Technology and Social Consequences: Analyzing the Role, Effect, and Influence of the Digital Divide on Social Change

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ABSTRACT

Through a careful examination of the digital divide issue, this article investigates the relationship between technology and social progress. The digital divide, which divides people's access to technology from their opportunities for social contact, employment, healthcare, and education, exacerbates already-existing socioeconomic differences. This essay looks at the potential impacts on societal change as well as how technology may both exacerbate and lessen these gaps. This article employs digital methods and sociological research to focus on local and global issues. It demonstrates how digital technology shapes contemporary social ties by pointing out the challenges and potential answers for fostering digital enclosure and reducing social inequality in the digital era.

Keyword: *Technology, Digital Divide, Opportunity, Inequality, Social Change, and Sociology.*

1. Introduction

The introduction of digital technologies has drastically changed the world, opening up previously unheard-of possibilities for social interaction, employment, education, and communication. But even with the promise of digital inclusion, there is still a significant disparity in access to technology, which leads to the so-called "digital divide." The term "digital divide" describes how different socio-economic, geographic, and demographic groups differ in their access to technology, digital resource-related skills, and opportunities.

In light of social change, this essay attempts to investigate the function, consequences, and influence of the digital divide. The effects of this difference are not just technical; they also have significant sociological ramifications, affecting both the formation of communities around the world and access to important communal resources. Since the digital gap impacts social participation, work, healthcare, and education, it is specifically viewed as a roadblock to attaining social justice and equality.

2. Review of Literature

The digital gap, according to Helsper (2012), is a complex issue that considers not just actual access to technology but also one's level of understanding, confidence, and desire to use it. The gap has social, cultural, and educational implications, according to Warschauer (2003), who focuses on how digital literacy can either exacerbate or lessen existing gaps. People from lower socioeconomic backgrounds find it more difficult to access technology resources, which limits their capacity to advance economically (DiMaggio et al., 2001). This digital isolation affects social welfare information, financial services, and employment opportunities. In their study on India, Venkatesh and Brown (2001) highlight how access to the digital economy is limited in rural areas due to a lack of internet connectivity.

Technology, particularly information and communication technology, is transforming how and where people work, how and when organizations produce and capture value, and how we interact and communicate in our globalized world. "Together, these innovations are hurtling us toward a new industrial revolution," argues Murray (2015, p. 6). Astute business executives are aware of how new technologies will change their companies or risk being disrupted by others who discover them first. Academic literature in the fields of medicine (Demaerschalk et al. 2012, Ross et al. 2010), engineering (K¨ uhnle 2010, Smite et al. 2010), business (Turban et al. 2009, VanHoose 2011), sciences (National Research Council 1999), and social sciences (Castells 1996, Wellman &Haythornthwaite 2002) all support this finding. The use of physical, human, and informational resources to create goods and services is referred to as work here (Alter 2013). Although the overall number of occupations has never decreased over time, displaced workers with outdated skills are constantly harmed (Aeppel 2015). Ironically, median salaries have not increased over the past few decades despite record levels of productivity, a key measure of growth and wealth creation, and unprecedented levels of innovation (Galston 2014). To put it briefly, technology advancements are making many jobs obsolete and making life worse for the average worker (Brynjolfsson& McAfee 2014, Rotman 2013).

Though it is unclear whether this is solely due to the effects of technology, labor economists generally concur that the digital revolution is widening the gap between a wealthy and skilled few and the rest of society, eroding the middle class (Autor& Dorn 2013). The data are, at best, inconclusive. The concurrent rise in job opportunities and unemployment compared to the early 2000s is one indication of this shift (Elsby et al. 2010). This implies that employers' current skill requirements do not align with the skills of the labor market (Katz 2010). The relative sluggishness of employment creation since the turn of the century could be explained by other tenable theories, such as developments pertaining to international commerce and the financial crises of the early and late 2000s. Separating the impact of technology from other macroeconomic variables is a challenge (Rotman 2013). However, we think that human creativity will continue to provide new businesses, jobs, and means of subsistence, as it has since the Industrial Revolution (Mabry &Sharplin 1986, Smith & Anderson 2014; see also Bessen 2015 and Stiglitz & Greenwald 2014).

Tufekci (2014) looks at how social media affects political engagement and how the digital gap prevents underrepresented groups from fully engaging in political discourse. She claims that political disenfranchisement results from underprivileged people' frequent lack of access to online resources that promote civic and political engagement. Technology enables marginalized people to create online communities and participate in political debate (James, 2009). However, according to Fuchs (2017), social media and digital platforms can be effective instruments for empowering marginalized groups by allowing people to express themselves, organize for social causes, and challenge established power structures. Sampson (2012) emphasizes how community digital initiatives, such digital inclusion projects and Wi-Fi programs, support the development of social capital and community

3. Objectives of the Study

a. General Objective
To analyze the consequences of technology in social perspective to examine the digital divide function, impact, and influence on social transformation.

b. Specific Objectives
The specific objectives are:
i. To understand the digital technologies in the changed world of possibilities for social interaction, employment, education, and communication.
ii. To study the "digital divide," a significant sociological issue that shapes contemporary social structures, creates new barriers to social interaction.
iii. To suggest the measures for developing technology for improving quality of life in sociological perspective and the challenges that must be taken into account.

4. Methodology of the Study

This exploratory research builds on a thorough analysis of earlier, pertinent investigations. Only secondary data was used in this investigation. The function, impact, and influence of the digital divide on social transformation as well as the relationship between technology and social consequences have been gathered from secondary sources across a variety of media, including books, journals, newspapers, magazines, and websites. To assess the findings, a theoretical framework and several reviews of pertinent literature were employed.

5. Discussion and Analysis of the Study

5.1 Analysis about Society, Technology and the Digital Divide

Society
A group of people who share social relationships is called a society. Put another way, a society is a collection of individuals who coexist in a community with a system of government, laws, and an economy.

Technology
The body of knowledge pertaining to the development, invention, and use of technological methods as well as their interactions with the environment, society, and life is known as technology. To put it another way, technology is the use of scientific knowledge to accomplish a particular objective or develop applications that are utilized in business or daily life. Therefore, we are using technology if we are applying scientific knowledge to accomplish a purpose.

The Sociology of Technology
The sociology of technology is a subfield within sociology that examines the relationship between society and technology. It explores how social, cultural, economic, and political factors influence the development and use of technology, and conversely, how technology shapes social structures, relationships, and practices.

The Digital Divide
The difference between populations and geographical areas with and without access to contemporary information and communications technology (ICT) is known as the "digital divide." The telephone, television, computers, and internet connectivity are examples of this technology. The difference between individuals who have access to digital technology, such as the internet, and those who do not is commonly referred to as the "digital divide." Lack of access to certain technologies could be the cause of this, but access is not the only issue. The present and widening digital gap are caused by a number of variables. These include the general public's access to and affordability of technology.

5.2 Impacts of Technology on Society
5.2.1 Advantageous Impacts
Technology affects people or society more positively than negatively. By giving us tools or resources that make our lives much easier, it rewards us and makes our lives easier. The following are a few ways that technology improves our lives:
- **Communication:** People may now connect with people worldwide more easily and quickly thanks to technology.
- **Education:** Thanks to interactive technologies, virtual classrooms, and online learning tools, technology has completely changed education.
- **Entertainment:** With the advent of game consoles, streaming services, virtual reality, and HD TVs, technology has revolutionized the entertainment industry.
- **Healthcare:** Research, diagnosis, therapy, and patient care have all been enhanced by technology.
- **Shopping:** People can now shop from home thanks to technology, which has made the process simpler and more customized.
- **Transportation:** Automobiles and other forms of transportation use technology.
- **Cooking:** Thanks to kitchen appliances, technology has simplified cooking.

- **Cleaning:** Housekeeping and cleaning are done with technology.
- **Sleep:** People can get a better night's sleep thanks to technology.
- **Remote working:** Thanks to technology, people can work from anywhere.
- **Agriculture:** Technology changes the working mechanism of farmers.
- **Easy to access information:** We can easily access information via the internet anytime and anywhere.

5.2.2 Adverse Effects
Everything that exists on this earth, as we all know, has pros and cons. The same is true of technology, which has detrimental effects on society as well. Some of these effects include:

Unemployment rate rise: Due to the low cost and great efficiency of machinery and technical equipment, both large and small businesses use them these days, which causes the unemployment rate to rise steadily.

Increasing pollution: Technology is having an impact on our environment in addition to people. Vehicles and machines are to blame for the steadily rising pollution rate, which contributes to global warming and other issues.

Rise in mental and physical health issues: Technology is having an impact on people's mental and physical health these days. People become lethargic, emotionally fragile, have trouble sleeping, engage in less physical activity, and spend less time with friends and family.

Rise in cybercrimes: The rate of cybercrimes has also increased as a result of excessive internet use. Some individuals (attackers) hurt children or innocent people (victims) for financial gain or amusement.

5.3 The Ways of Technology that Improves Our Daily Life
Technology is molding our society today. Following are some of the ways it is improving our daily lives.

Business Efficiency: A tidal wave of exponential technological progress is sweeping away the business world. Today's marketplace offers more than different ways to improvise, adapt and leap forward by means of the available technology. To enhance the customer experience, the utilization of business analytics has proved to be beneficial. Such business tools, which are powered by technology, have taken the aspects of business to different heights.

Expedited Communication: The only certain answer to how technology has improved our lives is, it has dramatically changed the way we communicated with each other. It has led to the birth of several modes of electronic communication such as smartphone communication and social media. We have reached a certain point in civilization where instant and glitch-free communication is easily available.

Advanced Lifestyle: With technology at its helm, societies have been reshaped throughout history. Technology has played a pivotal role in the way humans behave and operate in the world. Technological improvements around us are a continuous thing. New advancements are emerging and it is surely impacting our lifestyles. On the other hand, the Internet of Things (IoT) has made our lives super easy. Smart homes and advanced electronic gadgets, through the medium of IoT, have drastically improved our daily routines. It has made several aspects of life easier.

Information Accessibility: Technology has heavily influenced the way we transfer and access information. Nowadays, any information is available at the tip of our fingertips. We constantly find answers and gather information from the internet. Technology is readily accessible to us, both in terms of its authenticity and relevance, only if one knows how to browse better.

Influence of Technology

The influence of technology in our daily lives is far more widespread than we actually think. It is growing and progressing at a rapid pace. It has changed the way we access resources. It has also changed the way we learn new things. Nowadays, people tend to rely on technology for everything. Whenever we need to contact someone, we can just text that person instantly. Earlier, it was much slower with letters and meetings.

Improved Quality of Life
We have reached a point where it is difficult to imagine life without technology. It has considerably changed the quality of life. By seeping into every aspect of our life, technology has changed the way we behave and operate. From communication and transport to healthcare and connectivity, technology has enhanced our lives for the better. The best part is that it is ever-evolving by facilitating more advanced features.

5.4 Cultural Shifts and Societal Issues
5.4.1 Social Concerns

Identity Theft: Using someone else's identity to commit a crime by fraudulently obtaining their personal or financial information.

Gambling Addiction: Prolonged, excessive use of online gaming negatively impacts a person's ability to function in various areas of their lives.

Health and Fitness: Excessive internet use can affect your backbone, eyesight, and other aspects of your health and fitness.

Cyberbullying: Cyberbullying is when someone uses technology to harass, harass, criticize, or target another individual.

Terrorism and Crime: Cyberterrorism is the theft of our cyber-infrastructure and digital data, including hardware, software, and information.

Communication Breakdown: When information is not shared, there is a breakdown in communication and interaction is lost.

Defamation of Character: Defamation of character is the act of spreading false information with the intent to seriously damage the reputation of another person.

5.4.2 Cultural Shifts
Technology has drastically changed our culture. We've made significant progress in both our communication methods and our ideals. Nowadays, many people find it challenging to have a face-to-face conversation. To spend time with their friends, people use laptops, tablets, or phones. Additionally, people now judge others on their technological prowess, including whether or not they own the newest cars or cell phones. Listening to music on headphones is more popular these days than listening to someone else.

Since the internet is all they have ever known, the majority of people these days favor it. These days, touch-screen cell phones are very popular. All that technology does is distance people from reality. Individual connections, problem-solving skills, and the ability to behave like adults are all lacking in today's population. Our culture is being impacted by all of this. Every time we buy something online instead of visiting a local store, technology has an impact on culture. We are using technology to shape culture every time someone sits down to watch our nightly on-demand entertainment.

5.5 A Sociological Examination of the Digital Divide

In addition to the lack of physical access to devices or the internet, the phrase "digital divide" also describes issues with digital literacy, skills, and socioeconomic conditions that limit people's ability to participate fully in the digital world. Since access to technology is essential to upholding social hierarchy, the digital divide can be viewed from a sociological perspective as an extension of more significant social inequalities.

5.6 Social Integration and Social Determination

By giving underprivileged groups access to information, education, healthcare, and financial services, digital technologies have the ability to empower them.

Online Education: Even in remote locations, kids from underprivileged backgrounds can now access high-quality education thanks to digital platforms.

Telemedicine: By enabling people in underprivileged areas to consult with medical specialists remotely, telemedicine can increase access to healthcare services.

Digital Finance: By providing financial services to unbanked communities, Fintech platforms and mobile banking can encourage economic inclusion.

5.7 Social Cohesion and Community Development

Furthermore, the internet and digital tools offer social connection platforms that allow individuals and communities to create networks, share resources, and encourage change. However, unequal access to these technologies results in digital exclusion, which keeps some groups from taking part in civic participation, online politics, or community-building initiatives. Because of this, those who are less fortunate become even more alienated and are unable to access or benefit from digital forms of social capital.

5.8 The Influence on Social Structures of the Digital Divide

The digital divide affects social structures in a big way, particularly in relation to social mobility, education, employment, and social justice. Education is a key sector where the digital divide is noticeable. Future employment prospects are now significantly influenced by e-learning platform participation, digital literacy development, and access to online learning resources. Lack of equal access to technology presents significant barriers for marginalized groups seeking to acquire the knowledge and skills needed to thrive in an increasingly digital economy.

In addition to limiting access to educational resources, the digital divide in education also restricts chances for networking, teamwork, and personal growth. Students who cannot afford or obtain digital tools lag behind in terms of both academic performance and personal development as technology becomes increasingly ingrained in the curriculum. Employment prospects are also directly impacted by the digital divide. Employers in the digital economy are demanding more and more digital abilities, and being able to work remotely or interact with digital platforms is frequently crucial. Finding steady, well-paying employment is extremely difficult for anyone without access to or proficiency with digital technologies. Therefore, the digital gap restricts social mobility for people from lower socioeconomic backgrounds and ads to the growth of economic inequities.

According to sociology, closing the digital divide is essential to attaining social justice. The disparity is a human rights and equity issue rather than only a technological one. Reducing gaps in opportunities and results requires ensuring fair access to technology. Bridging the gap and advancing digital inclusion can be achieved by policy interventions targeted at improving internet infrastructure, boosting digital literacy, and providing financial aid for technology access.

5.9 Reducing the Digital Divide: Remedies and Measures

At the individual, institutional, and governmental levels, a number of measures can be put into place to lessen the social effects of the digital divide:

Programs for Digital Literacy: Providing underprivileged groups with instruction in digital skills to guarantee that they not only have access to technology but are also proficient in its usage.

Public-Private Partnerships: Governments and private businesses can work together to increase internet connectivity and give low-income communities access to reasonably priced technology.

Community-Based Solutions: Equitable access to digital resources can be achieved through neighborhood projects like digital literacy centers or community internet cafes.

Inclusive Design: Accessibility should be given top priority in technology development, making sure that platforms and devices are easy to use for those with impairments, the elderly, and others with little to no digital expertise.

6. Findings and Suggestions

The following are findings and suggestions regarding the future of technology:

a) **Artificial Intelligence**: Artificial intelligence (AI) has emerged as one of the most exciting technological advancements of our day. AI has advanced significantly in a number of fields, including voice recognition, image identification, and natural language processing. However, there are a lot more exciting uses for AI than that.

b) **The Internet of Things**: The global network of networked computing devices that can communicate with one another via the Internet is referred to as the "Internet of Things" (IoT). This category includes a wide variety of sensors, including those found in homes and businesses. Today, the Internet of Things (IoT) is widely used, and in the years to come, this trend is expected to further pick up speed.

c) **Virtual and Augmented Reality**: Over the past few years, interest in both augmented and virtual reality has significantly increased. Allowing consumers to engage with digital content superimposed over the actual world is the aim of both augmented reality (AR) and virtual reality (VR). Experiences in virtual and augmented reality are expected to become increasingly immersive and lifelike.

d) **The block chain**: The block chain is the underlying technology that powers Bitcoin and other cryptocurrencies. Block chain technology, however, can be applied to more than simply cryptocurrency. Supply chain management, healthcare, and financial services are just a few industries that might gain a lot.

e) **Networks with 5G**: The current fourth-generation (4G) mobile networks will be much slower than the fifth-generation (5G) networks. 5G networks may enable new applications such as tele surgery, smart cities, and driverless cars.

f) **The use of quantum computing**: Applying ideas from quantum mechanics to the computation process is known as quantum computing. Quantum computing may be able to solve issues that are currently unsolvable with traditional computers.

g) **The use of biotechnology**: "Biotechnology" refers to innovations in industry and medicine that utilize biological systems, cells, and organisms. Biotechnology has potential applications in a wide range of industries, including agriculture, medicine, and even power generation.

h) Robotics: Robotics research focuses on automating machines that can perform specific tasks. Robotics has potential applications in a number of industries, including transportation, healthcare, and construction. The development of robots with cognitive capacities similar to those of humans holds promise for the future of robotics.

i) Security of Cyberspace: As technology becomes more widely used, cybersecurity becomes more and more important. The technique of protecting networks and computers from electronic infiltration is known as cybersecurity. Given the frequency of cyber threats, data protection will only become more important.

j) The use of cloud computing: Cloud computing entails moving data to distant computers and keeping it there. Cloud computing has drastically changed how data is stored and retrieved. Its popularity is only expected to increase as more and more applications and programs are developed to utilize cloud computing. For example, AI applications like voice assistants and image recognition services may be operated via cloud computing.

7. Limitations of the Study

Although this secondary study offers insightful new information, it has limits. First, it solely uses secondary sources to get information on previous and current research. Additionally, the success of this study has been achieved by the application of action and search research methodologies. Because of the proper guidance and information, the researchers were unable to obtain sufficient data in greater detail. There is no guidance because, to the best of our knowledge, very little research has been done in this field.

8. Conclusion

The "digital divide," a significant sociological issue that shapes contemporary social structures, creates new barriers to social interaction, employment, healthcare, and education while exacerbating pre-existing inequalities. In order to ensure that everyone has an equal opportunity to benefit from the digital world, regardless of socioeconomic background, location, or cultural background, the digital divide must be addressed as technology advances and affects every aspect of life. By combining technology innovations, community projects, and legal changes, it is feasible to mitigate the consequences of the digital divide and create a more inclusive digital future. By doing this, society may take use of technology's revolutionary potential to advance sustainable development, social justice, and empowerment.Unquestionably, technology has improved our quality of life in many ways, but it has also brought about a number of new risks and challenges that must be taken into account. Our privacy and security may be compromised even if our lives are more interconnected than ever. Technology has changed every aspect of our lives, from how we watch TV to how we interact with one another. As technology advances, it has an increasing impact on our daily life.

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