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# An Analysis of How Education, Age, Overseas Assignments, and Mavenism Impact Use of New Media Technology

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**AN ANALYSIS OF HOW EDUCATION, AGE, OVERSEAS  
ASSIGNMENTS, AND MAVENISM IMPACT USE OF NEW MEDIA  
TECHNOLOGY**

THESIS

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**AN ANALYSIS OF HOW EDUCATION, AGE, OVERSEAS  
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TECHNOLOGY**

THESIS

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### **Abstract**

Previous research into new media technology usage has typically been limited to young adults ages 18-24. However this study will include age, education, overseas assignments, presence of mavenism, and information security concerns as variables impacting new media usage. For the purpose of this study, new media is defined by devices, activities, and social arrangements (Lievrouw & Livingstone, 2006). While dozens of new media technology are available, the scope of this research examined individual's use of blogs, online social networks, and downloadable content.

Data about new media was gathered through a literature review and by conducting interviews with people that are frequent users of new media technology. By conducting interviews with individuals that use new media for at least a few hours a week, in one or more different technologies, it was determined which variables impact new media users the most.

This research concluded that age, education, overseas assignments, and a presence of mavenism by themselves do not have a significant effect on new media usage. However, information security concerns were shown to have a significant impact on new media usage.

## **Acknowledgments**

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Thomas E. Enright

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# **AN ANALYSIS OF HOW EDUCATION, AGE, OVERSEAS ASSIGNMENTS, AND MAVENISM IMPACT USE OF NEW MEDIA TECHNOLOGY**

## **I. Introduction**

### **Background**

#### *Purpose*

The primary purpose of this study was to determine if the characteristics examined influence others' usage of new media technology. First, the research examined if education or age had a significant impact on new media usage. Second, the research determined if overseas assignments, mavenism, and source of influence had a positive influence on new media usage. Finally, the impact of information security was examined to determine if it affected new media usage. By determining the impact of the individuals' characteristics, future researchers will be able to predict how users are impacted by the presence of these factors.

#### *Old media*

New media has changed over time, so before exploring the many facets of new media, it is essential to first define old media. In the past, news agencies broadcasted information to listeners or viewers using old or traditional media like newspapers, magazines, television and radio. Information was received only if the radio or television was on, or if the audience had a paid subscription to a newspaper or magazine. Old media is defined as the one-way information transmission to one or more individuals

using one form of media (Rice, 1984). Radio, newspapers, and television are examples of old media (Rice, 1984).

*New media defined*

New media has changed over time. New media was first described as two-way communication using methods like e-mail messages and land-based phone calls (Rice, 1984). Later, with faster and more powerful computers, new media was described as media that had additional channels of content (McQuail, 1994). Some examples of channels are adding video and sound to an e-mail. Channels, in this definition are increased capacity.

The exponential increase in computing power coupled with the availability of high speed bandwidth in the United States led to the emergence of new media technologies. For example, with high speed Internet came the ability for video chatting. However, adding channels does not accurately describe new media today.

*New Media definition used in this research*

New media has two recent definitions. First, new media was based on channels and technology. The basis of this definition was that new media was “new” because it had more channels of content (McQuail, 1994). However, this definition does not capture how new media is being used in the 21st century. This definition is lacking because new media is not based on how powerful the technology is. New media is better defined by devices, activities, and social arrangements and how they interact together (Lievrouw and Livingstone, 2006). Lievrouw and Livingstone define new media as information and communication technologies and their associated social contexts. They

define new media as comprised of three distinct components. The first component of the definition is the devices that individuals use to communicate information. The activities performed using these devices are the second element of new media. The final part of new media is the social arrangements that are formed by users using the devices to participate in the new media activities. (Lievrouw and Livingstone, 2006).

### *Devices*

Initially, new media devices could only hold a few songs and were expensive. As storage media became cheaper, new media digital mobile music players could hold more information, and were not limited to just music. Recently some new media devices, like the iPod Touch, can play music and movies, and run applications and video games. The iPod Touch can also surf the Internet using wireless access points.

### *Activities*

Initially, activities on the Internet included sending and receiving e-mails and static web page viewing. Today, activities on the Internet include blogging and sharing downloadable content like digital photos, video and music files.

Blogging is another new media activity that has recently become popular. Web logs or blogs are defined as online journals of various topics that are published chronologically. The term blog is a contraction of the term web log (Boulos, 2006).

Sharing of downloadable video content is one new media activity that is popular today. By using websites like YouTube, users can view videos that are posted by other users. The users can also comment on the videos and respond to other viewers' comments on videos. According to a recent report, 57% of Internet users have watched a

video online. This same report showed that 85% of young broadband users have watched an online video, and 62% have watched a video on YouTube.com (Lenhart & Madden, 2007).

YouTube.com is not the only place where users can download videos. Several television broadcast companies, like NBC, ABC and CBS have areas of their websites where users can view recent episodes of their favorite television shows. Starting in 2004, online radio shows started to record shows for fans to download and listen to at later time, also known as a podcast. A podcast is a collection of digital media, either audio or video, that is distributed to listeners or viewers that subscribe using a process of syndication feeds (Barsky, 2006).

#### *Social arrangement*

The social arrangement has also changed. Audience members are now users of new media. Instead of just listening to the radio or watching television at a designated time and place, a user can download the news or television shows on demand and listen to or watch them on a mobile media player. Additionally, the user can log on to a website and comment on the radio or television show back to other listeners or viewers of the television show. Initially, mass media organizations used only paid reporters to convey developing stories. American Broadcasting Company (ABC) redesigned their website so their readers, viewers, or “citizen reporters” can help report the news. They did this by adding blogs and letting general Internet users report on stories as they happen around the world. The users can also post videos directly to the new ABC website. In

other words, the paradigm has shifted from one-way, one source, one place and time to multi-directional, multi-source, at any place and at any time.

In this new social arrangement, communication is no longer just broadcast, it is interactive. While individual users can still send messages to other individuals, this is not the norm. Users now join online social networks and send messages to multiple users at once. The users then can comment back while other users are online, or may chose to message back at a later time.

*What this research will focus on*

This research will focus on what impacts new media usage. In addition to income independent studies, another gap in new media use studies is the particular age group that has been analyzed. Primarily teenagers and young adults have been examined in recent research (Lenhart & Madden, 2007). While the younger age group was selected because of the heavy usage of new media products, other age groups are also using new media devices, and participating in new media activities, thus should be explored.

Another gap in new media use research is the impact of more and more military personnel being stationed or deployed overseas on new media usage. It seems that deployed personnel are frequently using new media activities while they are deployed. With these people being stationed overseas, the military focused blogs are becoming more popular. Finally it seems that education no longer impacts new media usage.



## II. Literature Review

### Chapter Overview

This chapter provides an overview of some of the definitions of old and new media. Next, this chapter will discuss some prior research that has been conducted in the field of new media. Finally it will cover some topics that have not been researched before.

#### *Definition of old media*

Before continuing to examine the field of new media, we must first define the target construct. The term old media refers to traditional forms of communication. Traditional communication can be in the form of face to face, telephone, or memos. Face to face is a combination of visual and audio information. Communicating on the telephone is a strictly an audio form of communication. Finally, memos are only a textual form of information (Rice, 1992).

New media did not become part of popular culture overnight. It went through several stages as it grew to be as popular as it is today. One reason is that new media enables individuals to quickly communicate with individuals or groups over great distances in real time. Another reason is that users with little or no training are able to access, create, and distribute information quickly.

#### *Definitions of new media*

New media has evolved to mean different forms of communication over the past 25 years. In that time, several definitions for new media have been used in literature. Initially, new media meant using technology like online databases, electronic email, voice

mail or video conferencing (Rice, 1992). Later, the term new media was used in the same context as the term mass media. One example of mass media is where one firm is sending information out to many customers using a medium like newsprint or billboards (Hoffman 1996). Another example of mass media is a radio station broadcasting program information out to listeners that possess a radio. In this second phase of new media, the focus is on getting more channels of communication to more people. Today old media or traditional media refers to mass media organizations like newspapers, radio, and television news (Hoffman, 1996). And new media no longer refers to mass media but it now refers to media that is interactive (Hoffman, 1996).

*Examples of mass media turning into new media.*

With reports of dwindling subscriptions (Griffin, 2007), mass media organizations, like newspapers and television broadcast, are trying to look more like new media organizations. While newspapers are still printing newspapers, they are also creating websites that host not only text, but also host downloadable content, like audio and video podcasts. When old media organizations change their content, they compete with other old media organizations, which may provide them with a competitive advantage (Griffin, 2007). A television station that normally only broadcasts news via television now usually has a website with text, and audio content (typically only radio), along with downloadable video content.

More Americans are turning to the Internet for their news source than ever before. A recent report showed that over 50 million Americans check an Internet website for

their news. This is a huge increase from similar research conducted in March 2002. In 2002, only 27 Million Americans turned to a website for their news (Horrigan, 2006).

Radio stations are also changing the type of content that they deliver. While radio stations still broadcast radio signals, they also have websites that host text, audio, and video content. The audio content is not just in the form of podcasts, but it is also in the form of online radio, which gives radio stations the ability to stream radio programs outside of their typical audience area. Now a user can listen to a radio station in Wisconsin, even though the user is located in Ohio, Europe, or anywhere else on the planet with a suitable Internet connection.

Hundreds of American radio stations are hosting audio podcasts of popular radio programs. National Public Radio has a website with over a dozen podcasts ranging from website radio show about politics to latest trends of technology (NPR.org, 2008). The New York Times website hosts several short (under 10 minutes) audio podcasts, like a newscaster reading the front page of the New York Times (NYtimes.com, 2008).

One report shows that if online viewers are counted towards readership, then readership is higher than it has been in years. Additionally, unique online views increase the Boston Globe's readership by 8 percent (Saba, 2007). Also not all markets have dwindling readership numbers. The Des Moines Register reaches over 555,000 adults, which is 70 percent of the Des Moines readership. If online numbers are included, then the number is over 591,000 adults (75 percent readership). Additionally, online advertising has grown 20 – 30 percent for several newspaper websites (Saba, 2007).

After exploring how old media has changed, this research will move to defining new media and Web 2.0.

### *New media and Web 2.0*

New media is also defined as the interaction of users using technology (Manovich, 2001). Additionally, Pratt (2000) describes new media as focusing on the converging of channels of multimedia like text, audio, and images into one application. The converging of multimedia channels is also called media richness (Hoffman, 1996). Another way to view this definition is that more activities can be accomplished by the increase of network speeds. Web 2.0, which is similar to Manovich's (2001) term of new media, is defined as systems or applications that have high interaction between users that use the Internet as a platform (O'Reilly, 2005).

#### *Definition of new media used in this research*

Initially, Lievrouw and Livingstone used McQuail's (1994) definition as a starting point for a definition of new media. McQuail (1994) defined new media as decentralization of channels for the distribution of messages which increases the capacity to send messages. This definition is limiting because like Pratt's definition, it relies on the capacity of the technology. Generally, it implies that the bigger the bandwidth the more activities users will participate in. This statement is true, but it is not a complete picture of the new media process. Lievrouw and Livingstone (2006) use the definition of new media of information and communication technologies that are based on the infrastructure of devices (technology), activities (processes), and social arrangements or organizational forms (people) (Lievrouw & Livingstone, 2006). This definition is

broader than older definitions which enables it to be valid even if the technology, activities, or social arrangements change. This is the definition that will be the basis of this research.

First this literature review will discuss the three components of the definition of new media. This research will also define how the users of new media have changed. Initially the users of new media were only users that were highly technical, and then young people; now, all age groups and levels of technical expertise frequently participate in new media activities. Next the research will cover how the social arrangements have changed. Just a few years ago the main forms of social arrangements were person to person, or broadcast (old media). Finally it will explore how new media activities have changed. (Initially the activities were limited to e-mail and reading static web pages. Now with Web 2.0, new media is interactive. Three interactive activities are downloadable media, blogs, and social networks.

#### *Audience & Social Arrangement*

The first part of the definition of new media used in this research is the audience and the social arrangement of the audience. Using the first definition, initially the typical user of new media or mass media was everyone that had a subscription to a news paper or everyone that owned a television or radio. As the definition of new media changed, the typical user of new media activities like blogging, was highly technical. As new media became cheaper and technology no longer required technical skills to use, new media was then primarily used by teenagers. More recently, while teenagers still use new media technology, other age groups have started to participate in new media activities. After

exploring how the audience or user of new media has changed, next the social arrangement of new media will be discussed.

Users that participate in new media activities are connected to each other in a variety of ways. As new media has become more interactive, social arrangement with new media technology has also changed. Instead of users being informed of information during a set time of day, users can now watch news 24 hours a day online or even on their mobile phones. Users can even participate in the news by capturing it with cameras embedded in their cell phones and posting the videos on websites where others can download this video content. Like the definition of Web 2.0, everything is more interactive.

*Device (cell phone, computer, portable media player)*

The second part of the definition of new media is the device. The device that the user participates in the new media activities is also changing. The cell phone used to be just a device that allows the user to communicate with one or more individuals in one channel. Now users can look at websites, listen to music, take pictures, and have a video conference with their phone. Most of the time, computers, either desktop or laptops are used to participate in new media activities. Computers today have huge hard drives and faster computer processors, which enable the users to use more channels of media like both video, and audio, along with text.

Just a few years ago not many users were downloading online videos due to limits of dial-up Internet, slow processors, and small hard drives. However, with the increase of

availability of broadband Internet, faster processors, and larger hard drives, downloadable videos have become more popular.

According to a recent report, 84 percent of teens own at least once personal media device, with 44 percent saying they have more than two devices (Raine, 2007). This same report showed that 20 percent of adults own an MP3 player (Raine, 2007). Portable media player prices have dropped considerably in the past 5 years. With cheaper devices, education and income level are no longer access factors.

*Income studies related to new media activities.*

In the past, one study showed a relationship between household income and Internet usage (Macgill, 2007). The report showed that 98% of households with an income of more than \$75,000 use the Internet. On the other hand, only 60% of households that make less than \$30,000 go online (Macgill, 2007). However, with the price of new media devices falling, household income no longer seems to be an access factor.

*Prior new media audience research*

A detailed survey by Livingstone and Bovill on 700 children ages 10 – 16 examined what drove young people to use new media in the late 1990s, (Livingstone & Bovill, 1999). The report showed that the primary reason that young people used new media was that there were insufficient outdoor activities, and they lived in media-rich homes. In this same report, only 7% of homes evaluated had an Internet connection (Livingstone & Bovill, 1999). Like discussed earlier, as high speed Internet availability

has increased so has the usage of new media. Next this research will explore the most popular new media activities.

To determine the most popular new media activities being conducted, an analysis was performed of the popular new media website allthingsweb20.com. The following is a break down of the different categories of new media usage from allthingsweb20.com. Forty seven of the websites listed on allthingsweb20.com were categorized as blogs. Twenty seven of the websites listed were categorized as social networks. Finally, the remaining 26 were categorized as downloadable content. Since all of the websites could be organized into these three categories, they were the activities studied.

#### *Popular new media activities*

Next this literature review will explore some examples of these activities and the research that has been done with them. The first new media activity this research will be explored is downloading and sharing media content, such as podcasts and digital photos. Next this research will explore the use of blogs. Finally, usage of online social networks will be discussed.

Web 2.0 and new media are commonly used interchangeably. Web 2.0 is defined as applications that use the Internet as the platform (O'Reilly, 2005). While dozens of Web 2.0 or new media technology are available, the scope of this research will only cover three Web 2.0 categories, (1) blogs, (2) online social networks, and (3) downloadable content. The reason for only looking at these categories is that those seem to be the most popular forms of new media.

#### *Downloadable content*



Downloadable content is the first new media activity explored. Downloadable content or social media are digital files that are downloaded and shared by using a computer or mobile device that can use the files immediately or at a later time. (Barsky, 2006) Podcasts are one form of downloadable content. Podcasts have become very popular in the United States. A recent survey showed that 22 million user that were older than 18 years old have an iPod or some other type of portable media device (Barsky, 2006). A podcast is a digital file, usually audio, that ranges in content from talk shows, music, news, and even some learning resources (Barsky, 2006). The United States Government even has a website that has categories ranging from public safety to health and technology. Just five years ago there was no such thing as a podcast. In 2008, podcasts can be seen or listened on hundreds of models of mobile devices. Podcasting can be described as just another way to bring content to another audience.

The digital file is created by a podcaster, which can be either an organization or an individual, at little or no cost. Podcasting software and hardware vary in price. The digital file is downloaded by a user through the use of web syndication. By using web syndication, audio or video files are downloaded or copied to devices ranging from not only Apple brand iPods, but also to hundreds of models of audio or video players or other devices such as cell phones (Cebici, 2005). From there, the digital files can be listened to wherever and whenever a user chooses to listen to them. Podcasts are typically short enough to listen to during an average commute (Barsky, 2006).

For now, audio podcasts remain more popular than downloadable video. Downloadable videos take time to watch, while audio podcasts can be listened to

anywhere and while one is doing other activities, like commuting to work, or at the gym. Downloadable video, while inexpensive (usually only a few dollars per download, or free in most cases), still requires more expensive hardware, like a computer to view the content. This will change as portable media players that play video files become more affordable.

#### *More downloadable content, digital photos*

Another form of downloadable or shared media is digital photos and videos. With the decreasing price of digital cameras, and even cell phones with built-in cameras that can upload photos and videos to Internet websites, more digital content is being shared and viewed than ever before. An estimated 24 billion digital photos were taken in 2004 worldwide, which is 13 billion more than in 2003 (Harmon, 2005). As of 2005, over 8 million photos have been uploaded to Flickr.com, a photo sharing website (Harmon, 2005). According to a recent survey of 935 teenagers, 64% of them have created at least one type of online content (Lenhart & Madden, 2007). Another type of new media activity is the process called blogging.

#### *Blogging*

In the beginning, web logging or blogging, was limited to individuals that knew hyper text markup language (HTML) programming and paid monthly fees to companies to host their content. Bloggers is the term used to describe those who write and publish journals or blogs on the web. Only a few bloggers initially journaled on their blogs on a regular basis. Web logging became more social as bloggers became aware of themselves as a community (Marlow, 2004). In 1999, only a few hundred blogs existed. As of 2006,

the blog tracker website Technorati.com was tracking over 29 million blogs (Barsky, 2006). As of January 2008, over 112 million blogs are currently indexed (Technorati.com, 2008). One reason for the popularity is that blogs do not require the technical knowledge of creating HTML code, nor do they require the knowhow of creating a web page (Barsky, 2006). Another reason for popularity is that the author does not need to rent space on a web server as several companies offer free hosting for blogs. The only thing that is required is for the writer to create content, usually knowing what text to post (Barsky, 2006).

Prior research related to blogging has focused on improved learning potential for students through the use of blogs (Boulos, Maramba, and Wheeler, 2006). Research has also been conducted on the effects of blogging during the 2004 United States Presidential elections (Adamic, 2005). The authority of weblogs has been measured by looking at the popularity of bloggers' public affiliations, and their influence as measured by how other bloggers cite each other's postings. The next new media activity explored is the use of social networks.

### *Social networks*

Social networking is the third activity that will be discussed in this research. As the popularity of blogging and downloadable content grew, so did the popularity of online social networks. Social networks are defined as websites that enable people to create their own network, or join other existing networks (Boyd & Ellison, 2007). Social networks, like MySpace.com, merge both the interactive nature of blogs with media richness of shared media content, like digital videos and photos. Sometimes users refer

to social networks like MySpace.com and Facebook.com as blogs because both social networks provide users with journal-like capability.

Facebook.com and Myspace.com, while they are both popular social networking sites, are different forms of social networking systems. Initially MySpace was a social network where bands could connect with their fans. Later it opened its access to everyone including school alumni and work organizations, (Boyd & Ellison, 2007). MySpace is now open to anyone, and has very loose limits on age use. Facebook.com on the other hand originally was limited to students of Harvard University (Cassidy, 2006), but later opened its membership to real-world organizations or communities, like other colleges, high schools, or employers (Lenhart & Madden, 2007). Facebook.com has over 4000 applications that users can add to their profiles. The applications range from the local weather to slide shows of their photos.

Prior research related to social networking has focused on teens since they were initially the most common age group using social networks. In a recent survey of teenagers, 55 percent had created an online profile, and 55 percent of teens had used online social networks (Lenhart & Madden, 2007). This same report showed that 91 percent of social networking teens use online social network sites to stay in contact with friends they see frequently (Lenhart & Madden, 2007). On the other hand, 82 percent of teens use the websites to stay in contact with friends they rarely see in person. In 2006, MySpace.com was the social networking site of choice (85%) while only a few used a Facebook.com profile (7%) (Lenhart & Madden, 2007). However those statistics have

recently changed. As of February 2009, Facebook had over 150 Million users, while Myspace had only 76 Million worldwide, (Swartz, 2009).

One reason that social networks are popular is that the users of this form of new media save time by communicating with more people at once or individuals more often. Since this new media is web based, access is not just limited to a dedicated computer. Another reason for the popularity of social networks is that the access to them is only limited by the user's access to the Internet. YouTube.com and other downloadable media networks are websites that host collections of digitized videos where users can view and even comment on the videos that are posted. YouTube.com is an example of both a blog and a downloadable content website. Next this research will explore characteristics that have the potential to impact new media usage.

#### *Introduction to H1 to H5*

Four characteristics that have the potential to impact new media usage that have not been researched before are education level, mavenism, overseas assignments, and the impact of having a concern of information security. Since new media technology prices continue to fall, income level and education level have the potential to not have a significant impact on usage. Another area that has not been examined is how users over 18 years of age are recently embracing new media activities. Additionally, with overseas assignments on the rise, no research has been conducted on its impact on new media usage. Another characteristic is mavenism. In recent market research, mavenism has connected maven teenagers and their usage of Internet service (Belch, 2005). Research has not yet linked mavenism to usage of new media for users that are older than 18 years

of age. Also, there is a perceived negative impact of a concern of information security and individual's usage of the internet (Jagatic, 2007). However, no research has been conducted to connect them. The first characteristic of the audience of new media activities that has changed is the education level.

***Hypothesis One: Impact of education on new media- Education level is no longer an access factor***

H<sub>10</sub>: Education does not have an impact on the use of new media technology.

H<sub>1A</sub>: Education is positively correlated with the use of new media technology.

Just a couple years ago several reports showed a large gap between the number of users of the Internet based on education and household income. The report showed that 98% of households with an income of more than \$75,000 use the Internet, while 60% of households that make less than \$30,000 go online (Macgill, 2007). With the price of new media products falling, education and household income no longer are factors. Since broadband service and the devices are cheaper, households with lower income can now afford high speed Internet. Most downloadable content like audio or video podcasts are free. Maintaining a blog no longer requires any cost. Additionally, a membership to most social networks is free. Because most new media activities do not have any cost outside of cost of Internet services, and income is based on education level (Day & Newburger, 2002), education level no longer should impact usage of new media activities, nor limit access to new media devices. Next this research will look at another characteristic of how the users or audience of the new media activities has changed.

***Hypothesis Two: The impact of age on the use of new media - Age does not determine use of new media activities***

H2<sub>0</sub>: Age does not have an impact on the amount of use of new media technology.

H2<sub>A</sub>: Age does have an impact on the amount use of new media technology.

While users younger than 18 years of age have been selected in the past because of the heavy usage of new media products observed in this age group, other age groups are also participating in new media activities as well. As of 2007, 59% of adult Americans 30 – 49 years of age have broadband Internet at their home, up from just 39% in 2005 (Horrigan, 2007). Additionally, since blogging requires no technical training, the age range of new media activities like blogging has also expanded in the past few years, (Boulos, 2006). Since a wide range of ages now use new media devices and participate in new media activities, age does not seem to be a limiting factor for access to new media activities and devices. Next this research will explore how overseas assignments have the potential to impact new media usage.

***Hypothesis Three: The impact of having an overseas assignment on the use of new media***

H3<sub>0</sub>: Having an overseas assignment does not have an impact on the amount of use of new media technology.

H3<sub>A</sub>: Having an overseas assignment does have an impact on the amount of use of new media technology.

With the war in the Middle East, more people are being stationed overseas. Also, there has been a sharp increase in the number of blogs that are military in nature. Milblogging.com lists 1,907 military blogs on its website as of February 2008 (milblogging.com, 2008). Until recently, the military authorized the use of blogging for people assigned overseas. This changed as the military felt that people that were assigned overseas might accidentally give out information that could be used by the military's adversaries.

***Hypothesis four: The impact of mavenism on the use of new media***

H4<sub>0</sub>: Having mavenism does not have an impact on the amount of use of new media technology.

H4<sub>A</sub>: Having mavenism does have an impact on the amount of use of new media technology.

Mavens are defined as individuals that tend to try new products or services earlier than individuals that are not mavens (Feick & Price, 1987). Web mavens have shown to influence other Internet shoppers by providing negative or positive feedback on products or services found on the Internet. Their impact has been shown to be as much as influential as reports conducted by Consumer Reports or PC Magazine (Davidson & Copulsky, 2006). Teen mavens have been proven to have more influence on their family than non-mavens (Belch, 2005). Since mavens try new products sooner than others, and have more influence on others than non-mavens (Belch, 2005) they would be good candidates to interview about new media technologies and how they influence others.



Next this literature review will explore how a concern for information security might impact new media usage.

***Hypothesis Five: The impact of the concern for information security on the use of new media***

H5<sub>0</sub>: Having a concern for information security is not negatively correlated to the amount of use of new media technology.

H5<sub>A</sub>: Having a concern for information security is negatively correlated the amount of use of new media technology.

Another characteristic that has the potential to impact new media usage is information security. Information security is defined as the concepts, techniques, technical measures, and administrative measures used to protect information assets from deliberate or inadvertent unauthorized acquisition, damage, disclosure, manipulation, modification, loss, or use (McDaniel, 1994). Even with recent increased rates of identity theft, users continue to post personal information on blogs and online social networking websites. No research has been conducted linking a concern with information security and new media usage. Since people that are concerned with information security are more likely to limit the amount of information that they provide using online activities, information security has the potential to negatively impact usage of new media activities. Next this literature review will explore how source of influence or word of mouth has the potential to impact new media usage.

### **III. Methodology**

#### **Chapter Overview**

The purpose of this study was to test the hypotheses by interviewing subjects that have higher education, have been overseas, are older than 18, classified as mavens, and compare those subjects to those that do not have such characteristics. Additionally this study will examine if there is an impact of information security on new media usage.

#### **Participants**

Test subjects were military personnel and one civilian; most were graduate students at the same mid-western university. Military personnel were selected because they provide a good sampling of high and low education, along with high and low overseas assignments. The civilian was prior military, and had used new media technology while being assigned overseas. Participants were selected to participate after filling out a self reported screener. If the participant reported more than one hour for one or more of the fields of study then they were selected as candidates to be interviewed.

#### **Method**

Multi-method research is an effective means to generating knowledge because it combines quantitative methods with qualitative methods. By combining methods, researchers can immerse themselves into the research instead of being limited by only one type of method, (Stange & Zyzanski, 1989). Multiple works have researched the benefits of combining qualitative and quantitative methods. A few of the benefits are the following: develop measures, identify relevant phenomena, interpret/explain quantitative

data, interpret or explain qualitative data, gain equal or parallel value from both types of data, or conduct effective multistage (longitudinal) analysis (Casebeer & Verhoef, 1997; Greene, 1989; Hammond, 2005). This research looked for a trend between data collected in the qualitative portion of the research and comparing it with the data gathered in the quantitative portion of the research.

A static-group comparison was used in this study comparing groups of subjects that had overseas assignments, bachelor degrees, high mavenism characteristics, and concerns of information security, and compared their usage with those subjects that do not have those characteristics.

## **Procedure**

Three instruments were used to collect data: Instrument 1 - Self reported screener, Instrument 2 - Self reported questionnaire , and Instrument 3 - Semi-structured interview. After the data was collected using these instruments, the interviews were transcribed. Self-administered screeners and questionnaires were used in this study because they have been shown to reduce social desirability by eliminating social cues by having the individuals fill out the form away from the researcher (Nederhof, 1985).

### *Instrument 1- Self reported screener*

Subjects answered a nine question self reported respondent screener. The purpose of the screener was to separate all participants into different levels of new media technology use. This researcher created the screener to ensure the sample of subjects interviewed consisted of new media technology users. The screener measured which new

media technologies a user had experience with and measured the amount of time per week they used each technology.

This screener helped the researcher to determine the level of new media technology experience each subject possessed. If any of the subjects reported less than an hour of use of new media technology, then they were not selected to be interviewed. This instrument also separated the participants into levels of high and low education and overseas assignments. Additionally this instrument collected information about each subject's overseas assignments. The screener also measured if the subject had education higher than a high school diploma. By asking this question it will be researched if education has an impact on new media adoption. The eighth question asked the subject's age. The ninth question had five parts. Each part asked for the level of new media exposure in terms of hours per week. A copy of Instrument 1 is located at Appendix A.

#### *Instrument 2 - Self reported questionnaire*

The self reported questionnaire measured three attributes of the sample population. The three attributes measured were (1) social desirability bias, (2) interpersonal influence, and (3) mavenism. The self reported questionnaire was collected at the start of the interview. A copy of Instrument 2 is located at Appendix B. The items used to measure social desirability bias, interpersonal influence, and mavenism are listed in Table 1.

Table 1 : Variables and Items from Inventory 1

| Variable and source   | Items  |
|---|--|
| Social Desirability Bias<br>(Crowne & Marlowe, 1960)          | <ol style="list-style-type: none"> <li>1. I am always willing to admit when I've made a mistake.</li> <li>2. I always try to practice what I preach.</li> <li>3. I never resent being asked to return a favor.</li> <li>4. I have never been bothered when people expressed ideas that were different from my own.</li> <li>5. No matter who I'm talking too, I'm always a good listener.</li> <li>6. I never hesitate to go out of my way to help someone in trouble.</li> </ol>  |
| Interpersonal Influence<br>(Bearden, Netemeyer, & Teel, 1989) | <ol style="list-style-type: none"> <li>1. It is important that others like the products and brands that I buy.</li> <li>2. I rarely purchase the latest fashion trends until I know that my friends approve of them.</li> <li>3. I often identify with other people by purchasing the same products and brands they purchase.</li> <li>4. When buying products, I generally purchase those brands that I think others will approve of.</li> </ol>  |
| Mavenism<br>(Feick & Price, 1987)                             | <ol style="list-style-type: none"> <li>1. I like to introduce new brands, products or services to my friends in these categories</li> <li>2. I like to help people by providing them with information about products in these categories</li> <li>3. People often ask me for information to get the best buy, places to shop, or sales in these categories</li> <li>4. If someone asked me where to get the best buy in these categories, I could tell the person where to shop</li> <li>5. My friends think of me as a good source of information for new products or sales in these categories</li> <li>6. Think about a person who has information about a variety of products and likes to share this information with others. This person knows about new products, sales, stores and so on but does not necessarily feel he or she is an expert on any one particular product. How strongly would you agree that this description fits you?</li> </ol> |

### *Social Desirability Bias*

The first set of items on Instrument 2 measured social desirability bias. This scale measures how likely the subjects might bias their responses (Crowne & Marlowe, 1960). If subjects score high on these items, they are more susceptible to biasing their responses. The six items that measured social desirability bias were answered on a 7-point Likert-type scale, with “1” being *Completely False* to “7” being *Completely True*. In an effort to limit the size of the questionnaire and to reduce survey fatigue, only six of 33 possible items were selected to measure social desirability bias in this research. Respondents with an average score greater than 4.0 might require more projective questioning techniques to get information about their usage of new media (Crowne & Marlowe, 1960).

### *Interpersonal Influence*

The second set of items on Instrument 2 measured susceptibility to interpersonal influence. This scale measures how likely a subject will be influenced by others (Bearden, Netemeyer, & Teel, 1989). This is useful to measure since the purpose of the research was to determine how the subjects influence others, and how they are influenced by others. If subjects score high on this category, they are more likely to be influenced by others (Bearden, Netemeyer, & Teel, 1989). Scoring is conducted by averaging the scores of the measures (Bearden, Netemeyer, & Teel, 1989). Respondents with an average score greater than 5.0 are more likely to be influenced by others. Subjects with a high score are prime candidates for digging into the deeper motivations for their compliance to determine what factors influence them. The interpersonal influence measure has 12 questions. The 12 questions can be categorized into the categories of normative and informational. Four of the questions are informational with the remaining eight questions are normative. Four of the eight normative questions were selected since they have higher reliability (.88) than the informational questions (.82) (Bearden, Netemeyer, & Teel, 1989). Also only four questions in an effort to limit the size of the questionnaire to avoid survey fatigue. The four items used to measure interpersonal influence are listed in Table 1 (Bearden, Netemeyer, & Teel, 1989).

### *Mavenism*

The third set of items measured market mavenism. This scale based on a survey of 1531 household measures how likely a subject will try new products (Feick & Price, 1987).

Feick and Price (1987) divided subject into three groups of mavens. The three groups of mavens are categorized by their maven scale scores. The three groups of mavens are high, medium, or low (Williams & Slama, 1995). If subjects score high on these items, they are likely to try new products (Feick & Price, 1987). A subject that scores high on the mavenism measure has the potential to be a person that tries new technology. The six items that measured mavenism were answered using a summated 7-point Likert-type scale ranging from “strongly disagree” to “strongly agree”. All six of the questions normally asked to measure mavenism were used in this research. Subjects with mavenism averages less than 14 are considered low scale mavens. Subjects with mavenism totals greater than 28 are considered high mavens. Subjects with mavenism totals greater than 14, but less than 28 are considered to not have the trait mavenism present. One of the research questions that will be explored will look at the differences between these three groups. The mavenism scale has a Cronbach’s alpha of .84 (Feick & Price, 1987). See Appendix B - Instrument B to see questions used to measure mavenism.

### *Instrument 3 - Semi-Structured Interviews*

The qualitative portion of the research conducted was the semi-structured interview conducted with each subject. There are several advantages to this method. Respondents are more likely to express their opinions in their own words than with other methods (Esterberg, 2002). Consequently, each interview was shaped to each interviewee’s experiences. Instead of feeling like an interview, each interview was more



like an open conversation. By each interview feeling more like a conversation the interviewer is able to get past social desirability, (Fisher, 1993).

The semi-structured interview was divided into ten sections. The first five sections each had fifteen questions corresponding to the five types of new media studied. Questions used in the semi-structured interview can be found in Appendix A. The five types of media studied were blogs, online forums, video download websites, podcasts, and online games. Finally the last section had four questions which asked about an individual's overseas assignment history. It also asked about the individual's experience with new media technologies while living in a foreign country. A total of 95 open ended questions could be used for any interview

#### *Coding Procedure*

Each of the semi-structured interviews were transcribed by the researcher. Three coders then used the coding instructions, located at Appendix D and filled out a Coding Tally sheet, located at Appendix E. Each Coding Tally sheet was completed by reading the transcript from each interview. A total of 90 Coding Tally sheets were filled out. Three Coding Tally sheets were filled out for each of the 30 interviews. Finally, a summary sheet, located at Appendix F of was filled out which summarized the Tally sheets. A total of 30 summary sheets were filled out. After short discussion, the data recorded on Instrument 6 was agreed by all three coders. Instrument 6 is located at Appendix F. A short version of Appendix F is located below in table 2.

Table 2 : Short version of Instrument 6 used to summarize data collected from transcripts

| Column A<br>Subject number | Column B Coder<br>1 – Number of forms of new media used | Column C Coder<br>2 – Number of forms of new media used | Column D Coder<br>3 – Number of forms of new media used | Column E<br>Final number of forms of new media used | Source of influence<br>0 - search engine<br>1- friends / family | Influences others?<br>Yes or no | Information security present 0 – No – 1 - yes |
|----------------------------|---|---|---|---|---|---------------------------------|---|
| 1                          |   |   |   |   |   |                                 |   |
| 2                          |   |   |   |   |   |                                 |   |
| 3                          |   |   |   |   |   |                                 |   |
| 4                          |   |   |   |   |   |                                 |   |

### Location of interviews

Interviews were conducted in a conference room that normally seats eight people. The conference room was clear of anything that would detract from the interview. All interviews were recorded using a digital audio recorder. All interviewees signed a consent form to the start of each interview. A copy of the consent form is located at Appendix H.

### Measures

The measures used were overseas assignments, education, age, mavenism, source of influence, forms of new media used, hours of new media used, source of influences, and presence of concern of information security. The measures overseas assignments, education, age, and hours of new media used were collected from Instrument 1. The control variable level of mavenism was collected from Instrument 2. The variables number of forms of new media used, source of influences, and concerns of information

security were collected from Instrument 3. These variables were collected after three coders analyzed the transcripts of the interviews using the coding instructions located at Appendix E, and the coding form located at Appendix F.

#### *Dummy Variables for Measures*

Since the average age of the subjects was 32.6, ages of subjects were assigned the dummy values 0, and 1. Ages 32 and younger were assigned the value 0, and ages 33 and older were assigned the value 1. Dummy variables for overseas assignments were assigned to each subject. If the subject had not had an assignment overseas the dummy variable of 0 was assigned. If the subject had an overseas assignment, the dummy variable of 1 was assigned. Dummy variables for education levels were assigned to each subject. If the subject had not earned a BA, or BS degree the dummy variable of 0 was assigned. If the subject had earned a BA or BS degree, the dummy variable of 1 was assigned. While social desirability bias, and interpersonal influence, and mavenism were all collected using instrument 2, only the variable level of mavenism was analyzed to determine impact on new media usage. Dummy variables were assigned to three values of mavenism totals.

#### *Additional variables collected from transcribed interview – number of new media activities and concern of information security,*

The variables “new media activities” and “presence of concern for information security” were collected by using instructions for coding each interview located at Appendix E.

The form for coding the data is located at Appendix F. And the form for summarizing all coded data located at Appendix G. The variable forms of new media used were scalar. If

the “concern for information security” was not detected a dummy variable of 0 was assigned. If the “concern for information security” was detected a dummy variable of 1 was assigned.

### **Data Analysis**

A Pearson’s correlation of all measures was calculated to determine the effect size between the measures “age”, “hours of new media used”, “overseas assignments”, “education”, “concern for information security”, “level of mavenism”, “level of social desirability bias”, “level of interpersonal influence”, and “number of new media activities used”.

### **Summary**

The purpose of this chapter was to describe the methods used to accomplish the research goals. First the chapter described the setting in which the research was performed. Next the methods that were used to collect the data are discussed. The chapter also discussed information about the participants. The measures that were used to collect data were explained. The next chapter will present the results of the data analysis.

## **IV. Analysis and Results**

### **Chapter Overview**

The purpose of this research was to determine what correlation exists between a subject's age, education, overseas assignments, and having a mavenism personality trait and the subject's new media usage. Also by interviewing the subjects, one additional independent variable was detected. The additional variable was a "concern for information security". This additional variable was also tested for correlations with the dependant variables.

### **Sample**

Average age of the 30 subjects was 32.6 years old. Fifty seven percent of the subjects had an overseas assignment. Seventy three percent of the subjects had earned a Bachelors of Administration or a Bachelors of Science. The range of "new media activities" used was two to eight forms, with an average usage of 5.9 forms with a standard deviation of 1.5. Fourteen subjects had a concern of information security. Each interview was based on each subject's experience so every interview was different. Not all 30 interviewees had experience in all five fields of new media. Also only half of the interviewees had been assigned overseas.

Fifty seven percent of the subjects had a high mavenism score or greater than 28 out of a possible 42 points. The average social desirability bias score was high (Crowne & Marlowe, 1960). Additionally, the average interpersonal influence score was 9.2 out of a possible 28, which is low (Bearden, et al, 1989). Twenty seven of the 30 individuals

had a low interpersonal influence score. With an average social desirability score of 5.3 with a standard deviation of 0.72. Since 93 percent of the subjects had a high social desirability score, more projective techniques were used on a majority of the subjects (Fisher, 1993).

The 30 subjects reported use of new media technology of at least 1 hour per week. Use of new media technology per week ranged from 1 hour to 38 hours, with an average use of 10.81 hours of use per week, with a standard deviation of 10.3.

### **Correlation**

A correlation analysis was performed on all the variables to determine if a linear relationship existed between the variables (Field, 2005). The Pearson correlation coefficient, which is represented by ( $r$ ), is defined as the measurement of degree of linear relationship between two variables (Pearson, 1896). The range of the Pearson correlation coefficient is  $-1 \leq r \leq 1$ . A perfect positive correlation is equal to 1, while a perfect negative correlation is equal to  $-1$  (Field, 2005). The results are in Table 3.

### **Direct Effects**

A predictive model is to be constructed where the dependent variable is predicted from one or more independent variables (Field, 2005). Regression analysis is computed to measure the degree and direction of influence of the independent variable or variables had on the dependent variable (Alreck & Settle, 2004). The dependent variable is predicted by simple regression by using only one independent variable. The dependent variable is predicted by multiple regression by using two or more independent variables (Field, 2005).

Ideally, low social desirability scores are desired (Crowne, & Marlowe, 1960). However, most subjects displayed high social desirability levels. As a result, the subjects required more projective techniques to get pass this, (Fisher, 1993). See Appendixes B and C for sample questions.

## Results

Table 3: Correlational Data

| Variable             | High<br>Maven<br>Score | Total<br>Hours | Age | Degree | Overseas<br>Assignment |   |  |  |
|----------------------|------------------------|----------------|-----|--------|------------------------|---|--|--|
| High Maven Score     | 1                      |                |     |        |                        |   |  |  |
| Total hours          | .23                    | 1              |     |        |                        |   |  |  |
| Age                  | -.24                   | -.34           | 1   |        |                        |   |  |  |
| Degree               | -.08                   | -.35           | .04 | 1      |                        |   |  |  |
| Overseas Assignment  | .09                    | -.04           | .35 | .08    | 1                      |   |  |  |
| Information Security | -.14                   | -.53           | .08 | .26    | .01                    | 1 |  |  |



***Hypothesis One: Impact of education on new media***

H1<sub>0</sub>: Education does not have an impact on the use of new media technology.

H1<sub>A</sub>: Education is positively correlated with the use of new media technology.

Education level was collected from question 7 on Instrument 1 – Respondent screener. Possible answers were “yes” or “no”. “Yes” answers were dummy coded as a 1, and “no” answers were dummy coded as a 0. The hypothesis was tested using linear regression. The variable “Hours of new media used” was entered into the regression model as the dependant variable, with education entered as the independent variable. This model failed to explain a significantly impact of education on new media technology.  $R^2 = .091$ ,  $F(2, 30) = 3.898$ ,  $p = 0.058 > 0.05$ . Thus, **H1<sub>0</sub> is not rejected.**

***Hypothesis Two: The impact of age on the use of new media***

H2<sub>0</sub>: Age does not have an impact on the amount of use of new media technology.

H2<sub>A</sub>: Age does have an impact on the amount use of new media technology.

Information about an individual’s age was collected from question 8 on Instrument 1 – Self reported screener. Possible answers were “18-21”, “22-25”, “26-29”, and “over 30”. However since the average age was over 32.4 years of age, the individuals age was collected during the interview. The hypothesis was tested using linear regression. The variable “Hours of new media used” was entered into the regression model as the dependant variable, with “age” as the independent variable. This model failed to explain a significantly impact of age on new media technology.  $R^2 = .085$ ,  $F(2, 30) = 3.680$ ,  $p = 0.065 > .05$ . Thus, **H2<sub>0</sub> is not rejected.**

***Hypothesis Three: The impact of having an overseas assignment on the use of new media***

H3<sub>0</sub>: Having an overseas assignment does not have an impact on the amount of use of new media technology.

H3<sub>A</sub>: Having an overseas assignment does have an impact on the amount of use of new media technology.

Information about an individual's overseas assignments was collected from question 5 on Instrument 1 – Self reported screener. Possible answers were “yes” or “no”. “Yes” answers were dummy coded as a 1, and “no” answers were dummy coded as a 0. The hypothesis was tested using linear regression. The variable “Hours of new media used” was entered into the regression model as the dependant variable, with “overseas” as the independent variable.

This model failed to explain a significantly impact of age on new media technology.  $R^2 = -0.034$ ,  $F(2, 30) = 0.037$ ,  $p = .84 > .05$ . Thus, **H3<sub>0</sub> is not rejected.**

***Hypothesis four : The impact of mavenism on the use of new media***

H4<sub>0</sub>: Having mavenism does not have an impact on the amount of use of new media technology.

H4<sub>A</sub>: Having mavenism does have an impact on the amount of use of new media technology.

Information about an individual's likelihood of being classified as a maven was collected from Instrument 2 – Self reported questionnaire. Likelihood of mavenism was measured with the 6 item, 7-point measure developed by Feick & Price. The hypothesis

was tested using linear regression. The variable “Hours of new media used” was entered into the regression model as the dependant variable, with “mavenism score” entered as the independent variable. This model failed to explain a significantly impact of mavenism on new media technology.  $R^2 = 0.02$ ,  $F(2, 30) = .214$ ,  $p=.21 > .05$ . Thus, **H4<sub>0</sub> is not rejected.**

***Hypothesis five : The impact of the concern for information security on the use of new media***

H5<sub>0</sub>: Having a concern for information security is not negatively correlated to the amount of use of new media technology.

H5<sub>A</sub>: Having a concern for information security is negatively correlated the amount of use of new media technology.

Concern of information security was collected by the coders of the transcribed interview transcripts using instrument 7 located in appendix F. Possible answers were “yes” or “no”. “Yes” answers were dummy coded as a 1, and “no” answers were dummy coded as a 0. The hypothesis was tested using linear regression. The variable “Hours of new media used” was entered into the regression model as the dependent variable, with concern for information security was entered as the independent variable. This model showed a significant negative impact of a concern of information security on the usage of new media technology.  $R^2 = .253$ ,  $F(2, 30) = 10.813$ ,  $p=.003 < .05$ . The null hypothesis is rejected and the alternative hypothesis is accepted.

*Summary*

For hypothesis one, the impact of education on new media usage, we fail to reject the null hypothesis that there is a correlation between education and the use of new media. For hypothesis two, the impact of age on the use of new media technology, we failed to reject the null hypothesis that there is a correlation between age and the use of new media. For hypothesis three, the impact of having an overseas assignment on the use of new media technology, we failed to reject the null hypothesis that there is a correlation between having an overseas assignment and new media usage. For hypothesis four, the impact of mavenism on the amount of use of new media technology, we failed to reject the null hypothesis that there is a correlation between having Mavenism and the usage of new media technology.

For hypothesis five, we do reject the null hypothesis, and we accept the alternative hypothesis that there is a correlation between a concern of information security and the use of new media.

## V. Conclusions and Recommendations

### Chapter Overview

This chapter presents the findings and limitations of this research. This research explored how education, overseas assignments, age, personality, and concerns for information security have the potential to impact a subject's use of new media technology. Future research suggestions are based on the limitations and findings.

The goal of this research was to determine the effects of the variables of age, education, having overseas assignments, and mavenism on a subject's use of new media technology. Additionally the variable having a concern of information security was detected by analyzing the interview data. First we will examine why education does not significantly impact usage of new media activities.

#### *Discussion of education*

As discussed in the literature review, it makes sense that as technology prices have lowered, education level and income level do not significantly impact new media usage. One example of a dramatic price cut in mobile media technologies occurred in the Fall of 2007. That was when Apple cut prices of their new iPhone by \$200, just 66 days after initially releasing it (Markoff, 2007). Next we will look at how age does not significantly impact usage of new media activities.

#### *Discussion on the impact of age*

It makes sense that age does not have a significant impact on usage of new media. People over the age of 30 are using new technology. In a recent study of MySpace.com profiles, it was shown that 20% of MySpace users are older than 30 years of age (Escher,

2007). See Figure 1 for breakdown of age groups. Next we will look at the analysis of the impact of overseas assignments.

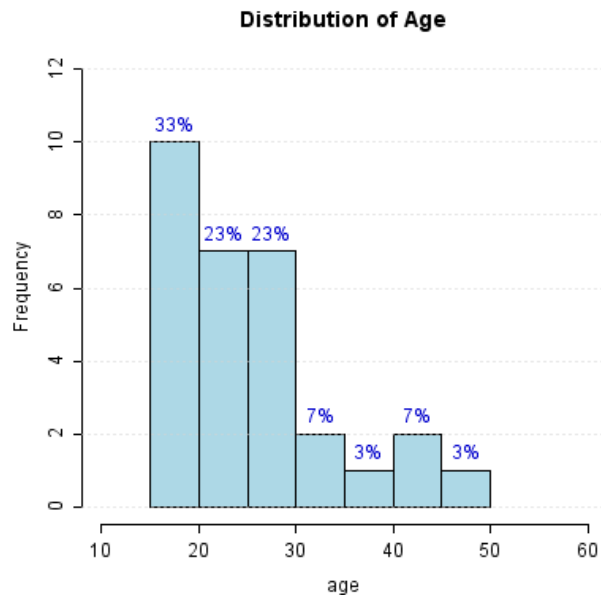


Figure 1, (source Escher, 2007)

*Discussion of overseas assignments.*

It makes sense that overseas assignments do not significantly impact the usage of new media technology. All of the subjects interviewed had good availability of morale calls to home. Since individuals had access to morale calls home, other form of communication, like new media, was not a priority.

*Information Security*

It makes sense that having a concern for information security would have a negative impact on the use of new media technology. Several forms of new media technology have the ability to collect personal information like birthday, hometown, and

information about one's family life. Facebook.com and MySpace.com have the ability to show a user's birthday including year on one's public profile. Both social networking websites have options to hide this content, but by default it is public. A recent study showed that 72% of 487 targeted social networking profiles gave up personal information, that could be used to steal their identity (Jagatic, 2007). Although that study only looked at subjects ages 18-24, this study included subjects with a larger range of age.

Even though subjects over 32 years old use new media technologies, they do not use it as much as subjects under 33 years old. One possible reason that subjects over 32 do not use new media technology as much as subjects under 33 is because most subjects over 32 are married and have other responsibilities that take up the subject's spare time. Eighteen of the subjects over 32 were married, while only 7 of the 10 subjects under 33 were married. Data was not collected to determine if any of the subjects had children. Perhaps further research might explore the impact that having children may have on a subject's use of new media.

While a few subjects did use instant messenger while overseas, the primary reason for not using new media technology was availability, not that the military was blocking the content.

The goal of this research was to link several traits of users to increased usage of new media. While several hypotheses were not supported, a few did not have a large enough sample to determine if the characteristics measured made a difference. The results on impact of education were limited because only 4 members were interviewed

that did not have a BA or BS degree. Future researcher might expand on those groups that did not have enough data points.

### **Limitations**

It seems that several subjects did not prefer posting personal information onto websites. Several subjects stated during their interview that the information security class they had taken made an impact on them. Even though 17 students had taken an information security class, the average number hours of new media technology for the group that had taken the information security class was 9.8 hours per week, only a little less than the group that had not taken an information security class (11.6 hours).

### **Recommendations for Future Research**

Coders detected that 21 subjects made a comment during the interviews that they had a concern about information security. Since several of the subjects were students that had taken a course related to information security, this was the most likely the source of the negative impact on the usage of new media by those subjects. Perhaps further research will explore additional impact of information security education classes. Further research might explore a comparison of subject's use of new media prior to taking classes about information security, and to sample that same group after taking a class about information security.

Perhaps further research would look at a longitudinal study of new media usage, since the research performed was only a snapshot. Also looking at these same variables in the distant future might also be beneficial since this research found that most of these variables had significantly impacted new media usage just a few years ago.



Further research might examine subjects that have deployed since the recent blocking of military blogs by the United States Air Force (Shachtman, 2007). Only 2 of the subjects in this research had been deployed in the past 2 years, and neither were impacted on recent blocks of social networking and blogs.

One of the questions on Instrument 2 asked the subject had been deployed overseas, two members marked no, but were each actually assigned overseas each over 3 years. In future research, I suggest rewording this question to state “have you lived in a country outside of the United States for more than a week?”.

### **Summary**

This research has added to the body of knowledge of usage of new media studies by identifying that usage is not significantly impacted by individuals between the ages of 21 to 47 years. This research has shown that usage is not significantly impacted by overseas assignments. This research also has shown that mavenism is not a good indicator of new media usage. This research also showed that concerns of information security significantly impact the usage of new media usage.

## Appendix A – Instrument 1- Respondent Screener

### SECTION I

1. Do you have your own blog or personal website?
  - a. YES
  - b. NO
2. In the last month, have you contacted someone through a social networking site like MySpace or Facebook on more than one occasion?
  - a. YES
  - b. NO
3. In the last month, have you searched for content on social media sites like YouTube or Flickr on more than one occasion?
  - a. YES
  - b. NO
4. In the last month, have you reviewed, rated or recommended something online on more than one occasion?
  - a. YES
  - b. NO
5. Have you ever been deployed overseas,
  - a. YES
  - b. NO
6. If you answered yes to question 5, how many times? ONCE
7. Do you have a BA or BS Degree?
  - a. YES
  - b. NO
8. What is your age?
  - a. 18- 21
  - b. 22 – 25
  - c. 26 – 30
  - d. Over 30
9. In a typical week, how many hours do you spend performing the following activities?
  - a. Contributing you your own website or blog \_\_\_\_\_
  - b. Reading blogs or online forums \_\_\_\_\_
  - c. Visiting social network sites (MySpace/Facebook) \_\_\_\_\_
  - d. Visiting video sharing sites (YouTube/Flicker) \_\_\_\_\_
  - e. Searching for and listening to Podcasts \_\_\_\_\_
  - f. Spend playing games online \_\_\_\_\_

## Appendix B – Instrument 2 - Self reported questionnaire

Thank you for agreeing to participate in your upcoming depth interview. As part of this project we want to develop a deeper understanding of how people use “new media” technologies such as Blogs, YouTube, MySpace, etc. Prior to participating in the depth interviews, we ask that you complete this survey. It will take you about twenty minutes to complete.

Your participation in this study is purely voluntary. If you choose not to participate in this study or withdraw from this study you will experience no penalty. Since some of the questions asked in this survey may be used in your interview, your responses are not confidential, but no one outside the research team will be able to link your specific responses to you. The results of this research will be published, but your name will not be used.

**INSTRUCTIONS:** Please fill in the circle that best indicates the extent to which each statement is true about you.

|   | Completely<br>False   |                       |                       |                       |                       |                       | Completely<br>True    |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|   | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |
| I am always willing to admit when I've made a mistake.                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I always try to practice what I preach.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I never resent being asked to return a favor.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I have never been bothered when people expressed ideas that were different from my own. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| No matter who I'm talking too, I'm always a good listener.                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I never hesitate to go out of my way to help someone in trouble.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**INSTRUCTIONS:** Please fill in the circle that best indicates the extent to which you agree or disagree with each statement.

|  | Strongly<br>Disagree  |                       |                       |                       |                       |                       | Strongly<br>Agree     |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|  | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |
| It is important that others like the products and brands that I buy.                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I rarely purchase the latest fashion trends until I know that my friends approve of them.    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I often identify with other people by purchasing the same products and brands they purchase. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When buying products, I generally purchase those brands that I think others will approve of. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**INSTRUCTIONS:** Please fill in the circle that best indicates the extent to which you agree or disagree with each statement.

|  | Strongly Disagree     |                       |                       |                       |                       |                       | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|  | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |
| I like to introduce new brands, products or services to my friends in these categories   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I like to help people by providing them with information about products in these categories  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| People often ask me for information to get the best buy, places to shop, or sales in these categories  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| If someone asked me where to get the best buy in these categories, I could tell the person where to shop   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My friends think of me as a good source of information for new products or sales in these categories   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Think about a person who has information about a variety of products and likes to share this information with others. This person knows about new products, sales, stores and so on but does not necessarily feel he or she is an expert on any one particular product. How strongly would you agree that this description fits you? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## **Appendix C – Instrument 3 -List of Semi-Structured Interview questions**

### **Introduction:**

“Good Morning, I am \_\_\_\_\_ (introduce self).

This interview is being conducted to better understand why you use new media technologies. When I say “new media technologies,” we are referring to technologies like blogs, personal websites, social networking sites (i.e., MySpace and Facebook), video sharing sites (YouTube and Flickr), podcasts, and online/viral games. I am particularly interested in understanding why you adopted these technologies, how you use them, and how you communicate through these new media.

I will be tape recording our conversation. The purpose of this is so that I can get all the details but at the same time be able to carry on an attentive conversation with you.

Since the interviews are being recorded I cannot guarantee confidentiality. If you agree to this interview and the tape recording, please sign this consent form.

I am now going to ask you a series of questions that I would like you to answer to the best of your ability.

### **General Questions about Technology**

- Which of the following types of new media that I described earlier (blogs, personal websites, social networking sites, video sharing sites, podcasts, viral games) do you regularly use?
  - *PROBES:*
    - How often do you use them?
    - Specifically what “brand” technologies do you use?
      - Why do you use one brand over another? For example, why do you use Facebook rather than MySpace?
  - *NOTE:* These questions can be used to establish a general framework of the types of technologies that the participant uses most often, so that future probe questions can be focused on the technologies that the participant is most familiar with.
- How long have you been using these technologies?

Now I want to ask you some more details about your specific experiences with these different new media technologies.

### **Questions about Trial**

- You mentioned that you regularly use \_\_\_\_\_ (insert one of the new media technologies that is regularly used). When did you first try using this new media service? Please elaborate
  - *PROBES:*
    - Depending on the respondents’ answers, the interviewer should be ready to extend this conversation to probe the internal, social, network and product-specific factors that motivated you to use it.
- How were you first exposed to this technology? Please describe how you first reacted when you heard about this technology.
- Please describe your first trial experience with this new technology.
  - *PROBES:*
    - Did you enjoy your first experience with the technology?
- Who introduced this new media service to you?
  - *PROBES:*
    - Why do you think this person introduced you to this service?
    - How did they convince you to try this service?
    - What role did they play in making you try this service?
    - Prior to this experience, did anyone try to unsuccessfully introduce this new service to you earlier?
      - Why didn’t you try the service this time?

- Why were you motivated to try this service? OR What were your reasons for trying?

### Questions about Adoption

- After your trial, why did you keep using the service? Please elaborate.
- Did anyone else influence your decision to continue using the new service after you first tried it?
  - *PROBES:*
    - The interviewer may need to lead the respondent here toward both direct and indirect influences.

### Questions about Continued Usage

- Why do you continue to use this new technology?
  - *PROBES:*
    - How does this technology improve your life?
    - What personal characteristics make you prone to using this technology regularly?
    - What about your social network makes you prone to using this technology regularly?
- How do you use this new technology?
  - *PROBES:*
    - For...
      - Communication
      - Persuasion
      - Entertainment
      - Information
- If your friends stopped using this service would you continue to use it?

### Questions about Influence

- Describe some recent persuasive messages (these can include advertisements, third party information, or information from someone in your social network) that you have been exposed to via these new technologies?
  - *PROBE:*
    - Tell me about one of these messages that you received recently.
      - Who sent you this message? Why did they send this message to you?
- How have you used these new technologies to influence others?

- *PROBE:*
  - Have you tried to enhance other's opinions of you?
  - Have you tried to inform others?
  - When you send these messages do you send them to individuals or broadcast them to groups?
- What types of messages do you pass on using these new technologies? Who do you send them to?
- Please describe a situation where you introduced other people to this new technology?
- Why were you motivated to introduce others to the technology?
- Which of these new technologies is easiest to introduce to others? Why?
- Which of these technologies delivers the most persuasive messages? Why?

### **Questions about Behavior**

- How have these new technologies changed your behaviors?
- What do you use these new technologies for?
- What motivates you to use these technologies on a regular basis?

### **Network Effects**

- How many people have you introduced to these new technologies? Why have you introduced it to so many people?
- Every new technology needs to diffuse through the population. Compared to your group of friends would you classify yourself on the front end of the curve, the middle or near the end? Why?

### **Questions about Deployment**

- Where were you deployed?
- How long were you deployed?
- Which new media technology did you use while deployed?
- Were there any limitations on how the new media technology was used?
- If deployed in 2006,
  - In early 2006, the military banned the use of myspace and other new media technology while deployed.
  - Where you still able to use other new media technologies while deployed?

**Appendix D – Instrument 4 - Instructions for using tally sheet for coding  
transcribed interviews**

**Coding Instructions**

These coding instructions are designed to provide all necessary information needed by a coder of new media technology usage.

The first column is the New Media Technology column. This column serves as a guide for the coder to record what type of new media technology was recording in the interview.

The second column is where the name of the brand of new media technology used is recorded. Examples of Blogs or forums are Amazon and CNET. Examples of Social networking sites are MySpace, and Facebook. Examples of photo sharing are flickr, Kodak, and picasa. The most popular video sharing site is Youtube. Podcasts can range from personal development and radio shows. Online games range from xbox, playstation, yahoo games, and Nintendo Wii. Commerce related sites are eBay, and craig's list.

The third column is who introduced the technology to the subject. Options are family, friend, or coworker.

The fourth column is for recording how long did the subject take to try out the new media technology.

The fifth column is for recording how long in months the subject has used that new media technology.

The sixth column is for recording reasons for continued use. Options are information, communication, and entertainment.

The seventh column is used for recording reasons for discontinued use of new media technology.

The eighth column is used to record if subject has influenced others by telling others about this new media technology

Finally the ninth column is used for recording if the subject has had an overseas assignment.



## Appendix E – Instrument 5- Tally sheet for coding variables

| interview or subject number                        |  |   |   |  |   |   |  |                          |
|--|--|---|---|--|---|---|--|--------------------------|
|  |  |   |   |  |   |   |  |                          |
|  | coder number   |   |   |  |   |   |  |                          |
|  | name of new media used (online classes, amazon, CNET, ebay, tigerdirect, xbox) | who or what introduced technology to subject or what influenced subject (family, friend, coworker, search engine, news) | adoption / trial duration - how long did they test the new media? | how long used? in years or months total (2 months - 4 years) | reasons for continued use - information - communication - entertainment | reasons for dropping other similar technology | has subject told others about this new media technology? | used while overseas? Y/N |
| <b>New Media Technology</b>                        |  |   |   |  |   |   |  |                          |
| Blog/forum 1 - amazon - cnet                       |  |   |   |  |   |   |  |                          |
| Blog/forum 2 - amazon - cnet                       |  |   |   |  |   |   |  |                          |
| Blog/forum 3 - amazon - cnet                       |  |   |   |  |   |   |  |                          |
| social networking 1- myspace, chat, messenger      |  |   |   |  |   |   |  |                          |
| social networking 2- myspace, chat, messenger      |  |   |   |  |   |   |  |                          |
| photo sharing 1- flickr, kodak, picasa             |  |   |   |  |   |   |  |                          |
| photo sharing 2- flickr, kodak, picasa             |  |   |   |  |   |   |  |                          |
| video sharing - youtube                            |  |   |   |  |   |   |  |                          |
| Podcast 1  |  |   |   |  |   |   |  |                          |
| Podcast 2  |  |   |   |  |   |   |  |                          |
| online games - xbox, playstation, yahoo games, Wii |  |   |   |  |   |   |  |                          |
| commerce related - ebay/craig'slist                |  |   |   |  |   |   |  |                          |
| other - off topic                                  |  |   |   |  |   |   |  |                          |
| notes - (info security present)                    |  |   |   |  |   |   |  |                          |

### Appendix F – Instrument 6- Sheet for summarizing coders’ tally sheets

| Column A<br>Subject number | Column B Coder<br>1 – Number of<br>forms of new<br>media used | Column C Coder<br>2 – Number of<br>forms of new<br>media used | Column D Coder<br>3 – Number of<br>forms of new<br>media used | Column E<br>Final number<br>of forms of<br>new media<br>used | Source of<br>influence<br>0 - search engine<br>1- friends / family | Influences<br>others?<br>Yes or no | Information security<br>present 0 – No – 1 -<br>yes |
|----------------------------|---|---|---|--|--|------------------------------------|---|
| 1                          |   |   |   |  |  |                                    |   |
| 2                          |   |   |   |  |  |                                    |   |
| 3                          |   |   |   |  |  |                                    |   |
| 4                          |   |   |   |  |  |                                    |   |
| 5                          |   |   |   |  |  |                                    |   |
| 6                          |   |   |   |  |  |                                    |   |
| 7                          |   |   |   |  |  |                                    |   |
| 8                          |   |   |   |  |  |                                    |   |
| 9                          |   |   |   |  |  |                                    |   |
| 10                         |   |   |   |  |  |                                    |   |
| 11                         |   |   |   |  |  |                                    |   |
| 12                         |   |   |   |  |  |                                    |   |

**Appendix G – Consent Form**

**Consent form**

There are no known risks to you by taking part in this research.

All of the information that we obtain from you will be kept confidential. Your name and other identifying information will not be used in any reports of the research.

Your participation in this research is voluntary. You are free to refuse to take part. You may refuse to answer any questions and may stop taking part in the study at any time.

I have read this consent form and I agree to take part in this research.

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

\_\_\_\_\_

Print Name

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## **Vita**

Captain Thomas Enright graduated from Bartlett High School in Anchorage, Alaska, in May 1993. He graduated from Marquette University, Milwaukee, Wisconsin in December 1997 with a Bachelor of Science in Civil Engineering. Captain Enright was commissioned through Air Force Reserve Officers Training Corp in December 1997. Since commissioning, Captain Enright has served in the military as a communications officer for ten years. Captain Enright separated from the Air Force in May 2008. He has been a program manager in private industry for 2 years.



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| <b>14. ABSTRACT</b><br><p>Previous research into new media technology usage has typically been limited to young adults ages 18-24. However this study will include age, education, overseas assignments, presence of mavenism, and information security concerns as variables impacting new media usage. For the purpose of this study, new media is defined by devices, activities, and social arrangements (Lievrouw &amp; Livingstone, 2006). While dozens of new media technology are available, the scope of this research examined individual's use of blogs, online social networks, and downloadable content.</p> <p>Data about new media was gathered through a literature review and by conducting interviews with people that are frequent users of new media technology. By conducting interviews with individuals that use new media for at least a few hours a week, in one or more different technologies, it was determined which variables impact new media users the most.</p> <p>This research concluded that age, education, overseas assignments, and a presence of mavenism by themselves do not have a significant effect on new media usage. However, information security concerns were shown to have a significant impact on new media usage.</p> |                    |  |                                   |  |  |
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