

Impact of COVID-19 on Technology

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Abstract : The COVID-19 pandemic altered our world in many ways and is changing almost every facet of the life that we once knew. From the ways we eat to how we interact with each other, the world that we find at the end of the current crisis will be very different to the one that we had at the beginning. As the world still deals with the impact of the virus, it is important to consider what comes next, how the world will change and what our future looks like. It was quite a challenge as almost every industry has been hit by the current crisis and – as a result – was forced to quickly adapt to the “new” world. The Covid-19 pandemic has led to an inevitable surge in the use of digital technologies due to the social distancing norms, nationwide lockdowns and quarantines. Technologies are playing a crucial role in keeping global societies functional in the time of lockdowns and quarantines in coping with the corona virus pandemic. Digital transformation technologies such as Cloud, Internet-of-Things (IoT), Block chain (BC), Artificial Intelligence (AI), Robotics and Machine Learning (ML), constitute a bulk of the of what is being adopted by organizations as part of their transformation effort related to this corona virus pandemic especially when in-person contact is limited. This paper discuss possible scenarios of the digital surge and how their adoption was accelerated by the reality of trying to live and cope in a COVID-19-impacted world.

Keywords - Artificial Intelligence (AI), Big Data, Block chain, Cloud computing, Internet of Things (IoT), 5G,,Robotics.

I. INTRODUCTION

Epidemics and pandemics have been threatening the human race time and again. SARS, H1N1, Ebola, and more have shown their teeth in the past, but with each such outbreak, we are learning new ways of fighting and managing such unexpected diseases that can potentially kill millions of people. Technology cannot prevent the onset of the pandemics; however, it can help to prevent the spread. Educate, warn, and empower those on the ground to be aware of the situation, and noticeably lessen the impact.

The Covid-19 pandemic has led to an inevitable surge in the use of digital technologies due to the social distancing norms, nationwide lockdowns and quarantines. People and organizations all over the world have had to adjust to new ways of work and life. With the spread of the pandemic, almost all regions have implemented lockdowns, shutting down activities that require human gathering and interactions - including colleges, schools, malls, temples, offices, airports, and railway stations. The lockdown has resulted in most people taking to the internet and internet-based services to communicate, interact, and continue with their job responsibilities from home. Internet services have seen rises in usage from 40 % to 100 %, compared to pre-lockdown levels.. People are now spending more time with technology while consuming news ,media, watching television, using social media to connect with others, utilizing lifestyle apps to shop for groceries and other consumer goods, and engaging in home workouts. Moreover, increased engagement with technology is required of students for educational purposes and for those now working from home. Employees are adjusting to new "normals" - with meetings going completely online, office work shifting to the home, with new emerging patterns of work. These changes have come across most organizations, whether in business, society, or government.

COVID-19 has brought the two most important challenges that all countries had to face. Firstly, they had to organize to fight the virus, and secondly – they had to navigate the enormous economic and social disruption that the virus has brought along. In both cases, the world has witnessed (and is still observing!) an accelerated shift to digital technologies and services. Undoubtedly, thanks to modern technologies, a much larger percentage of the global population have maintained the ability to work and earn a living in the last few months. Technologies have surely become a critical factor in coping with the corona virus pandemic. Today, with converging technologies like Artificial intelligence (AI), Internet of Things (IoT), cloud, analytics, robotics, ML, 4G/5G, and high-speed internet, it has become possible to test several innovative approaches to pandemic response.

This paper presents the major trends in technology that can help to build a resilient society, as well as considerations about their effects on how we do business, how we trade, how we work, how we produce goods, how we learn, how we seek medical services and how we entertain ourselves. In all ways technology is reshaping the world we live in.

II. POST PANDEMIC TRENDS IN TECHNOLOGY

Transformation in the digital space has completely reshaped shopping, online experiences, and even customer expectations in physical stores. The COVID-19 pandemic's disruption has turned the industry upside down, bringing with it unparalleled technological innovations. It's important to consider where these innovations are taking us next by identifying the technological trends that have guided us through 2020 and 2021 and will continue to pave the way for us in years to come. This section examine the impact of the Covid-19 pandemic on the use of latest trends in digital technologies:

2.1 Artificial Intelligence and Machine Learning

The increasing ability of machines to learn and act intelligently will absolutely transform our world. It is also the driving force behind many of the other trends on this list. Artificial intelligence (AI) has indeed seen a landmark rise in the last few years. Today, they have become intrinsic elements of our daily lives. Starting from AI assistants to chatbots to replace customer service representatives, AI has played a pivotal role in enhancing our lifestyle and comfort. Even before COVID, artificial intelligence helped organizations engage with customers and automate and enhance business processes. We have more data than ever before and AI allows us to make sense of the data faster. During the COVID pandemic, when time was of the essence, AI helped public health officials predict infection rates as well as ICU demand and capacity.

The different roles played by AI during pandemics are early warning and alerts, prediction and detection of outbreak of diseases, real-time disease monitoring worldwide, analysis and visualization of spreading trends, prediction of infection rate and infection trend, rapid decision-making to identify the effective treatments, study and analysis of the pathogens, and drug discovery. All these are executed at a greater speed with AI. WHO and CDC (United States) are receiving data of several diseases and situations occurring across the world. With modern computer architecture and internet, all these data can be accessed in real-time by different institutes to develop an autonomous or collaborative AI model to handle various tasks. In addition to the official data, AI can gather information from news outlets, forums, healthcare reports, travel data, social media posts, and others in multiple languages across the world by using natural language processing (NLP) techniques and flag their priority. Most importantly unsupervised ML can identify its own pattern from the noise (historical and real-time data) rather than the training it on a preselected dataset, thus giving a wider possibility and new behaviour.

AI can read now read, write, see and speak. SummarizeBot, an AI and block chain-powered bot, consolidates all types of information in a concise summary of the key points, keywords and most important parts of the content. AI can not only read, but it can now write. Not only do human writers produce content for some of the biggest names in journalism such as The New York Times, Washington Post and Forbes, but machines do as well. Alibaba, the world's largest e-commerce platform, automatically generates product descriptions through natural language processing AI.

We have seen AI with the sense of sight as well through facial recognition and machine vision capabilities. In healthcare, machine learning helps to scan images of people's lungs to see the affects of corona virus and other diseases, evaluate other images and analyze X-rays and otherwise help out with automation and accessibility.

2.2. Big Data and augmented analytics

Big Data refers to large volume of data which is growing exponentially with time. Big Data uses open source data warehousing platforms like hadoop, hive etc. By being massively engaged in its capacity for collecting, storing, and interpreting data, we can now make sense of and work with enormously complex and varied streams of data. Several terabytes of data which includes patients' case history, geographical events, and social media posts about a new pneumonia are processed at a rapid rate with high-performance computing to predict the possible outbreak of a pandemic. The amount of log and contextual data that needs to be processed and stored has exploded. To handle these huge volume of data, BIG DATA technology is used.

Big Data are generated continuously and are more flexible and scalable in their production. Big data offers vast opportunities whether used independently or with existing traditional data. Data scientists, analysts, researchers and business users can leverage these new data sources for advanced analytics that deliver deeper insights and to power innovative big data applications. The pandemic has brought new big data-driven practices of infectious disease surveillance to the forefront of efforts to track cases in real-time. The COVID-19 trackers pull data from sources around the world and are helping healthcare workers, scientists, epidemiologists and policymakers' aggregate information. This will help in information sharing among hospitals, governments and countries in understanding various treatment modalities, and identifying those treatments that are having a better impact.

2.3. Internet of Things (IoT)

With the advancement in technology we are moving towards a society where everything and everyone will be connected. Internet of Things (IoT) is a rapidly growing network of a variety of different 'connected things'. Just like Internet has changed the way we work & communicate with each other, by connecting us through the World Wide Web, IoT aims to take this connectivity to another level by connecting multiple devices to communicate electronically with the world around them thereby facilitating man to machine and machine to machine interactions. It has a wide number of applications in almost every field like healthcare, business, transportation, agriculture, management and education. IoT devices are constantly gathering and transmitting data, further fueling the growth in Big Data and AI.

2.4. Robotics and Automation

With the hideous vulnerability of humans exposed by this virus, robots and automation have speedily mobilised to become one of the most successful beneficiaries of this crisis. Viewed with scepticism and disbelief in the post-covid world, robots have become delivery drivers, caregivers and even friends, as they – immune to this disease – fill roles that increase risk to ordinary humans. At a time where many global supply chains and industries, such as fresh produce and medical equipment, require all hands-on deck, the fact that robots can work 24/7 and do not require sick leave makes them increasingly compelling. That their abilities grow daily through AI and other intelligent learning process makes them more compelling still.

While robotics and automation have come out as early winners in this crisis, the picture is not clear enough for us to determine whether this will continue once the clouds have cleared. Robots are becoming commonplace in healthcare today, even more so during the pandemic, as they don't cough or get ill! Today, robots that are being built can handle multiple different scenarios, such as in assisting and amplifying human efforts in different care tasks. Robots can be deployed for disinfection, medicine and food delivery, vital signs monitoring, thus helping to significantly reduce the infection risk of personnel.

2.5. Computer vision and facial recognition

Machines can talk, so why shouldn't they "see" as well? This technology allows machines to visually interpret the world around them, with facial recognition being a prime example.. In case of pandemic management, big data analytics can help in quickly identifying infected individuals, connect with them, track ho they have come in contact with and so on. Facial recognition technologies along with data can accurately identify people even if they are masked. Such technologies can help in monitoring movement and tracking of people who are quarantined. It can also help in keeping a tab on people and ascertaining whether or not they have been in contact with an infected person. CCTV cameras along with facial recognition technologies can help in identifying infected people who break the rules and step out despite being quarantined.

2.6. Wearable's and augmented humans

What started with fitness trackers has now exploded into a whole industry of wearable technology designed to improve human performance and help us live healthier, safer, more efficient lives. In the future, we may even see humans merge with technology to create "augmented humans" or "transhumans." Apple, for example, recently announced a new iteration of their smart watch that can measure glucose levels, track blood pressure, and more closely monitor heart health.

2.7. Intelligent spaces and smart places

Closely linked to the IoT, this trend is seeing physical spaces – like homes, offices, and even whole cities – becoming increasingly connected and smart.

2.8. Block chains(BC) and distributed ledgers

This super-secure method of storing, authenticating, and protecting data could revolutionize many aspects of business – particularly when it comes to facilitating trusted transactions. Block chain (BC) technology presents an opportunity to create secure and trusted information control mechanisms. As education and healthcare services witnesses a shift to the digital domain, BCs enable a way to secure and authenticate certificates, health records, medical records, and prescriptions. Research on the design of such systems, along with maintaining their ease-of-use and usefulness will gain importance.

2.9. Cloud computing and edge computing

Cloud Computing has become the buzzing topic of today's technology. It is the practice of using large groups of remote servers, hosted on Internet, to store and access applications and computer data, instead of saving them on the local server or personal computer. Edge computing – where data is processed on smart devices (like phones) – will take this to the next level.

2.10 Digitally extended realities

Encompassing virtual reality, augmented reality, and mixed reality, this trend highlights the move towards creating more immersive digital experiences. In education, extended reality can make a powerful impact and make lessons more engaging. As an example, students can feel immersed in a history lesson or feel like they are walking down the streets of Ancient Rome or in another person's shoes.

2.11 Digital twins

A digital twin is a digital copy of an actual physical object, product, process, or ecosystem. This innovative technology allows us to try out alterations and adjustments that would be too expensive or risky to try out on the real physical object.

2.12. Natural language processing

Natural language processing helps computers communicate with humans in their own language and scales other language-related tasks. For example, NLP makes it possible for computers to read text, hear speech, interpret it, measure sentiment and determine which parts are important.

2.13. Voice interfaces and chatbots

Alexa, Siri, chatbots – many of us are now quite used to communicate with machines by simply speaking or typing our request. In the future, more and more businesses will choose to interact with their customers via voice interfaces and chatbots.

2.14. Robots and cobots

Today's robots are more intelligent than ever, learning to respond to their environment and perform tasks without human intervention. In certain industries, the future of work is likely to involve humans working seamlessly with robot colleagues – hence the term "cobot," or "collaborative robot."

2.15. Autonomous vehicles

The 2020s will be the decade in which autonomous vehicles of all kinds – cars, taxis, trucks, and even ships – become truly autonomous and commercially viable.

2.16. 5G

The fifth generation of cellular network technology will give us faster, smarter, more stable wireless networking, thereby driving advances in many other trends (e.g., more connected devices and richer streams of data). While we were forced to work from home during the pandemic, many companies realized positive outcomes and even after COVID-19 is behind us we'll still need stable wireless networking. The number of devices needing to be connected wirelessly will continue to grow as will the varied streams of data. The fifth generation of the internet, 5G will transform things and it will be so much faster than 4G. The speed and reliability of 5G will enable even more technologies to be adopted by a wider variety of organizations and industries.

2.17. Machine co-creativity and augmented design

Thanks to AI, machines can do many things – including creating artwork and designs. As a result, we can expect creative and design processes to shift towards greater collaboration with machines.

2.18. Digital platforms

Facebook, Uber, and Airbnb are all household-name examples of digital platforms – networks that facilitate connections and exchanges between people. This trend is turning established business models on their head, leading many traditional businesses to transition to or incorporate a platform-based model.

2.19. Drones and unmanned aerial vehicles

These aircraft, which are piloted either remotely or autonomously, have changed the face of military operations. But the impact doesn't stop there – search and rescue missions, firefighting, law enforcement, and transportation will all be transformed by drone technology. Get ready for passenger drones (drone taxis), too!

2.20. Cybersecurity and resilience

As businesses face unprecedented new threats, the ability to avoid and mitigate cybersecurity threats will be critical to success over the next decade.

2.21. Quantum computing

Quantum computers – unimaginably fast computers capable of solving seemingly unsolvable problems – will make our current state-of-the-art technology look like something out of the Stone Age. As yet, work in quantum computing is largely restricted to labs, but we could see the first commercially available quantum computer this decade.

2.22. Mass personalization and micro-moments

Mass-personalization is, as you might expect, the ability to offer highly personalized products or services on a mass scale. Meanwhile, the term “micro-moments” essentially means responding to customer needs at the exact right moment. Both are made possible by technologies like AI, Big Data, and analytics.

2.23. Video conferencing platforms like Zoom and Google Meet

Education is another domain in which there a dramatic shift to the online mode of transacting. Since the beginning of the lockdown, schools, colleges, and universities around the world have shifted their classes to video conferencing platforms like Zoom and Google Meet. Along with these synchronous modes of teaching, asynchronous platforms like edX and Coursera have also seen an increase in enrolments . Some institutions are now shifting entirely to the online mode for the forthcoming academic year.

2.24. 3D and 4D printing and additive manufacturing

Although this may seem low-tech compared to some of the other trends, 3D and 4D printing will have very wide applications – and will be particularly transformative when combined with trends like mass-personalization.

2.25. Nanotechnology and materials science

Our increasing ability to understand materials and control matter on a tiny scale is giving rise to exciting new materials and products, such as bendable displays.

III. HOW TECHNOLOGY INTEGRATES INTO OUR DAILY LIFE

People are using technology to keep things ‘normal’ during the pandemic. Technological solutions that allow for contactless functioning are gaining prominence in the time of lockdowns and social isolation.

Some of the technological solutions that are adopted in day to day life are:

3.1. Working remotely

As pandemics or other calamities keep threatening the business world, it forced many employees to work from home. Working from home ensures business continuity as well as facilitates social distancing. Remote communication technology suddenly became a necessity as companies scrambled to adjust. In such a scenario, technologies that enable secure access to data, enterprise applications, virtual meetings, cloud conferencing, and virtual/mixed/augmented reality are the forefront leaders to ensure deliverables are not impacted. Remote working is a blessing that comes due to technology and is of one the greatest solution that helps us in social distancing. Organizations that previously balked at using Facebook now give regular updates through social media. This rapid shift pushed leaders to create new ways to support employees virtually and to re-evaluate the previously accepted norms of work hours and benefits across many industries.

In the world of necessary social distancing, a lot of workers are learning new tools and new ways of getting their jobs done. We are no longer tied to our office desktops and many day-to-day business functions can be carried out easily with portable devices like laptops, tablets, and even smartphones. Companies have been made to power distance working by investing in conferencing and communication tools. In fact, Zoom, Teams, and Slack have become the most commonly used words in many households around the world. Remote work has been enabled by virtual private networks (VPNs), voice over internet protocols (VoIPs), virtual meetings, work collaboration tools, and even facial recognition technologies. Many businesses have introduced integrated, cloud-based software solutions that allow them to run their businesses from virtually anywhere. These solutions, including everything from web-based project and document management solutions to virtual chat and networking programs, enable running a company in secure cloud environments and provide the tools needed to easily access and share data, automate workflows and communicate in real-time.

When we go back to work though, we will have to consider how to use technology to remain contactless in the workplace. Nobody will want to be sitting at a desk and using the same keyboard and mouse as everyone else; indeed, to do so will be seen as a safety hazard and reasonable grounds for refusing to work in those conditions. Peripherals will move with the person and to prevent contamination from plugging things in and touching devices, they will be wireless via Bluetooth wherever possible. A whole range of services are also going to be wirelessly operated via mobile phone applications and NFC technology to reduce unnecessary touching.

3.2. Education

Through out the history, the education sector in many countries has been probably the most resistant to change. Looking at the current crisis from this perspective, it seems that the COVID-19 could only change it for the better. According to the statistics, over 1.2 billion children globally have been out of the classroom due to the COVID-19 pandemic and school closures. Because of that, laptop screens have turned into classrooms where students and teachers can see and question each other in collaborative online learning. Technologies involved in distant learning are similar to those for remote work and include mostly Zoom, Microsoft Teams, and Google Classroom. Depending on the country's technological advancement and school resources, there could also be other solutions involved, such as virtual reality, augmented reality, 3D printing, and AI-enabled robot teachers.

Obviously, an unplanned and rapid move to online learning may have its cons as well. It is enough to mention the lack of training on the part of schools' staff, insufficient bandwidth, and little preparation. However, it is believed that the integration of information technology in education will be further accelerated and that online education will eventually become an integral component of school education. Apps for everything from gamification of homework to step-by-step math tutorials suddenly became a necessity rather than extracurricular. The use of distance learning also showed opportunities for improvement.

3.3. Health

The corona virus outbreak caused a revolution in the way health services are delivered. In order to protect patients and health workers and stop the spread of the virus, health care providers have been encouraged to adopt and use telehealth in appropriate situations, like e.g. routine health care or medication consultations. Again, commonly used apps (including FaceTime, Facebook Messenger, Google Hangouts, Zoom, or Skype) have come in handy in conducting remote appointments and follow-ups. And they have served their function quite well. As a result, further development of telehealth technology may be expected – in the form of secure video appointments, secure messaging systems, online appointment scheduling systems as well as online prescribing, billing, and payment systems. When COVID-19 hit, telehealth became a necessity and will have lasting effects on the accessibility and convenience of health care.

Additionally, more and more health-related activities can be supported by data and AI algorithms. As nowadays AI is sophisticated enough to understand conversational nuance and sound like a real person, AI-based communication is becoming an increasingly popular element of healthcare software platforms (for medical surveys, making appointments, and data management). The revolution is also being observed in health monitoring. It can be conducted remotely and in real-time, with the use of wearable devices, IoT sensors, smart phones or multiple micro biosensors. It offers opportunities for gathering crucial data and improves reaction times to changes in patients' conditions.

Artificial Intelligence (AI) has been an asset that has facilitated rapid diagnosis and risk prediction of COVID-19. For example, in China, a cloud-based AI-assisted CT service has been used to detect COVID-19 pneumonia cases. AI-enabled digital stethoscope and software to diagnose respiratory conditions, has been to researchers at the American Hospital in Dubai, to build a reference library of clean audio files for the COVID-19 disease. Robots are becoming commonplace in healthcare today, even more so during the pandemic, as they don't cough or get ill! Today, robots that are being built can handle multiple different scenarios, such as in assisting and amplifying human efforts in different care tasks. Inside hospitals, robots can be deployed for disinfection, medicine and food delivery, vital signs monitoring, thus helping to significantly reduce the infection risk of personnel.

The use of block chain-enabled platforms has helped in enabling early detection of epidemics, fast-tracking drug trials, and impact management of outbreaks and treatment. The technology has also proven its success in supply chain management and could be beneficial in tracking and tracing medical supply chains.

3.4. Leisure and social connection

Social distancing made us feel unconnected, but technology changed that. Groups quickly began gathering on video chat platforms to play games, celebrate milestones or just visit. COVID-19 not only changed the amount of media we consume, but also how we consume it. Streaming services, connected televisions and mobile devices all recorded spikes during the pandemic. We learned we could still stay connected, even when we are not physically together.

3.5. Online Shopping

COVID-19 has transformed online shopping from a nice-to-have to a must-have around the world. However, online shopping does not perform its protective and virus-proof role unless it is supported by contactless digital payments (either in the form of cards or e-wallets) and an effective logistics system. Online shopping needs to be supported by a robust logistics system. In-person delivery is not virus-proof. Many delivery companies and restaurants are launching contactless delivery services where goods are picked up and dropped off at a designated location instead of from or into the hands of a person.

3.6. Digital and Contactless Payments

COVID-19 has changed the way we think about physical contact with others and this change is likely to stay with us for some time. Social distancing in many countries is forcing people to stay over apart to limit the spread of the virus. This is limiting physical contact and changing the way we interact with one another. Cash might carry the virus, so digital payments and digital currencies are likely to have a key role in the post-pandemic situation. As digital payments are contact-less they will be encouraged by governments, and will likely see a surge. Now, contactless digital payments, either in the form of cards or e-wallets, are the recommended payment method to avoid the spread of COVID-19. Digital payments enable people to make online purchases and payments of goods, services and even utility payments, as well as to receive stimulus funds faster. The availability of digital payments also relies on internet availability, devices and a network to convert cash into a digitalized format. Many shops are only taking contactless card payments and deliveries no often longer require signatures. With the corona virus likely to remain endemic for some time, there is a high chance that these measures will be in place.

3.7. Automated Temperature monitoring

The wireless thermometer guns and other similar infrared body temperature measuring devices have become the most important medical equipment that are being used at checkpoints of offices, airports, hotels, hospitals, train stations, shops, and other public places. These technologies assist in measuring the body temperature from a distance and turn out to be effective in pinpointing the individuals who might need further investigation. Automated thermal monitoring along with facial recognition is making the process faster and more effective.

3.8. Contact-less movement and deliveries through autonomous vehicles, drones and robots

Self-driving cars, drones, robots can all help at a time when the need is to avoid human contact. Autonomous vehicles can be used to transport affected people to and from healthcare facilities with ease, without risking the lives of healthy people. Robots can be used for delivering grocery, cooking means, sterilizing hospitals and patrolling the streets. Drones can be used for food deliveries, tracking population, carrying test kits and medicines to quarantine locations, thermal imaging to identify infected people, spraying disinfectant, and more. Many new areas and use cases are coming up where drones, robots and autonomous vehicles are being used.

3.9. Universal Virtuality:

Since the gravity of the crisis became apparent, we have seen an exponential growth in virtual ‘everything’: From virtual happy hours, virtual quizzes, virtual will signings and even virtual funerals. Many businesses have suddenly and unexpectedly had to have all of their staff working from home. This has led many to find that they actually have capacity to be a lot more virtual than they realized. Being forced into the new situation has stimulated innovation and adaptation in processes, technology and design that companies may not have known they were capable of. This will be an important lesson for companies going into the future. This ability to adapt and overcome challenging situations is extremely valuable in business and will become an important cornerstone of business operations in the future. The ability to have almost all business conducted virtually will be another.

One of the industries most severely affected by the pandemic has been the airline industry and this may take many years to recover fully. The combination of many companies finding that business travel is not as important as it seemed and inevitably higher air travel prices soon is likely to reduce drastically. Along with the enhanced capacity for virtualization, this will precipitate a shift to universal virtuality – everything that can become virtualised will be. Tourism has already been pushed online with the emergence of virtual galleries, museum and zoo tours; soon it will be possible to see the seven wonders of the world without leaving your couch.. Face to face meetings will stay at very low levels for at least the foreseeable future and technologies like video conferencing, cloud storage and instant messaging will become the new normal. These will be used even more extensively within and between organisations, and common standards will develop as the market for providers consolidates.

3.10. Online fraud

Along with the surge in the use of digital technologies, we are now witnessing a rise in online fraud, intrusions, and security breaches. The pandemic has created a scenario of insecurity. Many users are beginning to rely on digital resources extensively, some for the first time, and are becoming targets for fraud and scams. It is likely that these scams and frauds will increase in intensity after the pandemic. Organizations will implement massive security arrangements, along with extensive information campaigns by government departments. Security innovations and firms that offer security services will rise. Research will likely focus on managing security, assess the causes of breaches, and the economic and social loss from them.

IV. CONCLUSION

The corona virus disease (COVID-19) pandemic and the associated public health interventions undertaken to contain it have resulted in widespread and unprecedented social disruption. As a result, during this collective trauma, we have seen a substantial rise in the use of technology, which is already integrated into the fabric of modern life. People are now spending even more time with technology. As the saying goes, “a crisis provides an opportunity”; the COVID-19 pandemic provides a great opportunity for promoting and disseminating positive technologies. Digital transformation technologies such as Internet-of-Things (IoT), Block chain (BC), Artificial Intelligence (AI), Machine Learning (ML), and Cloud constitute a bulk of the of what is being adopted by organizations as part of their transformation effort. We saw how technology can enhance everyday life and create opportunities for us to live in the moment, enjoy every moments with friends and family – and, yes, be productive from home. As we emerge from the initial effects of a global pandemic, we are more comfortable with technology and how it is integrated into home, work and play. The effects of a paradigm change will continue, but when everything changed, we were better prepared than we thought.

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