The Effects and Advancements of Technology in Social Media

By: Nathaniel Martin

11/ 20

CSIT 100

Over the past twenty years, technology has changed social media from a small online tool into one of the most powerful forces in the world. In the beginning, social platforms were simple places where people made profiles and talked with friends, but the growth of the internet and the creation of new digital tools slowly turned social media into something much larger. Today, social media shapes communication, entertainment, education, public conversations, business marketing, and almost every part of modern life. This paper explains the technological changes that helped social media grow, including the spread of smartphones, the rise of algorithms, the use of artificial intelligence, improvements in multimedia creation tools, and the development of digital networks. It also explains the positive and negative effects these technologies have on individuals and society. By understanding these changes, we can see why social media has become such an important part of daily life and how it continues to shape the world.

In the early two thousands, the first social media sites were basic and plain. Platforms like MySpace, Friendster, and early Facebook versions allowed people to upload a picture, write a short description, and send simple messages. These sites did not have complex designs or advanced features because the technology of that time was limited. Most people used desktop computers, so they only checked social media when they were home, at school, or at work. The internet was slower, pictures took longer to upload, and videos were not a major part of online communication. As technology improved, social platforms began to grow. Faster internet speeds made it easier to upload photos and eventually videos. Cloud storage allowed companies to save very large amounts of information, and stronger computer processors made websites faster and more interactive. These improvements helped social platforms expand from small communication tools into large public spaces where people could share opinions, talk about news, and express themselves more freely.

The rise of smartphones marked a major turning point. Before smartphones, social media was something people used only a few times a day, but smartphones allowed people to stay connected at all times. Social media apps replaced website versions and offered faster access. People could now respond to messages instantly, upload pictures within seconds, and view updates from friends no matter where they were. Push alerts encouraged people to return to apps

more often, and over time social media became something people checked many times each day. This constant connection made social media part of daily routines. It changed the speed of communication and allowed information to spread much faster than before. For example, a single picture or message can now travel across the world within seconds and reach millions of people. The spread of mobile technology also helped creators, influencers, and small business owners share their work with larger audiences. Anyone with a smartphone could record videos, take high quality pictures, and share their ideas with people around the world. This changed the meaning of communication and helped build entire online communities.

Along with smartphones, algorithms became one of the most important tools in modern social media. Algorithms are digital systems that study what each user looks at, likes, shares, or searches for. They try to guess what the user wants to see and then show posts that match those interests. These systems become smarter over time because they learn from user behavior. According to research from the United States National Institutes of Health, algorithms constantly adjust to changes in user behavior by learning from the actions that people repeat and from the actions that algorithms reward. Algorithms help organize the huge amount of content on social platforms and make it easier for people to find information that interests them. For example, someone who enjoys sports will see more sports content, and someone who enjoys music will see more music related posts. This can make social media feel more personal and enjoyable.

We can also see how this same feature created several different problems for social media platforms. When algorithms only show one type of content, users may stop seeing different opinions or different viewpoints. This can create a situation where the person mostly sees the same type of content over and over again. The media platform typically studies what the user likes and then continues to push similar posts, videos, and topics. Because of this, the person may not come across new viewpoints or different information that could help them understand the world differently. Instead, they end up surrounded by content that supports their existing thoughts and opinions. This can shape how they see news, politics, and social issues without them even noticing it. Over time, a person may start to believe that their point of view is the most common one, simply because the platform keeps showing them content that matches their past behavior. Many people do not realize that algorithms decide what appears on their screen, so they might think they are choosing this content themselves. In reality, the platform is guiding and

filtering what they see, which gives algorithms a stronger influence on their beliefs and reactions. Although algorithms help social platforms run smoothly, they also raise questions about fairness, awareness, and the impact of repeated exposure to the same ideas.

Technology also changed social media through improvements in multimedia tools. Modern platforms focus heavily on pictures, videos, sound effects, music, and creative visual features. High quality cameras in smartphones allow users to take clear photos and record detailed videos. Editing tools inside apps make it easy to change colors, add effects, or combine clips. Platforms like TikTok, Instagram, and YouTube are built around visual storytelling. They encourage users to share moments from their life or create fun and creative videos. These tools give people the chance to express themselves in new ways and take part in global trends, challenges, and creative movements.

These tools also come with their own concerns. Many filters change facial features and body shape, which can create unrealistic beauty standards. When users see edited images every day, they may begin to compare themselves to something that is not real. This can lead to stress or lower self confidence, especially for young users. Even though multimedia tools help make social platforms more fun and expressive, they can also create pressure for people to appear perfect or to keep up with the latest trend. This is one of the reasons many researchers encourage digital awareness and open conversations about online image expectations.

Artificial intelligence has also become an important part of social media technology. AI helps platforms manage huge amounts of information and detect harmful content. It can scan posts to find rude messages, threats, or dangerous information through a process known as natural language processing. AI also helps detect fake accounts and remove spam. Image recognition allows AI to identify objects, faces, or unsafe content in pictures and videos. In addition, many companies use AI powered chat systems to answer questions from users and provide quick support without needing a human worker. These features make social platforms safer and more efficient. Even though AI has many benefits, it also brings concerns. Some people worry about privacy because AI systems collect and study large amounts of personal data. Others worry that AI may make mistakes, such as misunderstanding a message or wrongly removing a harmless post. There are also concerns about bias in digital systems if the data used

to train the AI contains unfair patterns. As AI continues to grow, social platforms will need to use it carefully and fairly to respect the rights and safety of all users.

Many positive effects of social media technology can be seen today. One of the most obvious benefits is easy and fast communication. People can stay connected with friends and family across long distances without paying for phone calls or waiting for letters. They can share pictures, videos, and updates instantly. Social media also helps spread news around the world in real time. Users can learn about global events as they happen, which helps increase public awareness. Social platforms also create communities for people with similar interests. Someone who loves cooking, fitness, art, games, or travel can find people who share those interests. Social media also supports business growth. Companies can advertise their products, talk to customers, and study the needs of their audience. According to DataReportal, many billions of people use social media across the world, and the number continues to grow each year (Social-Media Users). This shows how widely social media affects communication and business around the world.

Social media obviously also has harmful effects that come from the same technologies that make it powerful. Algorithms encourage constant use by showing content that captures attention. Many people spend long periods scrolling without noticing how much time has passed. This can lead to unhealthy habits and reduce sleep or productivity. The speed at which information spreads also makes it easier for false information to travel. Once a false story becomes popular online, it can be very difficult to correct it. Privacy is another major concern. Social platforms collect personal details to create targeted ads. Some users feel uncomfortable with how much data companies gather. The most serious concerns relate to mental health. The World Health Organization reports that too much screen time can increase stress and sadness in teens, and it can also affect self image because of constant comparison and online pressure (World Health Organization). Online bullying and rude comments can also harm emotional well being, especially among younger users who may be more sensitive to social judgment. These problems show the need for digital education, responsible platform design, and healthier online habits.

Social media has also become one of the most important tools for activism and social awareness. Users can share information about important issues, organize events, raise their

voices, and bring attention to topics that may not receive coverage in traditional media. Online movements allow people from many different countries to come together for a shared cause. This has helped bring attention to social issues, environmental concerns, and political movements that rely on fast and wide communication.

However, the same tools can be used to spread harmful ideas or influence public opinion with false information. Understanding how digital systems work helps society make better decisions about which information to trust and how to use these tools responsibly. As technology continues to grow, social media will keep changing. In the future, virtual reality may allow people to enter online environments that feel real. Instead of typing messages, they may talk to friends through digital worlds that they can walk through or interact with. New types of platforms may give users more control over personal data. Artificial intelligence will keep shaping content and helping manage large online spaces, but it will also create new questions about privacy, fairness, and the limits of automated systems. The future of social media will depend on responsible planning and thoughtful rules that protect users while allowing platforms to grow and improve.

Digital technologies have the power to make the world more fair, according to the United Nations. By improving internet access, online financial services, and access to public programs, digital tools can help reduce old inequalities. For example, new systems that use artificial intelligence and large amounts of data can help governments make stronger decisions about health care, education, and public services. The UN explains that these tools can speed up progress on global development goals, such as lowering poverty, improving health, and giving more people access to learning ("Impact of Digital Technologies"). Even so, the UN warns that many people still cannot access these tools. This includes women in certain communities, older adults, people with disabilities, and people who live in far away areas. For this reason, digital gaps can become larger instead of smaller when some groups are left behind.

The United Nations also explains that digital technology is changing work and changing how personal data is used. On one side, new technology can create new job paths, especially in areas that support the environment and new energy. The UN says it will be important to teach people new skills for these jobs. These jobs would include technology skills and also social skills

such as problem solving and staying calm under pressure. On the other hand, some workers may lose their jobs if new technology replaces certain tasks. The UN also warns us about the dangers of personal data. Personal data can help societies grow, but it can also be used in arbitrary ways. Without strong rules that protect people, companies and governments might use personal information in ways that harm privacy or limit freedom. Because of this, the UN calls for clear rules that make sure data is used to support people and not to harm them.

In conclusion, the development of social media technology has deeply changed the way people communicate, share information, and express themselves. Improvements in smartphones, multimedia tools, algorithms, artificial intelligence, and digital networks have created new opportunities for community building, creativity, education, and business. At the same time, these advancements have created challenges related to privacy, false information, mental health, and online safety. Understanding both the good and the harmful effects is important as society continues to depend on digital communication. The future of social media will require careful attention to fairness, user protection, and ethical design so that platforms can support healthy and meaningful communication for people all around the world.

<u>Works Cited</u>

DataReportal. "Social Media Users." DataReportal, https://datareportal.com/social-media-users.

Kelly, Robert, et al. "Algorithmic Systems and User Behavior." National Library of Medicine, United States National Institutes of Health, https://pmc.ncbi.nlm.nih.gov/articles/PMC11373151.

Pew Research Center. Internet & Technology. Pew Research Center, https://www.pewresearch.org/topic/internet-technology/.

World Health Organization. "Teens, Screens, and Mental Health." World Health Organization Europe, https://www.who.int/europe/news/item/25-09-2024-teens--screens-and-mental-health

United Nations. "The Impact of Digital Technologies." UN75, United Nations, https://www.un.org/en/un75/impact-digital-technologies.