6.2 Critique of the MTA**

The Model of Technology Appropriation is seen as a useful concept in understanding and explaining how technology is adopted and adapted as part of the lifestyle of an individual. It recognizes that the user actively adapts a technology to meet personal and shared goals at any point in time (Salovaara & Tamminen 2009). According to Dourish (2003:467) appropriation is a way in which technologies are adopted, adapted and incorporated into working practice. And justifiably so, Orlikowski (1992:423) says:

People are purposive, knowledgeable, adaptive and inventive agents who engage with technology in a multiplicity of ways to accomplish various and dynamic ends. When the technology does not help them achieve these ends, they abandon it, or work around it, or change it, or think about changing their ends.

So, essentially, where TAM fails, MTA compensates for it in that MTA looks at other factors of influence for new media usage which can equally be applied to other systems or technologies. It also highlights the tendency for target users not to use technology - non-appropriation – or to abandon the usage of technology- disappropriation- due to peculiar reasons which TAM fails to address.

### **3.6.3 Justification for using MTA**

Overdijk and van Diggelen (2006) state that the behaviour of a technology user is directed through the features of the technology and add that the user needs to actively explore the technology and make conscious choices in order to achieve a desired outcome. This argument is somewhat in line with the Uses and Gratifications Theory, which recognizes the intentional choices made by the user of a medium. Also, Alberts (2013) discusses that the Model of Technology Appropriation throws light on how technology users transform technology during usage. This, Alberts believes, adds to user acceptance, as it shows why young people have a different attitude towards smartphones and social media. Alberts (2013) argues that two different users of a particular technology will appropriate that technology in two different ways. He cites young people as ascribing meaning to the use of smartphones as being useful and also have the tendency to feel the strong social influence as a result of the connectivity offered by mobile Internet access. However, elderly people may appropriate similar technologies, but may not see much added value of mobile Internet access that the younger generation may attach to them. Similarly, a person with relatively many contacts on Facebook will likely “appropriate it as a rich medium connecting him to the world. However, a person who has only a few friends online will not appropriate Facebook as a different kind of website than a news site; he will not appropriate the ‘social’ aspect” (Alberts 2013:13).

This study recognises that new media technologies fit into the lifestyle and needs of e-teens allowing for interactivity, communication and connectivity. For that reason, they appropriate them differently than the older generation. E-teens would be highly enthused about the communicative attributes of new media technologies leading to high appropriation, which Overdijk & van Diggelen (2006) say occurs when the user has a need which could be fulfilled by the use of the technology. The needs which e-teens yearn to fulfil can aptly be appeased by the use of new media technologies. The intention to take aspects of theories related to the use and appropriation of new

media technologies and put them in one model to explain new media use and appropriation by e-teens are partly informed by the notion that appropriation of new media technologies will come about if features of those technologies aptly aid in meeting particular needs users so desire to satisfy. This, therefore, led to the formulation of the hypothesis in the e-teen model that: *“behavioural intentions and actual usage of new media technologies by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technologies”*. Additionally, this inherently means that the attributes will help satisfy e-teen users’ peculiar gratification needs of sociability, educational and social inclusion as also hypothesised in the proposed e-teen model.

Ultimately, this research brings to the fore the extent to which e-teens are appropriating new media technologies, what exactly are the attractors to appropriating new media technologies and the gratifications obtained from the use of such technologies which is translated into a model to explain how they appropriate and use new media technologies.

### **3.7 RELEVANCY OF MTA TO THE STUDY**

The Model of Technology Appropriation (MTA) also suggests that there is a process through which users of technology go beyond mere adoption to make the technology their own and to embed it within their social, economic and political practices. The appropriation process is consequently a negotiation about power and control over the configuration of the technology, how it is used, and the distribution of its benefits (Bar, Francis & Weber 2007). This theory is relevant to the study because it provides the foundations for the various levels to which users can take up technologies. Based on this, the researcher studies the extent to which e-teens are taking up new media technologies.

### **3.8. CRITICAL SUMMARY OF U & G, TAM AND MTA AND RELATIONSHIP WITH PROPOSED E-TEEN MODEL**

The Model of Technology Appropriation (MTA) describes the process through which users of technologies surpass sheer adoption and make technologies their own as well as make it a part of their social, economic and political practices. On the other hand, Technology Acceptance Model (TAM) elucidates how users of technologies (in this instance, new media technologies) accept and use technologies while suggesting of a number of influencing factors for the use of technologies.

So, the difference between MTA and TAM is that whereas MTA pays attention to adaption (assimilation, entrenchment and alteration of technologies into, as well as, to suit the lifestyles, engagements and activities of users) of technologies and not simple adoption, TAM describes the adoption of technologies (taking on of technologies mostly based on manufacturers' prescribed mode of use) based on attitudes and perceptions users have about the attributes of technologies (Usefulness, Ease-of-Use). The U&G theory, however, explains uses users put media, including technologies that house them, to and the gratifications they derive from them based on their needs and motives (after taking on the technologies). All three theories are beneficial to the study because they help in conceptualising the e-teen model which ties gratifications, motives, influencing factors and uses with the extent of appropriation in the light of the e-teen. Therefore, they complement one another to set the foundations to predict what influences e-teens to use new media technologies by factoring in use and gratifications trends.

The U & G theory has been critiqued as relying on what the respondent reports rather than the researcher's observation. It has also been criticised as not considering economic relationships, media impact and production processes and the fact that it was developed at a time of the prevalence of legacy media (Print, radio and TV). TAM comes in handy as being more predictive and contemporary and fills in the gap of new (emerging) technologies' acceptance processes as it predicts what factors would let someone use a particular technology. The exclusion of an important factor, social influence, in TAM is covered up by the MTA as MTA highlights the importance of social influence (partly resulting from participation) to the taking up of technologies while discussing the different types of appropriation processes in a more contemporary context.

Studying all three theories, it was observed that although they are three different conceptions with different emphases, motivations and directions of attention, they are, to a certain extent, interrelated as they talk about taking on of media technologies, why and how it happens at different levels of complexities and concentrations. Another observation is that all three theories in their conceptualisations did not look at specific groupings and how adoption, adaption, use and gratification processes occur. For example, one of the prominent critiques of TAM is that it emphasises the use of technologies in organisational settings, while U & G and MTA have been critiqued as being rather generalised theories. This, however, is not to discount the relevance of these theories, but necessitates extensions and other deductions to be made. So, in essence, all

three theories not being predictive enough about different groupings, calls for the need to do so, as there are different categories of users of media and media technologies with distinctive characteristics and tendencies. This where this present study comes in handy.

Accordingly, the motivation for the development of the E-teen model stems from the fact that there is no dedicated theory or model that explains why teenagers are heavy (if not the heaviest) and, by and large, proficient users of new media technologies. Theories that discuss uses, gratifications and appropriation of technologies have been rather generalised and not specific to teenagers (e-teens). It is also the researcher's viewpoint that it is sometimes imperative to combine (interrelated) theories to deal with the rapid changes in media technologies and the dynamic nature of users of these technologies to explain the uses, gratifications and appropriation, especially, new media technologies. This is why in conceptualising and constructing the E-teen model, the researcher draws on these theories which become the theoretical or philosophical foundations to chart the direction for the task. The E-teen model, therefore, takes relevant variables/concepts in MTA, TAM and U & G (A, PU, PEOU, GS, GO, levels of appropriation) as well as consistently reported findings from teen studies (including what was found in this study) and the probable tendencies of digital natives and attempts to be predictive about the appropriation disposition of e-teens, how and why e-teens use new media technologies at the level they do.

### **3.9 SUMMARY**

This chapter discussed the theories - the Uses and Gratifications Theory, the Technology Acceptance Model (TAM) and the Model of Technology Appropriation (MTA) - that served as a base for the study of new media technology use and appropriation by e-teens. In so doing, it discussed the theories in the context of hypotheses formulated for the study using concepts in the theories as justification. A bit of light is also thrown at some of the assumptions drawn from the theories for the development of the e-teen model since all three theories served as the backbone for the construction of the e-teen model. The chapter following combines the elements drawn from the literature review and theories into a proposed conceptual model depicting how e-teens use and appropriate new media technologies. Chapter seven will then discuss the results in view of the proposed conceptual model with the object to validate the model.

## **CHAPTER FOUR**

### **PROPOSED CONCEPTUAL MODEL**

#### **4.1 INTRODUCTION**

The chief argument of this study is that e-teens are a group of new media users who are motivated to use new media technologies for particular reasons. E-teens have different characteristics, attitudes, motivations and needs regarding new media use and therefore they have to be studied in a different context than any other group. Researchers such as Castells et al. (2004) have confirmed that there are major dissimilarities as to how younger mobile phone owners, for example, use the technology as compared to their older counterparts. This argument, in general, can be extended to entire new media technology usage. In this chapter, a conceptual model - the researcher's idea on how the research problem will have to be explored based on the theoretical framework grounding the study (Regoniel 2010) - is proposed with the view of explicitly explaining how e-teens use and appropriate new media technologies. It looks into the unique attributes of e-teens and matches them against their attitude towards new media technologies, the most likely uses and gratifications they seek and the levels of appropriation of new media technologies by e-teens.

The chapter, firstly, provides a perspective of what a conceptual model is and what makes up a good conceptual model, as that is what grounds the constructing the e-teen conceptual model for new media use and appropriation. The various aspects of the proposed model to be presented in this chapter are also discussed based on foundational theories for the study. The pieces are then finally brought together as “the conceptual model for e-teen new media use and appropriation”, is presented.

#### **4.2 WHAT IS A CONCEPTUAL MODEL?**

Conceptual models provide a visual representation of theoretical constructs (and variables) of interest in a research study and are developed as a result of thoroughly reviewing peer-reviewed journals, books/monographs, conference papers, and other appropriate references (NCPI 2003). Another term for a conceptual model is ‘conceptual framework’; however, in most studies, researchers stick to one term (Jabareen 2009). Miles and Huberman (1994:18) define a conceptual model as a visual or written product that “explains, either graphically or in narrative form, the main things to be studied - the key factors, concepts or variables - and the presumed relationships among them”. It is a crucial aspect of a study (Robson 2011) because it is the system of concepts,

assumptions, expectations, beliefs and theories upon which any research stands (Maxwell 2012:39). Maxwell (2012:39) simplifies the definition to read as the actual ideas and beliefs that one holds about the phenomena studied. Maxwell (2012) proceeds to state that it is carefully constructed, and not something that is discovered or exists prêt-à-porter. It is an amalgamation of borrowed pieces designed into a structure while paying attention to coherence (Maxwell 2012:41) and represents the researcher's understanding and ideas about the phenomenon being explored. Vaughan (2008) agrees, adding that the researcher provides the structure, although aspects of a conceptual model are borrowed. Essentially, this means that one can factor in as many relevant theories into the construction of a conceptual model, which Maxwell admits is the fundamental path by which a phenomenon is comprehended.

There are four main means through which a researcher can construct a conceptual model for a study: (1) experiential knowledge, (2) existing theory and research, (3) researcher's pilot and exploratory research, and (4) thought experiments (Maxwell 2012:44). Using existing theory serves as a spotlight that sheds light on the relationships that could be ignored or unrealised (Maxwell 2012). Becker (2007:149) asserted that "a serious scholar ought to routinely inspect competing ways of talking about the same subject matter". He further advised, "use the literature, don't let it use you" (Berker 2007:149). In agreement with that, in the design of the e-teen conceptual model, the researcher reviews, adapts and combines the U & G theory, TAM and MTA as well as the relevant literature to explain how e-teens use and appropriate new media technologies.

Elbow (2006) discusses that it is imperative to ascertain the intuitions that a theory can offer and also identify the limitations, distortions and blind spots not losing sight of "alternative sources of concepts and theories about the phenomena you are studying - including sources other than the literature" (Maxwell 2012:52). Similarly, it is important to be aware of the overriding ideology of theory and literature and to endeavour to find a more neutral scientific stance toward the problem (Becker 2007). This is exactly what the researcher strives to do in this study. For the development of the e-teen conceptual model for uses and appropriation of new media technologies, the works of Blumler and Katz (1974), Davis et al. (1989) and Carroll et al. (2002a) were considered. Each of these theorists contributes and illustrates aspects and forms of use and appropriation of new media technologies which have been discussed extensively in preceding chapters. The researcher

then conceptualised a workable conceptual model for e-teens' use and appropriation of new media technologies by collating, adopting and adapting the ideas of the above-mentioned theorists and literature. The researcher's contribution results in the integration of major concepts from three theories of general technology use and appropriation, as well as empirical literature into a model that emphasises how e-teens use and appropriate new media technologies.

#### **4.3 EMPIRICAL AND THEORETICAL FOUNDATIONS FOR THE CONSTRUCTION OF THE E-TEEN MODEL**

Many adults worry that children are wasting time online, texting, or playing video games. Researchers have explained why youth find these activities compelling and important with many suggesting that new media technologies provide the opportunity for young people (including e-teens) to meet their compelling communicative, sociability and emotional needs which are tied to their developmental needs. New opportunities are opening up for young people to express social norms, communicate, develop technical abilities and explore interests as advances are made with regards to the digital world (McPherson 2008). Most youths use online networks as another avenue for extending friendships that they contract in the all familiar settings of school, religious organisations and sports-grounds (Ito et al. 2009; Byod 2007) as well as help maintain those contracted though online platforms. E-teens can be in endless interaction with their friends through private communications like instant messaging and publicly through social network sites such as Facebook and Twitter (Boyd 2007).

With these "relationship-driven" practices, youth are most of the time in contact with people they already know in their offline lives through online channels. By doing so, e-teens use new media to "hang out" and extend existing friendships (Ito et al. 2009). Admittedly, a number of youth (e-teens), using new media technologies to express and extend friendships, also use the technologies to discover their interests and search for information for academic purposes, which they may not easily have access to in school or in their confined region or environment. Online groups, thus provide avenues to stay in touch with compatriots who may even be from outside the boundaries they reside in and who share similar interests such as video editing, creative writing, and other artistic endeavours.

In these interest-driven networks, youth may find new peers outside the boundaries of their local community. They can also find opportunities to publicise and distribute their work to online audiences and to gain new forms of visibility and reputation (Ito et al. 2008:1). These create opportunities for e-teens to find themselves in online communities and groupings which afford them the opportunity to project themselves in particular ways and learn new behaviours, thereby carving identities for themselves.

#### **4.3.1 The unique attributes of e-teens and their overarching attitude, uses and gratifications of new media technologies**

A significant distinctive characteristic of e-teens (who are also in the digital native category) is early and repeated exposure to technology, which has impacted on their lives (Immordino-Yang, Christodoulou & Singh 2012). They grew up with the computer (in this case, new media technologies) and have become proficient in using it for many of their daily activities; they depend greatly on technology to entertain themselves, to communicate and to shed off negative emotions (Bolton et al. 2013). They have also lived with the fast advances in instantaneous communication technologies, social networking and globalization (Park & Gursoy 2012). According to Bolton et al. (2013:248) digital natives are often described as people who have a wealth of knowledge about technologies and are the most visually sophisticated of any generation. To Palfrey and Gasser (2008) the need to interact with others is a key reason for e-teens' use of social media and, by extension, the use of new media technologies. To La Ferle, Edwards and Lee (2000), for example, the Internet is appealing to teens because it is a unique medium that has the ability to combine the distinctive features and abilities of traditional media and allows for two-way communication, which doubles as a channel for social stimulation. La Ferle et al. (2000) allude to the fact that social stimulation, is important to the teen and a teen will therefore comfortably embrace any technology that makes provision for that. Extending this argument, new media technologies, which are linked to the Internet, appeal to e-teens and leads to high appropriation of the technologies by them. This is because they are able to conveniently extend activities they engage in the real world on these technologies.

Rightly so, Subrahmanyam et al. (2000:131) note that much of the time children spend on computers without supervision or any kind of regulation appears to be spent extending social relationships by connecting with others through interpersonal communication applications through

the Internet. Subrahmanyam et al. (2000) found that 10 to 19-year-old early Internet users in each family were the heaviest users of the Internet with some using the Internet for as much as 16 hours a week communicating with people with whom they had weak-tie relationships. Similarly, Davis (2012) found that the ability to communicate with friends was the foremost motivation for using digital media technologies. Subrahmanyam and Greenfield (2008) alluded to this by observing that:

We may never know the changes in absolute frequency of face-to-face and voice-to-voice communication that various types of electronic communication have brought about. But we do know that teens now conduct a higher proportion of their communication through writing in an electronic medium rather than face-to-face to voice-to-voice—in effect, relatively depersonalizing the process of interpersonal communication (2008:136).

Another noteworthy reason for the predominant use of new media technologies among e-teens is the opportunity it affords to feel a sense of belonging and identity formation. Richards (2013) noted that teens need to feel a sense of belonging, to be confident about who they are. It is, thus, not surprising that Martinez (2013) said it is normal for a teen's life to centre around friends. Martinez further argued that as teens enter or go through puberty and gain more independence, they very so often spend much of their time with friends. It is through these friendships that they feel they are recognized, accepted and belong to society apart from their families. Richards (2013) indicated that teens who do not have, at least, a few close friends often suffer from isolation, insecurity and a poor self-image since they gain much of their identity from people who reflect similar interests and beliefs. These are often people that teens spend time with.

There is a developmental need for belonging during the teen years (Brechtwald & Prinstein 2011). Technology has a way of making teens find this sense of belonging they so badly desire in their lives. New media technologies aptly provide avenues for teens to feel a sense of belonging by providing opportunities for them to find friendship and companionship, which otherwise would not have been possible due to factors such as time and space. In circumstances where teens cannot physically meet with their offline friends, they find new media technologies useful to mediate communications and entertainment. By so doing, teens are also encouraged to accomplish important life goals when they spend virtual time with friends concerned with essential life issues (Richards 2013). Social media groups, for example, aid in making this possible. Out of the quest to feel a sense of belonging, e-teens go in for new media technologies, which provide that

opportunity. Brechwald and Prinstein (2011) said the sense of belonging has a significant role in making them develop a sense of identity. In the process, if they find themselves in worthy company, they are able to make good decisions leading to the achievement of success in life and most importantly resisting bad peer influence.

There is empirical evidence to prove that e-teens use new media technologies to feel a sense of belongingness and by extension construct identities. Online communications support a sense of belonging and self-disclosure (Davis 2012:1534). Davis discovered that casual online exchanges, be it through Facebook, text messaging or instant messaging, helped adolescents to maintain a sense of connection and belonging to their closest friends irrespective of their physical location or the time of day. Efforts made to contract friendships online, post pictures and receive comments on social media sites mirror the e-teens' nature of seeking social inclusion and sociability, which correspondingly makes them feel a sense of belonging, connect, interact and socialise with significant others.

Still, another remarkable and noteworthy use of new media technologies by e-teens, is using the technologies for academic or educational purposes. At this period of their lives, most e-teens they are in the process of acquiring secondary education, which is a critical foundation for future endeavours and are, consequently, advised and sometimes compelled to engage in activities that enhance their educational or academic pursuit. A lot of evidence abounds about the use of new media technologies and platforms for the retrieval of academic content, sharing and receiving of academic content or information, looking up academic information (be it through the dictionary / thesaurus app or other online sources) among others, rather than through traditional means like going to the library or borrowing physical books from the library or colleagues by this group of new media users. Indeed, there is an anecdote that the “digital native” e-teen is most likely to instantaneously fall on technology when asked to look up information and provide the answer while the “digital immigrant” counterpart would at the same time be running his or her hands through the bookshelf looking for the required information. Although there may be disadvantages with the use of new media technologies in the school environment (such as distractions in the classroom), DeWitt (2013) for example, suggests that permitting students to have access to these devices “extend learning opportunities to times and places outside of the classroom” (DeWitt 2013:1). This is because significant empirical evidence has pointed to the positive effect of new

media technologies on academic performance and education generally. Besides, among the gratifications sought and likely obtained from the use of new media technologies, academic use has been extensively reported by many studies.

Sterling (2008) in an interview on WAMU Public Radio in the US noted that there is growing pervasiveness of blogs created and maintained by teens outside school, which can be harnessed for educational purposes. The Pew Foundation has in many publications reported creative expression across a variety of media in the form of video, audio and writing by teens (Lenhart, Arafeh, Smith & Rankin 2008). Similarly, the Digital Ethnology group at the University of Kansas reports that the majority of video clips posted on YouTube are created and maintained by teenagers, with teenage students usually being most ardent users of texting services. Kelly (2013) notes that a series of studies by Unicef into how young people are using ICT's in Zambia, South Africa and Vietnam, revealed that 40% of Vietnamese children surveyed in rural areas used the Internet for educational purposes, with 34% sending school-related text messages. Statistics for the urban areas jumped to 62% and 57%, respectively, attesting the fact that young people (including e-teens) extensively use new media technologies for educational purposes. It is not surprising, therefore, that Markwei and Appiah (2016) found their Ghanaian respondents using social media (Facebook) for educational purposes, such as sharing or discussing school-related information (53.3%) while Asdaque, Nasir Khan and Abbas Rizvi (2010) as well as Ogedebe (2012) found that accessing the Internet for academic research contributes considerably to higher academic performance in Pakistan and Nigeria respectively.

The e-teen model assumes that gratifications e-teens seek from new media usage are the gratifications they obtain because the technologies amply satisfy their needs. McQuail (1983) acknowledges that where GO is noticeably higher than GS, it is likely going to be the case that there will be high audience satisfaction and high ratings of appreciation and attention to the media. In a similar light, it will not be far from right to suggest that when GS leads to or is the same as GO there will likely be high appreciation and consequent appropriation of that medium, which provides those gratifications by the end user. This makes good sense since once a medium is able to sufficiently help one meet a need, one is likely going to have a positive attitude towards the medium and get hooked on to it. In this case, the gratifications e-teens seek and obtain from the use of new media technologies are social inclusion, educational and sociability gratifications. In

the e-teen model it has also been assumed that the e-teen is a high appropriator of new media technologies on account that the gratifications they seek are decidedly obtained through the use of the technologies.

#### **4.3.2 E-teens and new media appropriation**

Drotner (2000) considers young people as “cultural pioneers” and notes three key ways in which young people may be said to be exhibiting this distinctive characteristic in their use of new media technologies: innovation, interaction and integration. Under ‘innovation’, Drotner notes how young people combine multiple media, multitask, blur production and reception and, in doing so, make creative use of the opportunities available. By ‘interaction’, she points to how young people engage with each other within and through different media and media content, opening up opportunities for intertextuality and connectivity. By ‘integration’, she indicates the transformation of the distinction between primary (or face-to-face) and secondary (mass mediated) socialisation, resulting in diverse forms of mediated communication.

Drotner (2000) proposes the precise reflection of how e-teens are appropriating new media technologies. There is a lot of evidence to show that e-teens are multitasking and participating in new media production a great deal. Junco and Cotten (2012), for instance, found that students spent much of their time using Facebook, searching for online information that is not school-related and sending emails while doing coursework. They also found that an average of 71 texts were sent while doing schoolwork; and when schoolwork is being done outside of class, students spent, on the average, 60 minutes on Facebook, 43 minutes surfing the Internet and 22 minutes on email. Remarkably, this trend occurred on a daily basis. A means through which e-teens exhibit command over new media technologies is production, sharing and receiving of content through new media technologies. This is related to participation, which has been discussed earlier in the theses. Appropriation is attributed to participation, in that users who participate in new media technologies by way of generating, retrieving, participation and sharing content are the ones who have the tendency to appropriate those technologies better. The interactive nature of new media technologies provides easy participation and that also draws e-teens to use them. This study, in this line of thinking, therefore, puts forward the alternate hypothesis that “*there is a relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies*” which goes into the construction of the e-teen model.

It is assumed that, as users interact with new media technologies frequently through sharing, receiving and participating in activities on devices, it pricks their curiosity to know more about the technologies leading them to gain more knowledge about them. The technologies are, consequently, adopted and adapted by end-users as they feature significantly in the daily activities of such end-users.

A driving argument for the construction of the e-teen model is that e-teens use new media technologies to communicate and entertain themselves (termed ‘sociability gratification’ in the model) and to feel a sense of belonging (termed ‘social inclusion gratification’ in the model) as well as seek knowledge for personal and academic purposes (termed “educational gratification” in the model). These are made possible through the unique communicative and participatory attributes or characteristics of new media technologies. This, in effect, leads to high appropriation, which manifests itself in the form of content generation, content sharing and participation among e-teens.

#### **4.4 A CONCEPTUAL MODEL FOR USE AND APPROPRIATION OF NEW MEDIA TECHNOLOGIES BY E-TEENS**

It has been suggested that media users seek out media that have personal utility and thus seek to “obtain gratifications on an individual or specialized level” (Barton 2009: 474). Quan-Haase and Young (2010) also indicated that new media technologies and their platforms are coexisting and providing unique gratifications to users, since communication tool integration is higher now than ever before, while Raacke and Bonds-Raacke (2008:167) said, “the Internet as a new tool in communication has changed the way people interact” and can therefore be considered distinct when analysing the gratifications obtained from it. That is why this study turns attention to the e-teen user and his unique needs and matches them against what new media technologies provide. By so doing, attempts are made to blur the lines by predicting the factors influencing e-teens to use new media technologies on an unparalleled level than any other group of users.

The proposed conceptual model for e-teen new media technologies use and appropriation is grounded in three theories - U&G, TAM and MTA. Ruggiero (2000:3) argued that any attempt to speculate on the future direction of mass communication theory must seriously include the Uses and Gratifications approach. This is contrary to the assertion by some mass communications

scholars that Uses and Gratifications is not a rigorous Social Science theory. Ruggiero further stated that despite the fact that scientists may continually use traditional tools and typologies to answer questions about media use, contemporary researchers must be open-minded about extending current theoretical models of Uses and Gratifications by considering to include concepts such as interactivity, demassification, hyper-textuality, and a-synchronicity (Ruggiero 2000). In the construction of the e-teen new media model, the interactivity concept is considered and related to the appropriation, which provides the reasons for new media use.

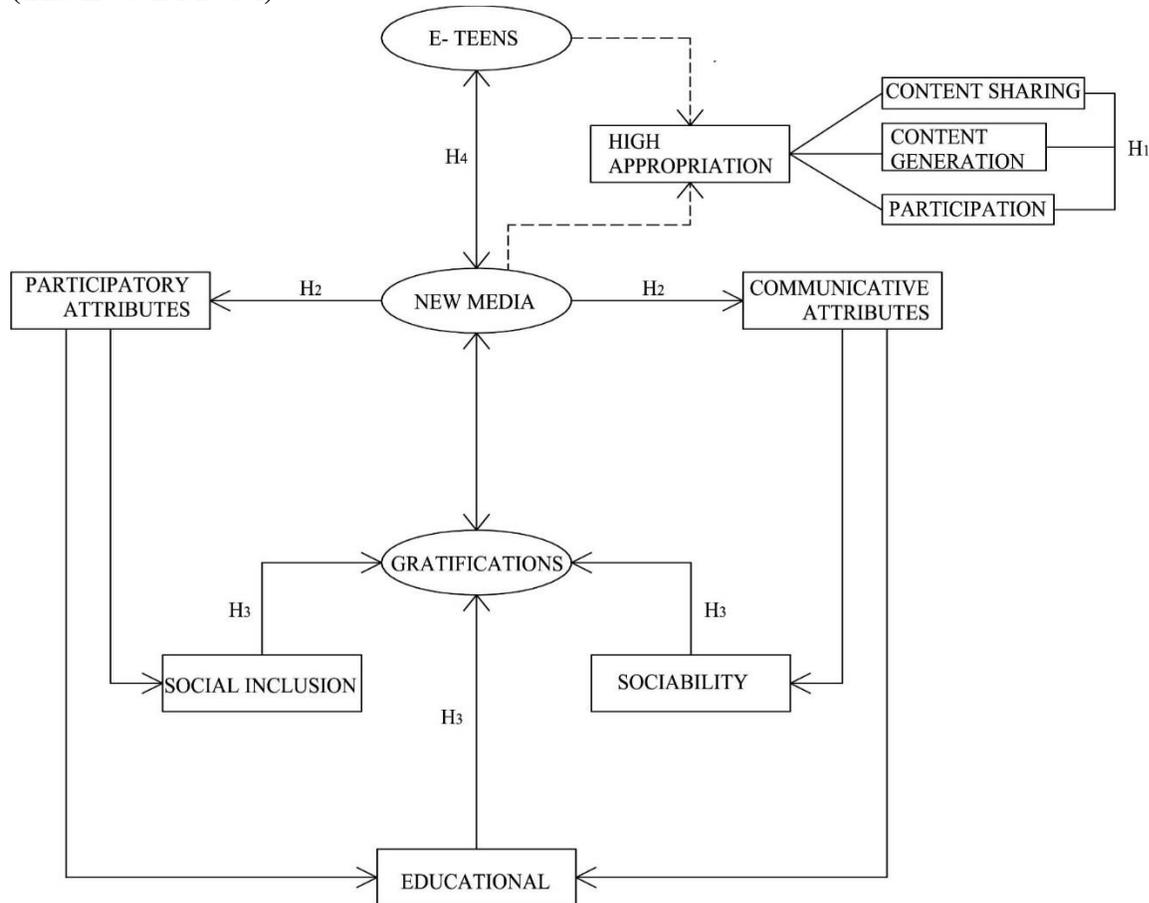
Besides the allusions by Lee, Kozar and Larsen (2003) that TAM's popularity is as a result of its theoretical characteristics of being simple (parsimony), supported by data (verifiability), and its generalizability, it is considered useful in explaining why e-teens appropriate new media technologies and the tendency for them to use them in the future. Brown and Duguid (1991) discussed that collective sharing of knowledge and experiences bring about appropriation of new work processes and new technologies. Likewise, Rogoff (1995) gave a new twist to what appropriation of technologies is. She moved away from the use of technology and threw light on participating in an activity and the changes that result from that as what appropriation of technology is. She discussed that aside from technology being transformed in the process of appropriation, the user of the technology also changes through participation. Accordingly, Rogoff draws attention to a user taking part in a technological activity and the personal change that this participation brings about. Participatory appropriation refers to the personal process by which, through engaging in an activity, individuals change and handle a later situation in ways prepared by their own participation in the previous situation (Rogoff 2008:60). In this sense, as e-teens engage with new media technologies in the socio-cultural context, they get to learn about what other users are doing with the technologies. They make the attempt to take part in the use of the technologies, seek feedback and gradually become conversant with what the technologies have to offer and adopt them in their daily practices.

The proposed e-teen model is, consequently, grounded in these assertions. The e-teen model predicts that high appropriators of new media technologies are those users who generate, share, interact with other users and participate in content. It is proposed that, as e-teens engage in these activities on their new media technologies, they gain an upper hand over the technologies than those who do otherwise. It also hypothesises that “behavioural intentions and actual usage of new

media technologies by e-teens are motivated by the unique communicative and participatory attributes of the technologies” and “there is a positive relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratification”. The stated hypotheses assume that the opportunity new media technologies provide for e-teens to communicate, find educational content, entertain themselves and find social inclusion (belongingness) are linked to their use of technologies. The predictions, which go into the construction of the model, are also partly informed by Ling and Yttri (2005) who argued that communicative patterns are tied to the particular developmental needs of teens who are engaged in negotiations over social identity and belonging.

Below is the proposed conceptual model for e-teens’ use and appropriation of new media technologies:

**Figure 4. 1: Conceptual model for new media technologies use and appropriation by e-teens (The E-teen Model)**



The model above depicts how the e-teen use and appropriate new media technologies. It shows e-teens who go in for new media technologies to meet certain gratifications. At the point of selecting new media technologies, there are certain attributes of the technologies which stand out to make them want to choose the technologies. These attributes are:

- Participatory attributes
- Communicative attributes

#### **4.4.1 Participatory attributes**

These are those features of new media technologies to provide them with the opportunity to partake in groups, create and share content, participate in discussions. These opportunities help e-teens carve identities for themselves as they have the liberty to create their personal profiles and project what they wish to project to significant others by way of posting and/or sharing select content and even personal information including photographs and videos. While at that, participatory attributes of new media technologies also help e-teens to have a sense of belonging, which they so desire since they are able to make friends online, join groups and share and shed off any personal burning issues.

#### **4.4.2 Communicative attributes**

Communicative attribute are the features of new media technologies that offer the prospect for any kind of interaction, such as text messaging, voice communication, video calls and instant messaging. In the e-teen model, there are arrows pointing downwards from participatory attributes and communicative attributes respectively, which show the exact gratifications e-teens seek to derive from the use of the technologies. These gratifications are social inclusion (provided by the participatory attributes), sociability gratifications (provided by the communicative attributes) and educational gratifications (provided by both the communicative and participatory attributes) respectively. There are arrows pointing back from the gratifications through new media to e-teens. This is to show the two-way nature of communication and how using new media technologies provides gratifications of social inclusion, educational and sociability to e-teens.

Social inclusion gratification, in this model, means the ability to feel a part of and be part of any social group. It is also the ability to project yourself in a way that you deem fit for your image to

others in that social grouping, thereby, carving an identity for oneself. Aside from that, new media technologies allow for the e-teen to identify with networks who share similar interests, views and habits, which provide some level of support and belonging to circumstances where those interests, views and actions are considered outside the norm. Also, having a sense of belonging makes the e-teen, find affection, which is critical to his/her psychological and even mental and physical development. The participatory features of new media technologies (especially social media) are suggested to allow for these. E-teen users, therefore, use those attributes to achieve social inclusion gratification. This is in line with the thoughts of Chen (2004) and Ling and Yttri (2005) who discussed that peculiar uses and gratifications of new media technologies are tied to the developmental needs of digital natives (which include e-teens) who have the tendency to seek affection, find their identity and crave for a sense of belonging.

Sociability gratification, on the other hand, is defined in the model as the features or functions of new media technologies, which make it possible to communicate, connect, interact, contract friendships, have leisure and spend virtual time with significant others. E-teens satisfy sociability needs by signing up on social media sites, watching videos and joining chat rooms, which new media technologies provide access to as researchers (Joinson 2008; Sheldon 2008; Tosun 2012; LaRose & Eastin 2004; Ancu & Cozmo 2009; Ling & Yttri, 2005) have established. This provides the e-teen with the opportunity to shed negative emotions and the stress that comes with their development. At this stage in life e-teens feel a need to have someone they could talk to about their personal issues beside relations. New media technologies come in handy in this regard while providing some level of privacy to do so. It is also suggested that, while seeking sociability gratification through the use of new media technologies, it at the same time boosts e-teens' quest for belonging and affection. This is because finding a listening ear is likely to make one feel one belongs and is loved.

On the other hand, educational gratification is defined as the features of new media technologies, which makes it possible for e-teens to engage in any kind of educational or academic activity (both formal and informal), such, as discussions, sharing and receiving of educational resources, asking questions and submission of assignments. Both communicative and participatory attributes of new media technologies allow them to achieve this gratification. While communicative attributes of new media technologies help e-teens to engage in academic discussions (collaborative learning)

through the technologies and their platforms, participatory attributes afford e-teens the opportunity to share and participate in educational activities through the posting and retrieval of educational resources through new media platforms like blogs, learning management systems and social media sites.

The model suggests that e-teens are high appropriators of new media technologies. This is shown with the dash lines moving from the “e-teen” and “new media” and both converging at “high appropriation”. E-teens exhibit high appropriation through content sharing, generation and participation. Content sharing is when a new media user sends a media product - be it audio, video, web pages, links or text - to other users. This is usually done through social media such as Google +, Facebook, LinkedIn, and Twitter. Content generation is the creation or originating of any kind of content, material or information on a new media device and is meant to be shared or distributed to another end-user/audience or group using a new media device or platform. Content new media users generate can be video, audio, text or graphics. Content participation is the interaction new media users have with content which are shared and retrieved through new media devices. This comes in forms such as commenting, re-posting, tagging or reacting to the post (through emoticons expressing emotions such as like, love, sadness and disgust). It is assumed that by partaking in the three (content sharing, generation and participation) e-teens get to explore the technologies as they need to use the advanced features of new media technologies.

Participation as a role in the appropriation has been emphasised by Rogoff (1995) arguing that appropriation comes about as a result of the mutual involvement of individuals and their social partners in socio-culturally structured activities such as face-to-face interactions, communication or interaction through other means and coordination (Rogoff 1995:142). It is assumed that as this interaction goes on through new media technologies, users get to know how other users are using the technologies, can ask to be shown how they could also do the same and attempt doing the same. This brings about more knowledge and consequently users gaining an upper hand over the technologies.

#### **4.5 SUMMARY**

To Jabareen (2009:52), building a conceptual framework/model from the existing multidisciplinary literature is a process of theorisation, which uses grounded theory methodology

rather than a description of the data and the targeted phenomenon. This is what the researcher sought to do in this chapter. Relying on previous literature and theories, the researcher has proposed the e-teen conceptual model to explain how e-teens use and appropriate new media technologies while highlighting gratifications obtained from the use of new media technologies by this group of people as a factor of their enthusiastic usage. The next chapter (chapter five) discusses the research methodology adopted for this study.

## **CHAPTER FIVE**

### **RESEARCH METHODOLOGY**

#### **5.1 INTRODUCTION**

This chapter presents the research methodology that was adopted to conduct this study. Cresswell (2012:3) defines research as “a process of steps used to collect and analyse information to increase our understanding of a topic or issue”. He further states that it consists of three steps: Pose a question, collect data to answer the question, and present an answer to the question. Research methodology can also be defined as the systematic, theoretical analysis of the principles, techniques or methods applied to a field of study (Irny & Rose 2005). It usually sets out the paradigm, theoretical model, phases and quantitative or qualitative techniques and offers the theoretical underpinning for understanding which method, set of methods, best practices can be applied to specific cases in research (Irny & Rose 2005). Maxwell (2012) points out that a researcher’s decision about a paradigm is not a matter of free choice but as a result of the assumptions made about the world, the topic and how they can be understood, albeit, no careful analysis has been done.

In the words of Rajasekar, Philominathanet and Chinnathambi (2013:5):

Research methods are the various procedures, schemes and algorithms used in research. All the methods used by a researcher during a research study are termed as research methods. They are essentially planned, scientific and value-neutral. They include theoretical procedures, experimental studies, numerical schemes, statistical approaches, etc. Research methods help us collect samples, data and find a solution to a problem. Particularly, scientific research methods call for explanations based on collected facts, measurements and observations and not on reasoning alone.

Neuman (2000:63) says research methodology (sampling and selection of the sample, data collection, and data analysis processes followed) is what makes social science scientific. This is why the research methodology for this particular study will be explained in detail so that the research adheres to scientific principles. When explained comprehensively, it can allow another researcher to replicate the study and by so doing help to test for the reliability of the study.

It is sufficing to state that the various definitions provided from the different sources contain a similar voice as to what research methodology is. Based on the definitions, this chapter discusses

the research design and methodology used to conduct the study. To start with, this discussion will look at the various debates concerning the paradigms of social research and gradually narrow down to the actual approach to the study. It will, then, look into the methods used in collecting primary data, including sample selection, strategies and rationale, data analysis instrument and methods. The last section of the chapter is on methods used to ensure validity, reliability, curb errors and ensure the study followed ethical procedures, all of which are critical to quantitative research designs.

## **5.2 RESEARCH DESIGN**

This section discusses the research paradigm and the research approach that were adopted to conduct this study.

### **5.2.1 Research paradigm**

As far back as 1970, Kuhn described a paradigm as “the entire constellation of beliefs, values, techniques and so on shared by the members of a given community” (1970:175). According to Maxwell (2012) philosophical positions such as positivism, constructivism, realism, pragmatism, and postmodernism (the most abstract and general level) each represent distinct ideas about reality (ontology) and knowledge acquisition (epistemology). This means that each paradigm has ways-and-hows for research inquiry. There are, basically, three broad approaches to social research: quantitative, qualitative and mixed methods. Each approach contains philosophical assumptions about knowledge claims, strategies of inquiry, and specific research methods (Cresswell 2003:23). Different frameworks for conducting research come about when philosophy, strategies, and methods are combined (Cresswell 2003).

Early research into social interactions, be it with humans or technology, has attempted to do so by ensuring that sociological studies would focus on employing the tools and approaches of the physical and natural sciences, an approach that was tagged as positivism (Cohen, Louis, Maldonado & Antonio 2007). Myers (1997) noted that the positivist paradigm was originally developed in the natural sciences to study natural phenomena. This type of research is used in many different fields, such as insurance, medicine, government, education, psychology, and law (Hunt 2014). The social work profession was built on these other disciplines, so it has historically used the positivist paradigm for research. The methods in the positivist paradigm include survey

methods, laboratory experiments, formal methods, and numerical methods. These methods are now being used in almost all social sciences (Hunt 2014). This philosophical ideology likens the actions of human beings in groups to that of atoms and was the ideological basis for what is now known in the circles of social research as quantitative methods (Asante 2014:12).

Quantitative approaches examine the relationship between two variables using tests or scales. In quantitative research, validity and reliability can be measured numerically using such tests as inter-rater reliability and test-retest reliability (Hunt 2014). All quantitative data are based on a qualitative judgement (Hunt 2014) as numbers in and of themselves cannot be interpreted without understanding the assumptions which underlie them (Trochim 2001).

Certain sociologists have criticized this positivist approach severely. Alfred Schutz, Edmund Husserl and Max Horkheimer, for example, have criticized the assumptions in the positivist approach that all human social actions are predictive, static, structured and consistent with certain universal principles (Schutz 1970; Husserl 1970; Horkheimer 1972; Embree 1997; Horkheimer 1974; & Horkheimer 1989). Such critics favour another approach to social research which is more interpretive and which is technically known as the constructivist paradigm.

Considering that not all human social action is static and structured, but a combination of both predictive and undefined patterns, a third strand of research paradigm, pragmatism, (the mixed methods approach) was developed (Asante 2014:12). This applies both quantitative and qualitative approaches to study the phenomena. This approach is also seen to be complementary in nature as it enables the researcher to reduce the errors with reliability and validity that arises as a result of using solely quantitative or qualitative approaches to research (Asante 2014). The researcher bases the inquiry on the assumption that collecting diverse types of data best provides an understanding of a research problem (Cresswell 2003:21). Also, its knowledge claims are based on pragmatic grounds, which is a consequence-oriented, problem-centred, and pluralistic (Cresswell 2003:21).

The chief argument against qualitative and quantitative embedded methods and paradigm arguments is that mixing is not possible mainly because of the opposing principles on which the two approaches are founded (Cilliers 2014), whereas the technical argument for giving greater strength to the data collection and data analysis techniques with which quantitative and qualitative research are each associated and sees these approaches as capable of being fused (Cilliers 2014:

101). This study, however, opted for the positivist paradigm. This is because the research problem calls for a quantitative design (positivism).

### **5.2.2 Approach**

Based on the objectives of the study, the quantitative (survey) approach was adopted as the main method for collecting primary data for the study. Survey research has developed within the positivist paradigm of social research (Bornman 2009). The data produced by a survey are inherently statistical in nature and are reported in the form of tables, graphs and statistics such as frequencies, means, standard deviations, T and F values, correlation coefficients, and so forth (Bornman 2009).

A noteworthy distinguishing feature of survey research is that it is essentially a self-report methodology (Neuman 2006). The term 'self-report' means that respondents are asked questions when conducting a survey - they are requested to provide information regarding themselves and/or to describe their own behaviour, attitudes and opinions (Bornman 2009).

Hunt (2014) argues that quantitative research is about predicting and generalizing a sample to a larger group of subjects, and using numbers to prove or disprove a hypothesis. Samples for quantitative studies (who are representative of the total population) are usually drawn at random from a broader population (York 1998). Yorke, further, states that the quantitative method, strictly controls variables with a focus on static reality. Data from quantitative studies are used to draw conclusions about the overall population, thus the effort to collect data from large samples in quantitative studies (Yorke 1998).

Bornman (2009:5) says a survey researcher needs to remember that respondents can only provide reliable and valid answers on questions pertaining to themselves making questionnaire surveys a very personal research method. Bornman (2009:5) further discusses that survey research questions can be asked about the following issues:

**Characteristics** – Asking respondents questions on their demographic characteristics such as their age, gender, race, language, educational qualifications, income, marital status, and so forth.

**Behaviour or behavioural intentions** – Respondents can answer questions on what they did in the past, what they usually do and/or what they intend to do.

**Self-classification** – Respondents can be asked to classify themselves into various groups (e.g. social class).

**Preferences** – Respondents can voice their preferences.

**Attitudes/beliefs/opinions** – Surveys are most appropriate to question people about their attitudes, beliefs and/or opinions on almost any topic.

**Expectations** – Respondents can answer questions on what they expect to happen in the future.

**Knowledge or awareness** – Respondents can be asked questions to establish their knowledge or awareness of certain issues.

Cresswell (2003) also discusses that a researcher's choice of which approach to use in a study is dependent on the research problem, personal experiences, and the audiences for whom one seeks to write. Cresswell (2003) says "What" questions are best answered through quantitative approaches (survey included). The questions this research seeks to answer are:

- What types of new media technologies do Ghanaian e-teens have access to?
- What types of new media technologies are used by Ghanaian e-teens (as well as what previous studies found) in their scheme of things?
- For what purposes do Ghanaian e-teens use new media technologies?
- What are the gratifications sought and obtained from the use of new media technologies?
- What are the key features of new media appropriation and experience among e-teens?
- What features of new media technologies are most appealing to e-teens?
- What conceptual model explains how e-teens appropriate new media technology?

The quantitative (survey) approach allows for the efficient gathering of large amounts of information with relative ease from a reasonably large number of people with diverse demographic details and characteristics (Wimmer & Dominick 2011). Survey research is, a lot of the time, used to assess thoughts, opinions, and feelings (Shaughnessy, Zechmeister & Jeanne 2011). A study of this nature which sought to know what teens did with new media technologies, their motivations for their use and their overall attitude towards new media technologies was likely to achieve its objectives by adopting the quantitative method. Wimmer and Dominick (2011) confirm that the

survey approach permits for the examination of many variables (for example, lifestyle information, attitudes, motives, intentions) and to use a variety of statistics to analyse the data which this study sought to achieve.

This method is also less expensive because the administration of questionnaires is simple, requiring minimum support for respondents. This approach further eliminates observer subjectivity because using a questionnaire enhances the standardisation of questions that make measurement more precise and high reliability easy to obtain. The survey method relies on a questionnaire instrument and is the most common method used in social science and for studies of Uses and Gratifications which serves as one of the theoretical bases for this study (Barnard 2000; Parker & Plank 2000).

### **5.3 RESEARCH METHODS**

This section discusses the processes used to collect primary data for analysis according to the objectives of the study.

#### **5.3.1 Research area**

The study was conducted in two senior high schools - one public and one private - in the Greater Accra region of Ghana where the use of new media technologies such as computers, tablets, iPods and mobile phones was expected to be widespread. This is due to the fact that Greater Accra is the capital city and the centre for economic and administrative activities of the country so the likelihood of teens within this region to be more enlightened as well as have parents whose income levels can make it possible for them to afford or, at least, have access to new media technologies. It was also easy to get the target age group (that is teens - those from the ages of 13 to 19 years) to take part in the survey at this level of the education ladder.

#### **5.3.2 Target population**

Target population refers to the population to which the researcher ultimately wants to generalize the results of a study (Muleke, Mwangi, Maurice & Nalule 2013). The target population is also known as the theoretical population (Trochim, Donnelly & Arora 2015). In this study, the target population was all teens from age 13 to 19 in senior high schools in the Greater Accra region. The reason for selecting this age group is that teens are considered to be one of the heaviest users of

technology (Subrahmanyam & Greenfield 2008). They also have a harder time separating themselves from technology because they might suffer socially among peers if they are not up to date or well connected (Richards et al. 2010). Teens have also been described as naturally curious about almost everything, including technology (Kemf 2014).

### **5.3.3 Accessible population**

According to Trochim (2006), accessible population is the population which is accessible to the researcher. It is usually referred to as the study population. This means that it is from the accessible population that researchers draw their samples. In this study, the accessible population were all learners at West Africa Secondary School and Ideal College in the Greater Accra region of Ghana. One of the schools was privately owned, whereas the other was a public institution. Apart from this difference, they all shared similar characteristics. Most importantly, both schools selected were mixed gendered in order to have a fair representation of both genders.

#### **5.3.3.1 Profiles of schools selected for the study**

A brief profile of the institutions selected for the study is given below. This is to provide a context and a general idea about the type of schools they were and give a profile of students who participated in the study.

##### **a. Ideal College**

Ideal College started in 2002 as a remedial school for senior high school graduates. At the start of the school, they had 50 students and six teachers. It is a private educational institution registered under the Ghana Education Service (GES). The school now has about two thousand students spread across its twenty (20) campuses in Accra, Tema, Takoradi, Kumasi and Sunyani. The school presently maintains a remedial section and a senior high school located at Legon in Accra. It also runs pre-SHS, vacation classes, international programmes like SAT, TOEFL, IELTS, GRE, GMAT, IGCSE, university mature entrance exams, language proficiency and counselling services.

Standards in Ideal College are driven by their corporate philosophy that “every student has a seed of genius inherent in them which only requires a conducive environment and guidance to flourish”.

Aside the many awards Ideal College has received over the years, the school is also involved in corporate social responsibility (CSR) activities. It has, for the past three years, supported and sponsored the activities of SE EYE WOBA ANKA (SEWA) foundation, a non-governmental organisation which seeks to combat child labour and human trafficking in Ghana. Victims of these unfortunate circumstances are awarded a full scholarship for a three-year senior high school education in any of the campuses of the Ideal College across the nation. As well they carry the full cost of some victims below the SHS levels who are enrolled in other basic institutions.

The Legon Senior High School section, where this study was conducted, had, at the time of the study, a total of 857 students with 500 (58%) being females and the rest (42%) being males. There were twenty-five (25) permanent senior teaching staff and fifteen (15) teaching assistants (Idealcollegeghana 2016).

#### **b. West Africa Senior High School (WASHS)**

The school is a government-assisted, mixed day and non-denominational institution providing a three-year senior high school tuition in General Science, Agricultural Science, General Arts, Business, Visual Art and Social Science programmes leading to the award of the West African Senior Secondary School Certificate (WASSC). Starting in Tudu, a suburb of Accra, the capital of Ghana as the West Africa College of Commerce in 1946, the school was absorbed into the public system in 1954. The school was originally founded by Rev. J. C. Tettey, who later invited Mr. Emmanuel Addo, a close friend, to help him run the school. The school is currently situated in the La Nkwantang Madina Municipality after her exodus saw her at three different locations in Accra - first in Tudu, then in Accra New Town and finally the great exodus to its permanent abode, Adentan on October 5, 1987/88.

West Africa Senior High School (WASS) had a total student population of 2183 at the time of data collection. Out of the number, 957 (44%) were girls, whereas 1226 (56%) were boys. The school has a teaching staff of 98 and non-teaching staff of 10, who are dedicated and enthusiastic, and tirelessly help to lift the image of the school both within and outside the shores of Ghana. The school has a mission to raise the human resource level of education to provide the highest standards, and to provide infrastructural development for the benefit of staff and students.

Their mission statement is to provide quality, balanced and cost-effective education to meet manpower requirements for the benefit of humankind (West Africashs 2016).

Considering that boarding house residents are usually not allowed to use their personal new media gadgets in school and to maintain some level of uniformity between the samples selected from both schools (as West Africa Senior High School has exclusively non-resident students, whereas Ideal College has a mixture of both resident and non-resident students), only non-resident students in Ideal College were selected to take part in the study.

#### **5.3.4 Sampling technique**

Sampling refers to the technique that allows the reduction of the amount of data needed to be collected by considering only a representation from the subgroup rather than all possible elements (Wimmer & Dominick 2003). When a sample is carefully selected following valid statistical procedures, information can be projected confidently to the total population (Wimmer & Dominick 2003).

In this study, probability sampling methods were adopted to select the respondents. The first stage of the sampling was applying the simple random sampling method to select the two senior high schools in the Greater Accra region of Ghana - Ideal College and West Africa Secondary School- through the lottery method where the researcher randomly picked numbers that corresponded to the numbers on the list of schools acquired from the Accra Metropolitan Education Office. This was to ensure every school stood a fair chance of being selected. Afterwards, the stratified sampling method was used to obtain a representative sample of the target population.

Stratified random sampling is a technique which attempts to restrict the possible samples to those which are “less extreme” by ensuring that all parts of the population are represented in the sample in order to increase the efficiency and decrease the error in the estimation (Kumar 2013). The stratified sampling method partitions population into groups called strata. Sampling is afterwards performed separately within each stratum. In this instance, there are three main forms or levels in the senior high schools: forms one, two and three. The three forms in the schools were the strata. With the aid of the student register, equal or proportional representations across forms were

selected through the simple random sampling method (probability) to give a total of one hundred and fifty (150) for each school from the three forms.

Sampling without replacement method of simple random was applied. Based on the student register, numbers were folded and dropped into a bowl. The researcher randomly selected the determined sample based on calculations made and names corresponding to the numbers on the register was called out to take part in the study after which the paper was discarded. Where, the selected sample was not present another number was randomly selected for replacement. This method was advantageous since all members of the population stood a chance of being selected and also ensured that the same name/number was not selected twice. It, therefore, increased precision due to the fact that the method has the ability to divide the population into homogenous strata ensuring adequate representation size for each.

### **5.3.5 Sample size**

Sample size is described as the number of observations in a sample (Evans et al. 2000). Nardi (2003) concedes that a common worry among questionnaire, researchers is how large a sample should be in order to conduct a reasonably good survey. Whereas researchers such as Krejcie and Morgan (1970) are particular about sample size based on the total population of a study and have even developed a table for determining required sample size given a finite population based on the formula with 5% margin of error for categorical data and 3% margin of error for continuous data, Alreck and Settle (1995) are of a different opinion. They believe that sample size determination is not based on the size of the population. Their reason was based on an analogy they proffered, which was that suppose one was warming a bowl of soup and wished to know if it was hot enough to serve, one would probably taste a spoonful. A sample size of one spoonful. They indicated that suppose the population of soup is increased as in the event of the soup being meant for a large crowd. The supposed population of soup has increased, but one still only requires a sample size of one spoonful to determine whether the soup is hot enough to serve, assuming that the population is homogenous (Graaf 2007:58).

Comrey and Lee (1992) have also given a rough rating scale for adequate sample sizes in factor analysis: 100 = poor, 200 = fair, 300 = good, 500 = very good, and 1,000 or more = excellent. It is based on this rating that the sample size for this study was selected. In Ghana the senior high school

system is made up of three (3) levels - forms one, two and three. Each level comprises students majoring in courses in Visual Arts, Business, General Arts, Home Economics and Science. In each senior high school, 50 students from each of the 3 forms were drawn to partake in the study. This resulted in having one-fifty (150) students from each school. The total sample size for this study was, therefore, three-hundred (300) out of a total sample of three thousand and forty 3040 representing nearly 10% of the total population. The sample size was informed by the view of Comrey and Lee (2010) who noted that using a sample size of 300 is good for a research study.

More so, according to Niles (2006), for a 95% confidence level (that is, only a 5% chance of the sample results contradicting the true population average), a good estimate of the margin of error (or confidence interval) is given by the formula:  $1/\sqrt{N}$ . The “*N*” in the equation is the number of participants or sample size, whereas “*I*” is the sample size. Based on this formula, the calculation of margin of error for the sample selected resulted in 5.4% making the choice of sample representative enough of the overall population.

### **5.3.6 Data collection instrument**

The data collection instrument is the generic term that researchers use for a measurement device that helps in data gathering such as a questionnaire (Biddix 2009). In this study, the data collection instrument was a structured questionnaire. Bornman (2009:8) says a questionnaire is the survey researcher’s methodological instrument just as the scalpel is the instrument of the surgeon. A questionnaire is defined as a document containing the questions and other types of items designed to solicit information appropriate for the analysis (Babbie 1990:377). A questionnaire is used in survey research, experiments and other modes of observation (Acharya 2010). Principally, questionnaires are every so often used in quantitative studies since such studies allow the gathering of data that makes room for doing statistical data analysis. In this study, the questionnaire was constructed from scratch using simple language, avoiding difficult concepts and double negatives, which could be confusing to the survey respondents. The reason for developing questionnaire from scratch, even though Korb (2012) says adopting an instrument requires very little effort and collection of validity and reliability evidence not obligatory, was that most of the already-existing instrument the researcher came across were developed based on objectives, which are not directly related to this study.

Questions were made up of both open-ended questions (where no options or predefined categories were suggested and respondents were asked to supply their own answers without being constrained by a fixed set of possible responses) and closed-ended questions (where respondents' answers were limited to a fixed set of responses). Two levels of measurement were used - nominal and ordinal. For the ordinal, Likert-type scaling was employed to measure respondents' attitudes and opinions in their use of new media technologies.

Named after its inventor, Rensis Likert, Likert scales measure broader attitudes and values (Johns 2010). It comes in sets of statements that a respondent is asked to subjectively or objectively evaluate, typically based on the level of agreement or disagreement. Likert items are considered to easily lend themselves to the construction of multiple-item measures (Johns 2010). Acharya (2010) says Likert scaling is the arrangement of opinions from extremely negative to extremely positive. Johns (2010) says the most important decision in the construction of this scale of measurement is to make sure that the response options covered the negative-to-positive dimension but their precise wording could vary.

This is based on the argument that attitudes vary along a range of negatives to positives and so, for Likert, the key to successful attitude measurement is to provide the avenue for respondents to choose the response option that best reflects their position from that range and dimension (Johns 2010:2). Acharya (2010) says in scaling, quantitative values are ascribed to qualitative data, to allow for statistical analysis, such as calculating the mean figure for all the responses during data analysis. He suggests that scaling is the arrangement of possible opinions of respondents in a coherent order of behaviour or attitudes, in which a person could judge him/herself to fit into a certain standpoint. A look at Likert's original paper suggests that the number of response scales is not important but there should be a middle ground, which is usually assigned to the third item in the five-point scale (Likert 1932).

Guided by the Likert-type scale response anchors suggested by Vagias (2006), this study used a five-point Likert scale (response scale). The choice of the five-point scale was backed by data showing that Likert items become considerably less accurate when response scale is below five or is above seven (Johns 2010:6). The five-point becomes the standard.

The designed questionnaire was later transferred to the Google forms platform. Since the study was to acquire information on how e-teens use new media technologies, it was considered reasonable to use those same technologies and platforms for data collection. With the assistance of teachers from the two schools, the link to the forms was provided for the sampled respondents to fill out after a pre-test of the instrument to examine the validity of questions with regard to the research objectives. The researcher had to personally organise laptops, smartphones, tablet computers along with Internet modems and Internet data for both schools in order for the questionnaires to be accessed over the Internet and answered. This was as a result of one of the schools not having a computer lab and the other having inadequate infrastructure for smooth data collection. Data was collected over a four-week period. A handful of respondents also had to complete hardcopy questionnaires which were self-administered due to poor Internet connectivity on the last day of data collection. Responses provided on the hardcopy questionnaire were later coded into the SPSS data analysis software. The questionnaire was made up of 10 sections. The design of the questionnaire is summarised in the table that follows:

**Table 5. 1: Design of the questionnaire**

<b>SECTION</b>	<b>ITEM</b>	<b>NUMBER OF QUESTIONS</b>
1	Biographic data	04
2	New media technologies respondents are exposed to	07
3	Uses e-teens put new media technologies to	06
4	Gratifications sought from new media technologies	02
5	Gratifications obtained from new media technologies	03
6	Participation, ease-of-use versus Appropriation	07
7	Major attractors to new media technologies	03

8	Attitude towards new media use	05
9	Key features of new media appropriation and experience among e-teens	01
10	Motivation for social media use	05
<b>Total</b>		<b>43</b>

**5.4 PILOT STUDY**

A pilot study is a small-scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and effect size (statistical variability) in an attempt to predict an appropriate sample size and improve upon the study design prior to the performance of a full-scale research project (Hulley 2007). In this study, the researcher piloted the instrument about two months prior to the study itself on nineteen (19) learners who fell in the same age range as the targeted sample (that is, from thirteen (13) to nineteen (19) years in a senior high school) and were not part of the accessible population. The results of the pilot study were that the questionnaire was generally comprehensive. However, there were a few modifications to it. The researcher had to replace the word “enthusiastic” used in the sentence: “I am enthusiastic about new media technologies” with “excited” as some of them did not know the meaning of “enthusiastic”. The researcher had to also put “obvious” and “hidden” in parenthesis as a way of explaining the words “explicit” and “implicit”, respectively, for respondents’ easy comprehension. This is because, although respondents understood them, they felt it may pose a problem during the conduct of the actual survey. An additional question that the respondents thought as being equally relevant and important – “which social media platform have you signed up to?” (With the option to tick as many as applicable) – was also added to the set of questions.

**5.5 DATA ANALYSIS**

Data analysis can be defined as the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data (Jandagh & Matin 2011). For this study, data was analysed using the Statistical Package for Social Sciences (SPSS). Data gathered through Google form responses were downloaded in Excel and were then imported into SPSS and analysed. Frequency tables, charts and percentages were incorporated in presenting

the results. The presentation of results was mainly descriptive, providing simple summaries about the sample and data obtained, and making predictions about the population based on observations and analysis of data. There were tests for relationships of certain key variables as well as hypotheses through the Mann-Whitney U test, correlational analysis, mean statistics, Chi-Square test of association and Chi-square goodness of fit test. Davis (2013:19) says, although parametric tests are recommended due, to the fact that they are sensitive enough to detect significant results which may otherwise be missed in non-parametric tests, non-parametric tests yield similar results. In the tests for relationships both parametric and non-parametric tests were used, even though parametric tests dominate in this study.

During the analysis phase of the research, some of the variables in the questionnaire were grouped or recoded under certain themes for easy analysis. This is because the questionnaire had to be made simple and clear for respondents to understand and using technical words would not have been ideal. For instance, gratifications sought and obtained as presented in the questionnaire had to be grouped under three broad themes- social inclusion, sociability and educational as indicated below:

**Table 5. 2: Gratifications Sought**

<b>Educational gratification</b>	<b>Sociability gratification</b>	<b>Social Inclusion gratification</b>
Academic	Entertainment and leisure	Socialization/ connectivity
Informative needs	Combat boredom	Building relationships
	Create and share content	Social status
	Vent negative feelings	

The options for the question that sought to find out whether the social influence was a factor in social media use were also grouped under social and non-social influence for easy analysis as detailed below:

**Table 5. 3: Categories of Influence**

<b>Social influence</b>	<b>Non-social influence</b>
Friend/family	Curiosity
	Content on social media
	For fun
	Self
	Research

## **5.6 VALIDITY, RELIABILITY AND ERRORS OF THE STUDY**

### **5.6.1 Validity**

According to Struwig and Stead (2001:137), validity is the degree to which the study can rely on the concepts, methods, and inferences. Welman and Kruger (2001:168) argue that validity can be judged through credibility, transferability, dependability and confirmability. Reliability refers to the condition in which the same results will be achieved whenever the same technique is repeated in the same study. Bryman (2012) concedes that validity is the most important criterion of research. Cohen et al. (2012) proffer that quantitative data validity can likely be improved through carefully selecting the sample, using appropriate data collection instruments and employing appropriate statistical tests. In this study face and content validity tests were employed. Radhakrishna (2007) says validity is established using a panel of experts and a field test, and while at that questions relating to whether the questionnaire measures what it intended to measure; represents the content; are appropriate for the sample/population; is comprehensive enough to collect all the information needed to address the purpose and goals of the study and even whether the instrument looks like a questionnaire are addressed. This is what guided the researcher in the test for validity of the data collection instrument. A peer review assessment was also made to ensure the questionnaire passed the face and content validity test.

Besides, a pilot study (field test) was conducted on nineteen (19) respondents prior to the collection of actual primary data. This was done in order to confirm and ensure there was no ambiguity in the questionnaire. Bell (2006) stated that the purpose of a pilot study is to get the ‘bugs’ out of the instrument so that respondents in the main study will experience no difficulties in completing it. In ensuring the validity of the questionnaire, respondents were also asked to provide feedback about any difficulties they experienced in filling the questionnaire. Such feedback was

incorporated into a revised questionnaire which was transferred to Google form for the larger group of respondents to fill.

### **5.6.2 Reliability**

Reliability refers to the consistency of a measure of a concept (Bryman 2016:157). Other scholars have discussed reliability in terms of selecting an accurate representative sample and the degree to which the instrument consistently measures that which it is supposed to measure (Cohen et. al. 2003; Gray 2013; Bryman 2012). In view of these, the researcher in this study made certain that the instrument used for data collection passed the test for validity. It was ensured that a questionnaire was the right instrument to be used in collecting primary data, by critically considering and conferring with the supervisor of the work and the departmental ethical clearance committee as to whether questionnaire adequately would aid in meeting the objectives of the study and whether the instrument measures that which it seeks to measure. Care was also taken to ensure that the sample size was representative of the population so that the margin of error would be minimal. Upon calculation, the margin of error was 5.4.

## **5.7 ETHICAL CONSIDERATIONS**

Various ethical principles were employed in the study to ensure that the respondents were not physically, psychologically and emotionally harmed. In ensuring that the study was ethically sound, it was ensured that, before the study was conducted, an ethical clearance was requested and obtained from the University of South Africa (UNISA) - see attached Appendix A. This study was conducted in two senior high schools in the Greater Accra region of Ghana. Permission was, therefore, required from the education offices of the two metropolitan assemblies where both schools were located - La Nkwantanang Education Directorate (Appendix B) and Accra Metropolitan Education Office (Appendix C) who granted permission to conduct the study and requested the two institutions to grant the researcher access to carry out the study. The targeted sample consisted of students from the ages of thirteen (13) and nineteen (19) years. The researcher also sent out letters explaining why the study was being conducted to the heads of the schools (Appendices D and E).

The heads were requested to draft a letter stating that they had granted their students permission to participate in the study (see attached Appendices F and G). Neuman (1997:454) cautions that

gatekeepers may refuse access unless they receive information on the subject. So, the letter granting permission was shown to the various teachers who were present at the time of data collection to avoid any misunderstanding as well as to seek their consent.

Prior to the survey administration, respondents were fully briefed on the purpose of the study and guaranteed anonymity and confidentiality of the information they provided. No respondent was coerced into participating in the study. They were also briefed that they could withdraw from the study at any time with no repercussions. Heads of the schools and respondents were presented with the ethical clearance certificate from the University of South Africa, the introductory letter from UNISA/supervisor (see Appendix H) and the student identification card from the University of South Africa to confirm the researcher's status at the University of South Africa.

A day before the survey administration, respondents who had been randomly selected and those who were under the age of eighteen (18) were handed parental/guardian consent forms (Appendix I) to get the approval of their parents or guardians. Forms were handed in at the time of the survey administration. It must be noted that only respondents who concurred to take part in the study were surveyed. More so, respondents were made to understand that the results of the study would be shared with them if they wanted to. Respondents were also asked to give verbal consent to participate in the study, which was recorded and saved before going ahead to fill the questionnaire through the link (<https://goo.gl/forms/2zAglBj3unJIfHbt1>) provided to Google forms where a questionnaire was transferred. Additionally, there was also a section on the questionnaire requiring respondents to indicate their willingness to take part in the study, which was to be checked before proceeding to the main set of questions. This was made a required question on the Google form. As a result, if respondents did not tick they could not submit the questions.

Neuman (1997:453) asserts that it is important to protect the identity of the respondents. All returned data was kept in a safe place only accessible to the researcher. Any personal information collected during the study was kept confidential from the general public. All questionnaires remained anonymous. No identifying information was present in the questionnaires. Information individual respondents provided was not disclosed to their teachers or school authorities. Mbatha (2015) says respondents must be granted anonymity when using a questionnaire as a data

collection instrument as it allows them to provide the answers without restriction, intimidation and influence on the answers.

## **5.8 SUMMARY**

This chapter discussed the quantitative research approach and methodology of this study. The study was described as descriptive since it reports results as obtained from respondents on their use of new media technologies. Chapter six, which follows, presents the results derived from primary data gathered.

## **CHAPTER SIX**

### **DATA ANALYSIS**

#### **6.1 INTRODUCTION**

The aim of this study was to design a conceptual model for the use and appropriation of new media technologies among e-teens. The researcher also collected primary data on how e-teens use and appropriate new media technologies which was used to authenticate the model. To arrive at the overall aim of the study regarding e-teens' new media use and appropriation, the following research questions guided the study:

- What types of new media technologies do e-teens have access to?
- What types of new media technologies are used by e-teens in their scheme of things?
- For what purposes do e-teens use new media technologies?
- What are the gratifications sought and obtained from the use of new media technologies?
- What are the key features of new media appropriation and experience among e-teens?
- What features of new media technologies are most appealing to e-teens?
- What conceptual model explains how e-teens appropriate new media technology?

This chapter presents, interprets and analyses the results from the quantitative study conducted (survey). Results are presented in the form of frequency tables, histograms and pie charts, accompanied by interpretations. Results are discussed under headings couched mainly from research questions for the study and are divided into two (2) broad sections and seventeen (17) sub-sections as indicated below:

Section 6.2: Response rate

Section 6.3: Demographic profile of respondents

Section 6.4: Extent of exposure to new media technologies

Section 6.5: Frequency of use of new media technologies

Section 6.6: E-teens and new media use restrictions

Section 6.7: Extent of use of new media technologies

Section 6.8: New media technologies for accessing information from the Internet

Section 6.9: Uses of new media technologies

Section 6.10: Top apps used by e-teens

Section 6.11: Gratifications e-teens seek from new media technologies

Section 6.12: Gratifications sought verses gratifications obtained

Section 6.13: Respondents' participation with new media content

Section 6.14: New media usage abilities (level of appropriation)

Section 6.15: Key features of new media appropriation and experience among e-teens

Section 6.16: E-teens' perception, behavioural intentions and attitude towards new media technologies

Section 6.17: Social media applications prominently and frequently used by e-teens.

## **SECTION A:**

### **6.2 RESPONSE RATE**

Respondents who took part in the study represented two schools in the Greater Accra region of Ghana. Table 6.1 provides further details.

**Table 6. 1: School and form of respondents**

<b>School</b>	<b>Frequency</b>	<b>Percent</b>
IDEAL COLLEGE	150	50.0
WASHS	150	50.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Form</b>		
<b>Form</b>	<b>Frequency</b>	<b>Percent</b>
SHS1	100	33.3
SHS2	100	33.3
SHS3	100	33.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

There were an equal number of respondents from both schools. For each form, fifty (50) respondents were selected from each school, bringing the total number of respondents for each form in both schools to a hundred (100). Overall, three-hundred (300) respondents were used which represents all three forms for both schools.

## SECTION B:

### 6.3 DEMOGRAPHIC PROFILE OF RESPONDENTS

**Table 6. 2: Background of respondents by gender (N=300)**

<b>GENDER (TOTAL SAMPLE)</b>			
	<b>Frequency</b>	<b>Percent</b>	
<b>Female</b>	139	46.3	
<b>Male</b>	161	53.7	
<b>Total</b>	300	100	
<b>GENDER BY SCHOOL</b>			
	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Ideal College</b>	76 (50.7%)	74 (49.3%)	150 (100.0%)
<b>WASHS</b>	85 (56.7%)	65 (43.3%)	150 (100.0%)
<b>Total</b>	161 (53.7%)	139 (46.3%)	300 (100.0%)
<b>GENDER BY FORM (TOTAL SAMPLE)</b>			
	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>SHS 1</b>	69 (69.0%)	31 (31.0%)	100 (100.0%)
<b>SHS2</b>	58 (58.0%)	42 (42.0%)	100 (100.0%)
<b>SHS3</b>	34 (34.0%)	66 (66.0%)	100 (100.0%)
<b>TOTAL</b>	161 (53.7%)	139 (46.3%)	300 (100.0%)

Out of the total number of respondents, males were in the majority accounting for slightly more than half of the total number of respondents (53.7%). This was the case for individual schools who both had more than 50% of males making up the sample, although not in equal proportions for both schools. While Ideal College had 50.7%, WASHS had 56.7% of males making up the sample. So, there was a gender difference of 6% in favour of the males between the two schools. This obviously led to Ideal College having more female respondents taking part in the study. The difference between female Ideal College and WASHS respondents was 6%.

Across forms, the gender spread showed up as very interesting with males dominating significantly in form one (1) and form two (2) - 67% and 58% respectively. The story was rather significantly

different in form three (3). Of the number of respondents in form 3 representing both schools, about one (1) out of six (6) [66%] were females, whereas about one (1) out of three (3) [34%] were males. The discrepancies in gender representations came about as a result of the researcher randomly selecting respondents without paying strict attention to gender representations. It must be noted that some potential respondents declined to take part in study compelling the researcher to re-select other respondents in a random manner in order to get the sample size settled for the study. However, this is not considered a weakness since a look at the population of the two schools together shows there were more males than females with males making up 52% and females making up 48% of the total population of 3040.

**Table 6. 3: Age of respondents**

Age	Frequency	Percent			
13	23	7.7			
14	53	17.7			
15	21	7.0			
16	40	13.3			
17	48	16.0			
18	58	19.3			
19	57	19.0			
Total	300	100.0			
<b>Age Statistics</b>					
N	Min. Age	Max. Age	Median	Std. Deviation	Std. Error
300	13	19	17.00	1.977	.114

The majority of respondents were eighteen (18), followed by those who were nineteen (19) years, whereas the least represented respondents, in terms of age, were fifteen (15) years. The youngest respondent was thirteen (13) years while the oldest respondent was nineteen (19) years. A statistical test showed that the median age of respondents was 17.

#### **6.4 EXTENT OF EXPOSURE TO NEW MEDIA TECHNOLOGIES**

The researcher sought to find out the extent of exposure e-teens had to new media devices. The questions were, firstly, directed at new media devices, respondents had access to, who owns what they had access to and which ones they personally owned. This is because access may not necessarily mean ownership. These questions were also to serve as foregrounding to succeeding questions which meant to get understanding of the patterns of usage and appropriation of new

media technologies by e-teens. The respondents were therefore provided with a list of new media devices to choose from. They could select as many as applicable and for that reason responses exceeded the total number of respondents, accounting for the discrepancies in the total sections of the table to be discussed. In addition, respondents were allowed to state any additional new media device that was not listed as long as it was applicable to their situations. The results are discussed below:

**Table 6. 4: Access to new media devices (n=300)**

Which new media device(s) do you have access to? (tick as many as applicable)	Responses			Percent of Cases
	N		Percent	
Personal Computer (PC)	77		14.0%	25.7%
Laptop	120		21.8%	40.0%
Tablet Computer	46		8.4%	15.3%
Mobile Phone (Not Smart)	63		11.5%	21.0%
Smartphone	213		38.7%	71.0%
Gaming Console (e.g. Play Station, Xbox, Nintendo)	30		5.5%	10.0%
Other	1		0.2%	0.3%
<b>Total</b>	<b>550</b>		<b>100.0%</b>	<b>183.3%</b>
<b>Who owns the new media device(s) you have access to (the one you don't own)?</b>				
	Frequency		Percent	
Aunt	10			3.3
Friend	20			6.7
Me	25			8.3
Parent	152			50.7
School	24			8.0
Sibling	59			19.3
Uncle	10			3.6
<b>Total</b>	<b>300</b>			<b>100.0</b>
<b>Which new media device(s) do you personally own? (tick as many as applicable)</b>				
	N	Percent	Percent of cases	
Personal Computer (PC)	33	7.3%	11.0%	
Laptop	84	18.6%	28.0%	
Tablet Computer	31	6.9%	10.3%	
Mobile phone (not smart)	61	13.5%	20.3%	

Smartphone	213	47.1%	71.0%
Gaming Console (e.g. Play Station, Xbox, Nintendo)	25	5.5%	8.3%
Other	5	1.1%	1.7%
<b>Total</b>	<b>452</b>	<b>100.0%</b>	<b>150.7%</b>

The table above shows which new media devices respondents had access to. Having access to a new media device in this context generally means that one could lay hands on the new media device, be it personally-owned or owned by someone else, and use without restriction. It must be noted that respondents had the choice of selecting more than one item from the list of options. They were also given the chance to state other devices they had access to that were not included in the options. The smartphone was very popular among respondents as the new media device they had access to (38.7%). This was followed by a personal computer (PC) [14%]. The device that got the least selection was a gaming console (5.5%).

Aside from personal ownership, which was among the least selected items (8.3%), the majority of respondents had access to new media devices that their parents owned. Slightly more than five out of ten respondents (50.7%) representing more than half of the total population admitted having access to new media technologies that their parents owned. This was followed by new media technologies of siblings. Nearly two out of ten respondents (19.3%) said they had access to new media technologies or devices of their siblings. The smartphone emerged as one new media technology, which respondents personally owned. More than seven (7) out of ten (10) respondents (71.0) said they owned smartphones. A laptop was the second most popular new media technology respondents personally owned (28%). The third most popular new media technology was an analog mobile phone (20.3%). With the most popular new media technology among in e-teens being smartphones (in terms of both access and ownership), it can easily be projected that e-teens have access to unlimited content over the Internet, considering the personal nature of this technology. Smartphones also allow for constant communication and participation with content which likely leads to high level appropriation. This is because users can easily learn more about the technologies through the interactions that transpire through the utility of the technologies.

## 6.5 FREQUENCY OF USE OF NEW MEDIA TECHNOLOGIES

It was important to establish the frequency of the use of the new media technologies by respondents because frequency of use in a way speaks to level of appropriation. This was established by asking two main questions: Which of the new media device(s) do you use on a regular basis? (tick as many as applicable) and of what you have selected, which one do you use most regularly? (tick one). These questions were meant to elicit information on the exact frequency of the use of particular new media technologies and to compare with new media technologies respondents had access to and owned. For the former question, respondents could select more than one and so responses exceeded the actual number of respondents which was three hundred (300) as seen in table 6.5 below:

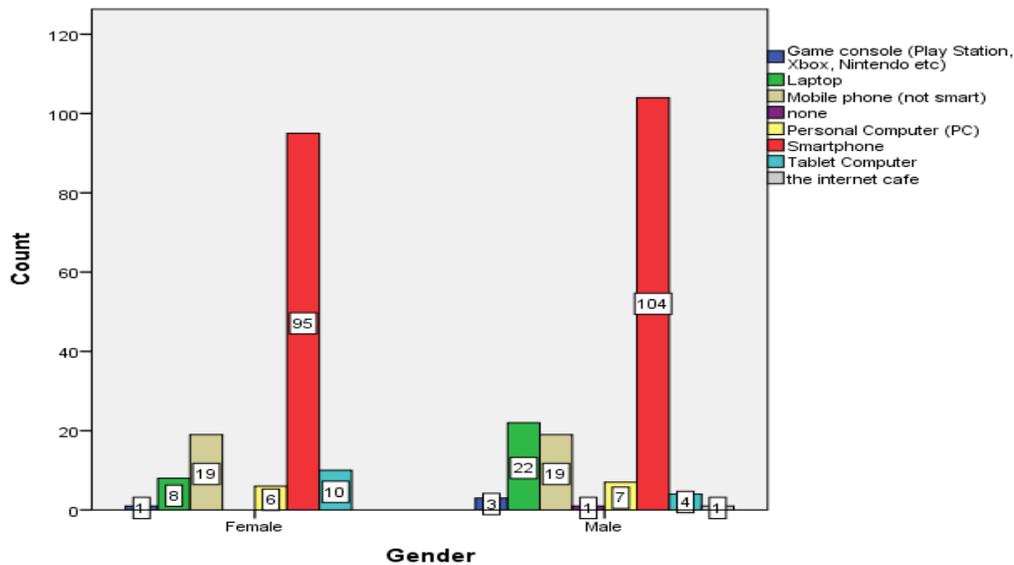
**Table 6. 5: Frequency of the use of new media technologies/devices (n=300)**

	<b>RESPONSES</b>		
<b>New media device(s) used on regular basis</b>	<b>N</b>	<b>Percent</b>	<b>Percent of Cases</b>
Personal Computer (PC)	25	6.0%	8.4%
Laptop	73	17.5%	24.4%
Tablet Computer	32	7.7%	10.7%
Mobile Phone (Not Smart)	47	11.3%	15.7%
Smartphone	223	53.6%	74.6%
Gaming console (Play Station, Xbox, Nintendo, etc.)	14	3.4%	4.7%
Total	416	100.0	139.1%
<b>The most regularly used new media device</b>	<b>Frequency</b>		<b>Percent</b>
Gaming console (Play Station, Xbox, Nintendo, etc.)	4		1.3
Laptop	30		10.0
Mobile phone (not smart)	38		12.7
None	1		.3
Personal Computer (PC)	13		4.3
Smartphone	199		66.3
Tablet computer	14		4.7
Other (the Internet café)	1		.3
Total	300		100.0

When given the option to choose more than one, participants chose the smartphone as the device that was most frequently used. Close to three-quarters of the sample (74.6%) said they used smartphones on a regular basis, followed by laptops (24.4%) and analog mobile phones (15.7). It can be noticed that the trend is similar to new media devices respondents personally owned. It is, therefore, suffice to say that respondents used new media they personally owned on a regular basis. When respondents were also asked to select one new media technology they frequently used, the answers, once again, pointed to smartphones as the number one new media device/technology respondents used on a regular basis. However, in this instance, the laptop and analog mobile phone switched places - analog mobile phones took the second position (12.7%), whereas laptops followed (10.0%). All the same, data confirmed the smartphone as the number one new media technology e-teens had access to, personally owned, and used on a regular basis. The different questions asked with different intentions yielded responses which brought some level of consistency and affirms the exact accessibility and frequency of the use of new media technologies among the e-teens studied.

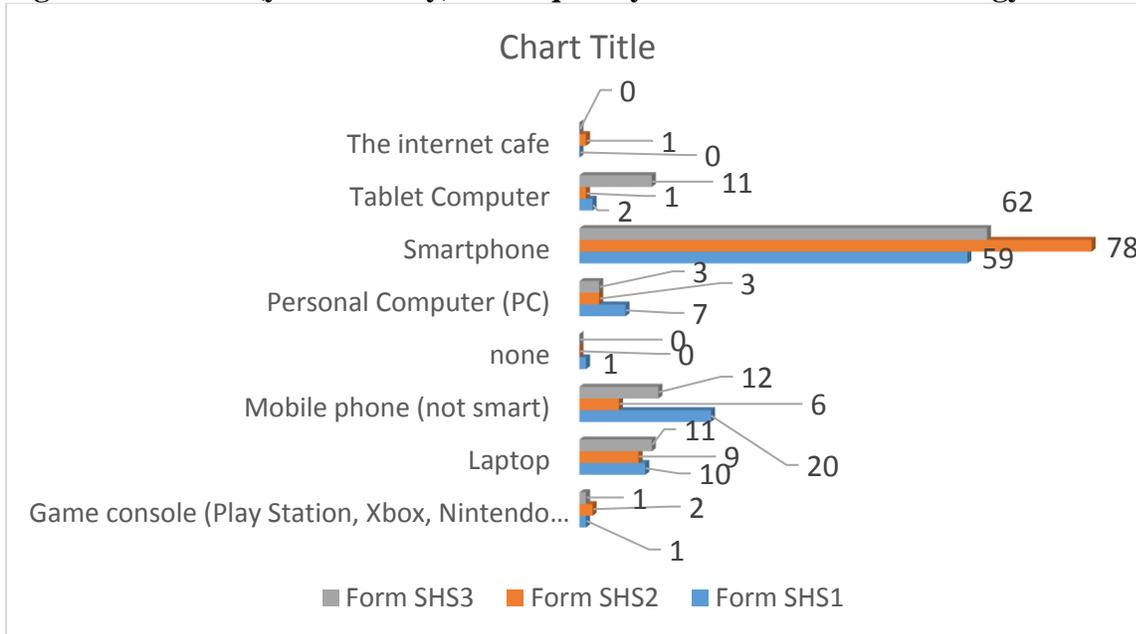
A look at device usage patterns based on gender showed some similarities and minor differences in certain areas in this present study.

**Figure 6. 1: Gender vs. frequently used new media technologies**



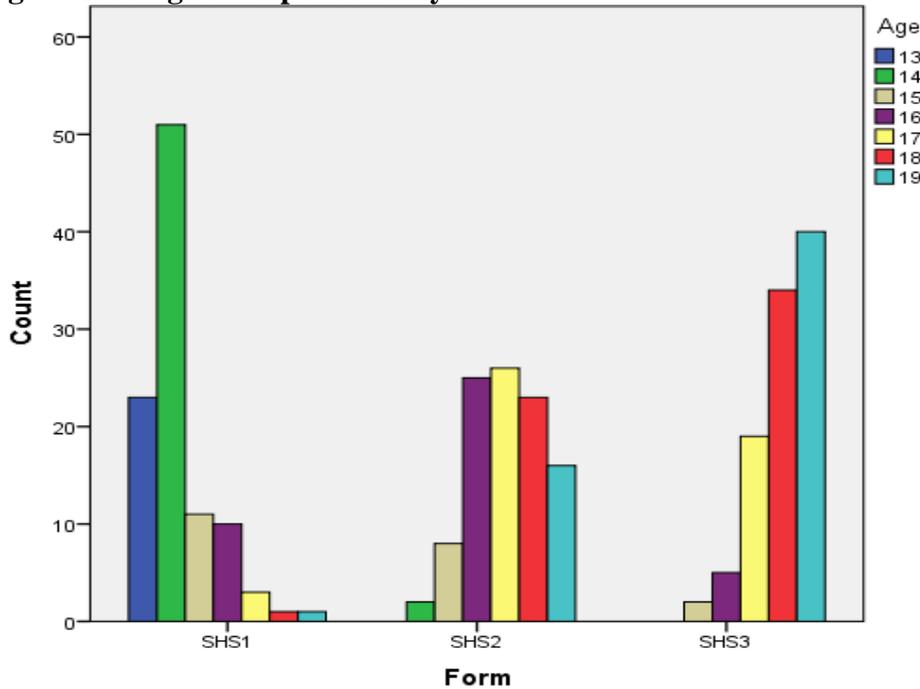
New media technologies selected by respondents as the ones they frequently used cut across gender yet with slight variations relating to the number of respondents going for those options. Analog phone use by both genders was in equal proportion, while PC use saw a difference of one in favour of the male gender. The smartphone, which happens to be the most frequently used new media technology among e-teens, had more males using it and so was the laptop.

**Figure 6. 2: Form (year of study) vs. frequently used new media technology**



Among smartphone users studied, those in the second year (form two) used the device most frequently, followed by third year students. When it came to analog mobile phones, more first year students used them frequently, followed by third year students. For laptops, more third year students used them more frequently with first year students following marginally. It can be settled that among e-teens studied, of the number of smartphone users, second year students use that technology most frequently and first year students dominated the number of analog mobile phone users, while of all laptop users studied, final year students (form three) were in the majority. A careful study of age against gender shows those in form two and form three are older than those in form one as the figure below illustrates:

**Figure 6. 3: Age of respondents by form**



If respondents in forms two and three dominate in smartphone use, it consequently means older teens in this study use smartphones more.

### 6.6 E-TEENS AND NEW MEDIA USE RESTRICTIONS

Popular new media technologies used among the sample studied can be regarded as personal devices (smartphones, laptops and analog mobile phones) as compared to a device like a PC which can have communal usage. This means e-teens could, at any point in time, use these personal devices, most likely, under circumstances where they are not allowed as is the case of one of the schools selected for the study (see Figure 1.1). Stemming from this, there was an interest to determine if there were restrictions on the use of these gadgets by e-teens studied and the source of those restrictions. The results gathered can be seen in Table 6.6 below:

**Table 6. 6: Restriction on new media usage (n=300)**

RESTRICTION IN NEW MEDIA USE	FREQUENCY	PERCENT
Extremely	15	5.0
Very	19	6.3
Slightly	109	36.3

Somewhat	31	10.3
Not at all	126	42.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>SOURCE OF RESTRICTION</b>	<b>FREQUENCY</b>	<b>PERCENT</b>
Church/Mosque	10	3.3
Digital divide	3	1.0
Home	106	35.3
Lack of computer skills	6	2.0
Lack of Internet access	32	10.7
Not restricted	35	11.7
Personal	2	.7
School	106	35.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

Quite a number of respondents (4 out of 10) which represents 42% said they were not restricted at all in their new media use, whereas about three (3) out of ten (10) [36.3%] and one (1) in ten (10) suggested they were slightly and somewhat restricted respectively. These options selected show that although there were some forms of restrictions, to a large extent they were, relatively, lenient or lax. In terms of actual restrictions, only a handful (5% and 6.3%) admitted being extremely and very restricted respectively. Therefore, comparatively, it could be settled that even where there are any restrictions on new media technology use, they are not enforced to the letter. But one should not also lose sight of the fact that nearly half of the sample (42%) acknowledged that they did not experience any restrictions on their new media use.

Where respondents admitted restriction, it was gathered that restriction came from the school and home. The restriction from these two institutions carried equal weight, as it were, as they each scored 35.3%. There were minimal restrictions from religious entities (churches and mosques). Noteworthy is that some respondents (although a rather marginal number [.7%]) admitted personally restraining themselves from using new media devices.

## **6.7 EXTENT OF THE USE OF NEW MEDIA TECHNOLOGIES**

As a way to confirm the new media device (s) regularly used and also to establish the extent of usage, which would serve as the basis of asking what exactly respondents did with those new

media technologies, Likert-type questions were asked to ascertain the frequency of the use of the various new media devices respondents were exposed to. The table below has all the details:

**Table 6. 7: Most popular new media devices among e-teens and frequency of use**

<b>Smartphone</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	49	16.3
Always	145	48.3
Almost never	12	4.0
Never	32	10.7
Sometimes	62	20.7
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Analog mobile phone</b>		
	<b>Frequency</b>	<b>Percent</b>
Almost always	31	10.3
Always	63	21.0
Almost never	32	10.7
Never	80	26.7
Sometimes	94	31.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Console games</b>		
	<b>Frequency</b>	<b>Percent</b>
Almost always	38	12.7
Always	43	14.3
Almost never	19	6.3
Never	58	19.3
Sometimes	142	47.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Laptop</b>		
	<b>Frequency</b>	<b>Percent</b>
Almost always	19	6.3
Always	33	11.0
Almost never	27	9.0
Never	118	39.3
Sometimes	103	34.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Tablet Computer</b>		
	<b>Frequency</b>	<b>Percent</b>
Almost always	17	5.7
Always	28	9.3
Almost never	31	10.3
Never	119	39.7
Sometimes	105	35.0
<b>Total</b>	<b>300</b>	<b>100.0</b>

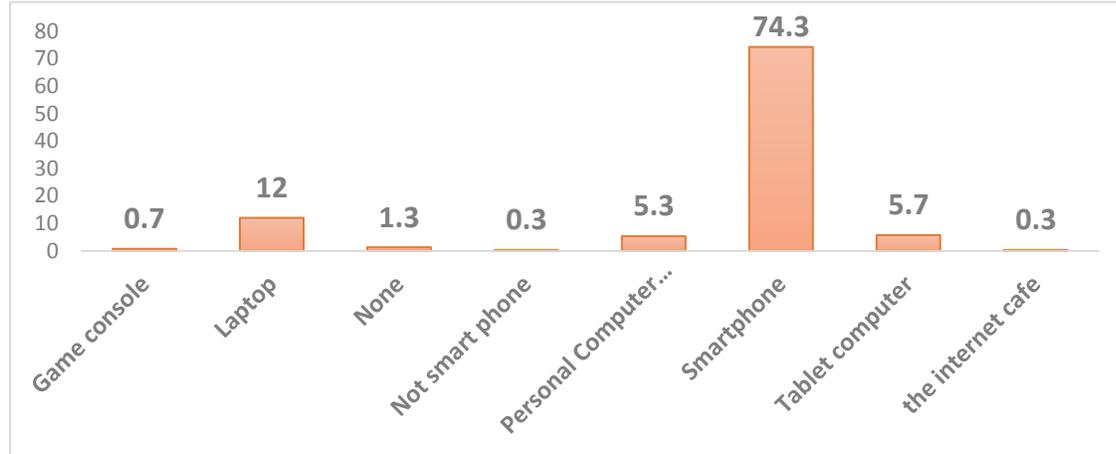
<b>Personal Computer</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	22	7.3
Always	16	5.3
Almost never	21	7.0
Never	84	28.0
Sometimes	157	52.3
Total	300	100.0

The table above confirms the smartphone as the most frequently used new media device. The various variables measuring different degrees of usage (Sometimes, almost always and always) show that smartphone use takes the lead (85.3%). However, in this instance, gaming console was second (74%), followed by personal computers (64.9%). This is considered quite a fair reflection of usage patterns among respondents as the Likert-type question provided respondents with the opportunity to express the degree to which they used new media devices. Therefore, discrepancies in results as compared to that which are found in Table 6.5 are not unexpected. Also, bearing in mind respondents from one of the two schools had access to school computers (PCs) during ICT class hours, it is not surprising PC comes strong as the third most frequently used new media device. Nonetheless, smartphone leading, sends a strong signal that its use is predominantly popular among respondents.

## **6.8 NEW MEDIA TECHNOLOGIES FOR ACCESSING INFORMATION FROM THE INTERNET**

Since a lot of studies have confirmed that among the gratifications sought by e-teens is the quest for information and information can be obtained from the Internet, the researcher settled on establishing which devices e-teens used in accessing information from the Internet. The intent was to find out if there is a relationship between accessing information from the Internet and frequently used new media technology.

**Figure 6. 4: New media technologies frequently used to access information from the Internet**



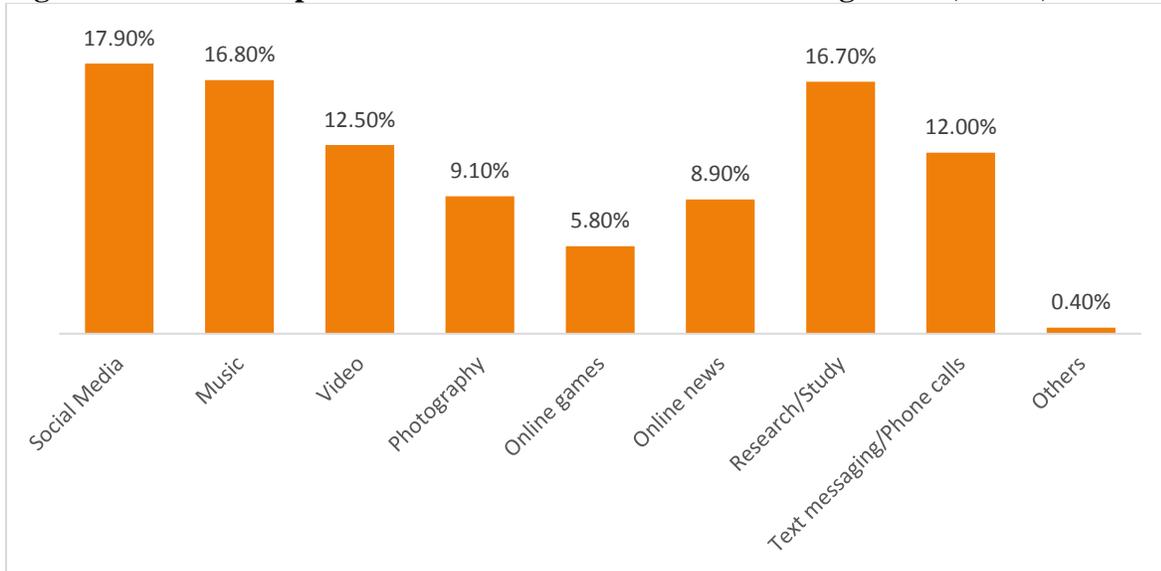
Once again, smartphones emerged as the number one medium used to access information from the Internet among e-teens studied. This makes an emphatic statement about the predominant use of smartphones among e-teens. It also means e-teens studied often went online with smartphones rather than any other new media technology. A little more than seven (7) out of ten (10) respondents (74.3%), which forms the greater number, went online with smartphones. As could be predicted, a very minimal number [about 1 quarter of one percent] (0.3%), claimed they accessed information on the Internet with analog phones. Since Internet content is commonly accessed with smartphones because they are specially made for such purposes, it falls in line that respondents would predominantly access the Internet with smartphones which also happen to be their most frequently used new media technology.

The laptop came second, but with a rather low percentage (12%). All other technologies (PC, tablet computers, analog mobile phones and gaming consoles) got very marginal percentages. Another observation was that Internet cafés were provided as one of the ways through which respondents accessed information from the Internet. This was as a result of the respondents being provided an option of indicating any other media that were not in the list of items provided. So, by indicating Internet cafés, respondents were referring to the fact that they used the services of Internet cafes to access information on the Internet. In that case, they likely used PCs or laptops as these are the typical devices cafes in Ghana provide for use by clients.

## 6.9 USES OF NEW MEDIA TECHNOLOGIES

Having established that the most popular or frequently used new media technology among e-teens is smartphone, it can be assumed that e-teens' exact uses of new media technologies will reflect the unique functions of smartphones. The next figure (figure 6.5) shows for what respondents indicated as using their new media technologies.

**Figure 6. 5: What respondents used their new media technologies for (n=300)**



Social media made its way to the top of the list with 17.9%, closely followed by music (16.8%). The use of new media technologies for learning took the third place (16.7%). From all indications, new media use for academic purposes, although significantly noticeable, did not top the agenda for new media technology use. In fact, the difference between new media for music and academic purposes was just 1%. Social media is, however, big in the scheme of the use of new media technologies among e-teens. The top-three uses e-teen new media users put the technologies to (social media, music and research/study) echoes why they used smartphones the most. This is because social media, music and research/study can easily be carried out over smartphones.

Equally important to bring into the spotlight is that respondents who selected the “other” option were few, but provided valuable information on what e-teens did with new media technologies apart from the ones listed on the questionnaire. Such respondents stated online shopping, finding

directions (GPS) and designing as the things they used new media technologies for. This is valuable data on e-teens' new media usage patterns.

### 6.10 TOP APPS USED BY E-TEENS

The researcher sought to find out the apps that were used frequently by e-teens with Likert-scale options, expressing various levels of frequency of the use of various apps. Upon analysis, the ones that came out strong as frequently used are discussed below (Table 6.8):

**Table 6. 8: New media apps and frequency of use (n=300)**

<b>Music</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	50	16.7
Almost never	10	3.3
Always	126	42.0
Never	24	8.0
Sometimes	90	30.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Facebook</b>		
	<b>Frequency</b>	<b>Percent</b>
Almost always	47	15.7
Almost never	8	2.7
Always	120	40.0
Never	27	9.0
Sometimes	98	32.7
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Video</b>		
	<b>Frequency</b>	<b>Percent</b>
Almost always	50	16.7
Almost never	10	3.3
Always	126	42.0
Never	24	8.0
Sometimes	90	30.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>WhatsApp</b>		
	<b>Frequency</b>	<b>Percent</b>
Almost always	35	11.7
Almost never	9	3.0
Always	137	45.7
Never	44	14.7
Sometimes	75	25.0
<b>Total</b>	<b>300</b>	<b>100.0</b>

<b>Dictionary</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	58	19.3
Almost never	14	4.7
Always	86	28.7
Never	43	14.3
Sometimes	99	33.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Bible/Quran</b>		
<b>Bible/Quran</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	53	17.7
Almost never	10	3.3
Always	105	35.0
Never	48	16.0
Sometimes	84	28.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Games</b>		
<b>Games</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	52	17.3
Almost never	15	5.0
Always	68	22.7
Never	44	14.7
Sometimes	121	40.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Google+</b>		
<b>Google+</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	57	19.0
Almost never	10	3.3
Always	84	28.0
Never	60	20.0
Sometimes	89	29.7
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Photography</b>		
<b>Photography</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	44	14.7
Almost never	19	6.3
Always	78	26.0
Never	67	22.3
Sometimes	92	30.7
<b>Total</b>	<b>300</b>	<b>100.0</b>

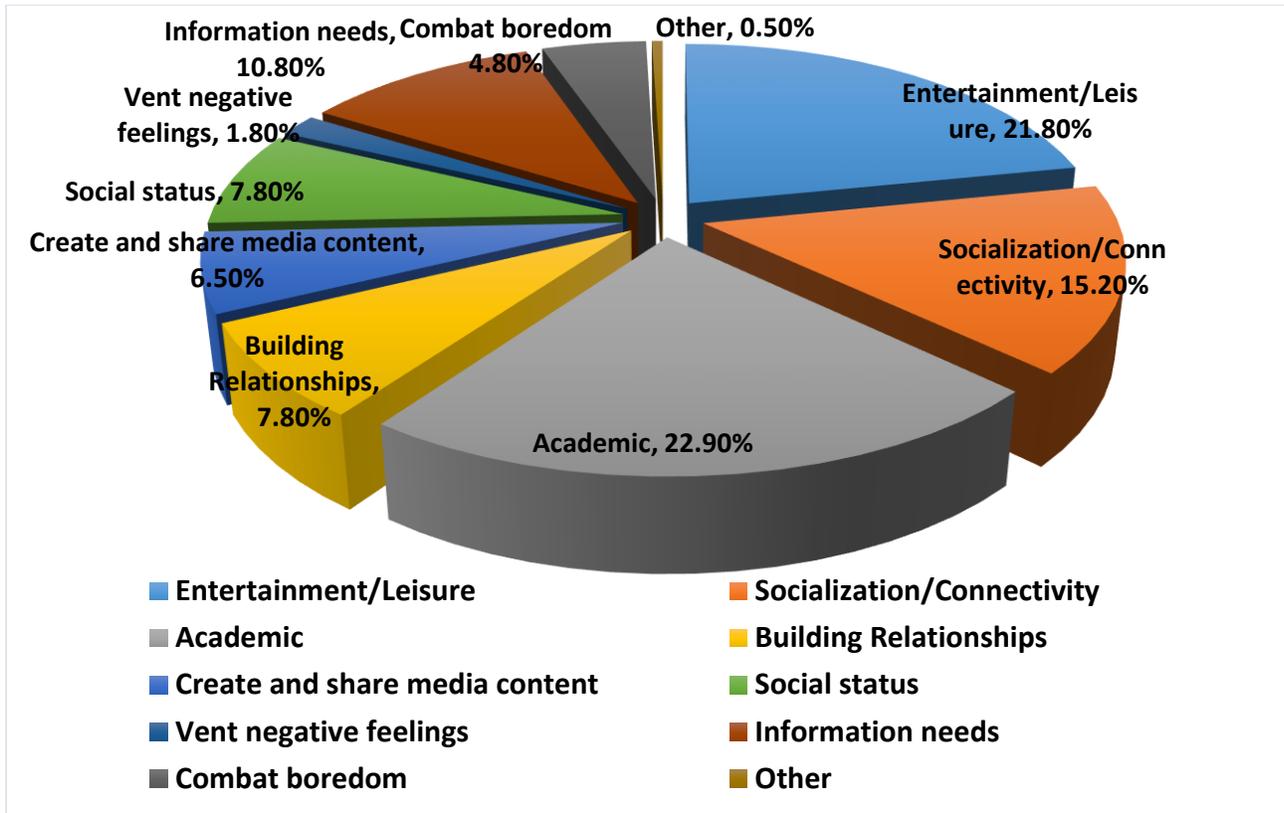
The results pointed out that the top-three apps used by e-teens were music, Facebook and video (both getting equal percentages) and WhatsApp. By inference, of all apps frequently used by e-teens, entertainment apps and social media apps were used most frequently. In the order of

frequency or popularity, Facebook, WhatsApp and Google+ were the top-three social media apps used by e-teens. Respondents also engaged the dictionary app on their phones quite frequently. Considering overall scaled items that expressed various levels of predisposition to use the dictionary app, about eight (8) in ten (81.3%) responses were in favour of the dictionary app which is very significant. The fact that academic use of new media devices comes out strong (see figure 6.5) as one of the top purposes for new media use could mean that the dictionary app plays a significant role in e-teens' use of new media technologies for learning or carrying out research.

### **6.11 GRATIFICATIONS E-TEENS SEEK FROM NEW MEDIA TECHNOLOGIES**

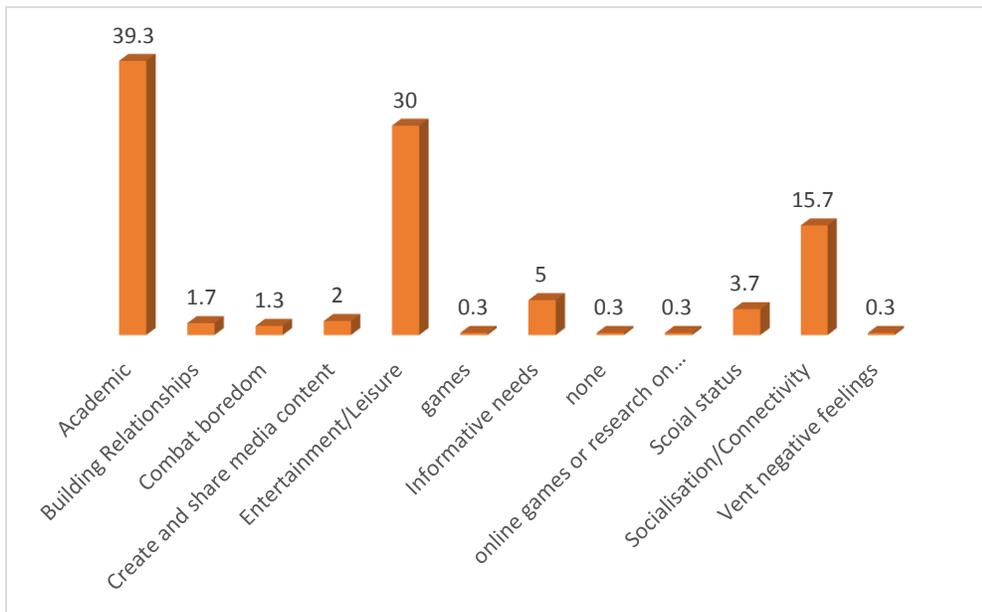
To ascertain the exact gratifications e-teens seek from new media technologies, the first question sought to find out from respondents the various needs they aim or expect to satisfy when they use new media technologies. The next question required respondents to settle on one need or gratification which stood out from all that they had indicated earlier. That is to say, of all the needs they usually anticipate to fulfil with new media technologies, they were further asked to indicate which one is considered to be topmost. Likert-scaled questions also followed asking respondents to indicate how, in order of frequency, they wished to satisfy particular gratification needs from the use of new media technologies. It was assumed that similar results would be yielded even though the same question had been asked in another way. This was to serve as a validation to the previously asked question.

**Figure 6. 6: Needs respondents expect to satisfy when using new media technologies.**



New media technology use for academic purposes (educational gratification) came tops with 22.9% which cannot be considered outstanding against entertainment and leisure since new media for entertainment and leisure (classified under sociability gratification) followed closely (21.8%) by a margin of just 1.1%. Socialisation and connectivity (social inclusion) carried 15.2% and can be considered as the third force in new media gratifications among e-teens. Although not in large disparate proportions, academic, entertainment and leisure, socialization and connectivity significantly came out as the most popular gratifications sought. It must be noted, however, that respondents had a choice to select more than one gratification and could account for the rather low percentages. They also had the option to provide their own answers beyond what was provided which represents 0.5% of cases.

**Figure 6. 7: The constant need respondents intend to satisfy when using new media technologies**



When respondents were asked about the number one gratification they habitually wished to satisfy when using new media technologies, they, once more, selected academic (39.3%), entertainment and leisure (30%) and socialization and connectivity (15.7%) in that order as the gratifications they intend to fulfil whenever they use new media technologies. Although in considerably different proportions as a result of being restricted to one item from the list of options, this goes to confirm these three gratifications (educational, sociability and social inclusion) as very important to e-teens in their use of new media technologies. It also affirms hypothesis 3, which says that: “*There is a relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications*” The fact that when making multiple choices with regard to new media technology gratifications (Figure 6.6) these three continue to stand out sending strong signals as to how important these gratifications are to e-teens.

**Table 6. 9: E-teens' top-three gratifications on the Likert scale**

<b>Academic</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	62	20.7
Always	138	46.0
Almost never	11	3.7
Never	14	4.7
Sometimes	75	25.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Entertainment/leisure</b>		
<b>Entertainment/leisure</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	58	19.3
Always	120	40.0
Almost never	9	3.0
Never	29	9.7
Sometimes	84	28.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Socialisation/connectivity</b>		
<b>Socialisation/connectivity</b>	<b>Frequency</b>	<b>Percent</b>
Almost always	63	21.0
Always	91	30.3
Almost never	21	7.0
Never	37	12.3
Sometimes	88	29.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

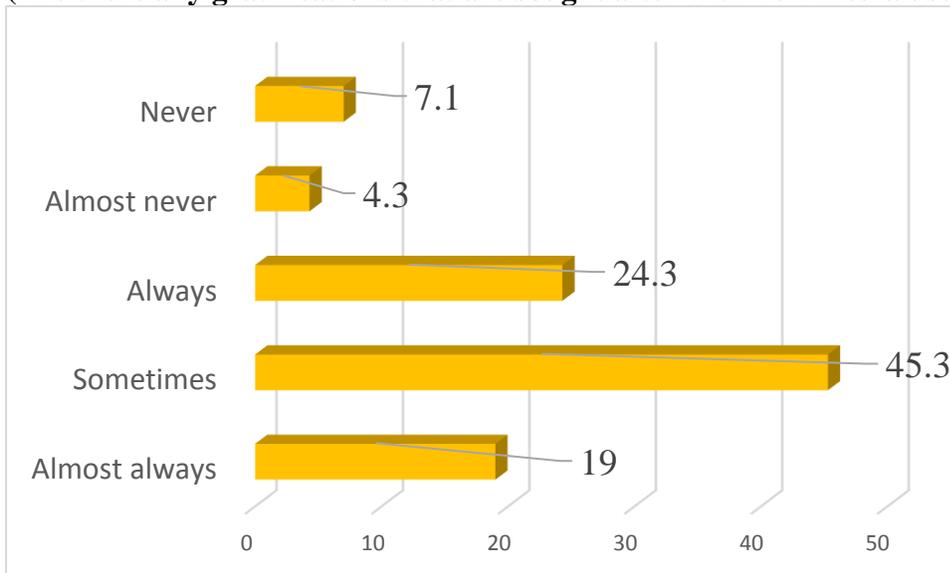
Respondents were asked to select from a five-point Likert scaled items the frequency with which they sought various gratifications. When positively favourable variables (almost always, always, sometimes) were measured, the top three gratifications emerged one more time. The table above provides details in that regard. Cumulatively, academic gratification was 91.0%, entertainment and leisure (87.3%) and socialisation/connectivity (80.3%). This, therefore, gives a strong indication that the top three aforementioned gratifications are very prominent among e-teens studied.

## **6.12 GRATIFICATIONS SOUGHT VS. GRATIFICATIONS OBTAINED**

One of the major arguments for the proposed e-teen model is that e-teens use new media because it provides gratifications that are easily and adequately met. It has been argued that the motivation for the use of particular media could well be as a result of the media, providing gratifications, which audiences or users expect to meet. This is what compelled Palmgreen and Rayburn (1985) to recommend a model of the gratifications sought (GS) and gratifications obtained (GO) process. Imbedded in the e-teen model (Figure 4.1) is the fact that gratifications e-teens seek are obtained

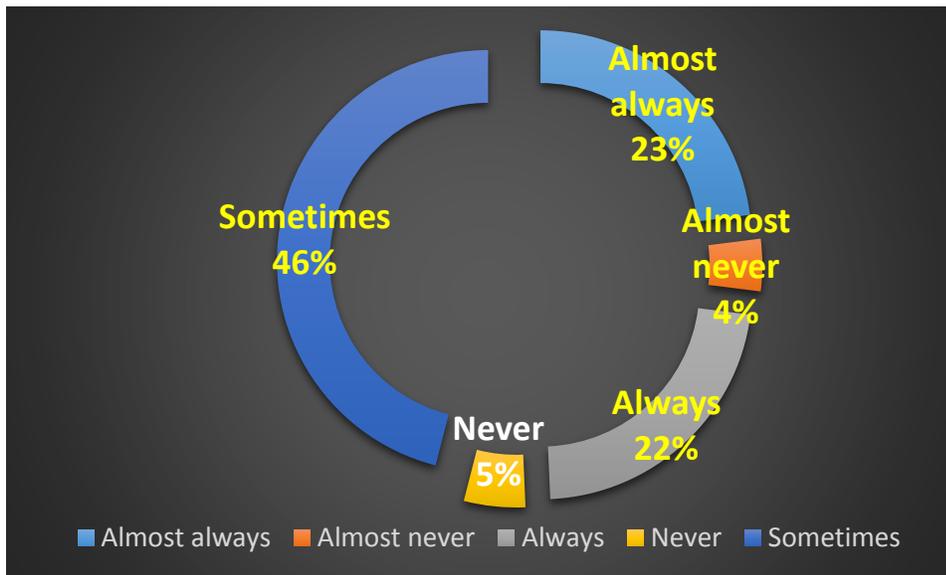
and that this, consequently, leads to high appropriation of new media technologies. In that regard, there was an effort to get empirical evidence in the collection of primary data for this study. Respondents, after being asked about gratifications they sought and the outstanding (constant) ones, were also asked to indicate whether they ordinarily had gratifications to fulfil prior to the uptake of new media technologies and whether those gratifications were met. Details of the results are below:

**Figure 6. 8: Respondents’ intention to fulfil a particular need prior to new media uptake (Are there any gratifications that are sought after with new media use?)**



Respondents who had the predisposition to have a need in mind to fulfil with new media use formed the majority. Nearly half of the sample (45.3%) said they sometimes had a need in mind to fulfil before settling on the new media technology to use. Two (2) out of ten (10) respondents (24.3%) also were definite about always having a need in mind to fulfil before using new media technologies, whereas 19% also said they sometimes had that inclination. On the other hand, a lower percentage hardly had gratifications in mind to fulfil when using new media technologies - 7.1% never did, whereas 4.3%, almost never had gratifications in mind in advance of new media technology uptake. In summary, the majority of respondents had intentions to satisfy gratifications or needs, before going for particular new media devices. Essentially, there are gratifications that are sought leading to new media usage.

**Figure 6. 9: Respondents’ actual fulfilment of needs intended to gratify prior to new media technology uptake (Are gratifications always obtained?)**



Since most respondents often had gratifications in mind to fulfil with new media technologies, it falls in place to find out if gratifications are met, in the least. On that score, the results proved that gratifications were indeed met, at least sometimes. Cumulatively, the percentage for variables that showed some levels of disapproval of gratifications being met was merely 9%, making the favourable variable take the lion’s share: 46% said they sometimes had their gratifications met, 23% said they almost always while 22% said they always had their gratifications met. It can be concluded, therefore, that as far as e-teens are concerned, gratifications sought (GS) are usually obtained, that is, if not obtained all the time.

In the e-teen model it has been put forward that the gratifications are social inclusion, educational and sociability gratifications, which have been established as the top-three gratifications sought and obtained by e-teens. However, further validation is required through statistical measures to test hypothesis three which expresses a relationship between e-teens and social inclusion, educational and sociability gratifications. A chi-square test of association was conducted between responses to the statement: “I use new media technologies for social inclusion, sociability and educational gratifications more than anything else” and responses to the statement: “I am able to obtain that need (which I set out to achieve) after using new media technologies and/or their platforms”. The results of the test are found below:

**H<sub>0</sub>** There is no relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications.

**H<sub>3</sub>**: There is a relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications

**Table 6. 10: Chi-square test of association for hypothesis 3**

I use new media technologies for social inclusion, sociability and educational gratifications more than anything else	I am able to obtain that need (which I set out to achieve) after using new media technologies and/or their platforms					Total
	Almost always	Almost never	Always	Never	Sometimes	
Not at all	7 20.6%	1 2.9%	5 14.7%	5 14.7%	16 47.1%	34 100.0%
Not exactly	12 18.5%	5 7.7%	11 16.9%	2 3.1%	35 53.8%	65 100.0%
Somewhat	16 39.0%	0 0.0%	7 17.1%	2 4.9%	16 39.0%	41 100.0%
Unsure	3 13.0%	2 8.7%	4 17.4%	1 4.3%	13 56.5%	23 100.0%
Very much so	31 22.6%	4 2.9%	40 29.2%	4 2.9%	58 42.3%	137 100.0%
Total	69 23.0%	12 4.0%	67 22.3%	14 4.7%	138 46.0%	300 100.0%

$\chi^2 = 28.115$

df = 16

p = 0.031

A statistical test conducted found that respondents who were unequivocal about their use of new media technologies for sociability, social inclusion and educational gratifications more than anything else were in the majority. A little more than four in ten respondents (42.3%) said they sometimes are able to obtain that need which they set out to achieve after using new media technologies and/or their platforms, more than a quarter (29.2%) said they always obtain the need and close to a quarter (22.6%) said they almost always obtain the need they set out to obtain after using new media technology. Respondents who said not exactly to the statement, “I use new media technologies for communication/socialization than anything else” had the majority (47.1%) selecting the option that they are sometimes able to obtain the need they set out to achieve and 20.6% almost always obtain the need they set out to achieve after using new media technologies.

Generally, no matter the degree of support to the statement that “I use new media technologies for communication/socialization than anything else”, statistical results show that respondents were sometimes able to obtain needs they set out to achieve with using new media technologies after using the technologies.

Based on the findings from the statistical test above, a further validation was needed to check gender differences in seeking sociability, social inclusion and educational gratifications. So, the Mann-Whitney U test was conducted and is discussed below.

**Table 6. 11: Mann-Whitney U tests for Hypothesis 3**

	Gender	N	Mean Rank	Sum of Ranks
Gratification sought and Obtained (social inclusion, sociability and educational)	Male	161	143.21	23057.50
	Female	139	158.94	22092.50
	Total	300		

**Test Statistics**

	Gratification sought and Obtained (Social inclusion, sociability and educational)
Mann-Whitney U	10016.500
Wilcoxon W	23057.500
Z	-1.659
Asymp. Sig. (2-tailed)	0.097

a. Grouping Variable: Gender

Mann-Whitney U conducted to ascertain the gender rankings or differences showed that there was no significant difference in the gratification sought and obtained between males and females ( $U = 10016, p > 0.05$ ). Which meant that the gratifications sought and obtained by males and females were the same. The constant gratifications, which have been established as educational, sociability and social inclusion gratifications have been confirmed as the gratifications sought and obtained by both genders.

Bringing the pieces together, primary research data have already established a positive link between gratifications sought (GS) and gratifications obtained (GO). Also, data have confirmed that e-teens seek and obtain gratifications in line with social inclusion, educational and sociability gratifications. Since all of these relationships have been positively established, it can be concluded

that research data statistically support the research hypothesis that “there is a relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications” and the null hypothesis ( $H_0$ ) rejected. The suggestions put forward as the factors for the high appropriation of new media technologies by e-teens - positive attitude as a result of being digital natives and technologies aptly helping to gratify e-teens’ unique gratification needs - have both been proven by the data gathered. Therefore, predictions made in the e-teen model have also been confirmed.

### **6.13 RESPONDENTS’ PARTICIPATION WITH NEW MEDIA CONTENT**

Based on literature and as an assumption in the e-teen model, new media technology users who participate in new media content are assumed to have better control over the use of the said technologies. This is as a result of the propensity for one to learn as one interacts with other users of a technology. Since new media technologies have avenues for users to interact, it is assumed that those who actively engage with other users are likely to appropriate the technologies better as they learn more about the technologies and try their hands-on new things they have learned with the technology. This can be done through the receiving and sharing of content which is termed “participation” in the e-teen model. In that regard, the study asked questions to establish whether respondents ever received, created or shared content with other users of new media technologies. Responses are discussed below:

**Table 6. 12: Respondents’ participation with new media technologies**

<b>Respondents' creation and sharing of content on new media platforms</b>	<b>Frequency</b>	<b>Percent</b>
Always	44	14.7
Almost always	48	16.0
Sometimes	139	46.3
Almost never	13	4.3
Never	56	18.7
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Respondents' receipt of content from other users of new media technologies</b>	<b>Frequency</b>	<b>Percent</b>
Always	76	25.3
Almost always	71	23.7
Sometimes	58	19.3
Never	56	18.7
Almost never	39	13.0
<b>Total</b>	<b>300</b>	<b>100.0</b>

The results showed that the majority of respondents, one way or the other, created and shared content with other users of new media technologies, so in that way did they receive content. In aggregate, slightly more than seven (7) out of ten e-teen respondents (77%) in some way created or shared content through new media technologies while close to six (6) out of ten (10) respondents (68.3%) had ever received content from other users, at least, on some occasions. So, the reality is that content origination, sharing and receiving was highly existent among e-teens studied. In order to establish if these activities (participation) led users to have far-reaching control over new media technologies, there will be cross tabulation of relevant variables to establish that in another section of this chapter.

#### **6.14 NEW MEDIA USAGE ABILITIES (LEVEL OF APPROPRIATION)**

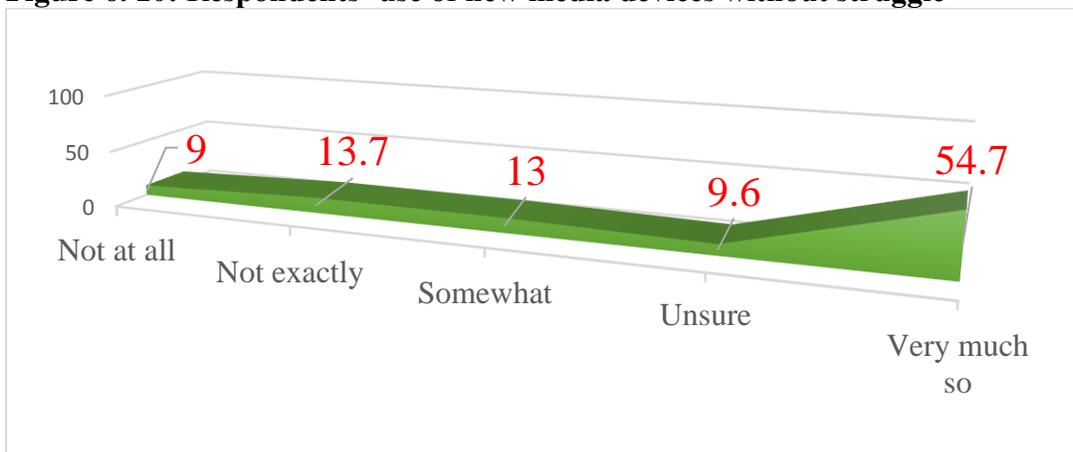
Four main questions were asked to find out about the extent e-teens are appropriating new media technologies. Questions were directed at their frequency of use or engagement with new media technologies, ability to use new media gadgets or devices, their ability to use applications and their overall personal rating of their new media usage abilities. Below are the fine details.

**Table 6. 13: Respondents' repeated engagement with new media technologies**

Frequency of engagement with new media devices	Frequency	Percent
Always	56	18.7
Almost always	55	18.3
Sometimes	129	43.0
Almost never	20	6.7
Never	40	13.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

More than 40% (43.0%) of respondents sometimes engaged with new media devices every day, slightly less than 20% (18.7%) always and nearly an equal number (18.3%) almost always engaged with their new media devices everyday. However, a little over 10% (13.3%) never engaged with new media technologies and 6.7%, almost never engaged with their new media devices every day. Collectively, respondents who had the tendency to use new media technologies at least sometimes were in the majority, whereas a smaller percentage hardly used the technologies. Following from this it can be settled that e-teens are frequent users of new media technologies. Determining e-teens' ability to use new media technologies without any barrier, such as users not being able to handle, understand or weave their way around the technology, was established through a question requiring respondents to react to the statement: "I can confidently use new media devices without struggle". Responses to this question can be found below.

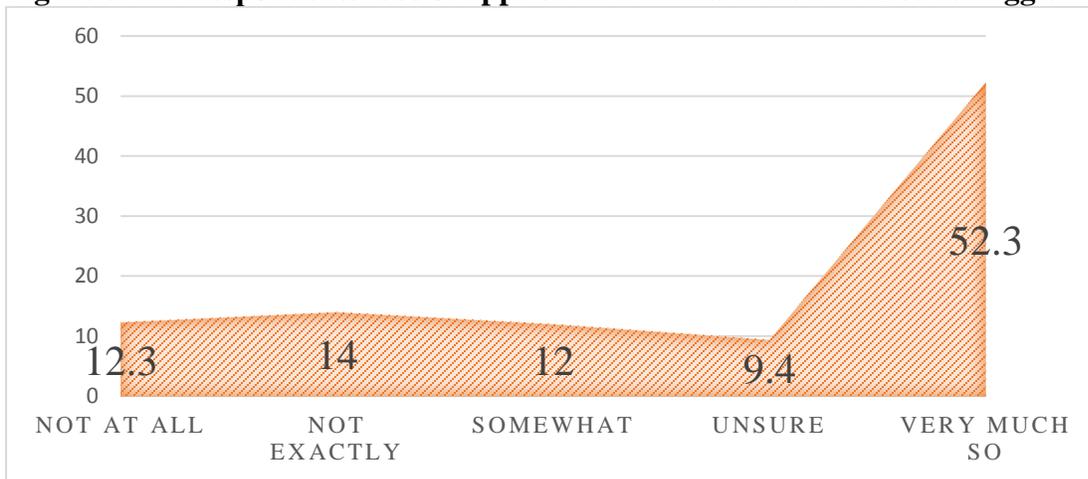
**Figure 6. 10: Respondents' use of new media devices without struggle**



More than half (54.7%) of respondents, making up the majority, could very confidently use new media technologies without struggle. Also, a little more than 10% (13.0%) could somewhat use new media technologies without struggle. However, marginally close to 10% (9.7%) were unsure whether they could use new media technologies without struggle, 9.0% of respondents could not

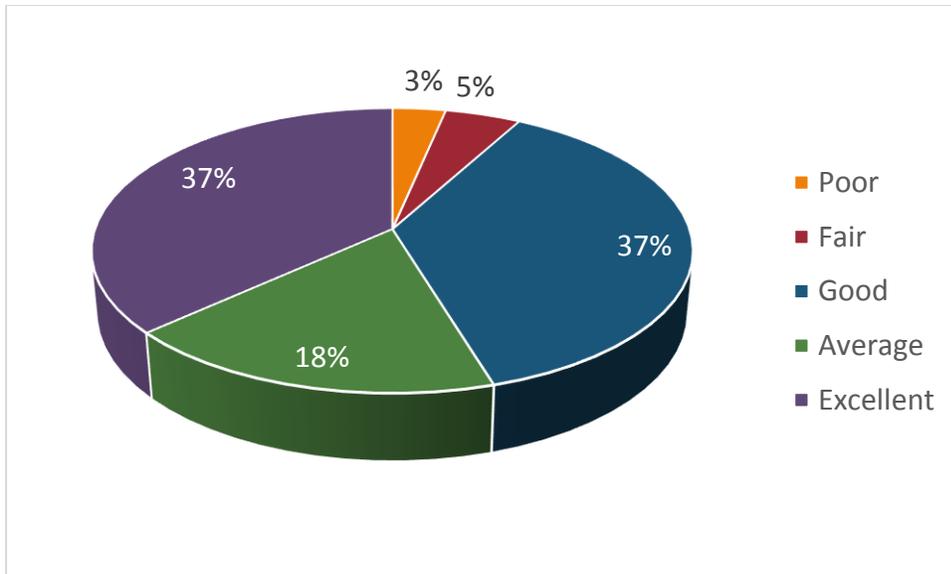
use it all and 13.7% could not exactly use new media technologies without struggle. Largely, about seven (7) out of ten (10) respondents could self-assuredly use new media technologies to some extent, whereas the rest could not admit so without some iota of uncertainty. Responses show that the majority could use new media technologies without struggle.

**Figure 6. 11: Respondents’ use of apps on new media devices without struggle**



There are a lot of applications (apps) on new media technologies for use by end-users. Most of the time the feature of the technologies run on applications. Communicative apps such as Viber, WhatsApp and Tango cannot be useful to the new media technology user if they do not have command over them. Accordingly, respondents were asked about their ability to confidently use apps without struggle. This question saw more than half (52.3%) of respondents saying they could very much so confidently use apps on new media without struggle. More than 10% (12.0%) of respondents were somewhat confident to use new media apps without struggle and close to 10% (9.3%) were unsure whether they could use new media apps without struggle. On the other hand, more than 10% (12.3%) of respondents said they could not use apps without any struggles at all and 14.0% of respondents opted for not exactly. Nonetheless, respondents, who had some level of control, were in the lead by a greater margin, indicating that the majority of e-teens studied have some level of know-how of apps on new media technologies. This know-how would likely lead to e-teen users being able to navigate their way through apps they come across in the use of new media technologies.

**Figure 6. 12: Respondents’ personal rating of their new media usage abilities**



The majority of respondents representing more than 30% (37.3%) rated their new media usage abilities as good and more than 30% (37.3%) of respondents rated their new media technology usage abilities as being excellent. Average usage abilities represented less than 20% (18.0%), fair usage abilities represented less than 5% (4.7%) and poor usage abilities were the least with less than 4% (3.3%) of respondents. Drawing from these results, it can be confidently said that the majority of respondents, representing about nine (9) out of ten (10) respondents, were sure they had some level of control over new media technology use.

In order to establish if there was a relationship between gender and level of appropriation, a cross tabulation was carried out between the gender of the respondent and the use of new media technologies without struggle, details of which are found in Table 6.14.

**Table 6. 14: Gender vs appropriation Ranks**

	Gender	N	Mean Rank	Sum of Ranks
I engage with new media devices everyday	Male	161	155.82	25087.00
	Female	139	144.34	20063.00
	Total	300		
I can confidently use new media devices without struggle	Male	161	162.53	26167.00
	Female	139	136.57	18983.00
	Total	300		
Rate your new media usage abilities	Male	161	161.06	25930.50
	Female	139	138.27	19219.50

	Total	300	
<b>Test Statistics</b>			
	I engage with new media devices everyday	I can confidently use new media devices without struggle	Rate your new media usage abilities
Mann-Whitney U	10333.000	9253.000	9489.500
Wilcoxon W	20063.000	18983.000	19219.500
Z	-1.202	-2.837	-2.401
Asymp. Sig. (2-tailed)	.230	.005	.016

Appropriation has been discussed in earlier chapters and operationalised as the frequency of the use of new media technologies and the ability to use the technologies without struggle, which were measured in the above test. The Mann-Whitney U test was used to test the gender differences between male and female in the appropriation of new media technologies. Responses to the questions: “I engage with new media devices every day”; “I can confidently use new media devices without struggle” and “rate your new media usage abilities” were matched against the gender of participants in the U test. Males rated, “I can confidently use new media devices without struggle” as more statistically significant than females ( $p=0.005$ ). In addition, males rated their new media usage abilities as the next most statistically significant than females ( $p=0.016$ ). There were no gender differences in the choice for “I engage with new media devices everyday” ( $p>0.10$ ). This points out that, males exhibit appropriation through their ability to use the technologies without struggle and also had confidence in their use of new media technologies as the majority rated usage abilities positively. Frequent engagement with new media technologies was not a strong factor for appropriation across both genders.

The general pattern was that the majority of both genders admitted high appropriation of new media technologies, although males reported higher numbers.

In the e-teen model assumptions were made about appropriation partly resulting from participation (content generation and content sharing). For this reason, some statistical tests were conducted to test the hypothesis formulated in line with this assumption. The results are discussed below.

The hypothesis that seeks to test for the relationship between participation and appropriation is:

**H<sub>0</sub>:** There is no relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies.

**H<sub>1</sub>:** There is a relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies.

**Table 6. 15: Correlation test for hypothesis 1**

		I create and share content on new media platforms such as social media	I engage with new media devices everyday	I can confidently use new media devices without struggle	I can confidently use Apps on new media devices without struggle	Rate your new media usage abilities
I create and share content on new media platforms such as social media	Pearson Correlation	1	.395**	.166**	.278**	.299**
	Sig. (2-tailed)		.000	.004	.000	.000
	N	300	300	300	300	300
I engage with new media devices everyday	Pearson Correlation	.395**	1	.195**	.236**	.298**
	Sig. (2-tailed)	.000		.001	.000	.000
	N	300	300	300	300	300
I can confidently use new media devices without struggle	Pearson Correlation	.166**	.195**	1	.702**	.306**
	Sig. (2-tailed)	.004	.001		.000	.000
	N	300	300	300	300	300
I can confidently use Apps on new media devices without struggle	Pearson Correlation	.278**	.236**	.702**	1	.380**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	300	300	300	300	300
	Pearson Correlation	.299**	.298**	.306**	.380**	1

Rate your new media usage abilities	Sig. (2-tailed)	.000	.000	.000	.000
N		300	300	300	300

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

Content creation, participation and sharing are considered to facilitate appropriation of new media technologies and their platforms. The table above summarizes the results of a correlation test conducted to assess whether there was a relationship between users who create, participate and share content on new media platforms and certain markers of appropriation, such as respondents' frequency of the use of new media technologies; usage of new media technologies without struggle and respondents' personal ratings of their usage capabilities.

The table above indicates the relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies. Most of the correlations are significant at the 0.01 significant levels. From the above table, "I create and share content on new media platforms such as social media" is ranked first among all the factors. This is an indication that content creation and content sharing through new media platforms such as social media (COR = 1.000) has great impact on the appropriation of new media technologies. The second factor is frequent engagement with new media technologies (COR = 0.395). Respondents' personal rating of their new media usage abilities (COR = 0.299) is the third factor. This was followed by the participants' response to the question "I can confidently use Apps on new media devices without struggle" (COR = 0.278). The least factor for appropriation was established from responses to the statement: "I can confidently use new media devices without struggle" (COR = 0.166). This means that some of the participants had certain difficulties with the use of some new media technologies and this has an impact on content generation, content participation and content sharing. Worthy of note is that, although other factors account for appropriation content sharing and content creation has a greater impact on appropriation of new media technologies.

Moreover, "I create and share content on new media platforms such as social media" has a strong significant positive correlation with I will engage with new media devices every day. There was a positive correlation between the two variables,  $r = .395, p = \leq 0.05$  which means that the more respondents create and share content on new media platforms the more they engage with new

media devices every day. In the same way, “I create and share content on new media platforms such as social media” had a significant positive correlation with “I can confidently use new media devices without struggle” ( $r = .166, p = \leq 0.05$ ), “I can confidently use Apps on new media devices without struggle” ( $r = .278, p = \leq 0.05$ ) as well as new media usage abilities ( $r = .299, p = \leq 0.05$ ).

In essence, the correlation test performed to examine the relationship between users of new media technologies who participate, generate and share content and new media usage abilities (high appropriation) found the relationship between variables to be significant. This means the null hypothesis has been rejected. It can, therefore, be concluded that the study data statistically support the research hypothesis that: there is a relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies. This effectively means that new media technologies have become a staple e-teen lifestyle or culture. One can, as a result, concede that participation through content generation or creation and content sharing makes users gain more knowledge about new media technologies which, consequently, leads to users gaining an upper hand over the technologies.

### **6.15 KEY FEATURES OF NEW MEDIA APPROPRIATION AND EXPERIENCE AMONG E-TEENS**

This section looks at how e-teens are experiencing new media technologies by looking at the extent to which respondents engaged with new media technologies, what features of the technologies appealed to them and also determines whether the communicative and socialisation attributes of new media technologies in any way is a main factor for new media use. Data gathered are discussed below:

**Table 6. 16: Extent of engagement with new media technologies**

<b>Social Media</b>	<b>Frequency</b>	<b>Percent</b>
---------------------	------------------	----------------

Always	123	41.0
Almost always	53	17.7
Sometimes	82	27.3
Almost never	11	3.7
Never	31	10.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Video calls</b>	<b>Frequency</b>	<b>Percent</b>
Always	37	12.3
Almost always	39	13.0
Sometimes	93	31.0
Almost never	51	17.0
Never	80	26.7
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Online games</b>	<b>Frequency</b>	<b>Percent</b>
Always	37	12.3
Almost always	31	10.3
Sometimes	97	32.3
Almost never	44	14.7
Never	91	30.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Offline games</b>	<b>Frequency</b>	<b>Percent</b>
Always	61	20.3
Almost always	37	12.3
Sometimes	87	29.0
Almost never	37	12.3
Never	78	26.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Music</b>	<b>Frequency</b>	<b>Percent</b>
Always	115	38.3
Almost always	51	17.0
Sometimes	100	33.3
Almost never	14	4.7
Never	20	6.7
<b>Total</b>	<b>300</b>	<b>100.0</b>

Data showed that a little more than 40% (41.0%) of respondents always used social media and 17.7% also almost always used social media when they were asked to rate their engagement with new media technologies. On the other hand, 10.3% of respondents said they never used social media and less than 4% (3.7%) said they almost never used it and close to 30% (27.3%) said they

sometimes used social media. On rating how frequently respondents engaged with their new media technologies in making video calls, it was observed that the majority of respondents (31.0%) said they sometimes used their new media technologies to make video calls. Cumulatively, 30% of respondents said they always (17.0%) used or almost always (13.0%) used their news media technologies to make video calls. Respondents who never used new media technologies for video calls were 26.7% and those who almost never used it were 17.0%.

Online gaming saw the majority of respondents saying they sometimes (32.3%) used their new media technologies for online gaming. However, 30.3% of respondents had never used their new media device for online games and close to 15% (14.7%) almost never used their new media technologies for online games. A few respondents always (12.3%) used their new media or almost always (10.3%) used their new media technology for gaming online. With offline gaming, it was observed that close to 30% (29.0%) of respondents said they sometimes used it for offline gaming. Again, a little more than a quarter of respondents (26.0%) never used their new media technologies for offline gaming and 12.3%, almost never used their new media technologies for offline gaming. For respondents who said they used new media technology for offline gaming, 20.3% always used it and 12.3% almost always used their new media technologies for offline gaming.

Similar to respondents' use of new media technology for social media, using new media technologies for music also saw close to 40% (38.3%) of respondents saying they used their new media technologies always to play or listen to music and 17.0% said they almost always used their new media technologies for music. Also, more than 30% (33.3%) said they sometimes used their new media technologies for music. Very few respondents (20 out of 300 representing 6.7%) never used their new media technologies for music and 14 respondents representing less than 5% (4.7%) almost never used their new media technologies for music.

**Table 6. 17: Extent of engagement with new media technologies**

<b>Video streaming</b>	<b>Frequency</b>	<b>Percent</b>
Always	46	15.3
Almost always	22	7.3
Sometimes	80	26.7
Almost never	47	15.7
Never	105	35.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Offline videos</b>		
<b>Offline videos</b>	<b>Frequency</b>	<b>Percent</b>
Always	59	19.7
Almost always	36	12.0
Sometimes	94	31.3
Almost never	32	10.7
Never	79	26.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>TV</b>		
<b>TV</b>	<b>Frequency</b>	<b>Percent</b>
Always	50	16.7
Almost always	34	11.3
Sometimes	84	28.0
Almost never	35	11.7
Never	97	32.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Research</b>		
<b>Research</b>	<b>Frequency</b>	<b>Percent</b>
Always	114	38.0
Almost always	71	23.7
Sometimes	80	26.7
Almost never	14	4.7
Never	21	7.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>News</b>		
<b>News</b>	<b>Frequency</b>	<b>Percent</b>
Always	87	29.0
Almost always	55	18.3
Sometimes	96	32.0
Almost never	26	8.7
Never	36	12.0
<b>Total</b>	<b>300</b>	<b>100.0</b>

Video streaming on new media technologies saw the majority of respondents saying they never (35.0%) streamed videos with their new media technologies and 15.7% of respondents who almost never streamed videos with their new media technologies. Only 15.3% said they always, 7.3% almost always and more than a quarter (26.7%) sometimes streamed videos with their new media

technologies. Offline videos with new media technologies also saw the majority of respondents (31.3%) saying they sometimes used their new media technologies for offline videos, followed by more than a quarter (26.3%) who never used their new media technology for offline videos. In addition, 10.7% almost never used their new media devices for offline videos. On the other hand, less than 20% (19.7%) always and 12.0% of respondents almost always used their new media technologies for offline video viewing.

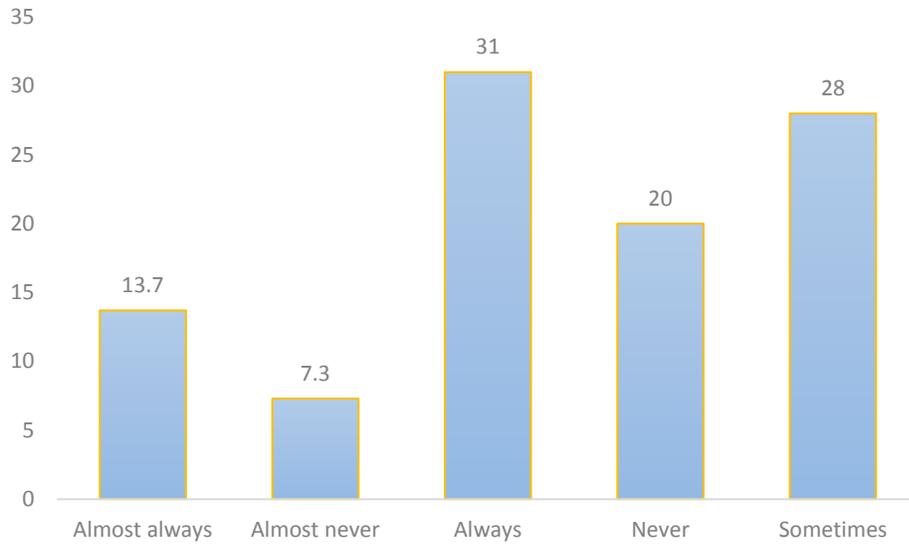
On respondents' use of new media technologies for TV viewing, it was observed that more than 30% (32.3%) of respondents who formed the majority said they never used their new media technologies for watching TV and 11.7% almost never used the new media technologies for watching TV. However, 16.7% always and 11.3% of respondents almost always used their new media technologies for watching TV. Also, close to 30% (28.0%) of respondents said they sometimes used their new media technologies for watching TV.

Furthermore, close to 40% (38.0%) of respondents said they always used their news media technologies for research, close to a quarter (23.7%) almost always and more than a quarter sometimes used their new media technologies as a research tool. Cumulatively, less than 12% of respondents never (7.0%) or almost never (4.7%) used their new media technologies for research. Rating how frequently respondents used their new media technologies to access news, it was observed that close to 30% (29.0%) always did that and close to 20% (18.3%) said they almost always did, whereas more than 30% (32.0%) sometimes used their new media devices to access news. On the contrary, 12.0% never used their new media devices to access news and less than 10% (8.7%) almost never used new media technology to access news.

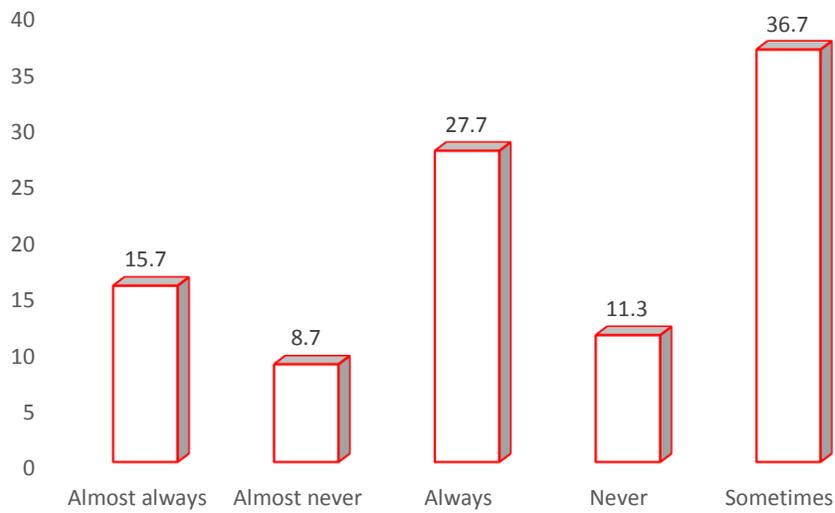
The percentage distribution across the board shows social media topped the pack of new media engagement activities in terms of frequency of usage as those who indicated they engaged new media technologies for social media always carried the highest percentage (41%).

The next four figures (histograms and pie chart) provide details about the extent of engagement with photography, text/instant messaging, phone calls and telegram features on new media technologies.

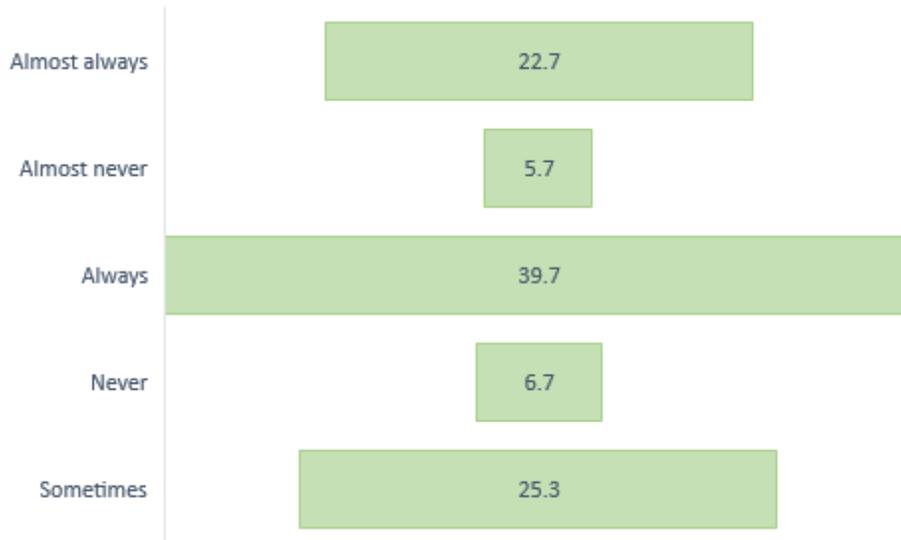
**Figure 6. 13: Extent of engagement with new media technologies (Photography)**



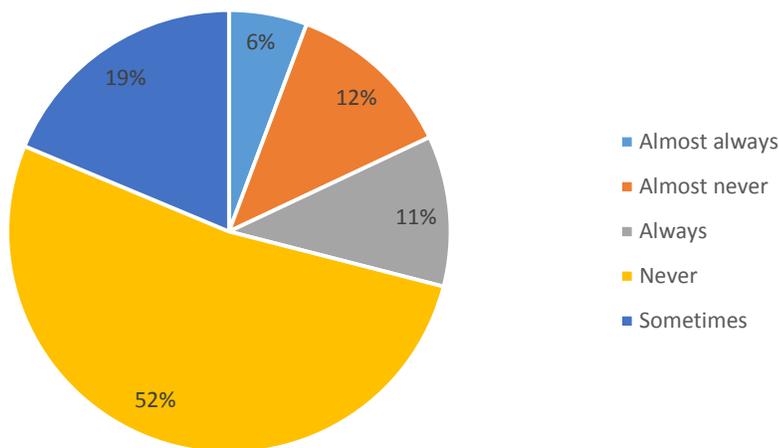
**Figure 6. 14: Extent of engagement with new media technologies (Text/instant messaging)**



**Figure 6. 15: Extent of engagement with new media technologies (Phone calls)**



**Figure 6. 16: Extent of engagement with new media technologies (Telegram)**



New media technology for photography had the majority of respondents saying they always (31.0%) used their new media technologies for photography. Again, 13.7% said they almost always and close to 30% (28.0%) saying they sometimes used their new media devices for photography. However, 20.0% of respondents never and 7.3% almost never used their new media technologies for photography. In terms of engaging new media technologies for text/instant messaging, it was observed that the majority of respondents sometimes (36.7%) did that, close to

30% (27.7%) always did that and 15.7% almost always used their new media technologies to engage in texting/instant messaging. On the other hand, 11.3% of respondents never did that and 8.7% almost never used their new media technologies for text/instant messaging.

Besides, almost 40% (39.7%) of respondents always used their new media technologies for phone calls and more than 20% (22.7%) almost always used their new media technologies for engaging in phone calls. A quarter (25.3%) of respondents sometimes used their new media technologies for phone calls. Less than 13% of respondents cumulatively never (6.7%) or almost never (5.7%) used their new media technology for phone calls. The greater majority forming more than half (52.3%) of the total respondents never used their new media technology to engage in sending a telegram and 12.3% almost never engaged in using telegrams on their new media devices. On the other hand, a few respondents sometimes (18.7%), always (11.0%) and almost always (5.7%) used their new media technology for telegrams.

Inferring from the results above, the top-four predominant activity e-teens engaged in with new media technologies, by order of majority involvement, were phone calls, research, social media and music. All of these had more than half of respondents admitting engaging in them on a regular basis.

A critical look at usage patterns with reference to gender saw more females engaging the technologies for photography, online news and text messaging and phone calls as can be found below:

**Table 6. 18: Gender vs new media technology platform usage patterns Ranks**

	Gender	N	Mean Rank	Sum of Ranks
Music	Male	161	141.77	22824.50
	Female	139	160.62	22325.50
	Total	300		
Video	Male	161	141.58	22795.00
	Female	139	160.83	22355.00
	Total	300		

Photography	Male	161	145.08	23358.00
	Female	139	156.78	21792.00
	Total	300		
Online games	Male	161	146.19	23537.00
	Female	139	155.49	21613.00
	Total	300		
Online news	Male	161	144.35	23240.00
	Female	139	157.63	21910.00
	Total	300		
Research and Study	Male	161	148.28	23872.50
	Female	139	153.08	21277.50
	Total	300		
Text messaging/ Phone calls	Male	161	151.11	24329.50
	Female	139	149.79	20820.50
	Total	300		

### Test Statistics

	Music	Video	Photography	Online games	Online news	Research and Study	Text messaging/ Phone calls
Mann-Whitney U	9783.50	9754.00	10317.00	10496.00	10199.00	10831.50	11090.50
Wilcoxon W	0	0	00	0	00	0	0
Z	22824.500	22795.000	23358.000	23537.000	23240.000	23872.500	20820.500
Asymp. Sig. (2-tailed)	-2.350	-2.291	-1.345	-1.076	-1.733	-.780	-.321
	.019	.022	.178	.282	.083	.436	.748

The Mann-Whitney U test was used to test the gender differences regarding new media technology usage patterns- music, video, photography, online games, online news, research and study, and text messaging/phone calls. Females' choice for video was more statistically significant than males ( $U = 9754.00$ ,  $p = 0.022$ ). This was followed by music, as it was more statistically significant among females than males ( $U = 9783.50$ ,  $p = 0.019$ ). The other new media usages such as photography, online games, online news, research and study, and text messaging/phone calls did not show any gender differences ( $p > 0.10$ ). This indicates that among all uses, using new media

technologies for video and music showed significant gender differences in favour of females. The gender differences for photography, online games, online news, research and study, and text messaging/phone calls were rather marginal.

**Table 6. 19: Extent of appeal of new media technology apps**

<b>Chat/Instant messaging apps</b>	<b>Frequency</b>	<b>Percent</b>
No Response	3	1.0
Very high	83	27.7
High	73	24.3
Average	81	27.0
Low	27	9.0
Very low	33	11.0
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Video Calling</b>	<b>Frequency</b>	<b>Percent</b>
No Response	7	2.3
Very high	42	14.0
High	49	16.3
Average	76	25.3
Low	59	19.7
Very low	67	22.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Social Media</b>	<b>Frequency</b>	<b>Percent</b>
No response	5	1.7
Very high	99	33.0
High	79	26.3
Average	64	21.3
Low	24	8.0
Very low	29	9.7
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Entertainment</b>	<b>Frequency</b>	<b>Percent</b>
No response	8	2.7
Average	64	21.3
High	82	27.3
Low	21	7.0
Very high	109	36.3
Very low	16	5.3
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Information/News</b>	<b>Frequency</b>	<b>Percent</b>
No response	7	2.3

Very high	87	29.0
High	102	34.0
Average	60	20.0
Low	21	7.0
Very low	23	7.7
<b>Total</b>	<b>300</b>	<b>100.0</b>
<b>Education</b>		
	<b>Frequency</b>	<b>Percent</b>
No response	12	4.0
Very high	121	40.3
High	71	23.7
Average	67	22.3
Low	16	5.3
Very low	13	4.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

The appeal of chat/instant messaging apps of new media technology had more than a quarter (27.7%) of respondents saying it had a very high appeal, close to a quarter (24.3%) saying the appeal was high and more than a quarter (27.0%) saying it had an average appeal. Respondents who thought chat/instant messaging apps appeal was low represented less than 10% (9.0%) and those who thought it was very low represented 11.0% of respondents. The majority of respondents had favourable views about the chat/instant messaging feature of new media technologies.

Some respondents saw the video calling feature of new media technologies to be very high. Less than 15% (14.0%) of respondents said that this feature appealed to them very highly and 16.3% said it had a high appeal while the majority, representing a quarter (25.3%) of respondents, rated its appeal to be average. On the contrary, more than 20% (22.3%) said the video calling, appeal of new media technologies was very low and close to 20% (19.7%) said it was low. Again, there were more favourable views towards the video calling app of new media devices even though in a lower percentage than chat/instant messaging.

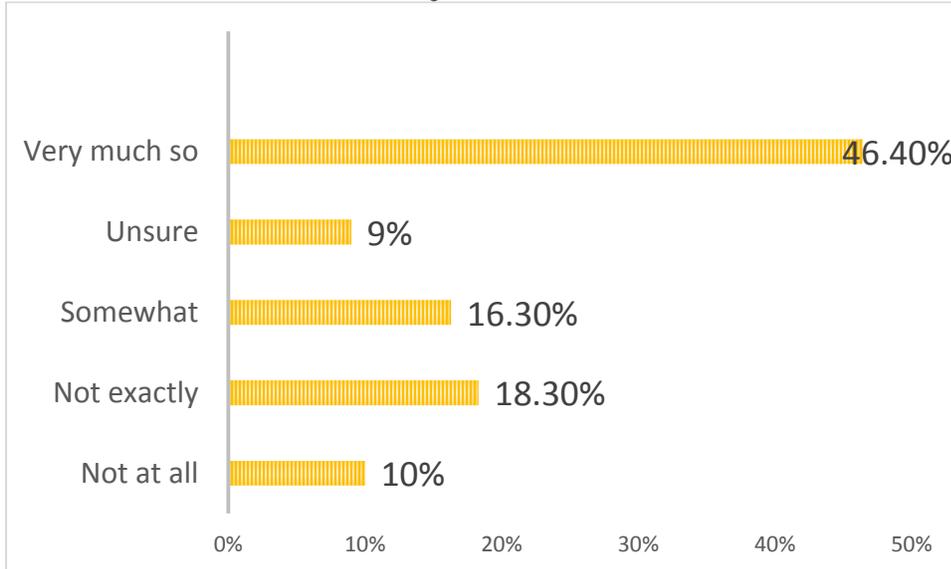
As to how much social media apps appealed to respondents, more than 30% (33.0%) of respondents said it was very high, more than a quarter (26.3%) said the appeal was high and more than 20% (21.3%) said the appeal of social media apps was average. However, marginally close to 10% (9.7%) said social media apps appeal was very low and less than 9% (8.0%) said its appeal was low. On entertainment apps (including gaming), more 36.3% of respondents said that the

appeal was very high, close to 30% (27.3%) said it was high and 21.3% said the entertainment appeal to them was average. On the contrary, less than 10% (7.0%) said the entertainment apps of new media technologies appealed to them at a low level and less than 6.0% (5.3%) checked very low for entertainment apps appeal. Again, favourable responses led the pack.

On how information/news apps appealed to respondents, it was observed that 29.0% said the appeal was very high while the majority of respondents said it was high (34.0%). Respondents who said it averagely appealed to them represented 20.0%. On the other hand, 7.7% said information/news apps appealed very low and 7.0% said it was low. With regards to educational apps the appeal can be considered to be remarkably very high to the majority of the respondents relative to other apps. Data showed that 40.3% of respondents said very high when they were asked whether educational apps appeal to them. In addition, more than 20% (23.7%) selected high and more than 20% (22.3%) said average. Less than 10% of respondents cumulatively said educational apps appealed to them lowly (5.3%) or very lowly (4.3%).

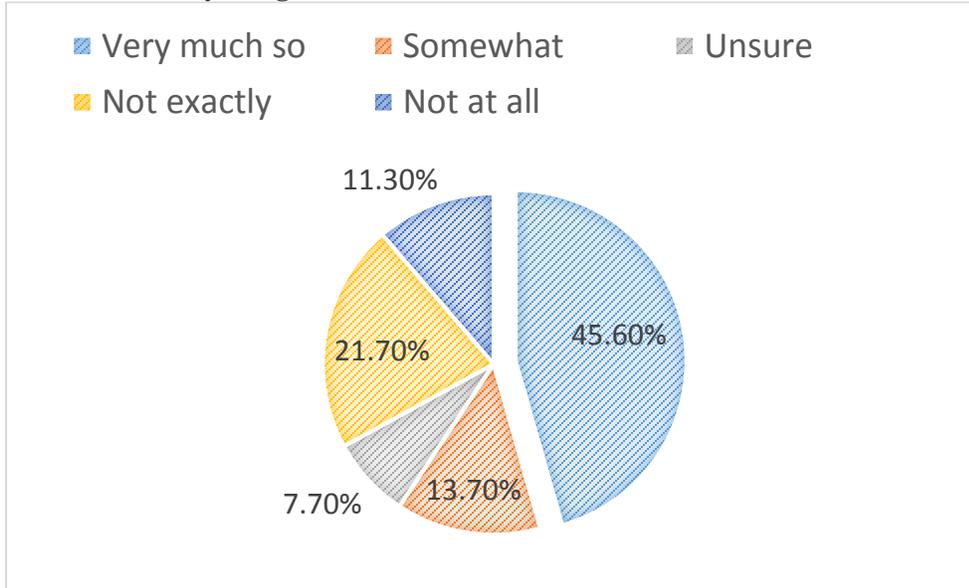
Stemming from discussions on data gathered, educational apps topped the pack of apps in terms of appeal, followed by entertainment and information/news apps. These can be considered the first three apps that appeal to e-teens and can be likened to the top three uses e-teens put new media technologies to as gathered by this study which were academic, entertainment and socialization. Unvaryingly, the uses will lead to the apps employed which have been concretely confirmed by empirical data gathered.

**Figure 6. 17: Communicative attributes (features that enable users to communicate/socialize) as a major factor for the use of new media technologies**



Concerning whether the ability of respondents to communicate/socialize (communicative attributes) with associates was what mostly made them use new media technologies as assumed in the e-teen model, it was observed that the majority (46.4%) of the respondents opted for very much so while 16.3% of respondents opted for somewhat and less than 10% (9.0%) of respondents were unsure of the influence of communicative attributes in making them to use new media technologies. However, 10.0% of respondents were categorical that communicative attributes of new media technologies are not at all what pushed them to use the technologies and 18.2% also said it was not exactly what pushed them to use new media technologies. Generally, it was observed that there was some influence from communicative attributes of new media technologies (attributes that enable respondents to connect with significant others) on the majority of the respondents in making them use new media technologies. The e-teen model assumes that communicative attributes of new media technologies are a major factor of influence for e-teens to use new media technologies. Judging by the results above, this assumption holds some water. However, this will be authenticated when the specific hypothesis in relation to this assumption (Behavioural intentions and actual usage of new media technology by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technology) is tested.

**Figure 6. 18: Respondents’ use of new media technologies for communication/socialization rather than anything else**



As a means of finding out, without doubt, whether respondents used new media technologies for social inclusion, sociability and educational gratifications rather than anything else, respondents were asked to react to the statement “I use new media technologies for social inclusion, sociability and educational gratifications more than anything else”. This was in order to test for the assumption made which also related to the proposed model that e-teens use new media, mainly, to achieve gratifications in line with sociability, social inclusion and education. Data gathered showed close to half of respondents (45.6%) saying they very much so did that. Again, 13.7% “somewhat” used new media technologies for social inclusion, sociability and educational gratifications more than anything else and 7.7% were unsure whether they used new media technologies for social inclusion, sociability and educational gratifications more than anything else.

Efforts to establish whether there could be gender differentiations along the lines of this assumption yielded that gender is not a factor in determining whether communicative attributes have an influence on new media technology usage. That is to say, the patterns of appeal were similar across the two genders.

**Table 6. 20: Gender vs appeal of communicative attributes of new media technologies**

<b>Ranks</b>		Gender	N	Mean Rank	Sum of Ranks
The ability to communicate/socialize (communicative attribute) with my friends and relations is what mostly pushes me to use new media technologies	Male	161	147.02	23671.00	
	Female	139	154.53	21479.00	
	Total	300			

**Table 6. 21: Mann- Whitney U Test Statistics for Gender vs appeal of communicative attributes of new media technologies**

	The ability to communicate/socialize (communicative attribute) with my friends and relations is what mostly pushes me to use new media technologies
Mann-Whitney U	10630.000
Wilcoxon W	23671.000
Z	-.792
Asymp. Sig. (2-tailed)	.428

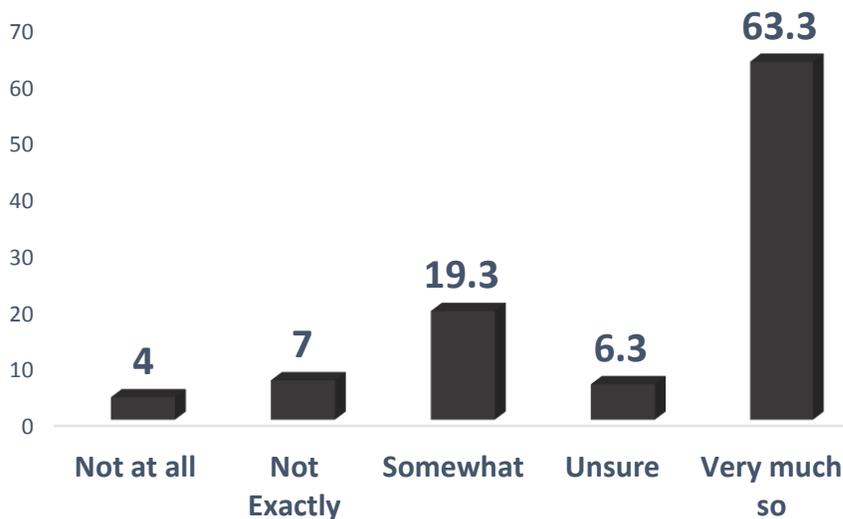
Communicative and participatory attributes of new media technologies have been suggested to be a major factor of e-teen’s use of new media technologies. Responses to whether opportunity provided by new media technologies to communicate and socialise were matched the gender of respondents in order to establish whether gender differences could be established. The above two tables show the results of the Mann-Whitney U test. Conducted. The results indicate that there were no significant differences between the two genders regarding whether communicative attributes have influence on new media technology usage. That is to say, the patterns of appeal were similar across the two genders. In other words, responses to the question: “the ability to communicate/socialize (communicative attribute) with my friends and relations is what mostly pushes me to use new media technologies” in the male group was not statistical significantly higher than the female group. This has shown as Male (Mdn = 147.02) compared to Female (Mdn = 154.53), (U= 10630, p = .428)

From the above, although there were slight differences, a critical look at responses based on gender on whether communicative attributes of new media technologies are what mainly make e-teens use new media technologies seem not to vary. It can therefore be inferred that e-teens are commonly drawn to the communicative attributes of new media technologies which is also the number one influencing factor for using new media technologies among this same group of users.

### 6.16 E-TEENS’ PERCEPTIONS, BEHAVIOURAL INTENTIONS AND ATTITUDES TOWARDS NEW MEDIA TECHNOLOGIES

The TAM model emphasises perceived usefulness (PU) and perceived ease of use of (PEOU) as the determinants of attitude (A) towards technology. A positive attitude leads to behavioural intention (BI) which ultimately results in actual system or technology use. Some aspects of Tam are incorporated into the model leading to the assumption made about e-teens as a group of new media technology users who have a positive attitude towards new media technologies and are therefore high appropriators of the same. For this reason, respondents’ perceptions, general attitudes, and intentions were measured in order to serve as empirical evidence for assumptions made about e-teens. Data gathered are discussed in the next three (3) succeeding sub-sections.

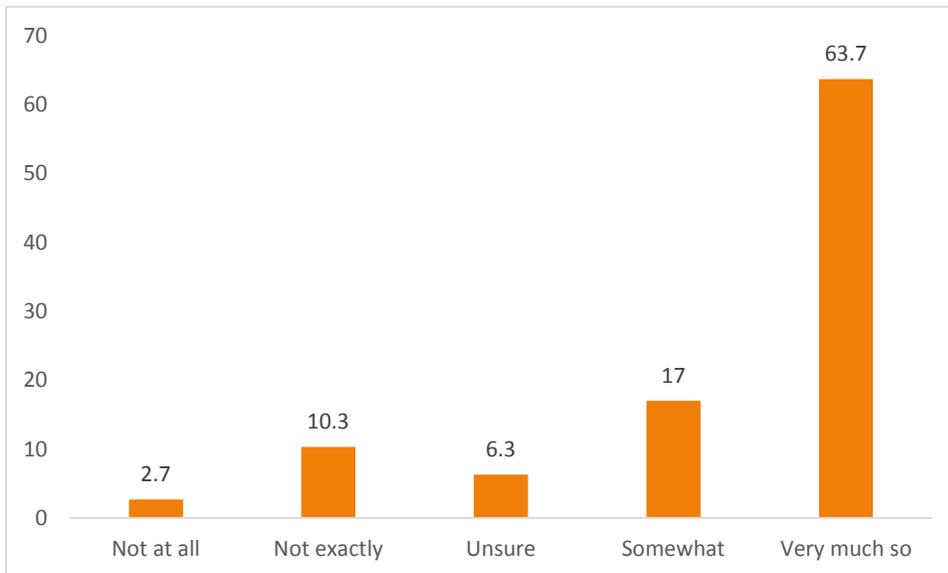
**Figure 6. 19: Perceptions about how new media technologies are beneficial to e-teens**



The results show that more than 60% (63.3%) of respondents said new media technologies were very much so beneficial to them and close to 20% (19.3%) said new media technologies were somewhat beneficial to them. However, less than 12% of respondents said new media technologies were not at all and not exactly beneficial to them. Those who were unsure of new media

technologies being beneficial to them were less than 7%. The general perception among e-teens about the beneficial tendencies of new media technologies was positive as the majority (63.3%) representing slightly more than six (6) out of ten (10) were confident about new media technologies being beneficial.

**Figure 6. 20: E-teens’ perceived usefulness of new media technologies**

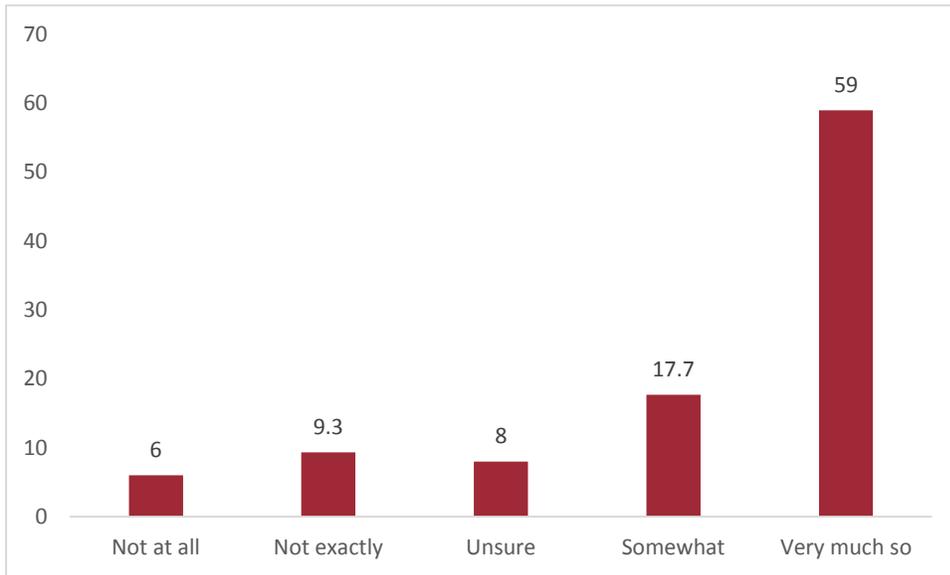


On the general usefulness of new media technologies, it was observed that more than 60% (63.7%) of respondents selected very much so. The number that selected this option was closely equal to those who checked the option for new media technologies being beneficial. Also, 17.0% of respondents were confident that new media technologies were somewhat useful and 19 respondents (6.3%) were unsure whether new media technologies were useful. Eight respondents representing less than three percent (2.7%) said new media technologies were not useful at all while 10.3% said it was not exactly useful. One more time, the majority agreed that new media technologies were useful.

### **6.16.1 E-teens’ attitude towards new media technologies**

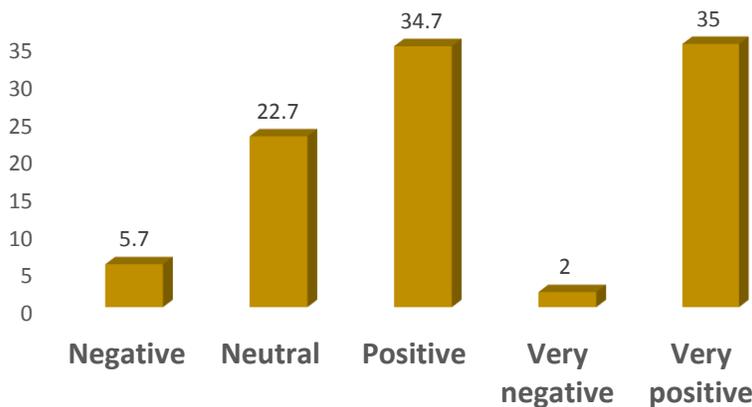
Respondents were asked if they were excited about new media technologies as one of the ways of measuring their attitude towards new media technologies. This was in the form of the statement “I am excited about new media technologies” to which they were required to select an appropriate opinion or feeling from a list of options in a five-point Likert scale. Data gathered on this subject are discussed below:

**Figure 6. 21: Respondents’ excitement about new media technologies**



The researcher sought to find out how e-teens were fascinated by new media technologies to the point where they were excited to use them. This saw close to 60 % (59.0%) of respondents saying they were very much so excited with new media technology and close to 20% (17.7%) said they were “somewhat” excited about new media technologies. Respondents who were not exactly excited were less than 10% (9.3%) and those who were not at all excited with new media technologies made up 6.0% of the sample. Generally, perceptions about the benefits and usefulness of new media technologies were that of a positive one. The next question was for respondents to self-rate their attitude towards new media technologies from a five-point Likert-scale rating from very positive to very negative.

**Figure 6. 22: Respondents’ self-rating on their overall attitude towards new media technologies and their applications**



As observed from gathered data, 35.0% of respondents rated their attitude towards new media technologies to be very positive and more than 30% rated their attitude as positive. On the other hand, only six respondents (2.0%) and 17 respondents (5.7%) rated their attitude towards new media technologies and their application as being very negative and negative respectively. All told, the data showed that the attitude of the majority of respondents was positive towards new media technologies and their applications.

A further step to statistically test the hypothesis formulated regarding attitude through the two-way ANOVA test is elaborated below:

**H<sub>0</sub>:** Ghanaian e-teens are not likely to have a positive attitude towards new media technology.

**H<sub>4</sub>:** Ghanaian e-teens are likely to have a positive attitude towards new media technology use.

**Table 6. 22: Mean statistics for hypothesis 4**

Rate your overall attitude towards new media technologies and their applications		I am excited about new media technologies	New media technologies are beneficial to me	I can confidently say new media technologies are generally useful to me
Very negative	Mean	1.67	1.67	1.83
	N	6	6	6
	Std. Deviation	.816	.816	.753
Negative	Mean	2.94	3.76	3.29
	N	17	17	17
	Std. Deviation	1.391	1.300	1.105
Neither positive nor positive	Mean	3.78	3.90	4.01
	N	68	68	68
	Std. Deviation	1.291	1.211	1.203
Positive	Mean	4.28	4.42	4.37
	N	104	104	104
	Std. Deviation	1.127	.982	1.015

Very positive	Mean	4.58	4.70	4.69
	N	105	105	105
	Std. Deviation	.978	.808	.880
Total	Mean	4.14	4.31	4.29
	N	300	300	300
	Std. Deviation	1.252	1.116	1.129

The table above is the results obtained from a statistical test to measure Ghanaian e-teens' attitude towards new media technologies and their usage. To determine whether Ghanaian e-teens have a positive attitude towards new media technology use or not, the researcher used a range of values. Any value  $< 4.0$  was considered negative and any value  $\geq 4.0$  considered positive. Therefore, the results for the statement: "I am excited about new media technologies" with Mean = 1.67, 2.94 and 3.78 have a negative impact on the overall attitude towards new media technologies and their applications. On the other hand, in response to the same question, the means 4.28 and 4.58 translates positively on the overall attitude towards new media technologies and their applications.

In addition, new media technologies are beneficial to me with means 1.67, 3.76 and 3.90 are interpreted as e-teens' general negative attitude towards new media technologies and their applications. On the other hand, the means 4.42 and 4.70 reflects e-teens' positive attitude towards new media technologies and their applications.

Also, responses to the statement "I can confidently say new media technologies are generally useful to me" yielding the means 1.83 and 3.29 suggest a negative attitude whiles the mean 4.01, 4.37 and 4.69 mirrors e-teens' positive attitude towards new media technologies and their applications. Overall means are illustrated in the table below:

**Table 6. 23: Overall mean statistics for hypothesis 4**

Rate your overall attitude towards new media technologies and their applications	I am excited about new media technologies	New media technologies are beneficial to me	I can confidently say new media technologies are generally useful to me	Overall mean
Negative	8.39	9.33	5.12	<b>7.61</b>
Positive	8.86	9.12	13.07	<b>10.35</b>

Comparing both overall negative (Mean = 7.61) and overall positive (Mean = 10.35), it can be realized that positive attitude is higher than the negative. Therefore, the hypothesis that Ghanaian e-teens are likely to have a positive attitude towards new media technology use is confirmed.

**Table 6. 24: ANOVA test for hypothesis 4**

		Sum of Squares	df	Mean Square	F	Sig.
I am excited about new media technologies * Rate your overall attitude towards new media technologies and their applications	(Combined)	92.396	4	23.099	18.10	.000
	Between Groups	82.864	1	82.864	64.93	.000
	Linearity				7	
	Deviation from Linearity	9.531	3	3.177	2.490	.060
	Within Groups	376.441	295	1.276		
	Total	468.837	299			
New media technologies are beneficial to me * Rate your overall attitude towards new media technologies and their applications	(Combined)	76.266	4	19.067	19.00	.000
	Between Groups	62.535	1	62.535	62.34	.000
	Linearity				4	
	Deviation from Linearity	13.731	3	4.577	4.563	.004
	Within Groups	295.904	295	1.003		
	Total	372.170	299			
I can confidently say new media	Between Groups	75.255	4	18.814	18.13	.000
	(Combined)				2	

technologies are generally useful to me * Rate your overall attitude towards new media technologies and their applications	Linearity	65.002	1	65.002	62.647	.000
	Deviation from Linearity	10.252	3	3.417	3.294	.021
	Within Groups	306.092	295	1.038		
	Total	381.347	299			

Significant at the level .05

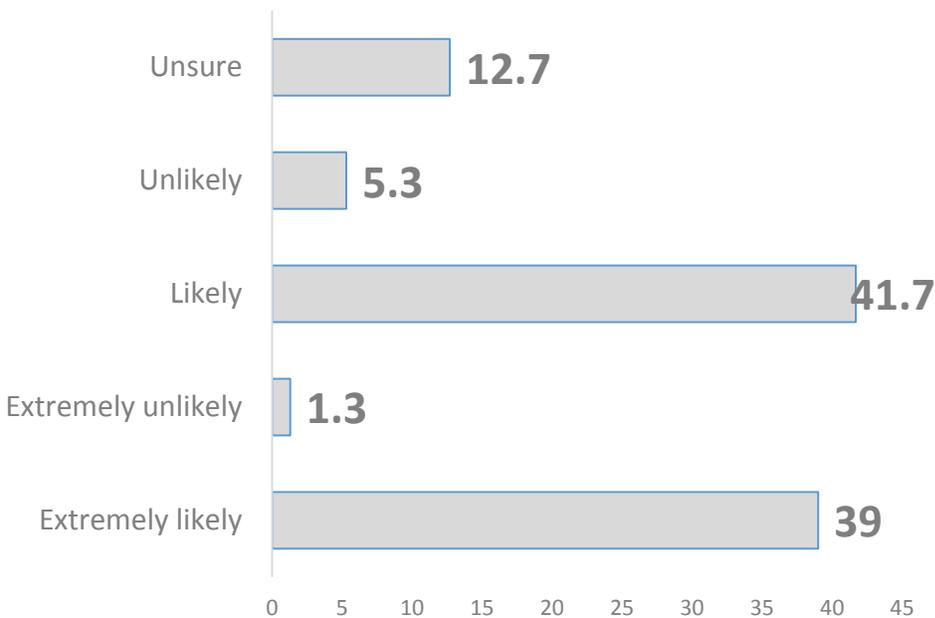
The Table above represents the analysis of variance for each Ghanaian e-teen respondent and attitude towards new media technology use. There was significant difference “I am excited about new media technologies” and “Rate your overall attitude towards new media technologies and their applications” with a linearity value of 0.000. There was also a significant difference between “New media technologies are beneficial to me” and “Rate your overall attitude towards new media technologies and their applications” with a linearity value of 0.000. The analysis of it resulted in an F-value of 62.344 with a probability value of 0.000 and with 1 and 295 degrees of freedom. There was also a significant difference between “I can confidently say new media technologies are generally useful to me” and “Rate your overall attitude towards new media technologies and their applications” resulted in an F-value of 62.647 with 1 and 295 degrees of freedom. Therefore, the results suggest that there is statistically significant mean difference in Ghanaian e-teens and their attitude towards new media technology use. This means that Ghanaian e-teens have a positive attitude towards new media technology use.

It also means the null hypothesis which states that “Ghanaian e-teens are not likely to have a positive attitude towards new media technology” is rejected. Therefore, the study statistically supports the research hypothesis that “Ghanaian e-teens are likely to have a positive attitude towards new media technology use”. It can be advanced that high appropriation levels of new media technologies can be, partly, attributed to “attitude” towards new media technologies. This then validates the assumption and argument postulated while constructing the e-teen model that because e-teens are digital natives, their attitude towards new media technology use will equally be positive.

### 6.16.2 Behavioural intentions

In TAM, Behavioural intention (BI) is the measure of the likelihood of a person engaging with a technology (Surendran 2012). Behavioural intention also speaks to the usefulness of a system, in that the motive for a user to use a technology, partly lies in the fact that it can be of some benefit to the user. In this context, the aim was to find out if respondents had the intention to use new media technologies in the long-term which would also serve as an affirmation that new media technologies are useful to the respondents studied. The following graph shows the details of data gathered on this aspect.

**Figure 6. 23: Respondents’ intents to use new media technologies in the long term**



More than 40% (41.7%) and almost 40% (39.0%) of respondents said it was likely and extremely likely that they would use new media technologies for the rest of their lives. Less than 7% of the respondents cumulatively said it was unlikely and extremely unlikely that they would continue to use new media technologies for the rest of their lives. Only 38 respondents representing 12.7% were unsure whether they would continue to use new media technologies the rest of their lives. So, the behavioural intention to use new media technologies was very high among respondents confirming Seal-Wanner’s (2007) assertion that teens who grow up in the digital age are conditioned to expect powerful and creative technological tools for work.

The actual hypothesis formulated in line with TAM to test whether communicative attributes of new media technologies are what make e-teens use new media technologies is found below:

**H<sub>0</sub>:** Behavioural intentions and actual usage of new media technology by Ghanaian e-teens are not motivated by the unique communicative and participatory attributes of the technology.

**H<sub>2</sub>:** Behavioural intentions and actual usage of new media technology by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technology.

Because the above stated hypothesis adopted the TAM concepts of behavioural intentions (BI) and usage (U), it was important to look at a question that sought to measure communicative attributes and to match them against another question that asked about respondents' behavioural intentions. This resulted in a correlation test for hypothesis 2. Details can be found below:

**Table 6. 25: Correlation test for hypothesis 2**

		I will continue to use new media technologies the rest of my life	Chat/Instant messaging apps	Video Calling	Social Media Apps	Entertainment	Information/News apps	Educational apps
I will continue to use new media technologies the rest of my life	Pearson Correlation Sig. (2-tailed)	1	.221**	.121*	.221**	.253**	.168**	.095
	N	300	297	300	295	292	293	288
Chat/Instant messaging apps	Pearson Correlation Sig. (2-tailed)	.221**	1	.451**	.611**	.441**	.287**	.224**
	N	297	297	297	294	291	293	286
Video Calling	Pearson Correlation	.121*	.451**	1	.492**	.415**	.311**	.192**

		Sig. (2-tailed)	.036	.000	.000	.000	.000	.001	
		N	300	297	300	295	292	288	
Social Media Apps		Pearson Correlation	.221**	.611**	.492**	1	.495**	.381**	.236**
		Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
		N	295	294	295	295	290	292	286
Entertainment Apps		Pearson Correlation	.253**	.441**	.415**	.495**	1	.352**	.175**
		Sig. (2-tailed)	.000	.000	.000	.000		.000	.003
		N	292	291	292	290	292	290	283
Information/News apps		Pearson Correlation	.168**	.287**	.311**	.381**	.352**	1	.599**
		Sig. (2-tailed)	.004	.000	.000	.000	.000		.000
		N	293	293	293	292	290	293	285
Educational apps		Pearson Correlation	.095	.224**	.192**	.236**	.175**	.599**	1
		Sig. (2-tailed)	.110	.000	.001	.000	.003	.000	
		N	288	286	288	286	283	285	288

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

\* . Correlation is significant at the 0.05 level (2-tailed).

The table above indicates the association between behavioural intentions and the patronage of communicative attributes of new media technologies by Ghanaian e-teens. Most of the correlations were significant at 0.01 and 0.05 significant level. From the table above, “I will continue to use new media technologies the rest of my life” is ranked first among all the others. This is an indication that the respondents’ behavioural intention to use new media technologies the rest of their lives (COR = 1.000) has a strong relationship with the unique communicative and participatory attributes of the technologies. The second factor of intention to use new media technologies was the entertainment apps of the technologies (COR = 0.253). The third factors are both chat/instant messaging apps and social media apps (COR = 0.221 respectively), which are

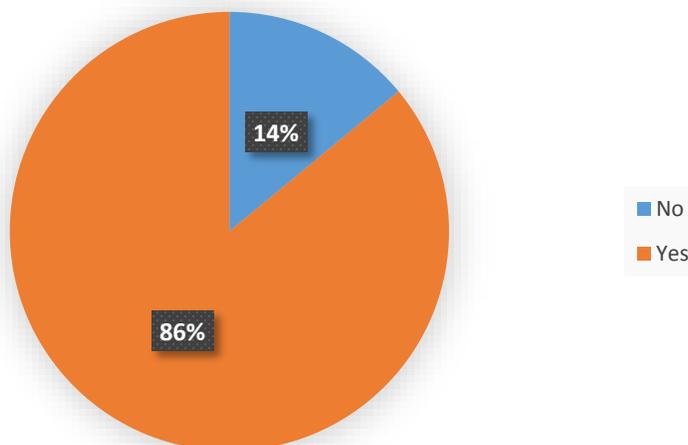
considered communicative and participatory attributes of new media technologies. The next factor is information/news apps (COR = 0.168), followed by video calling (COR = 0.121) and the least factor being educational apps (COR = 0.095). The results show that respondents' BI towards educational apps less. This is quite surprising since educational apps help e-teen learn important skills like reading, math, programming, and educational gratification playing out strong among e-teens. However, overall data shows that BI to use new media technologies is high among Ghanaian e-teens and this is motivated by the unique communicative and participatory attributes of new media technologies.

This means the null hypothesis ( $H_0$ ) is rejected and that the data generated by this study, therefore statistically supports the research hypothesis that: Behavioural intentions and actual usage of new media technology by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of new media technologies.

### **6.17 SOCIAL MEDIA APPLICATIONS PROMINENTLY AND FREQUENTLY USED BY E-TEENS**

This section looks at the general trend of social media usage among e-teens studied. Social media platforms are considered to encourage participation which leads to high appropriation of new media technologies. More so, data gathered showed that social media use is prevalent among e-teens. It is, therefore, in line to ascertain the exact trends that pertain among e-teens studied.

**Figure 6. 24: E-teens' participation in social media**



More than 80% of respondents (86%) had signed up to a social media platform compared to less than 15% (14.0%) of respondent who were not in any social media group. On the whole, more than eight (8) out of ten (10) respondents were on social media with the rest claiming they were not. The former represents the vast majority of respondents who were on social media. In that sense, it could be concluded that social media use among e-teens is high.

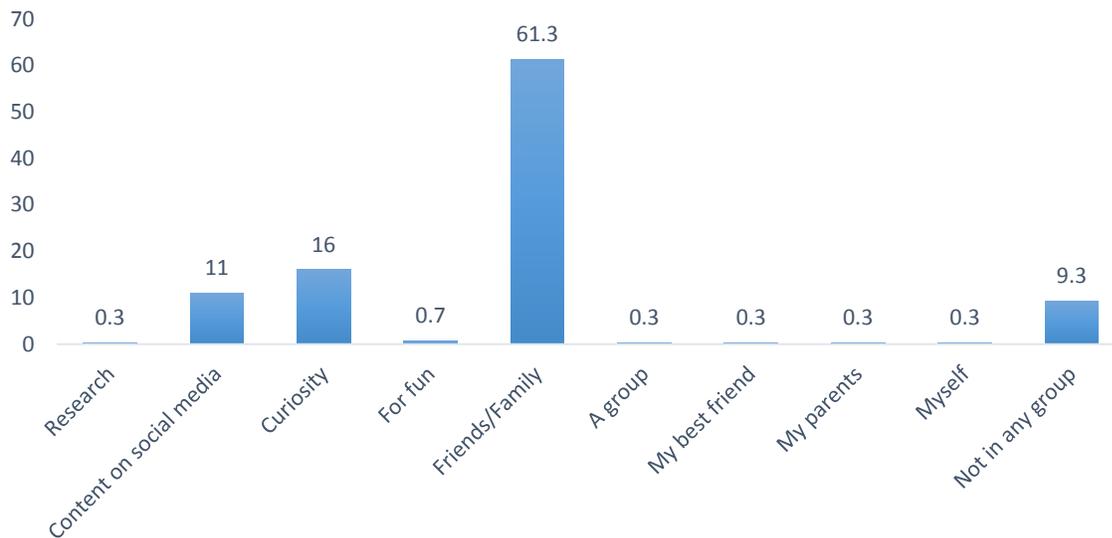
**Table 6. 26: E-teens’ social media engagement trends**

Platform	Responses		Percent of Cases
	N	Percent	
<b>Facebook</b>	<b>263</b>	<b>32.8%</b>	<b>88.9%</b>
Twitter	82	10.2%	27.7%
Instagram	119	14.8%	40.2%
YouTube	106	13.2%	35.8%
WhatsApp	165	20.5%	55.7%
Telegram	2	0.2%	0.7%
Flickr	12	1.5%	4.1%
Messenger	2	0.2%	0.7%
Imo	4	0.5%	1.4%
LinkedIn	5	0.6%	1.7%
Blogger	13	1.6%	4.4%
Viber	1	0.1%	0.3%
Skype	2	0.2%	0.7%
SlideShare	6	0.7%	2.0%
Snapchat	2	0.2%	0.7%
Hangout	2	0.2%	0.7%
Gmail	2	0.2%	0.7%
Yahoo mail	1	0.1%	0.3%
None	10	1.2%	3.4%
Others	4	0.5%	1.4%
<b>Total</b>	<b>803</b>	<b>100.0%</b>	<b>271.3%</b>

The results above represent actual social media platforms respondents have signed up to. This question required respondents to select as many platforms they had signed up to with the additional option to provide any that they were on which were not in the options provided. Data showed that the majority of respondents were on Facebook. As observed, more than 30% of the overall sample (32.8%) had signed up to Facebook with the bulk of respondents selecting it as much as 88.9% of the time while 20.5% had signed up to WhatsApp and 14.8% on Instagram. Also, 13.2% had signed up to YouTube and 10.2% were on Twitter. Platforms like Flickr (1.5%) and LinkedIn (1.6%) represented less than four percent cumulatively. All other platforms to which respondents had signed up, represented less than one percent. It is also noteworthy that less than two percent (1.2%)

of respondents said they had not signed up to any platform. So, the trend for social media use in terms of the top platform usage among e-teens starts with Facebook, next is WhatsApp, then Instagram, followed by YouTube and ends with Twitter.

**Figure 6. 25: The major influencing factor for joining social media groups**



This question was to test what had been found in literature regarding social influence as the number one factor that made people join social media groups. In this study, the greatest factor that influenced e-teens to join a social media group was their family or friends. This formed the great majority of more than 60% (61.3%) of respondents saying it was what mostly influenced them to join social media groups. The e-teens’ curiosity to see what was on social media influenced 16.0% of respondents and the content on social media influenced 11.0% of respondents to also join social media groups. Reasons like research, for fun, best friend, a group, parents, self cumulatively influenced less than 3% (2.4%) of respondents to join social media group. So just like previous studies, social influence (defined in this study as influence from family, friends and colleagues) played out significantly in this study as well. The actual statistical test for the hypothesis formulated follows:

**H<sub>0</sub>:** There is no positive relationship between social influence and the use of social media platforms by e-teens.

**H<sub>s</sub>:** There is a positive relationship between social influence and the use of social media platforms by e-teens.

In order to test for the above hypothesis, all responses for source of influence to sign up to social media platforms were categorized into two (discussed in Chapter 5); social and non-social influences as shown in the table below. Social influence is made up of respondents who said their family and friends were the ones who mostly influenced them in joining social media groups. The non-social category is made up of respondents who stated one of the following as the influence: content on social media, fun/for fun, self and research. The categories of influence are in the table below:

**Table 6. 27: Categories of influence**

	Frequency	Percent
Social Influence	186	68.4
Non-Social Influence	86	31.6
Total	272	100.0

The results showed that more than 68% of respondents said social influence was the reason they joined social media and 31.6% were made up of those who joined social media without social influence. The results of the actual test for hypothesis 5 are found in the table below:

**Table 6. 28: Chi-square goodness of fit test for hypothesis 5**

	Observed N	Expected N	Residual
Non-Social Influence	86	136.0	-50.0
Social Influence	186	136.0	50.0
Total	272		

$$\chi^2 = 36.765$$

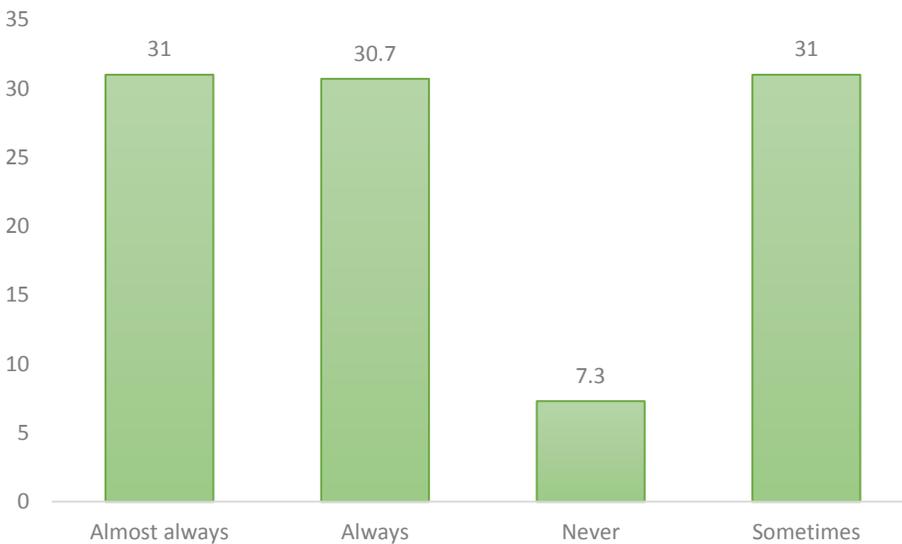
$$df=1$$

$$p=0.000$$

The goodness of fit test was performed to examine if there was a significant difference in social and non-social influence in joining social media platforms by e-teens. The results of the test showed that social influence in joining social media platforms was significantly more than the non-social influence. The difference between these variables (social and non-social influence) were significant,  $\chi^2(1, N=272) = 36.765$ ,  $p < 0.05$ . This means the null hypothesis: there is no positive relationship between social influence and the use of social media platforms by e-teens is rejected. The study data, hence, statistically support the research hypothesis that: there is a positive relationship between social influence and the use of social media platforms by e-teens.

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**Figure 6. 26: Frequency of social media usage by e-teens**



Data gathered indicated that 31.0% of respondents almost always used social media as well as 31.0% of respondents sometimes used social media. Three (3) out of ten (10) respondents always used social media and those who never used social media formed less than 10% (7.3%). Cumulatively, 61.7% of respondents “always” or “almost always” used social media. Social media use was therefore rampant among e-teens.

**Table 6. 29: Main reason for joining a social media group**

<b>Reason</b>	<b>Frequency</b>	<b>Percent</b>
Because most my family/friends are there	19	6.3
Everyone I know is on Facebook	30	10.0
Find classmates	16	5.3
Find course information	31	10.3
Find people with mutual interests	6	2.0
Friend suggested it	23	7.7
Get to know more people	39	13.0
Help others keep in touch with me	69	23.0
Helps me to unwind	6	2.0
I want to know what goes on there	35	11.7
Network in general	11	3.7
None	1	.3
Not in any group	13	4.3
Received a promotional email	1	.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

Respondents were, once again, asked to reflect on all the reasons for joining social media and settle on one that superseded the lot. The table above provides details on data collected. The results showed that the majority of respondents joined social media groups to help others keep in touch with them (23.0%). Other reasons for joining social media by respondents were to get to know more people (13.0%), know what is happening on social media platforms (11.7%), to find course information (10.3%) and because everyone they know was on social media (10.0%). These five reasons formed the main reason why respondents joined social media groups. However, reasons like friends suggested it (7.7%), family/friends are there (6.3%), find classmates (5.3%), find people with mutual interest (2.0%) and helps me to unwind (2.05%) were also some of the reasons respondents joined one social media group or another. Another deduction that can be made from this set of data is that the sociability function of new media technologies came strongly as a strong factor for new media technology usage.

## **6.18 SUMMARY**

This chapter sought to report on the data gathered through the quantitative method of data collection. Data was collected with the intent to answer the research questions for the study. With the main goal of collecting primary data to validate the proposed e-teen model, primary data

gathered was to serve that purpose which will be discussed in another chapter. In the next chapter, the results of the primary data collected are comprehensively discussed in line with the aims of the research and along the lines of literature and theories discussed in chapters two (2) and three (3) and, most importantly, in relation to the proposed e-teen conceptual model on the use and appropriation of new media technologies which was presented in chapter three.

## **CHAPTER SEVEN**

### **DISCUSSION OF RESULTS**

#### **7.1 INTRODUCTION**

The principal goal of this study was to design a conceptual model demonstrating how e-teens use and appropriate new media technologies and to test this model with primary data. This study, in view of that, critically examined the literature and relevant theories which served as the foundation for the development of the e-teen conceptual model for new media technologies use and appropriation. Afterwards, primary data were collected to serve as empirical evidence to validate the proposed conceptual model. While discussing the results in this chapter, the researcher strives to link the results to the reviewed literature and theories deliberated in chapters two and three and, most importantly, uses primary data reported in chapter six to establish the link with the proposed e-teen conceptual model. Discussion of the results is carried out along the lines of the research objectives guiding the study as well as hypotheses formulated in chapter one on which assumptions in the e-teen model are fundamentally based.

#### **7.2 NEW MEDIA USE AND APPROPRIATION AMONG E-TEENS**

Literature and primary data gathered in this study have revealed that e-teens, through their use and expression of creativity with new media technologies, have shown to be high appropriators of these technologies. This may, however, not be the case for the “dinosaur” and digital immigrant new media users. The manifest ubiquitous presence of new media technologies in the day-to-day activities of e-teens, such as learning, playing, socializing and communicating, and the continuing usage of new media technologies as cultural artefacts and symbols of identity by this set of users, by the same token, confirm that e-teens are, indeed, high appropriators of new media technologies. This reasoning is consistent with the MTA which has it that the levels of appropriation show up in the extent to which the technology being appropriated establishes itself in almost all facets of the users’ lives. Another component of appropriation is the fact that the technology is exploited and used in ways which may not necessarily have been part of the original purpose for use. In this sense, the user creates new uses for the technology and becomes the inventor of other technological components or structures for the same technology. For example, such a user can develop apps for smartphones, which were not originally a feature of that technology. Also, appropriation occurs when the technology user takes possession of the technology, that is, when they are able to use technology without the slightest difficulty.

It is significant to note that, although the study did not employ observation as a data collection technique, the researcher could not help but notice the zeal with which respondents took part in the study. This can be attributed to the fact that respondents realised they had been provided with new media technologies to respond to questionnaires online. This view was made more pronounced when respondents who did not fall into the sample selected, pressed the researcher to partake in the study upon hearing that they were to take part in the study through an online platform. When they were informed that they had not fallen into the sample through the simple random sampling method, they expressed disappointment about the fact that they did not get the chance to use the technologies as their colleagues. The situation was the opposite when questionnaires were self-administered to the few respondents who, because of poor Internet connection on the last day of data collection, had to fill hardcopy questionnaires. One could clearly see all that passion and zeal they had had to take part in the study rolling off their faces.

Again, the researcher noted that anytime respondents finished filling questionnaires, they would stray to other websites and apps on the devices. There was an instance when a respondent was observed using the Corel Draw graphics suite to design a mobile phone right after he was done filling the questionnaire. There was also another respondent who went on YouTube to watch a popular television serial right after filling the questionnaire. When asked why she would spend time watching that at the expense of other respondents who were waiting for their turn, she said she had missed out on a particular scene of an episode which had been aired the previous day on television and wanted to update herself. Perhaps, more importantly, except for a handful, almost all respondents did not require any kind of assistance with the technologies and also showed considerable expertise over the use of the new media technologies that were provided for data collection. This, evidently, means e-teens studied have the upper hand over the use of the technologies and can, therefore, be considered as high appropriators of new media technologies. Aside that, it also adds to the literature on digital inequalities in Africa in the area of limited and/or unaffordable bandwidth. This is because respondents' shift in attention to quickly access multimedia content, by taking advantage of the availability of technology during the survey to access audio-visual content, and the fact that most participants did not use new media technologies for video streaming or other audio-visual content such as TV programmes means they may have

found that expensive or they simply lacked access to that at the individual level. This affirms the digital inequality argument.

Primary data gathered also shows that respondents themselves admitted having an upper hand over new media technologies as the majority admitted being able to use new media technologies without struggle or difficulty. An attempt to measure appropriation expressing itself in the use of new media technologies without difficulty along the lines of gender showed that gender had no effect on the level of appropriation, in that, although there were more males taking part in the study, both genders had the majority admitting being able to use new media technologies without difficulty.

Furthermore, the great majority of respondents also rated their new media technology usage abilities as excellent and good. These ratings positively attest to the assumption in the e-teen model that respondents (e-teens) have appropriated the technologies well and highly enough. Hardly any (3.3%) acknowledged and rated their ability to use new media technologies as “poor”. Probably needless to point out, the observation made by the researcher about respondents in the course of using new media technologies to answer the questionnaire and respondents’ acknowledgement of their expertise in new media technology usage and the pointers the MTA gives as evidence of appropriation are in consonance.

Pertaining to new media technology usage patterns, the top-three new media devices respondents use on a regular basis are smartphones, followed by laptops and analog mobile phones, respectively. These devices were also the new media devices they personally owned; however, the single most frequently used new media device is the smartphone. The inference that can be drawn from this finding is that the smartphone is pervasive in the lives of e-teens since it is the number one new media technology they (e-teens) have access to, personally own, and use on a regular basis. In situations where respondents did not own any new media device, they, securely, had access to those owned by other people aside from themselves with access to new media technologies belonging to parents coming tops. In the Lenhart (2015) US study, although smartphones were predominant, the majority of American teens (73%) said they had access to or had (owned) a computer, a gaming console, a smartphone and a tablet respectively. Similar to what has been established in this study, in the US study only a handful of respondents (15%) had a basic phone (analog). In that study laptop was second, but along with desktop (PC) and more than half

of the teens had access to a tablet while 81% of the teens had access to gaming consoles (Lenhart 2015). Also, the gaming console was not used as regularly, similar to what was discovered in the US study.

In this study, the most frequently used new media technology among e-teens, the smartphone, had more males using it and so had the laptop. This is similar to what Lenhart (2015) found. In that study, 3% more boys used smartphones than girls. In this study, however, there were 6% more males using smartphones than females, even though the majority of both genders admitted using smartphones more than any other new media technology. It can be settled that among the e-teens studied, of the number of smartphone users, second year students use that technology most frequently and first year students dominated the number of analog mobile phone users, while of all laptop users studied final year students (Form three) were in the majority. This trend is similar to the finding by Lenhart (2015) that smartphone users tilt more toward older teens with 15- to 17-year-olds forming 76% of smartphone owners contrasting with 68% making up 13- to 14-year-olds.

The popularity of smartphone usage among e-teens is testament to why most of e-teens studied opted to use smartphones instead of other new media devices the researcher had provided for data collection as well as the schools' PCs. In cases where laptops were available and not in use, many respondents opted to wait for those and then used the smartphones to finish and they used smartphones instead of laptops to answer the questionnaire online. This trend is similar to a report by the Pew Research Centre that smartphone adoption among American teens had increased substantially and mobile access to the Internet is widespread. In the case of this study, the smartphone also emerged as the new media technology used to access information from the Internet on a regular basis. This makes mobile access to the Internet leading in this study as well. This also means that e-teens are appropriating smartphones more than any other new media technology.

Attitude, which is one of the important variables in TAM, is considered to have influence on technology use, consequently, appropriation. When attitude towards new media technologies was measured, the greater majority of respondents selected positive variables more than the opposite. With positive attitudes, e-teens' high levels of new media technology appropriation are

unexpected. A further step to statistically test attitude based on one of the formulated hypotheses in the first chapter and on data gathered, found that e-teens had positive attitudes, confirming the assumption that “e-teens are likely to have a positive attitude towards new media technologies”. The mean statistics and ANOVA test were in favour of formulated hypothesis.

Besides, based on the TAM, this study has it that behavioural intentions and actual usage of new media technologies by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technologies which helps e-teens gratify their needs. This is because Overdijk & van Diggelen (2006), in support of TAM, propose that the behaviour of a technology user (use) results from features of the technology which the user needs to actively explore and make conscious choices about. This ensures that desired outcomes are achieved, a reasoning which can equally be related to the U&G theory. Literature also points to the communicative attributes of technologies as the prominent reason for the high usage of them among e-teens.

Lenhart et al. (2008) confirms that communication is the number one reason for social media use, which Smith and Zichuhr (2010) say is the world’s most popular online destination. Literature also has shown that e-teens yearn for a sense of belonging, a craving which is deemed characteristic of that stage in an individual’s life. Responsively, new media technologies come in handy to help e-teens stay in touch and communicate with significant others and through that fulfil their need to socialise and feel a sense of belonging. This study confirms this as respondents admitted regularly obtaining gratifications they sought through the use of new media technologies.

Generally, based on the trend of new media technology usage among e-teens found in literature, the e-teen conceptual model has it that prominent activities and features of new media technologies e-teens mostly engage are communicative in nature. These features of new media technologies allow them to communicate, socialise and have a sense of belonging which are termed sociability and social inclusion gratifications in the proposed e-teens conceptual model. These features, which help them gratify their peculiar needs in combination with attitude (which has been confirmed to be positive) are what make the e-teen attracted to new media technologies and, for that reason, high appropriators of these technologies. The next section explores exact usage trends of new media technologies.

### **7.3 KEY FEATURES OF NEW MEDIA USE AND APPROPRIATION AMONG E-TEENS**

This section looks at how e-teens express expertise in the use of new media technologies. Literature has it that teens have appropriated these technologies to the extent that they are considered specialists in the new media world and so the use of the terms “e-teens” and “digital natives” to describe them. To start with, appropriation manifests itself in the expression of competency in the use of new media devices devoid of any kind of struggle (which has been discussed above). Further to this, in the construction of the e-teen model, the researcher incorporates and tests the concept of participation which Rogoff (1995) had linked to appropriation. Rogers (2003) likens technology appropriation to how people imbibe cultural tools like language and even fashion styles. In the case of language, one learns to speak a language (or appropriates a language) in a socio-cultural context where one interacts with other people who know and can speak the language, make mistakes, gets corrected and, as much as possible, makes it a crucial part of daily lifestyle. This is because, by Rogoff’s definition of appropriation, as one engages others in the socio-cultural environment, transformation occurs as the “artefact” of appropriation becomes part and parcel of one’s way of life. So, just like language, once new media technologies are appropriated they become a new cultural norm (way of life) for the appropriator. Participation, in the context of new media appropriation, occurs through content creation and sharing (through which users interact in a “socio-cultural context”). By inference, features of new media devices or technologies provide avenues for engaging other users of the technologies (participation) which contributes to the appropriation of same.

In brief, in this study, appropriation is basically the extent to which new media technology users can use the technologies without tussles or difficulties firstly. Then is the frequency of use of the technologies as a pointer to the appropriation which has been dealt with in the previous section. Another pointer to appropriation suggested by Rogoff (1998) which has been related to appropriation in this study, participation, is under the microscope in this section. Participation regarding new media technology use shows up in the generation and sharing of content through new media technology platforms. Participation, as proposed by Rogoff, is the use of the technologies in a socio-cultural context leading to the technology becoming part of one’s daily lifestyle. The correlation test conducted found a link between content creation, participation, sharing and the respondents’ ability to use new media technologies and apps without difficulties.

In addition, respondents' personal rating of their usage abilities and frequency of the use of devices proved that participation through content generation or creation and content sharing makes users gain more knowledge about new media technologies which, consequently, leads to users gaining an upper hand over the technologies.

#### **7.4 TRENDS OF NEW MEDIA TECHNOLOGY USAGE AMONG E-TEENS**

Social media, music and research/study are the top-three uses to which e-teens put new media technologies while of all apps that are used by e-teens, music, Facebook and video apps came tops (cf. Figure 6.8). In terms of social media usage, Facebook, WhatsApp and Google+ are what e-teens in this study use regularly. Boyar, Levine and Zensius (2011) find chatting and instant messaging ("IMing"), visiting social networking sites, watching online videos as the top three uses which is closely related to what has been found in this study. Hlatshwayo (2014) has found similar trends in Swaziland with close to all (83%) of his respondents stating that they use social media always and sometimes. Buhari, Ahmad and HadiAshara's (2014) Nigerian study found the majority of the students using social media more than five hours per day, whereas 52% of the respondents in Mauritius access social media on a daily basis (Khedo, Ally, Suntoo & Mocktoolah 2013). These trends show that the usage patterns are not necessarily significantly different across the various regions of the world and give credence to the perspective that e-teens are motivated to use and highly appropriate new media technologies because the technologies provide the needed gratifications they so desire to fulfil which are peculiar to that stage of human development. With social media coming top on the list, unquestionably, this study is right in the assumption that communicative attributes of new media technologies and communication/socialisation are the central reason for e-teens' new media technology usage.

The assertion by Lenhart et al. (2010) and Lenhart (2015) that teens are accessing the Internet through mobile devices rather than using the computer is likewise confirmed as this study finds that the majority of e-teens often go online with smartphones than any other new media technology (cf. Figure 6.4). This was followed by the laptop, although the percentage was rather minimal. PC (desktop computer), which is not a mobile technology, was selected by only a few respondents.

Some researchers have found that girls have the propensity to use new media technologies for more social activities than boys, whereas boys use them more for gaming activities (Walker 2004;

Seiter 2005), while researchers like Kaare et al. (2007) provide evidence of the fact that both boys and girls use new media technologies for the same communicative functions. In this study, although differences have been established, it can be observed that trends are similar such that social media, which tops with the male gender equally tops in the ranks of the female gender, a case which repeats itself with the second most popular platform (music). However, to show actual gender differences through a statistical test, the Mann-Whitney U test was performed. The test showed that, overall, more females went in for video and music as against the males. The rest did not show any gender differences.

With just a handful of e-teens admitting to the contrary and almost all (eight out of ten respondents) saying they have signed up to various social media platforms, the top two reasons provided for the decision to be on social media are “to help others keep in touch” and “to get to know more people”. Obviously, the reasons are related to social inclusion and sociability and so the assumption (hypothesis) in this study that “there is a relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications” seems to be confirmed, albeit, not statistically tested yet.

Facebook is the most popular social media platform e-teens have subscribed to followed by WhatsApp, Instagram, YouTube and Twitter, in that order. This is comparable to Milton’s (2014) study which finds Facebook as the most signed-up-to social networking site among teens in the United States. Likewise, Markwei and Appiah (2016) have also reported that social media usage is popular among the youth who regularly visit Internet cafés in two communities in the capital of Accra (Nima and Maamobi) with 76% of respondents having profiles. In Markwei and Appiah’s study, the most popular SNS used among the participants were Facebook and WhatsApp. They also have found that respondents primarily use social media for staying connected, which included chatting with old friends, making new friends and staying in touch with family members, akin to what has been discovered in this study. The assumption made about e-teens’ motivation for social media usage that has been uncovered in this work is also consistent with what has been established in similar studies in Singapore, Brazil and other countries (Santos, Hammond, Durli & Chou 2009, Acquisti & Gross 2006; Clark, Lee & Boyer 2007; Pempek et al. 2009; Lampe, Ellison & Steinfield 2006; Sheldon 2008; Subrahmanyam, Reich, Waechter & Espinoza 2008).

## **7.5 GRATIFICATIONS SOUGHT AND OBTAINED FROM THE USE OF NEW MEDIA TECHNOLOGIES AMONG E-TEENS**

In order of popularity, respondents selected new media technology use for academic (educational) purposes, new media for entertainment and leisure, information needs, socialisation and connectivity, social status/building relationships, creating and sharing content, combating boredom and venting negative feelings as needs they expect to satisfy and actually satisfy when a decision is made to use new media technologies. Responses provided confirm the foundational assumption that new media technologies help e-teens to obtain the gratifications they seek. It also endorses the account by Ito et al. (2008) that new media technologies open doors for youth to grapple with social norms, explore interests, develop technical skills, and experiment with new forms of self-expression. In like manner, it validates Quans-Haase & Young's (2010) finding that main gratifications sought by e-teens are under the social connectivity and companionship umbrella.

Furthermore, it corroborates the study by Ancu and Cozmo (2009) who concluded that the gratifications sought are a desire for social interaction, information seeking and entertainment. This because the present study found entertainment and leisure, information, socialisation and connectivity as the top-three gratifications sought and obtained. The stance taken in the e-teen model is that gratifications sought and gratifications obtained are consistent when it comes to the e-teen has been confirmed by data. It is, hence, not surprising that appropriation levels of new media technologies have a relationship with how much those technologies help users meet gratification needs. This study has identified the needs as being social inclusion, educational and sociability gratifications, and which have been proven to be true through the statistical tests conducted.

## **7.6 FEATURES OF NEW MEDIA TECHNOLOGIES THAT ARE MOST APPEALING TO E-TEENS**

The top three apps available on new media technologies that e-teens in this study admitted as being appealing to them are educational, entertainment and information/news apps respectively. One could extrapolate that these apps help e-teens to find educational materials and learn (meet their educational needs) and also help them to get entertained (meet entertainment needs) as well as get trending news or information (meet information needs). To find e-teens, in a significant manner,

selecting entertainment apps gives credence to the observation by La Ferle et al. (2000) that teens will open-heartedly embrace (appropriate) technologies that make provision for social stimulation. This has been discovered to be important to this group of people (teens). Social stimulation (actively engaging, interacting or communicating with one's social networks as a way of building relationships or shedding loneliness or any kind of burden), which is the same as social inclusion and sociability gratification in the e-teen model, includes opportunities for e-teens to find entertainment, communicate and socialise. So, the fact that close to half of respondents (45.6%) unambiguously admitted ("Very much so") using new media technologies for communication and socialisation than any other activity, likewise, carries a lot of weight. It also partly supports the assumption in the e-teen model that e-teens mainly use new media technologies to achieve gratifications in line with communication and socialisation leading to the third hypothesis that "there is a relationship between e-teens' use of new media technologies and social inclusion, educational and sociability gratifications" which has been confirmed as true by data gathered (cf. Table 6.10 and Table 6.11).

## **7.7 SOCIAL INFLUENCE AS A MAJOR INFLUENCE FOR THE USE OF SOCIAL MEDIA**

Advancements by Latane (1981) and Malhotra and Galletta (1999) about the psychological concept of social influence which is rooted in the usage of information systems, particularly social media, is tested in this section. The main argument of Latane is that a person's use of social media (behaviour) is as a result of social influence (behaviour and presence of others). Malhotra and Galletta also explained that social influence accounts for the acceptability, adoption and adaption of an information system. Based on this argument, this study hypothesized that "there is a positive relationship between social influence and the use of social media platforms by e-teens". This hypothesis was not a major argument in the proposed e-teen model, but the data gathered and statistical test conducted (the Chi-square goodness of fit test) confirmed the hypothesis that: "*There is a positive relationship between social influence and the use of social media platforms by e-teens*".

## **7.8 SUMMARY**

This thesis proposed the e-teen conceptual model for use and appropriation of new media technologies based on relevant theories and empirical literature. In order to test assumptions in the

model, primary data were collected and the results reported. The results have also been discussed along the lines of hypotheses formulated which have also been tested. The next chapter, which is the final chapter of the thesis, provides the direct links of the results to the proposed model. Conclusions, the contribution of the study, limitations and recommendations are also discussed.

## **CHAPTER EIGHT**

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

#### **8.1 INTRODUCTION**

The research problem of this study centred on the fact that most studies into the uses, gratifications and appropriation of new media technologies have been conducted based on general theories and models of technology use and appropriation, such as Uses and Gratifications Theory, Media Systems Dependency theory and Model of Technology Appropriation, giving the impression that all users of technology are a homogenous group with similar interests, abilities and usage patterns. This trend, the researcher believes, may well not be considered proper enough. The posture this study takes, as a result, is that e-teens are a unique set of new media technology end users who have to be studied in a different context in the light of concepts, models and theories that back such studies.

The main aim of the study was, thus, to develop a conceptual model that represents how e-teens use and appropriate new media technologies by critically reviewing relevant theories and dominant trends in the literature on the uses, gratifications and appropriation of new media technologies. The development of such a model warranted it being tested as part of the research process to ascertain its appropriateness for the purpose for which it was developed. Consequently, part of the research process was to test the model through the collection of primary data through quantitative techniques. In the preceding chapters the results obtained from primary data was presented and discussed. This concluding chapter begins with highlights of the previous chapters, followed by a synopsis of the main results, and then a brief assessment of the e-teen model in relation to primary data collected. The main contributions of the study, limitations and recommendations for further or future research are also discussed.

#### **8.2 SUMMARY**

The summary is divided into two sections, namely: summary of the preceding chapters and summary of results.

##### **8.2.1 Summary of chapters**

The discussion in chapter one provided an overview of and foundation for the rest of the thesis. It, principally, gave the background to the study and explained the study objectives, rationale and

relevance of the study. It also detailed both the general and specific research questions driving the study. A case was made for the need to conduct a study of this nature by observing that a lot of research has been done on how young people, including teens (e-teens), use and appropriate new media technologies. Many of the studies are skewed to other geographical areas except Africa and, especially, Ghana. More so, it was argued that most studies on teen use of new media technologies were done based on general theories of use, gratifications, acceptance and appropriation of technologies. These studies did not take cognisance of the fact that teens (e-teens) use new media technologies differently, have different characteristics. Attitudes, motivations and needs concerning new media use calls for a thorough study in a different context than any other group. Thus, there was the need to investigate such assumed missing links and, in so doing, making a larger case for this study. This led to the setting of one of the objectives of the study - to develop a conceptual model explaining new media appropriation by e-teens - and another objective which sought to test the e-teen conceptual model among other objectives.

In chapter two works that have been done on the new media technology use and appropriation with emphasis on studies pertaining to e-teens were reviewed. Since literature, partly informed the development of the e-teen model, in carrying out the review it was done in line with the objectives of the study. The objectives were; to examine the literature revealing new media appropriation among e-teens; to look into the uses e-teens make of new media technologies. The study also strived to find out the gratifications sought from new media technologies; the gratifications e-teens obtain from the use of new media technologies and to identify key features of new media appropriation and experience among e-teens. Further, it identified the features of new media technologies which are most appealing to e-teens. Discussions highlighted the methods and dimensions of the variables used, the results and conclusions reached and emphasised their importance to the thesis.

Having done this and gaining a fair knowledge of how e-teens use and appropriate new media technologies based on empirical literature, in the next chapter (chapter three), three widely used theories in literature relating to use, gratifications, acceptance and appropriation of new media technologies were studied. With the researcher's analytical examination of the three theories serving as foregrounding for the study, this culminated in the development of a model explaining e-teens' use and appropriation of new media technologies. These theories are the Uses and

Gratifications Theory, Technology Acceptance Model (TAM) and Model of Technology Appropriation (MTA). The researcher in developing the conceptual model for e-teen new media technologies use and appropriation (the e-teen model) incorporated some of the concepts and assumptions of these theories. The work of constructing the proposed conceptual model for new media technologies use and appropriation by e-teens was undertaken in chapter four. Chapter five centred on the quantitative research approaches and methodology used for the collection of primary data to test the e-teen model, including methods, population, sampling, instrument for data collection, reliability and validity, whereas chapter six presented and analysed data from the quantitative study conducted in the form of frequency tables, histograms and pie charts with interpretations underneath. In chapter seven the results were discussed while looking for connections with empirical literature, theories and the proposed e-teen conceptual model in the form of hypothesis tests.

### **8.2.2 Summary of results**

The research had a number of objectives guiding it. In summarising the results obtained from the study, each objective is put forward and corresponding results obtained spelled out.

#### **a) Types of new media e-teens have access to**

The majority of respondents were not restricted in their new media use in any way. The handful of respondents who admitted being restricted had restrictions emanating from school and home. A rather interesting discovery was that a marginal number of respondents disclosed personally restraining themselves from using new media devices. Barring any kind of restriction, few respondents personally owned new media technologies, but the majority, representing a little more than half of the respondents, had access to new media devices that their parents owned. The rest had access to new media technologies owned by siblings, uncles/aunts, friends and school in different proportions. Overall, the most popular new media technology that e-teens had access to and, at the same time had ownership of, was the smartphone.

#### **b) Types of new media used by e-teens in their scheme of things**

With smartphones and laptops being new media technologies respondents owned predominantly and used most frequently, respondents equally selected new media for social media and music as

top uses they put the technologies to. In a similar vein, music and Facebook were the top-two apps used frequently on new media devices by e-teens which reflects the top uses they had earlier indicated. The top-two social media apps used were Facebook and WhatsApp. The hypothesis that behavioural intentions and actual usage of new media technologies by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technologies was also confirmed by data. This, equally, endorses literature and gives validation to the position taken in the e-teen model that communicative and participatory features of new media technologies are leading in the use of the technologies. Hence, it falls in place to posit that communicative and participatory attributes of new media technologies aid e-teens to amply meet their unique gratification needs of social inclusion, educational and sociability. Statistical tests conducted with research data confirmed that gratifications e-teens seek are sufficiently met by the use of the technologies. As a result of the technologies helping e-teens to satisfactorily meet their unique gratification needs, it will not be far from right to take the stance that this partly accounts for the high appropriation of these technologies by e-teens.

#### **c) E-teens' purposes for using new media.**

Social media made its way to the top of the list, closely followed by music. The use of new media technologies for learning took the third place. From all indications, new media use for academic purposes, although significantly noticeable, did not top the agenda for new media technology use. Results pointed out that the top-three apps used by e-teens were music, Facebook and video. By inference, of all apps frequently used by e-teens, entertainment and social media apps were used most frequently. In an order of frequency or popularity, Facebook, Whatsapp and Google+ were the top-three social media apps used by e-teens. Respondents also engaged the dictionary app on their phones quite frequently. Considering overall scaled items that expressed various levels of predisposition to use the dictionary app, the majority of responses were in favour of the dictionary app which is very significant. It could be reasoned from this that the dictionary app on new media technologies plays a significant role in the academic lives of e-teens.

#### **d) Gratifications sought and obtained from the use of new media technologies**

Academic, entertainment and leisure; socialization/social connectivity, respectively, were the most popular gratifications sought by e-teens. When respondents were asked to select the number one gratification they habitually wished to satisfy when using new media technologies, they, once

more, selected academic, entertainment and leisure, and socialization/social connectivity as the gratifications they habitually intend to fulfil whenever they use new media technologies. The same question was asked again, but this time with options to choose from a five-point Likert scaled items which sought to measure the frequency with which they sought those gratifications. Once again, these top-three gratifications (academic (educational), entertainment and leisure and socialization/social connectivity) emerged, giving a strong signal that these gratifications are very prominent among the e-teens studied.

The results also showed that respondents who had the tendency to have a need in mind to fulfil with new media use were in the majority. When asked if they met those sought-after gratifications, results proved that gratifications were met, at least, sometimes. Statistical results obtained for the hypothesis formulated based on prediction in the e-teen model that “there is a relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications” showed that there was a relationship between e-teens and their tendency to regularly seek gratifications in line with educational, sociability and social inclusion gratifications.

The conclusions that can be drawn from these are that as far as e-teens are concerned gratifications sought (GS) are usually obtained or, as a minimum, sometimes obtained. This is because they go in for new media technologies that amply satisfy their gratification needs. Also, regular gratifications e-teens seek and obtain are in line with educational, sociability and social inclusion.

#### **e) Key features of new media appropriation and experience among e-teens**

The study gathered that e-teens have control over the use of new media technologies. The respondents themselves admitted being able to use the technologies without any difficulties and also gave high ratings for their new media technology usage abilities. Aside from that, they exhibited high levels of appropriation in the course of data collection while using the technologies. The results confirm what was found in literature and therefore the assumption in the e-teen model that e-teens are high appropriators of new media technologies was confirmed. The statistical tests performed (Mean, ANOVA) to examine e-teens’ general attitude towards new media technologies and their applications additionally found an overall positive attitude towards new media technologies which can be said to account for the high appropriation of the technologies. Content sharing, content generation and participation also accounted for high appropriation of new media

technologies. All tests of relationships for these three variables (through a correlation test) and respondents' new media usage abilities, established positive relationships, making a case for appropriation coming about as a result of active participation on new media technology platforms.

#### **f) Features of new media technologies which are most appealing to e-teens**

Educational apps topped the pack of apps that e-teens selected as being appealing to them, followed by entertainment and information/news app. These can be considered the first three apps that appeal to e-teens and can be likened to the top three uses e-teens put new media technologies to as gathered by this study, which were academic, entertainment and socialization. Unvaryingly, the uses will lead to the apps employed which has been concretely confirmed by empirical data gathered.

#### **g) Proposed conceptual model explaining new media appropriation by e-teens**

The proposed e-teen model was presented in chapter four. The results of the research when matched against constructs/variables in the e-teen model indicate that the e-teen model is a viable, useful and functional model for explaining how e-teens use and appropriate new media technologies. The results of all hypotheses formulated in keeping with assumptions made in the construction of the model that were tested showed up as positive.

### **8.3 RELATING FINDINGS TO PROPOSED E-TEEN MODEL**

Stemming from the fact that academic (educational), entertainment and leisure; socialization/social connectivity were the most predominant gratifications consistently sought and obtained by e-teens, the assumption in the E-teen model that gratifications sought by e-teens are in line with sociability, educational and social inclusion has been validated. This was strongly corroborated in other ways in view of the fact that the same question was asked in various forms with different variables and different levels of measurement and still yielded similar results. And to further support the assumptions made, educational apps topped the pack of apps that e-teens selected as being the most appealing to them, followed by entertainment and information/news app. This demonstrates that the apps they selected as appealing are the same apps that made them achieve their gratification needs. The other assumption made about e-teens' propensity to obtain gratifications they seek was authenticated by data gathered. The most obvious justification for this is that they are able to access and use new media technologies that amply satisfy their gratification needs.

Findings also legitimised the E-teen model's assumption that e-teens are high appropriators of new media technologies as the great majority of respondents rated their new media technology usage abilities as being excellent and good. In addition to that, another evidence for high appropriation in terms of e-teens' expertise with new media technology usage was authenticated by primary data considering the majority of male and female respondents acknowledged being able to use new media technologies without struggle or difficulty. This proves that, regardless of gender, e-teens have an edge over new media technologies. In essence, conceptualisations and assumptions based on which the E-teen model was developed has been confirmed by primary data gathered, making the conceptual model a useable and authentic model that could be further verified in other contexts.

#### **8.4 MAIN CONTRIBUTIONS OF THE STUDY**

In making a case for the relevance of this study, attention was drawn to the fact that although there has been a lot of research in the area of teens and new media use, much has not been done in the context of the sub-Saharan African region, especially in Ghana, where the use of new media technologies has become widespread with mobile phone usage penetration crossing 100% as far back as 2013 according to the National Communications Authority of Ghana. Reference was made to researchers reporting that a review of the literature shows limited empirical studies investigating the use of new media by youth in Ghana (including e-teens) with the bulk of literature merely relating to discussions by ordinary Ghanaians and opinion leaders in traditional media of the negative effects of social media. This thesis, the theoretical contribution aside, equally makes practical and empirical contributions to the body of literature on the subject of uses, gratifications and appropriation of new media technologies among e-teens in Ghana by striving to provide empirical evidence for the extent of new media technology usage among teenagers in Ghana. The results from empirical data gives valuable information and adds to existing literature on how young people (e-teens) appropriate and use new media technologies to gratify their p needs.

#### **8.5 LIMITATIONS OF THE STUDY**

According to Price and Murnan:

The limitations of the study are those characteristics of design or methodology that impacted or influenced the interpretation of the findings from your research. They are the constraints on generalizability, applications to practice, and/or utility of

findings that are the result of the ways in which you initially chose to design the study and/or the method used to establish internal and external validity (2004:66).

The inference that can be made from this definition is that every study is likely to have some limitations. Cilliers (2014:245) notes that there are advantages and disadvantages to every research design and other research designs could complement the research path followed. While results show the objectives for the study have been achieved, it has been noted that, just like other studies, there are some limitations in this study, nonetheless. The first limitation that has been observed is that data collection and analysis were based on what respondents reported. Brutus, Aguinis and Wassmer (2013) say self-reported data have a limitation in the point that it hardly can be verified independently for bias. This means the researcher has to take what people say or report - be it through questionnaires, in-depth interviews or focus groups - at face value and make conclusions assuming that it is, a reflection of, reality. In this study, primary data were collected through questionnaires which were made available in hard copy for some respondents and on the Google form platform for most respondents. Essentially, respondents gave answers based on memory, perceptions and intuitions. These could lead to providing answers from selective memory, exaggeration and personal biases and therefore would not reflect the actual situation on the ground.

Also, in the selection of the sample for the study, attention was not paid to equal representations of both genders which might render generalisations made based on gender contestable on the basis of gender bias. This is because the study used the probability sampling method for the selection of respondents based on the researcher randomly selecting respondents from the list of people on the register provided by the schools.

Again, even though a pilot study was conducted prior to the actual data collection, which brought issues regarding validity to the fore, it is assumed that, because the instrument required respondents to independently fill in questionnaires, some respondents might have had some difficulties in understanding some of the questions which the investigator may not have necessarily observed. Also, specific questions based on the proposed model should have been included in the set of questions to get specific answers. For example, specific questions relating to social inclusion gratification could have been added instead of tying it to sociability gratification.

Lastly, the study was mainly quantitative but, undeniably, other data collection techniques (both quantitative and qualitative) could have been helpful to arrive at a more comprehensive picture of uses, gratifications and appropriation of new media technologies by e-teens which can be accounted for as a limitation of this study.

## **8.6 RECOMMENDATIONS**

In the foregoing sections, a summary of the main findings of the study regarding each research question has been presented, and so have the main contributions and limitations of the study. In addition, based on the research objectives, data collected and the results, the following recommendations are being proposed:

### **8.6.1 Recommendations for objective 1**

The following recommendations are made regarding the types of new media, e-teens have access to:

- This study confirms what previous studies have found that e-teens have access to new media technologies in an unprecedented manner. This widespread access and consequent use of new media technologies means that teens' new media usage has to be monitored to ensure they use the technologies productively. Monitoring, in this instance, will not be a violation, but that which is born out of necessity.
- Schools should set up clear policies on new media usage, which must be enforced. These policies should, first of all, set out rules regarding personal and official use of new media technologies.
- Whatever the circumstance under which teens can use new media devices, it is imperative for schools to provide Internet facilities in order to easily control, monitor and regulate what their students do online by using technology-based tools to block, filter and track online activities.
- Parents and guardians should have practical ways of monitoring what their teens do with new media devices, such as checking what sites they have visited and checking which apps they opened, as a way of establishing what they use the devices for. Since the study finds

that e-teens predominantly have access to new media devices their parents own, parents, armed with this information, can easily control what their teens do on their devices.

- Parents, guardian and other elderly people whose devices teens have access to can create guest access to their smartphones, tablets and other devices, which will have all the restrictions they wish to put in place so that the children would have restricted access to certain apps on the devices.

### **8.6.2 Recommendations for objective 2**

The following recommendations are made regarding the results on the types of new media used by e-teens in their scheme of things:

- E-teens' natural quest for belonging (social inclusion) and sociability leads them to appropriate new media technologies to help them meet these needs. Their ability to meet these needs is necessary for this stage of their development. E-teens should, therefore, be encouraged to use these technologies for these purposes, but with the caution that over-dependence on these technologies could also lead to social isolation resulting from less or no face-to-face interaction with others.
- Teens' extensive Facebook and WhatsApp usage, means they are going online every so often. For this reason, there should be a conscious effort to expose them to some of the dangers of the Internet, which they access so they become aware of the hazards that come with the use of new media technologies and possibly guard against them.
- E-teens must be aware that creating more than a basic profile on a social networking site like Facebook and going the extra mile of putting on it every bit of detail about themselves, what they are doing, where they are going and so on, makes it extremely easy for predators to find them by means of online social networking sites.
- Parents and guardians, especially, have to be involved in decreasing or eliminating the negative effect of the Internet on their teens by ensuring that the time teenagers spend on the Internet is limited by having face-to-face family time together where everyone is

involved. They can also give teens alternatives to new media devices through family fun activities.

- The second highest use e-teens admitted putting new media technologies to was music. While music makes the listeners connect with others, it builds the intellect of teens, inspires confidence and encourages innovativeness. Nonetheless, music and music videos that depict violence, sexually-explicit lyrics and images and other anti-social acts often lead teenagers to condone the same and regard them as normal, which leads them to practicing them. Parents and anybody who has oversight responsibility over teens must assess and/or discern what their teens listen to and watch, decide if it will not compromise the teen and set limits on what is allowed and what is not allowed. This should be constantly monitored.

### **8.6.3 Recommendations for objective 3**

The following recommendations are made regarding e-teens' purposes for using new media:

- Academic use of new media was one of the strong points for using new media technologies, which confirmed the hypothesis and projection made in the E-teen model. This should be further encouraged since new media provide borderless opportunities for learning.
- Social media, which is also heavily used among respondents, can be used for academic purposes since opportunities the platforms provide for interactions could be re-channelled for academic purposes. In this regard, school authorities can consider officially incorporating social media (example, WhatsApp chat groups) into academic work where students can ask questions, share ideas and comment on topics treated in class outside of the classroom. To ensure focus and proper direction, this must be coordinated by a teacher. This will encourage boundless learning and more productive use of social media.
- While advocating the use of social media to enhance academic work, mention must be made of concerns about the negative effect of social media on users' linguistic ability which leads to poor academic writing as a result of heavy social media usage, especially, instant messaging and the likely use of "text message vocabulary" in the course of interaction. This shows up in the use of badly-written grammar, wrong spelling and poor

punctuation in formal or academic writing. For this reason, it is recommended that e-teens be encouraged to use the right grammar, spelling and punctuation when participating on social networking platforms so that it reflects in their academic writing.

#### **8.6.4 Recommendations for objective 4**

The following recommendations are made regarding the gratifications sought and obtained from the use of new media technologies:

- Notable gratifications e-teens seek are educational (academic), entertainment and leisure; and socialization and connectivity. They are also the gratifications they obtain from the use of the new media technologies. This means new media technologies help meet gratifications sought after adequately. If this is the case, it is recommended that the use of new media technologies among e-teens should not be viewed with anxiety, bearing in mind that e-teens have peculiar needs, which these technologies help make them achieve. It is obvious that constant gratifications sought and obtained are key to e-teens as they are people who are most likely to be school-going, love to play or have fun and yearn for affection and belonging and so will seek educational, entertainment and leisure (sociability); and socialization and connectivity gratifications (social connectivity).
- Although it has been mentioned that one should not be too apprehensive about e-teens' new media use, one cannot also lose sight of the fact that the hypothesis test showed that prominent gratifications are in line with social inclusion and sociability. This can only mean that e-teens are mainly developing one aspect of their lives - social wellbeing - and possibly ignoring other essential aspects of their lives such as physical and spiritual wellbeing. E-teens should, therefore, be encouraged to understand the importance of developing a holistic wellbeing and make a conscious effort to achieve that as well.
- E-teens' quest for social inclusion and sociability gratifications also means they perhaps cannot find these in their immediate physical environment or they are simply ignoring it because it can be satisfied elsewhere in the virtual world. It essentially means they are looking for belonging and companionship outside of their immediate environments, such as home and school, and that can be counted as quite worrying. Knowledge of this means

every stakeholder must not simply trust the e-teen to make good decisions with new media use since the information they gather and act on from new media platforms are unknown. Parents, especially, must find a way of establishing a physical bond with their e-teens while making sure they discuss issues that bother them in an open and frank manner to allow for honest interactions and provide the belonging and companionship they seek, otherwise this will be sought elsewhere.

#### **8.6.5 Recommendation for objective 5**

The following recommendation is made regarding key features of new media appropriation and experience among e-teens:

- E-teens' competency in the use of new media technologies (high appropriation) must compel important stakeholders like teachers, parents and guardians to equip themselves with more knowledge about the technologies in order to be able to monitor what their e-teens do with the technologies and to ensure the “supervisor” is not less knowledgeable than the “intern”.

#### **8.6.6 Recommendation for objective 6**

The following recommendation is made regarding the features of new media technologies which are most appealing to e-teens:

- New media application developers targeting e-teens should look at developing educational, entertainment and information/news apps since they are the apps selected as the top-three apps that are most appealing to e-teens.

#### **8.6.7 Recommendations for objective 7**

The following recommendations are made regarding the development of a conceptual model explaining new media appropriation by e-teens:

- Studies on e-teens' use and appropriation of new media technologies should incorporate the e-teen model with the intent to test it in other settings and make extensions to it.
- Above and beyond these, the researcher believes that the conceptual model for e-teen use and appropriation of new media technologies provides a firm foundation for further research on related topics. To support and give more substance to the e-teen model, other

researchers can consider asking specific questions related to the model. For instance, questions relating to social inclusion, participatory attributes and communicative attributes could be looked at in a critical manner.

- Other research data collection methods such as observation, in-depth interviews and focus groups can be considered to complement the survey design in order to fill in any gaps that might have been uncovered and to make room for detailed investigation into the subject area. As pointed out earlier, there could be respondent bias as a result of remembering some details and leaving out others or not remembering or simply glossing over issues, which can make a significant difference in any study in an undesirable way. Brutus et al. (2013) additionally mention mistaking the time occurrence of events (telescoping), attributing positive events or actions to oneself and attributing negative ones to others (attribution) and embellishing events or actions (exaggeration). All of these can be dealt with if there is incorporation of other data collection methods such as those indicated above to help a researcher gain an in-depth and holistic understanding of the phenomenon being studied.
- Future research could also consider paying attention to equal representations of the two genders by adopting a suitable sampling procedure (and not necessarily the simple random technique) to gain insight into the phenomenon along the lines of gender on an equal level.

## **8.7 CONCLUSION**

The conclusion is based on the objectives of the study, which are outlined below:

Popular new media technologies e-teens have access to and have ownership of are similar. Also, access to new media technologies belonging to other people by e-teens is also on the high side. In fact, where e-teens do not own new media technologies or devices, they could easily have access to that of others, especially that of their parents and other relations. So where key stakeholders like parents decide not to purchase new media devices or technologies for their e-teens as a measure of preventing or minimizing regular usage or abuse of usage, they should not lose sight of the fact that e-teens can still have unlimited access to new media technologies belonging to other people without parental or guardian knowledge. For this reason, unless there are stringent monitoring

processes to ensure proper usage, it will be difficult to bar e-teens from using new media technologies.

E-teens studied often access information from the Internet with smartphones. Laptops came second but with a rather low percentage while all other technologies (PC, tablet computers, analog mobile phones and gaming consoles) got very marginal percentages. Devices used predominantly by e-teens (smartphone and laptop) can be categorized as personal devices. This means e-teens are mainly using personal devices for online activities. This offers a certain level of privacy for these users leading to spending hours with the technologies without the knowledge of teachers, parents, guardians and other stakeholders. The privacy these devices offer also does not allow for any form of monitoring. This calls for workable strategies, such as constant sensitisation and education as well as other modes to ensure e-teens are aware of and protected from the unfortunate risks that accompany the use of these technologies.

The purposes or reasons for new media usage among e-teens are varied but their prominent use of academic, entertainment and social media apps and platforms demonstrates how these technologies help meet needs that reflect essential gratifications they seek. Schools should leverage new media technologies to enhance academic work since the technologies offer worthy opportunities for learning.

With the use of new media technologies by e-teens, there is a relationship between gratifications sought and gratifications obtained. The implication, then, is that new media technologies play an important role in the lives of e-teens, satisfying their unique gratification needs. This should be considered positive, but calls for monitoring and direction, knowing the negative implications that also come with usage.

E-teens are high appropriators of new media technologies evidenced in their frequency of the use of the technologies, their expertise and the fact that they use the technologies for almost every task and activity sorely important to them, especially for critical and most important needs and gratifications tied to their development. They are able to find expertise with these technologies partly through the participatory and interactivity avenues provided through these technologies, which take the place of the traditional ways of knowing and learning through physical interactions.

Top three apps e-teens in this study admitted as being appealing to them (educational, entertainment and information/news apps) equally translate into the top-three gratifications. They admit frequently seeking entertainment and leisure, information needs, socialisation and connectivity. Close to half of the respondents admit using new media technologies for communication and socialisation than using it for any other activity. This only goes to re-enforce the fact that new media technologies appropriately help meet the unique gratification needs of e-teens.

The first step to achieving this objective was to lay the foundation, through a literature review, noting up-to-date trends on how e-teens appropriate and use new media technologies and reviewing theoretical approaches to studying how e-teens appropriate and use new media technologies. Forming part of this was to study literature that gives an exposition on the developmental needs of this group of people and finds a connection with the trend in empirical evidence on gratifications consistently sought by them while using new media technologies. Knowledge garnered from the theoretical and empirical literature review and subsequent reflection on this knowledge in light of the assumptions, problem statement and objectives of this study, resulted in the construction of a conceptual model for e-teen new media use and appropriation found in chapter four [Figure 4.1], which is regarded as the chief contribution of this study. The model highlights the e-teen as a high appropriator of new media technologies harnessed through content creation, sharing and participation and one who uses the technologies due to their participatory and communicative features, which also help them meet their unique gratifications of social inclusion, educational and sociability.

Hypotheses tested proved that e-teens who participated in new media platforms, shared content as well as created and generated/originated content reported high levels of appropriation. General attitudes towards new media technologies were also positive as predicted in the model. The assumption that e-teens are motivated to use new media technologies due to their unique communicative and participatory attributes, which allows them to seek social inclusion, educational and sociability gratifications, were also proved to be true. The hypotheses tests, making the e-teen model a viable model, which could be further tested under different circumstances and methodologies. Results relating to trends in new media technologies and

attendant platforms usage discovered in this study also serve as strong empirical evidence, which could be investigated further or replicated in other contexts.

To sum up, four key assumptions formed the basis of this study, specifically, in the construction of the conceptual model for e-teen new media technologies use and appropriation. The first assumption was that e-teens are a unique set of new media users who have to be studied in a different light, especially in relation to theories and models mirroring how they use the technologies. The second assumption was that the e-teen being a digital native has a positive attitude towards new media technologies and their use. The third assumption was that e-teens are able to meet their unique gratification needs relating to social inclusion, educational and sociability through the use of new media technologies. The last two assumptions led to the fourth assumption that the e-teen is a high appropriator of new media technologies. Main assumptions made in the construction of the e-teen model (in the form of hypotheses) were tested after primary data was collected, which gave authentication to the e-teen model.

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**APPENDIX A: ETHICAL CLEARANCE FROM THE UNIVERSITY OF SOUTH  
AFRICA (UNISA)**



College of Human Sciences  
Department of Communication Science  
7 March 2017

**Reference number: 2017\_CHS\_Staff\_CommSt\_009**

**Proposed title: THE E-TEEN PHENOMEMON: A CONCEPTUAL MODEL FOR NEW MEDIA  
TECHNOLOGY**

Principle investigator: THEODORA DAME ADJIN-TETTEY, Department of Communication Science

**Approval status recommended by reviewers: Approved**

The Ethics Review Committee of the Department of Communication Sciences at the University of South Africa has reviewed the research proposal and considers the methodological, technical and ethical aspects of the study to be appropriate.

Ms THEODORA DAME ADJIN-TETTEY is requested to maintain the confidentiality of all data collected from or about research participants, and maintain security procedures for the protection of privacy. The committee needs to be informed should any part of the research methodology as outlined in the Ethics application (Ref. Nr.2017\_CHS\_Staff\_CommSt\_009) change in any way.

It is the responsibility of the principal investigator to ensure that the research project adheres to the values and principles expressed in the UNISA Research Ethics Policy, which can be found at the following website:

[http://staffcmsys.unisa.ac.za/cmsys/staff/contents/departments/res\\_policies/docs/Policy%20on%20Research%20Ethics%20-%20rev%20appr%20-%20Council%20-%202015.09.2016.pdf](http://staffcmsys.unisa.ac.za/cmsys/staff/contents/departments/res_policies/docs/Policy%20on%20Research%20Ethics%20-%20rev%20appr%20-%20Council%20-%202015.09.2016.pdf)

This certificate is valid for two years.

Sincerely

A handwritten signature in black ink, appearing to read "Khan", written in a cursive style.

Prof K Khan  
Chair: Departmental Research Committee  
Department of Communication Science

**APPENDIX B: PERMISSION FROM LA NKWANTANANG EDUCATION  
DIRECTORATE**

**GHANA EDUCATION SERVICE**

*In case of reply the  
number and date of this  
Letter should be quoted*



MUNICIPAL EDUCATION OFFICE  
LA NKWANTANANG-MADINA  
P. O. BOX MD 545  
MADINA

My Ref. No. GES/LaMMM/35/Vol.1  
Your Ref. No. ....

REPUBLIC OF GHANA

9<sup>th</sup> January, 2017

**DISTRIBUTION**

THE HEADMASTER  
WEST AFRICA SENIOR HIGH SCHOOL  
ADENTAN

**RE: PERMISSION TO CONDUCT RESEARCH**

I write to introduce to you Mrs. Theodora Dame Adjin-Tettey of the University of South Africa.

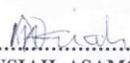
As part of her academic requirements, she is to undertake a research on the topic "The E-Teen Phenomenon: A conceptual Model for New Media Technology.

You are kindly requested to offer her the necessary assistance to enable her gain access to collect the data required.

By a copy of this letter, Mrs. Theodora Dame Adjin-Tettey is required to contact you to arrange the modalities for the research. You are to ensure that the exercise does not interfere with academic work.

For any further clarification, please contact **Ms Gifty Boateng** on telephone number **0240187796**.

Thank you

  
.....  
**MARGARET NSIAH-ASAMOAH (MRS).**  
MUNICIPAL DIRECTOR OF EDUCATION

**CC :**

MRS. THEODORA DAME ADJIN-TETTEY  
UNIVERSITY OF SOUTH AFRICA  
THE PANTANG CIRCUIT SUPERVISOR

**APPENDIX C: PERMISSION FROM ACCRA METROPOLITAN EDUCATION  
OFFICE**

**GHANA EDUCATION SERVICE**

In case of reply the  
Number and date of this  
Letter should be quoted



REGIONAL EDUCATION OFFICE  
P. O. BOX M.148  
ACCRA

My Ref: GES/GAR/SS5/352  
Your Ref.....  
E-MAIL: gesgar09@yahoo.com

REPUBLIC OF GHANA

13<sup>TH</sup> January, 2017

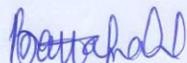
THE PROPRIETOR  
IDEAL COLLEGE  
ACCRA

**RE: PERMISSION FOR AUTHORISATION TO CONDUCT RESEARCH IN IDEAL  
COLLEGE**

Permission has been given to Miss Theodora Dame Adjin-Tettey, a Doctoral Research Student of the University of South Africa to conduct a study titled: **The E-Teen Phenomenon: A Conceptual Model for New Media Technology.**

You are kindly requested to give him all the necessary assistance to make his survey a success.

Thank you.

  
PETER ATTAFUAH (Ph D)  
DIRECTOR OF EDUCATION  
GREATER ACCRA REGION

## APPENDIX D: REQUEST LETTER TO IDEAL COLLEGE

University of South Africa  
Peller Street, Muckleneuk Ridge  
P. O. Box 392 UNISA 0003  
Pretoria, South Africa

19<sup>th</sup> September, 2016.

The Head  
Ideal College  
Accra

Dear Sir,

### **PERMISSION FOR AUTHORISATION TO CONDUCT RESEARCH IN YOUR INSTITUTION**

I write to seek permission to conduct a study in your institution on the topic: **The E-Teen Phenomenon: A Conceptual Model for New Media Technology.**

This study is a requirement for the completion of a doctoral programme in Communication Science at the University of South Africa. It seeks to look at what new media technologies teens have access to, gratifications sought from new media technologies, the key features of new media use and appropriation, the appeals and hold offs to new media appropriation. Subsequently, data collected will be used to develop a conceptual model to explain how teens appropriate new media technologies.

You are assured that information provided will be treated with complete confidentiality and findings will be readily shared with the institution upon request.

Kindly find attached an introductory letter from the University of South Africa.

I would be very grateful if the needed assistance is provided to carry out this academic exercise.

Thank you.

Yours faithfully,



Theodora Dame Adjin-Tettey (Mrs)

## **APPENDIX E: REQUEST LETTER TO WEST AFRICA SENIOR HIGH SCHOOL**

University Of South Africa  
P. O. Box  
Pretoria

20<sup>th</sup> May, 2016

The Head  
West Africa Senior High School  
Accra

Dear Sir,

### **PERMISSION FOR AUTHORISATION TO CONDUCT RESEARCH IN YOUR INSTITUTION**

I write to seek permission to conduct a study in your institution on the topic: **The E-Teen Phenomenon: A Conceptual Model for New Media Technology.**

This study is a requirement for the completion of a doctoral programme in Communication Science at the University of South Africa. It seeks to look at what new media technologies teens have access to, gratifications sought from new media technologies, the key features of new media use and appropriation, the appeals and hold offs to new media appropriation. Subsequently, data collected will be used to develop a conceptual model to explain how teens appropriate new media technologies.

You are assured that information provided will be treated with complete confidentiality and findings will be readily shared with the institution upon request.

Kindly find attached an introductory letter and a photocopy of my student identification card from the University of South Africa.

I would be very grateful if the needed assistance is provided to carry out this academic exercise.

Thank you.

Yours faithfully,



Theodora Dame Adjinn-Tettey (Mrs)

**APPENDIX F: PERMISSION LETTER FROM IDEAL COLLEGE**

**IDEAL COLLEGE  
LEGON**



OUR REF: GES/GAR/PT17/ SF56  
YOUR REF....

P.M B L40  
LEGON  
E-MAIL: ideakollege@yahoo.com  
TEL: 0244 275830  
DATE: September 20, 2016

Dear Madam

**AUTHOURISATION TO CONDUCT RESEARCH IN IDEAL COLLEGE**

In pursuance of your later dated 19<sup>th</sup> September 2016, seeking permission to conduct a study on the topic: The E-Teen Phenomenon: A Conceptual Model for New Media Technology, I wish to inform you your request has been granted.

You are at liberty to conduct the study on any day convenient for you. Kindly notify the school two days earlier.

Yours faithfully,

IDEAL SENIOR HIGH SCH.  
P.O. BOX 1111  
LEGON  
Ps. Emmanuel Addo  
HEADMASTER  
(Headmaster)

**APPENDIX G: PERMISSION LETTER FROM WASHS**

**WEST AFRICA SENIOR HIGH SCHOOL**

Tel No: +233-302-501862

Our Ref: WASHS/HM/TP/10/245...

Your Ref:.....



P. O. Box LG 298  
Legon - Accra  
Email: wassfwi@gmail.com  
<http://www.westafricashs.com>

6<sup>TH</sup> OCTOBER, 2016  
.....20.....

MRS. THEODORA DAME ADJIN-TETTEY  
UNIVERSITY OF SOUTH AFRICA  
P. O. BOX 392, UNISA 003  
PRETORIA, SOUTH AFRICA

Dear Madam,

**ACCEPTANCE LETTER TO CONDUCT RESEARCH ON THE TOPIC:  
"THE E-TEEN PHENOMENON: A CONCEPTUAL MODEL FOR NEW MEDIA  
TECHNOLOGY"**

I write to inform you that you have been accepted to conduct research in our school on the above topic from 21<sup>st</sup> to 26<sup>th</sup> November, 2016.

You are advised to contact Mr. Torgbor of ICT Department for any further assistance.

Thank you.

Yours faithfully,

(EDISON OSEI-GYAMERA)  
HEADMASTER

## APPENDIX H: INTRODUCTORY LETTER FROM SUPERVISOR



**Prof BT Mbatha**  
**Communication Science**  
**TvW 7-74**  
**012 429 8264**  
**[mbathbt@unisa.ac.za](mailto:mbathbt@unisa.ac.za)**  
**15 September 2016**

### TO WHOM IT MAY CONCERN

This missive serves to confirm that Mrs Theodora Dame Adjin-Tetty (Student Number: 57635757) is currently registered for a PhD in the Department of Communication Science at the University of South Africa. Also this letter confirms that Prof BT Mbatha is the supervisor of the above mentioned student. It is important to note that Mrs Adjin-Tetty's study has not been ethically cleared as yet.

The topic of her study is: **The E-Teen Phenomenon: A Conceptual Model for New Media Technology**. This study is a requirement for the completion of a doctoral programme in the Department of Communication Science at the University of South Africa. It seeks to look at what new media technologies teens have access to, gratifications sought from new media technologies, the key features of new media use and appropriation, the appeals and hold offs to new media appropriation. Subsequently, data collected will be used to develop a conceptual model to explain how teens appropriate new media technologies.

Should you require more information on this, please don't hesitate to contact me.

Sincerely yours,

A handwritten signature in black ink, appearing to read "BT Mbatha", with a horizontal line underneath.

---

Prof BT Mbatha  
Chair of Department: Communication Science



University of South Africa  
Preller Street, Muckleneuk Ridge, City of Tshwane  
PO Box 392 UNISA 0003 South Africa  
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150  
[www.unisa.ac.za](http://www.unisa.ac.za)

## **APPENDIX I: PARENT/GUARDIAN INFORMED CONSENT**

### **General Information on Research**

Your child is being asked to participate in a research study conducted by Theodora Dame Adjintetty from the University of South Africa on the topic: “**The E-Teen Phenomenon: A Conceptual Model for New Media Technology**”. The purpose of this study is to look into how teens engage with new media technologies such as mobile/smart phones, laptops and tablet computers. It, specifically, examines what new media technologies teens have access to, gratifications sought from new media technologies, the key features of new media use and appropriation, and the appeals and hold offs to new media appropriation. Subsequently, data collected will be used to develop a conceptual model to explain how teens appropriate new media technologies. This study will contribute to the researcher’s completion of her doctoral thesis.

### **Research Procedures**

Should you decide to allow your child/ward to participate in this research study, you will be asked to sign this consent form once all your questions have been answered to your satisfaction. This study consists of a survey that will be administered to individual participants in West Africa Senior High School and Ideal College. Your child/ward will be asked to provide answers to a series of questions related to the use of new media technologies.

### **Time Required**

Participation in this study will require approximately thirty (30) minutes of your ward/child’s time.

### **Risks**

The investigator does not perceive any risks associated with the study.

### **Benefits**

There are no direct benefits to the child/parent for participating in this study. However, your child/ward’s participation in this study will go a long way to contribute to empirical knowledge.

### **Confidentiality**

Your child will not be identified in the research. The results of this research may be presented at a conference. Copies of the thesis will be deposited with the University of South Africa. The researcher retains the right to use and publish non-identifiable data. When the results of this research are published or discussed in conferences, no information will be included that would reveal your child’s identity. All data will be stored in a secure location accessible only to the researcher. Upon completion of the study, all information that matches up individual respondents with their answers will be destroyed.

### **Participation & Withdrawal**

Your ward/child’s participation is entirely voluntary. He/she is free to choose not to participate. Should your child choose to participate, he/she can withdraw at any time without consequences of any kind.

**Questions about the Study**

If you have questions or concerns during the time of your child’s participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Theodora Dame Adjin-Tetty.

Cellphone No. 233-244-738-456

E-mail: theodoradame@yahoo.com.

**Giving of Consent**

I have read this consent form and I understand what is being requested of my child/ward as a participant in this study. I freely consent for my child/ward to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am, at least, 18 years of age.

\_\_\_\_\_  
Name of Child

\_\_\_\_\_  
Name of Parent/Guardian

\_\_\_\_\_  
Signature of parent/guardian

\_\_\_\_\_  
Date

**APPENDIX J: QUESTIONNAIRE**

**GENERAL INFORMATION ON RESEARCH**

My name is Theodora Dame Adjin-Tettey and I am a Doctoral student at the University of South Africa. For my thesis, I am examining “**The E-Teen Phenomenon: A Conceptual Model for New Media Technology**”. Because you fall within the category of people this study is about and have been selected through a random sampling technique, I am requesting that you participate in this research study by completing the attached questionnaire.

New media technologies are defined as media used to access and send information or entertainment. The media for consideration in this research are mobile phones, personal computers, laptops, iPods, video games and tablets and their media platforms such as instant messaging, text messaging, games, social networking, blogs and photo and video sharing media.

The following questionnaire will require approximately 30 minutes to complete. There is no compensation for responding nor is there any known risk. All information obtained from you will remain confidential. Copies of the thesis will be deposited with the University of South Africa. If you choose to participate in this survey, please answer all questions as honestly as possible. Participation is strictly voluntary and you may refuse to participate at any time.

The data collected will provide useful information regarding the use and adoption of new media technologies among Ghanaian teenagers. Completion and submitting the questionnaire will indicate your willingness to participate in this study. If you require additional information or have questions, please contact me on the contacts indicated below.

Sincerely, Theodora Dame Adjin-Tettey. Cellphone No. 233-244-738-456 E-mail: theodoradame@yahoo.com.

Thank you for taking the time to assist me in my educational endeavour.

**KINDLY SELECT/PROVIDE THE RESPONSES THAT BEST DESCRIBE YOUR VIEWS AND FEELINGS**

**BIO DATA**

<b>School:</b>	WASHS [ ]	Ideal college [ ]					
<b>Form:</b>	SHS 1 [ ]	SHS 2 [ ]	SHS 3 [ ]				
<b>Gender:</b>	Male [ ]	Female [ ]					
<b>Age:</b>	13 [ ]	14 [ ]	15 [ ]	16 [ ]	17 [ ]	18 [ ]	19 [ ]
	Other please specify [ ].....						

**NEW MEDIA TECHNOLOGIES RESPONDENTS ARE EXPOSED TO**

- 1. Which new media device(s) do you have access to? (tick as many as applicable) implicit
  - 1. Personal computer (PC)
  - 2. Laptop
  - 3. Tablet computer
  - 4. Mobile phone (not smart)
  - 5. Smartphone
  - 6. Gaming console (Play Station, Xbox, Nintendo etc.)
  - 7. Other (**Please state**).....

- 2. Who owns the new media device(s) you have access to (the one you don't own)?
  - 1. Parent
  - 2. Sibling
  - 3. Uncle
  - 4. Aunt
  - 5. Friend
  - 6. School
  - 7. Other (**please state**) .....

- 3. Which new media device(s) do you personally own? (tick as many as applicable)
  - 1. Personal computer (PC)
  - 2. Laptop
  - 3. Tablet computer
  - 4. Mobile phone (not smart)
  - 5. Smartphone
  - 6. Gaming console (Play Station, Xbox, Nintendo etc.)
  - 7. Other (**Please state**).....

- 4. Which of the new media device(s) do you use on a regular basis? (tick as many as applicable)
  - 1. Personal computer (PC)
  - 2. Laptop
  - 3. Tablet computer
  - 4. Mobile phone (not smart)
  - 5. Smartphone
  - 6. Gaming console (Play Station, Xbox, Nintendo etc.)
  - 7. Other (**Please state**).....

- 5. Of what you have selected, which one do you use most regularly? (**tick one**)
  - 1. Personal computer (PC)
  - 2. Laptop
  - 3. Tablet computer
  - 4. Mobile phone (not smart)
  - 5. Smartphone

- 6. Gaming console (Play Station, Xbox, Nintendo etc.)
- 7. Other (**Please state**).....

6. I am restricted in my use of new media technologies

- 1. Not at all
- 2. Slightly
- 3. Somewhat
- 4. Very
- 5. Extremely

7. If you are restricted, where does the restriction come from?

- 1. School
- 2. Home
- 3. Church/Mosque
- 4. Lack of Internet access
- 5. Lack of computer skills
- 6. Digital divide
- 7. Other (**Please state**).....

**USES E-TEENS PUT NEW MEDIA TECHNOLOGIES TO**

**H3: There is a relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications**

8. What do you use your new media device(s) for? (tick as many as applicable)

- 1. Social media (e.g. Whatsapp, Facebook, Twitter)
- 2. Music
- 3. Video
- 4. Photography
- 5. Online games
- 6. Online news  
Research/Study
- 7. Text messaging/Phone calls
- 8. Other (**Please state**).....

9. Indicate how frequently you use the following new media devices by ticking once for each:

	Never	Almost never	Sometimes	Almost always	Always
<b>Personal computer (Desktop)</b>					

<b>Mobile phone (Not smart)</b>					
<b>Smartphone</b>					
<b>Laptop</b>					
<b>Tablet computer</b>					
<b>Gaming console (Play Station, Xbox, Nintendo etc.)</b>					
<b>Others (Please state)</b> .....					

10. Indicate how frequently you perform the following activities on your new media device:

	Never	Almost never	Sometimes	Almost always	Always
School work/study					
Search for information					
Visit chatrooms					
Post pictures					
Send/receive email					
Play games					
Instant messaging					
Visit political sites					
Download music					
Search goods/shops online					

Search education/career info.					
Visit sites for hobbies					
Make a website					
Read news					
Visit sites for personal advice					
Visiting sports sites					
Voted for something online					
Blogs					
Others ( <b>Please state</b> )					

**11. Which of the new media devices do you use to access information from the Internet? (tick as many as applicable)**

1. Personal computer (PC)
2. Laptop
3. Tablet computer
4. Mobile phone (not smart)
5. Smartphone
6. Gaming console (Play Station, Xbox, Nintendo etc)
7. Other (**Please state**).....

**12. Which ONE new media device do you use MOST FREQUENTLY to access information from the Internet? (tick one)**

1. Personal computer (PC)
2. Laptop
3. Tablet computer
4. Mobile phone (not smart)
5. Smartphone
6. Gaming console (Play Station, Xbox, Nintendo etc.)
7. Other (**Please state**).....

13. Indicate the frequency of the use of the following apps **on your new** media device:

	Never	Almost never	Sometimes	Almost always	Always
WhatsApp					
Facebook					
Twitter					
Viber					
Google +					
Music					
Video					
TV					
Games					
Tango					
Dictionary					
Photography					
Skype					
Instagram					
Notes					
Imo Video calls					
Snapchat					
Clique					
Telegram					
Facetime					
Safari					
Bible/Quran					

Walkman					
Surfway					
Opera mini					
Yahoo					
News App					
Sch. App					
Linkedin					
Others (Please state)					

**GRATIFICATIONS SOUGHT FROM NEW MEDIA TECHNOLOGIES**

**Hypothesis: Gratifications sought will likely be obtained**

14. Which one of the following needs do you usually have in mind to satisfy from using new media technologies? (tick as many as applicable)

1. Entertainment/leisure
2. Socialisation/connectivity
3. Academic
4. Building relationships
5. Create and share media content
6. Social status
7. Vent negative feelings
8. Informative needs
9. Combat boredom
10. Other (**Please state**).....

15. Of all the needs that you have in mind to satisfy when using new media technology, which **one** is constant? (tick one)

1. Entertainment/leisure
2. Socialisation/connectivity
3. Academic
4. Building relationships
5. Create and/or share media content
6. Social status

- 7. Vent negative feelings
- 8. Informative needs
- 9. Combat boredom
- 10. Other (**Please state**).....

**GRATIFICATIONS OBTAINED FROM THE USE OF NEW MEDIA TECHNOLOGIES**

16. I use new media technologies to satisfy the following needs:

	Never	Almost never	Sometimes	Almost always	Always
Entertainment /leisure					
Socialisation/conn ectivity					
Academic					
Building relationships					
Create and/or share media content					
Social status					
Vent negative feelings					
Informative					
Combat boredom					
Others ( <b>Please state</b> )					

	Never	Almost Never	Sometimes	Almost Always	Always
17. I always or sometimes have a need in mind to fulfil before using new					

media technologies and/or their platforms.					
18. I am able to obtain that need (which I set out to achieve) after using new media technologies and/or their platforms.					

**PARTICIPATION, EASE-OF-USE VRS APPROPRIATION**

**H1: There is a relationship between users of new media technologies who generate, participate and share content and high appropriation of new media technologies.**

	<b>Never</b>	<b>Almost Never</b>	<b>Sometimes</b>	<b>Almost Always</b>	<b>Always</b>
19. I create and share content on new media platforms such as social media.					
20. I engage with new media devices every day					
21. I receive content from other users of new media technologies.	<b>Not at all</b>	<b>Not Exactly</b>	<b>Unsure</b>	<b>Somewhat</b>	<b>Very much so</b>
22. I can confidently use new media devices without struggle.					

23. I can confidently use apps on new media devices without struggle.					
24. I can confidently say new media technologies are user-friendly.					
	<b>Poor</b>	<b>Fair</b>	<b>Average</b>	<b>Good</b>	<b>Excellent</b>
25. Rate your new media usage abilities.					

**MAJOR ATTRACTORS TO NEW MEDIA TECHNOLOGIES**

**H2: Bahavioural intentions and actual usage of new media technologies by Ghanaian e-teens are motivated by the unique communicative and participatory attributes of the technologies**

26. How appealing is each of the following attributes (In terms of apps) of new media technologies to you? **(tick one)**

	<b>Very low</b>	<b>Low</b>	<b>Average</b>	<b>High</b>	<b>Very High</b>
Chat/ instant messaging apps					
Video calling					
Social media apps					
Entertainment					
Info/news apps					
Educational apps					

	<b>Not at all</b>	<b>Not exactly</b>	<b>Unsure</b>	<b>Somewhat</b>	<b>Very much so</b>
27. The ability to communicate/socialise (communicative attribute) with my friends and relations is what mostly pushes me to use new media technologies					
28. I use new media technologies for social inclusion, sociability and educational gratifications more than anything else					

**ATTITUDE TOWARDS NEW MEDIA USE**

H4: Ghanaian e-teens are likely to have a positive attitude towards new media technology use.

	<b>Not at all</b>	<b>Not exactly</b>	<b>Unsure</b>	<b>Somewhat</b>	<b>Very much so</b>
29. I am excited about new media technologies					
30. New media technologies are beneficial to me					
31. I can confidently say new media technologies					

are generally useful to me					
----------------------------	--	--	--	--	--

32. I will continue to use new media technologies the rest of my life

1. Extremely unlikely
2. Unlikely
3. Unsure
4. Likely
5. Extremely likely

33. Rate your overall attitude towards new media technologies and their applications

1. Very negative
2. Negative
3. Neither positive nor positive
4. Positive
5. Very positive

**KEY FEATURES OF NEW MEDIA APPROPRIATION AND EXPERIENCE AMONG E-TEENS**

34. Rate each of the following engagement activities with new media technologies (**by ticking**) based on how frequently you use them:

	<b>Never</b>	<b>Almost never</b>	<b>Sometimes</b>	<b>Almost always</b>	<b>Always</b>
Social media					
Video calls					
Online games					
Off-line games					
Music					
Video streaming					

Off-line videos					
TV					
Research					
News					
Photography					
Text/instant messaging					
Phone calls					
Telegram					
Others (Please state)					

**MOTIVATION FOR SOCIAL MEDIA USE (FOR RESPONDENTS WHO HAVE SIGNED UP TO SOCIAL MEDIA PLATFORMS)**

**H5: There is a positive relationship between social influence and the use of social media platforms by e-teens.**

35. Are you in any social media group?

1. Yes
2. No

36. Which social media platform have you signed up to? (tick as many as applicable)

1. Facebook
2. Twitter
3. YouTube
4. Flickr
5. LinkedIn
6. Instagram
7. Slideshare

- 8. Blogger
- 9. Other.....

37. Who/what mostly influenced you to join social media groups?

- 1. Friend/family
- 2. Curiosity
- 3. Content on social media
- 4. Not in any group
- 5. Other (**Please state**).....

38. I often use social media

- 1. Never
- 2. Almost never
- 3. Sometimes
- 4. Almost always
- 5. Always

39. Main (the number one reason) reason for joining a social media group

- 1. Friend suggested it
- 2. Everyone I know is on Facebook
- 3. Help others keep in touch with me
- 4. Find classmates
- 5. Received a promotional e-mail
- 6. Get to know more people
- 7. Network in general
- 8. Find course information
- 9. Find people with mutual interests
- 10. Because most my family/friends are there
- 11. I want to know what goes on there
- 12. Helps me to unwind
- 13. Not in any group
- 14. Other (**Please state**).....

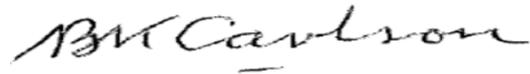
## APPENDIX K: LETTER OF LANGUAGE EDITING

8 Nahoon Valley Place  
Nahoon Valley  
East London  
5241  
17 August 2017

### TO WHOM IT MAY CONCERN

I hereby confirm that I have proofread and edited the following doctoral thesis using the Windows 'Tracking' system to reflect my comments and suggested corrections for the student to action:

*The e-teen phenomenon: A conceptual model for new media technology use and appropriation* by THEODORA DAME ADJIN-TETTEY, a thesis submitted in accordance with the requirements for the degree of DOCTOR OF LITERATURE AND PHILOSOPHY in the subject COMMUNICATION at the University of South Africa.



Brian Carlson (B.A., M.Ed.)  
Professional Editor

Email: [bcarlson521@gmail.com](mailto:bcarlson521@gmail.com)

Cell: 0834596647

Disclaimer: Although I have made comments and suggested corrections, the responsibility for the quality of the final document lies with the student in the first instance and not with myself as the editor. Note that in this particular case a second editing may well be required.

BK & AJ Carlson Professional Editing Services