

GENESIS OF THE DIGITAL AGE: IN THE BEGINNING MANKIND CREATED THE INTERNET

Although the short-term effects of the information and communication technologies (ICTs) can be easily foreseen, it is quite difficult to make predictions about its future. Because every technological development triggers the succeeding developments, just like a snowball, rolling down from the top of a mountain. Hence, it is often difficult to imagine what serious technological advances we would see in the far future. One of the well-known examples that can be given is the lack of vision of IBM's president Thomas J. Watson about the future of computers in the 1940s. According to Mr. Watson, no more than five computers would be needed in the world market in the future! Of course, one who lived in years where tons of bulky and dysfunctional computers were produced, could not possibly dreamed of a world of tiny computers in pocket size.

In the 70s, when there were a limited number of TV channels broadcasting on black and white televisions that did not even have a remote control, snail mail and phone booths were sufficient for long-distance communication. The Knight Rider of the 80s, which appeared after the fantastic Jetsons cartoon series shot in the 60s was able to lock the youth in front of TV units at that time. In that legendary action crime drama, there was a handsome, high-tech crime fighter, wearing a wristwatch as a radio to communicate his artificially intelligent, self-aware, and nearly indestructible autonomous car. In this decade, even though it is still not possible to travel in space like Jetsons, drone taxis are now in test stage. Furthermore, some of the lucky fans of the Knight Rider series can even now ride their own autonomous Tesla's with an iWatch on their wrists.

In order to precisely predict the future direction of the ICTs, it is necessary to observe the snowball in slow motion while it is rolling down from the summit. For the last 30 years, developments in the ICTs were mostly target oriented. The aim of the technology developers was not only making life easier but also making it an integral part of human

life. While the first computers of the 1940s were replaced by PCs in the 80s, they were replaced by laptops in the 90s. Then laptops were replaced by tablets in the 2000s and ultimately by smartphones in 2010s. Most of the hi-tech gadgets have shrunk in time and entered the pockets and offered us the convenience of being mobilized. Eventually, even children can easily use a tiny microcomputer, called smartphone in present time.

In modern times, we are seriously facing a technological paradox. Do the technological developments make life easier for human beings or vice versa? My MacBook, for instance, is twice thinner, lighter, faster, stronger and pricy than the previous one. Nonetheless, it is impossible to connect it to the Internet or other devices without a third generation USB adapters or wireless networks. Furthermore, since my new MacBook does not have any multimedia module, I cannot access the data I burned on DVDs anymore. CDs, which replaced floppy disks in the past, have become obsolete thanks to flash memories and cloud storage facilities. As a result, when you buy a new computer, then you will need an external DVD module to access the old data old CDs and DVDs. Moreover, there is no plug for network cable that can be used to access the Internet faster and safer in modern thin and light Ultrabook computers. If you want to use such old-fashioned technologies persistently, then you have to buy converting adapters or external modules at extra cost.

Higher mobility with a cable-free life seems more comfortable for many people. However, concerns are raising about forthcoming missions of the ICT developers: What would technology designers introduce us after saving us from cables and increasing our mobility? The answer of this question would be possibly the integration of nano technologies with the human body. Wearable devices are the early examples of such integration. According to widely voiced conspiracy theories, ICT developers will eventually try to create a bionic generation that does not need to carry mobile devices anymore. While this journey has already

started with medical RFID implants inserted somewhere between thumb and forefingers of some voluntary diabetic patients, Google's smart lens project followed it. In recent years, Facebook's Mark Zuckerberg and Tesla's Elon Musk expressed their intentions to implant microchips inside brains to improve brain capabilities! In recent days, 'digital certificate' dreams of Bill Gates to make an invisible tattoo on arms to track existence of vaccinations have been intensively criticized by some activity groups.

Some events in the history of civilizations are considered as the starting point of a brand-new age. The 'New Age' that started with the conquest of Istanbul by the emperor Fatih Sultan Mehmet of Ottoman Empire is one of the best examples such events. From this point of view, it can be said that thanks to the COVID-19 outbreak, which can be expressed as an effective catalyst to accelerate the integration of our lives with the digital world, 2020 will be mentioned in history books as the period when the 'Digital Age' was officially announced. As a matter of fact, people started to be a part of the digital world, thanks to the worldwide spread of the third-generation Internet (3G) technology along with tablets and smartphones in last two decades. Social networks also supported and speeded up the early integration attempts with the digital world. As a result, distance learning, electronic banking and e-commerce become more popular while the interest in mobile games overspread, and new health problems such as technology addiction radically increased.

The number of people who could afford and access the Internet has already reached half of the world population and is now almost constant at this point. The remainder mostly consists of the elderly and young people or those who cannot access the Internet due to geographical or economic difficulties. Hence, the digital divide in economic, geographical and demographic groups is among the most important obstacles to the digitalization of many products and services in this decade.

COVID-19 appears to affect both global economies and health systems, and our entire social life. Millions of individuals who quarantined themselves in their homes for a long time adapted to this process quicker than expectations. During the first wave of the pandemic, our office chairs and school desks were virtually moved to a corner of our homes; we replaced restaurants and bakeries by our kitchens;

we preferred mobile e-commerce applications to stores and shopping malls; and finally cafe chats and home visits were moved to social networks and online meeting applications. While the results of a recent study in the USA point to a significant increase in the use of electronic banking, significant part of this increase is established by the elderly customers, who are considered the most difficult generation to adopt the digital economy. Such phenomenon clearly highlights that even the Generation X is now ready for the digital age thanks to the outbreak.

As a result, one would assert that the COVID-19 outbreak not only increased the interest in social networks, but also contributed to the widespread interest in e-commerce and other key instruments of the digital economy. For instance, as a result of the decreasing interest in cash usage due to concerns about hygiene, there would not be a serious resistance to the transition to digital money. When considered in this context, the 'new normals' that globally introduced in the second phase of the global battle with the pandemic should be considered as a 'strategic vigilance plan', created to prevent future crises on a global scale, and to increase cooperation.

To summarize, the 'new normals' are essentially nothing more than the announcement that the digital age has officially begun all over the world. The new normal in education, for instance, will be establishing a hybrid education system by fully integrating distant learning infrastructure to the existing national educational systems. So that the education systems would be able to work without interruption, if nations face a second wave of pandemic outbreak. Similarly, electronic channels in the service industry and public services will be more prominent so that face-to-face contact with the individuals will be decreased. We will also witness the digitalization of the procurement processes in both retail industry and agriculture will become even more important in order to meet the increasing demand due to the "anxiety economy" that emerged during the pandemic outbreak. The states will need to strengthen their digital infrastructures in auditing-related processes in order to prevent black markets. In terms of health services, an important part of treatment and preventive services it will be fully digitalized to speed tracking and treating more patients. Finally, due to the increasing demand in programmers, coding will be included to the

curriculum of all levels of education, including kindergarten.

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