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The Convergence of Communication and Technology

In recent years, the advancements in technology have transformed the world in unprecedented ways. One of the most significant and among the most profound changes occurs in the way in which society communicates. New communication mechanisms and platforms are forever evolving at accelerating rates. The internet-of-things, the smart phone, email, instant messaging, telecommunication, and social media are revolutionizing the way in which modern society communicates. This study focuses on the background, effects, and implications, technology has on communication. This paper reviews the development of communication technology through history, explores the positive and negative effects of modern technology on human communication, and offers a careful examination of the implications behind this technology era and how society can adapt to this new phenomenon.

To comprehend the full effect technology has on communication, an understanding of how the communication between humans has gradually developed overtime is necessary. The longevity of human-kind can be attributed to human's ability to adapt, and the fact that humans are instinctively sociable creatures (Jackendoff). Nearly one hundred thousand years ago, the vocal tracts of hominid humans evolved creating more anatomically modern humans that allowed for spoken language. Before, earlier hominid humans communicated with a restricted range of constants and vowels, but the effect of this change made speech much faster and more expressive. Similar to the effects of technology today, the development of vocal tracts helped

make communication faster and easier. Unlike technology, the development of verbal language allowed humans to communicate and convey meaning more clearly.

The next development in communication occurred when humans began to write. The first writing occurred between 3500 – 3000 BCE by the Sumerians in southern Mesopotamia as a means of recording history, and for long-distance communication (Mark). Writing is considered the physical manifestation of spoken language. The significance of written language can be seen from a historical point-of-view, because without it, society as a whole would lack context in which to interpret physical evidence from the past. Written communication records the lives of people, which makes it a necessary step in understanding past cultures and civilizations. A prime example of this problem is evident where scholars are having a difficult time understanding the Mayan civilization (Mark). A second important reason for the development of written language can be attributed to the rise of cities in Mesopotamia. With the need for trade growing due to the lack of resources in cities and regions, long-distance trade developed, and with it, the need to communicate across expansive regions. One instance of a highly demanded product in the time of Mesopotamian was beer. Pictographs, symbols which represented objects, were used in recording such transactions. With pictographs, one could tell how many jars or vats of beer occurred in a transaction. Comparable to today's technology, the development of written language supports the sharing of information.

The innovation that follow in the field of human communication was the Gutenberg printing press. Johannes Gutenberg borrowed money in 1452 to begin his famous Bible project. Gutenberg constructed his printing press in an attempt to disburse information in mass quantities (Kreis). The immediate implication of the printing press was the ability to multiply the production of output, which significantly cut costs of producing pamphlets and books in large

quantities. This made information available to a much larger segment of the population. Libraries could now store larger volumes of books at a much lower cost. Society was no longer reliant on typist, who at the time were expensive. A long-term lasting effect was the stimulation of literacy in lay people. A negative implication of this invention was the limited amount of people who controlled the mass dissemination of information device. Governments, religions, and elites controlled what was being printed, and in what volumes. In the creation of writing, one of the main purposes was to record history. The problem here is, only few entities had the control of shaping history in a way that benefited them most or they deemed fit. With this development, there are positive and negative implications like the development of modern day technology.

The next pivot development in human communication came in 1893 when Nikolai Tesla demonstrated the use of a wireless radio for communication. This invention exasperated societies ability to communicate and share information over long-distances almost instantaneously. In the early uses of radio transmissions, speech was untransmutable – Morse code was used (Wyman). This positively helped ship merchants out at sea, and helped governments communicate over long distances. A negative aspect behind the radio is that transmissions were public, which allowed other entities to listen to what was said. As the radio evolved, the advancements allowed for mass broadcasting, which allowed those who couldn't read, to still have access to information. This development of technology decentivized people to learn how to read. Analogous to the present technology era, advantages and disadvantages are apparent.

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good point

The last transformative invention before the present technology era was the development of the television. The idea for this type of invention was conceived in the 1800's, but was not fully operational until 1926 when John Loagie Baird built the first proto type (Media and Culture). The radio allowed for the transmission of verbal communication; the television

supports the transmission of verbal and visual information. In an expensive world, television is an inexpensive source of entertainment; it also makes it easier for people to stay informed on current events. Two negative components of television are that it can lead to unhealthy habits, and the amount of inappropriate material – sex and violence – being displayed, which can have a negative impact on our youth. For preventative measure, public and private entities govern what is acceptable to show on air. This technology proves to have positive and negative facets behind it that humans were able to adapt to.

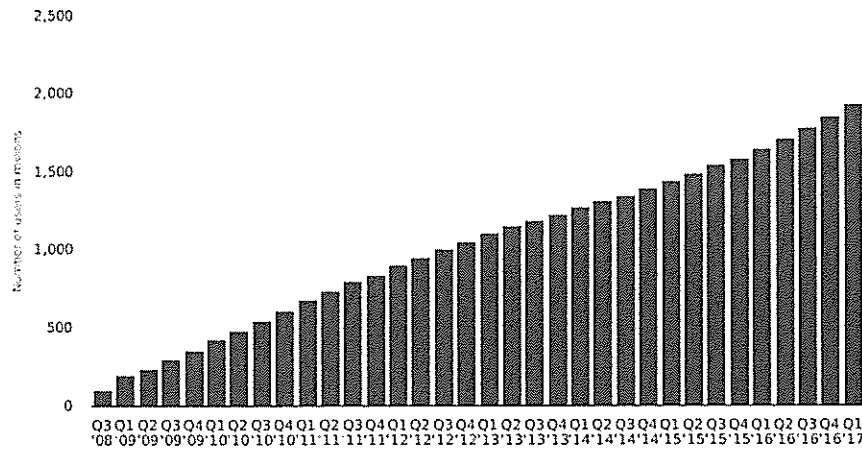
Since the early 1990's, society has entered a new time period where the internet-of-things, smart phones, and social media have played an exceeding more intricate role in everyday life. The convergence of these technologies are changing the way humans communicate and interact in unprecedented ways. Next, this study defines what a communication context and setting are, four different communication settings technology effects, and presents the implications of how society can adapt.

Human communication is a part of everyday day life, and understanding the different facets behind communication is important. The two aspects focused on here that affect how we form and interpret messages through communication are the context and setting. The communication context is, "made up of the physical, social, historical, psychological, and cultural situations that surround a communication environment" (Verderber). Communication setting differs based on the formality of the interaction, and the number of participants (Verderber). Four types of communication discussed include: interpersonal, small-group, public, and mass communication.

Before discussing how interpersonal communication transformed since the convergence of the internet, smart phones, and social media, one must know what is meant by interpersonal. Interpersonal communication is characterized as informal interaction between two people who have an identifiable relationship with one another. Examples of interpersonal communication include talking to friends at school, speaking with your mother on the phone, and texting or chatting with your sister (Verderber). The impact of this new technology age is important to recognize because of the rapid growth in these various technologies. Per the United States Census, only eight percent of households had computers in 1984 (Drago). In 2011, seventy-two percent of households owned a computer. Another interesting factoid is that in 2013, ninety percent of American adults owned a cell phone, and ninety-seven percent of those under forty-four years of age owned a cell phone. A study done by the Kaiser Family Foundation found people between the ages of eight and eighteen years old spent on average seven and a half hours a day on the internet.

The benefits from technology on interpersonal communication are abundant. Before the development of the internet, individuals found it more difficult to stay in-touch with family and friends. People could either call or write a letter by mail to stay connected. Smart phones, the internet, and social media have made it much easier, faster, and more efficient to stay connected. Smart phones have enabled individuals to access the internet nearly anywhere in the world. Facebook, a social media giant, permits users to post, share, and write with one another in an interactive fun manner. The acceptance of this technology is apparent from the amount of users Facebook has acquired over the years. Facebook has nearly two billion active users every month. Figure 1. Shows the exponential rate of users.

Number of monthly active Facebook users worldwide as of 1st quarter 2017 (in millions)



Source:
Facebook
© Statista 2017

Additional Information:
Worldwide, Facebook, 3rd quarter 2008 to 1st quarter 2017

statista

Figure 1.

(Spirer)

This is one of the numerous benefits modern technology has on interpersonal communication.

With all of the benefits of technology in this era, there are the negative aspects.

One of the over-arching concerns the convergence of these technologies present is the lack of intimacy within relationships. Before social media, it was normal for an individual to say they have in between five and 20 friends. In this new media age, it is not uncommon to have over one thousand friends. The amount of time and intimacy created from fifteen friends is going to be much stronger than trying to reach the same level of intimacy with a thousand friends. Also, social media allows an individual to share whatever they deem fit. There was a study done at Cornell University which shows a negative slope between the relationship of self-disclosure and intimacy (Ma and Hancock). In the realm of interpersonal communication, the positives of this new era include how easy and fast it is to stay connected, and on the negative side is the lack of intimacy between people.

Small-group communication is another communication setting that is transformed by the present technology era. Small-group communication typically involves between three to twenty people (Verderber). A few examples of small groups are families, groups of friends, groups of classmates, and groups within the workplace. Small-group communication went from face-to-face, to discussion boards and telecommunicating from anywhere in the world.

A positive feature of telecommunicating is in its efficiency of getting everyone in the same “room” at the same time without being inhibited by geographic location. This is an effective tool used by many students and businesses around the world. Up until the present era, when students were assigned a group project, they were forced to find a convenient time and place – for example the library or at a group members house. These tasks are stressful and difficult to plan. Now, students have the ability to create virtual rooms online through technological advances, which circumvents the need to find a suitable location.

An adverse effect of telecommunication is that it isn’t always as effective as an in-person meeting. The communication channel, the route messages travel as a means of transportation, does not give the receiver of the message all of the information to decode the meaning of the message. Nonverbal communication accounts for sixty-five percent of a message being sent (Verderber). When a virtual room is being used, only one’s face is being seen. This means there is a good probability that interference will occur between the sender and receiver.

Public communication has altered since the development of the internet, smart phones, and social media. Public communication is typically delivered to audiences of twenty or more people. This type of communication could occur in the form of public speeches or presentations (Verderber). There are advantages and disadvantages associated with the convergence of these technologies on public communication.

Smartphones, the internet, and social media have made the accessibility to public speeches much easier – the television was the last big innovation which influenced public speeches. The television helped alleviate geographic viewing inhibitors by allowing those from different locations to view public communication. Also, modern day technology allowed has circumvented the time restriction inhibitor. YouTube is one of the biggest social media video viewing applications world-wide with over a billion monthly users. Figure 2 portrays the increase in use.

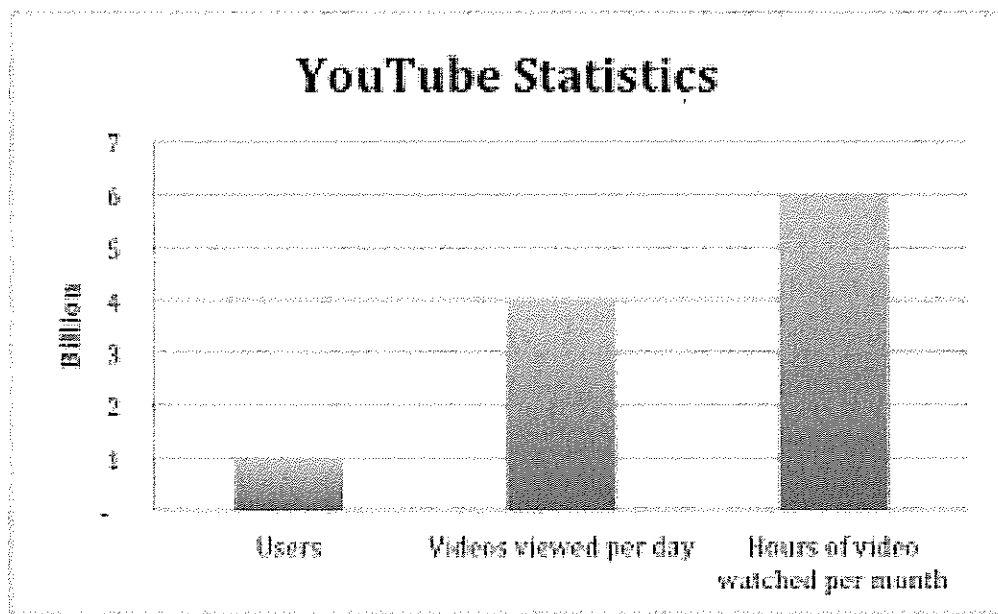


Figure 2.

(Mckeand)

There are nearly one billion users, over four billion videos viewed each day, and close to six billion hours of YouTube each month. Public speeches are now videotaped, and posted online for viewers to see at their leisure.

Modern technology presents disadvantages as it relates to public communication.

Whether a child, student, adult, or public figure is making a public speech, there is always the potential for it to become an internet sensation, which would make it become global. Individuals

must be very careful about how they present – whether it is being politically correct or making a mistake. Once something is posted on YouTube or these social media websites, it is very difficult to get them taken down.

In modern times, mass communication can be seen as one of the most influenced communication settings, and can be seen as a main driver of globalization. Mass communication is the deliverance of a message from an individual or entity through mass media to large segments of the population at the same time (Verderber). Modes of mass communication can be in newspapers, magazines, radio, and television, but social media has an altering effect on mass communication.

Social media and mass communication go hand-in-hand in the modern world. Never before has there been a time where it has been so easy to reach a large audience. Social media is a great resource for users to spread awareness about profound topics. Up until recent, television, newspapers, and the radio were the primary sources of disseminating mass information. These old means of giving information would gear their material to their audience, which was segmented usually by country. Only a small portion of this disbursed information is global in context. Now, with the recent developments in technology, individuals can read news from any country in the world, and read about global topics and issues – for example the concern of global warming. There are many ways mass media has changed, but the key ways are the accessibility to mass media, and the global perspective in which it is now being delivered.

With the positives behind this new technology wave, there are some negative effect behind it as well. One of the over-arching concerns is the appropriateness of information available to children. Violence and sex are two prominent topics that receive a lot of scrutiny. Children have grown up in the era of computers and have an innate ability to maneuver the

internet. Parents are at a disadvantage here because children know more about computers than their parents, which means they can hide what they are viewing. Facebook in particular is in a phase of hiring humans to solve this problem understanding that technology by itself is incapable of scanning the information being disseminating.

This new technology era has influenced and effected each type of human communication setting. On the interpersonal level, social media allows individuals to stay connected from different parts of the globe. Unfortunately, this has a negative effect on the intimacy of a relationship. Self-disclosure on the internet is one of the main variables that influences how intimate a relationship is. For humans to adapt to this new era and create more intimacy, they can disclose and share more information about themselves. The effects of technology on small groups allows individuals to work on projects without ever being in the same room. This helps with productivity and efficiency; however, it can affect how one receives and decodes a message. Nonverbal communication is a large percent of how individuals interpret messages, which may cause ambiguity or a misunderstanding of what is said and what is meant. It is important to be clear, concise, and to reiterate oneself when working in small groups in a virtual room so that there is not interference. The advantage of the internet allows public communication to be seen by a larger audience because it allows for recording that can then be uploaded to video sharing sites like YouTube. A disadvantage is that people can take words said from a speech out of context to give them a different meaning. Also, people are worried about being politically correct. For humans to adapt, society as a whole has to understand that people are human. Mistakes happen, and people do take things out of context. On the mass media level, never before has there been a technology so accessible with nearly infinite amount of information on a vast array of topics that are national and global in context. On the negative side, parents and

children need to work together to find an acceptable level of appropriateness. Some internet sites permit parental controls, but these are not always enough. That's why social media giants like Facebook are investing more into the regulation of the dissemination of information.

In conclusion, advancements in technology are transforming the way in which humans communicate in unprecedented ways. Human communication has evolved over the years before this technology wave. This paper has outlined some of the ways smart phones, the internet, and social media are positively and negatively impacting the way people communicate. Now that we know the concerns and have outlined positive and negative implications, society now has ample ways of adapting to this new technology era. This is not the first time human communication has changed, and it won't be the last.

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