**Literature Review**

**Introduction:**

The literature review will be based upon the question of; *Has technology made the world a bigger or smaller place between the years 1990 and 2010?*

This review will highlight the key technologies that are now in everyday use by people all over the world. The technologies have brought about social changes as well as industrial and employment changes.

The focus will be on eight technologies that have been a determining force in changing the way people live their lives. The main topic of this review is the technology, however the scope will be widened so we can assess the social impacts that the technology brings.

The technologies focused upon are:

* Email
* Search Engines
* Virtual Private Networks (VPN)
* Video on demand (VOD)
* 4G
* Social networks (Facebook, Twitter etc…)
* Online shopping
* The internet as a whole

The technologies discussed have definitely made the world a different place, whether it’s now regarded as smaller or bigger is what we are going to research.

**Email:**

For the purpose of this literature review, we will be focusing on how email messaging has evolved from 1990. By this time email had already been around for a little while.

After the creation of the internet in 1991 email had a platform from which users could reap the benefits of this technology. (Kevin Gao - Comm100.com, n.d.) Reports that;

“Over the next decade, many experts estimate that the internet grew as much as one hundred percent per year in terms of bandwidth used. The greatest spikes of growth were seen in 1996 and 1997.”

In 1996 the first web based email service was created, this was Hotmail. This was of great significance as it really started to make the world a smaller place because it meant that anybody who had access to the internet could send and receive email. Hotmail was and still is a free service so either if you had a computer at home or used one in the library, you could contact people all over the world or work from home.

The idea of email quickly grew popular, “by December 1997, Hotmail reported more than 8.5 million subscribers”. (Atlantic, 2007) Two years later, in 1999 “it reported more than 30 million active members.” (Atlantic, 2007)

The popularity of Hotmail continued to grow even further, even beating the closest competition to have the most active members for a web-mail service. (Hachman, 2011) Reports that “In early 2010, comScore estimated that [Hotmail] has 364 million users.”

The development of email over the years which includes being able to send files as attachments and including HTML webpages within the email has immensely helped people all over the world connect with each other. As (Wilkinson, 2009) explains, email has made the world a smaller place;

“Email has managed to make the world a smaller place, as people no longer have to wait for days or weeks for a letter, and people therefore tend to stay in touch. In fact, the ability to fill in forms online and to do research online has helped bring the world closer, as people consider applying for jobs or to universities that they may not have considered before, even if they are very far away.”

However, the opposing view is that factors such as spam emails make the world a bigger place. Disingenuous or spam emails contribute to a very large amount of the email traffic across the world. These emails provide a level of uncertainty for users as they are usually drawn in to a scam which involves them parting with their money or their authentication details for well-known websites. According to an internet trends report published by Cyberoam in 2010;

“Spam levels averaged 82% of all email traffic throughout the quarter, peaking at nearly 92% near the end of June and bottoming out at 71% at the start of May. These numbers are slightly lower than those detected in Q1 [of 2010] and equate to an average of around 179 billion spam messages per day.” <http://www.cyberoam.com/downloads/ThreatReports/Q22010InternetThreats.pdf>

**Search Engines:**

Not long after the internet was created the need of search engines was becoming apparent. As the number of web sites going live on the internet was increasing at a fast speed, users needed to be able to search for website content and other webpages on the internet.

A search engine soon evolved from a primitive program in the early 90’s to a complex information source that it is today. The market leader of the search engine, Google, was created in 1998. A year later in September 1999, “Google was already answering 3.5 million search queries daily.” (Battelle, 2005) The numbers of searches made increased exponentially each year, by comparison to 1999, in the year 2004, 200 million searches were made by global users. (Internet Live Stats, n.d)

The rise of the search engines has made the world a smaller place because it allows anyone to look up businesses, people or products from anywhere at any time. When people are searching, once they have found what they want they will be re-directed onto that website offering the product or business. This will consequently get more traffic onto the companies’ websites, further advertising their products or their business.

Using modern technology people can use a search engine from their computer, tablet or even their smartphone. Mobile technology allows the user to have a wealth of information at their fingertips without the restrictions of their location. This in itself makes the world a smaller place as it means that people can retrieve the information or service they want without any restrictions. The combination of mobile technology with the extensive use of desktop PC’s and laptops resulted in “… 16.6 billion searches performed in the U.S. alone in October of 2010” (SearchGuru, n.d).

**VOD (Netflix), 4G, VPN:**

The fourth generation of mobile technology was introduced around 2007 giving people the opportunity to connect with others at faster speeds than that of its predecessors (Shukla, et al., 2013), (Kumar, et al., 2013). These advancements in mobile technology have continued from the introduction of 2G in 1990 and 3G after that to eventually create what is known as 4G. The increased speed 4G provides has benefited billions across the world, as the growth of mobile technology usage has increased dramatically over the past two decades as shown by (Chopra, et al., 2012).  
  
With more people using mobile phones and 4G technology people can connect with one another across the globe making the world seem a much smaller place. People can converse with one another as though they were in the same room due to the capabilities introduced by 4G. Furthermore with advancements made in mobile technology transmitting multimedia to each other is faster than on past technology (Fagbohun, 2014) allowing for people to share pictures, videos and experiences with each other ultimately making the world a smaller place.

Benefits of 4G permit users to complete tasks which require a faster connection even when they are not at home or work removing physical distance as a hindrance on being able to work or to browse the internet making the world seem smaller. On the other hand this new mobile technology has allowed us to learn about and communicate with different parts of the world, giving them an opportunity to communicate back (WorldTimeZone, 2014) making the world seem like a bigger place.

Virtual private networks allow users to securely connect to remote networks all across the globe and are used by both major corporations (CISCO, 2010) and by regular people for many differing reasons. VPN type software created by Microsoft made its first appearance in the mid 90’s (Eaton, 2010) which has led to recent years where there are many options for people to choose from when it comes to what VPN they use.

As a result of technological advances over the years people are now able to work from home saving people time and money on travelling vast distances to get to their place of work making the world a smaller place. Conversely working online removes the social aspect of work as you can no longer converse with colleagues and work alongside them as if you were in the office together. Therefore on the one hand VPNs remove the need to travel to work thus making the world smaller, however in removing the social aspect of interaction and seeing people it makes the world a bigger place.

Additionally VPNs are used to view blocked content (Schofield, 2014). What was originally censored making the world a smaller place, can be viewed with the use of a VPN widening peoples view of the world making it seem a bigger.

Video on demand services such as Netflix, BBC iPlayer, and YouTube have grown at a rapid pace over recent years with “over one in four (26%)” people spending more time watching video on demand than watching traditional TV (Webcredible, 2012). This growth is due to the vast amounts of content being viewable easily and in the comfort of the users own home. The first live sports event was streamed by RealNetworks in 1995 (Wikipedia, 2014) pioneering streaming media over the internet for years to come.

More and more people are ‘binge-watching’ using video on demand services such as Netflix (Netflix, 2013) and as a result less people are going to cinema (Hudson, 2011) or watching TV with friends. With people being less likely to go to the cinema as they no longer have to pay large amounts of money for traveling and movie tickets they are being less sociable and as a result, the world is becoming a bigger place as people are no longer connecting.

People are given the option to view film and television whenever they like, and if they are not in the correct country to view certain material, a VPN can be used to access geographically blocked content (Bogle, 2014) This results in making the world a smaller place as people can use services as though they are in an entirely different country.

**Social Networks and Online Shopping:**

Furthermore the creation of the first social network was in 1994 and this was the start of many changes to the world making it both smaller and bigger in different ways.

As seen from (Carr, 2014), social networks have made the word smaller by narrowing the gap of knowledge and information through increasing the flow and volume of news, information and data that is available to us. Many have also said that social networks make the world a smaller place by allowing communication across country’s and continents as seen from what is said in (Sawyer, 2011). Social networks have also made the world smaller by helping with the creation and advertisement of business and increasing the amount of business information as seen by (Yusuf, Al-Banawi, & Al-Imam, 2014).

As seen from (Shelke & Badiye, 2013) many have also commented that social networks have made the world bigger as a consequence of people becoming dependent on communication through them rather than socialising face to face. Social networks have also made the world a bigger place because with the increased use of social networks, there has been a further shutoff for less economically developed countries as seen from (Tambulasi, 2008). Social networks have also made the world bigger because people have become dependent on social networks as seen by (Scheepers, et al., 2014).

Fourthly, since the introduction of online shopping from around 1994 onward, it has had differing effects making the world both a bigger and smaller place. Many have made the point that online shopping has allowed for convenient shopping as seen from (Forsythe, liu, Shannon, & Gardner, 2006). It has also been stated that online shopping has made the world smaller by opening up doors for people with disabilities by allowing for them to shop online as seen from (Michael Stenitzer, 2008). Online shopping has also made the world smaller by allowing products from all over the world and from many different people as seen by (Pingjun Jiang, 2014).

On the other hand it has been expressed that online shopping has also made the world a lot bigger because online shopping requires the items ordered to be delivered, in many cases national and in some cases worldwide. This means instead of customers going to the shop and purchasing and collecting their purchase instantly, they are required to wait for the item to be delivered as seen by (Cuneyt Koyuncu, 2004). Online shopping has also made the world bigger because if there were problems previously you would communicate person to person to rectify the problems, whereas now, solving the problem is more involved. There is also a view, that because online shopping requires payment online and therefore cash sales are not possible; this has made the world a bigger place. This making of cash redundant has promoted the use of credit and debit cards; which has in turn increased the geographic size of the overall retail market as seen by (TEO, 2002).

**Access to the Internet and WWW (World Wide Web):**

Firstly, there are many methods and ways to access the internet; these include through popular mediums such as mobile phones, desktop, laptop, TV and more. The first definition of ‘Internet’ was finalised in 1995, with consultation with individuals from the internet and intellectual property rights communities (all, 2014). Evolution of the internet along with technology has had adverse effects in terms of social factors, law and politically. Recent survey carried out by Office for National Statistics (GB) revealed that of 2014, 84% of households have access to the internet compared to the 9% in 1998, an exponential increase of 75% within nearly two decades ((ONS), 2014). The growth does not always mean positive productivity and benefits for everyone. There are several factors that need to be considered, these include social impact, abuse, benefit and the next generation internet.

Growth of the Internet and WWW (World Wide Web), has contributed to wider benefits in society, such as the decrease use in hard-copy documents saving space, in which has enabled for a greener environment and also having access to information instantly provided with improving internet connection speeds with modern methods such as fibre optic. While the benefits may be very evident, the abuse of internet is a critical subject that need to be discussed in-depth to understand the extent. It could be said some extent that access to internet has invaded our privacy.

As more and more individuals gain access to the ‘web’, a negative effect is those whom commit crime in comfort of their homes, whether they acknowledge it or not. Such upcoming debate is on Paedophilia, even though this is causing a massive social uproar, many can agree to disagree that the law of the land isn’t adequate to prove their acts; especially when the act is committed behind a screen with access to internet and false identity (NEWS, 2014).

The impact of Internet conjoined with WWW on the economy is evident, with increasing shares to both Google having $377bn in market share and Facebook having $157bn in market share (Statista, 2014), influence is massive such that due to popularity of Internet shopping almost most high street retailers have switched to online only, giving them a constant stream of revenue compared to unpredictability of competition on streets. Also, this has enabled small retailers or specific retailers to launch online without having the cost of physical assets.

Use of Internet has created new segments in the business industry, whom are wholly dependent on the use of internet and without it wouldn’t possibly operate. As of 2014 there are approximately 2,923 million internet users compared to 394 million users in 2000 (Statista, Number of Internet Users Worldwide , 2014). Increase In revenue generated by the internet also means the loss of tradition of high streets retailers, with customer orientated experience value. Some variables have similar correlation to having access to internet or usage of internet.

“Key demographic variables like income and education drive the policy questions surrounding the Internet. These variables are important because they are most likely to differentially impact the consequences of interactive electronic media for different segments in our society.” (Hoffman, 1998)

A recent survey has showed a positive correlation with variable of income considered, in which it revealed that the higher the income of individual, the more likely they are internet users with access to internet. But, this category has to be separated into two independent groups, consisting of first generation of users and second generation of users. Those considered, 90% of internet users are second generation of users with income of £40,000 or more (William H. Dutton, 2013). Also, education has had an adverse impact on some groups than others. Such group is students with 92% having access and are next generation Internet users compared to 9% of first generation of internet users (William H. Dutton, 2013). This highlights the difference and changes in society of whom are choosing to be excluded from the digital information development. The UK Government has launched a strategy called digital inclusion, which is targeted at overcoming obstacles such as gaining technical skills, cost and maintenance and availability of information (Government, 2014).

**Conclusion:**

Conversion and exponential growth of technologies has already structured out society in such ways that, it enables us to connect and communicate without giving a thought about the process and the technicalities. But, change in society and its influences in segments such as economies, government and politics will establish negative points, in turn may or may not determine how we go about our daily life.

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