# DIGITALIZATION OF PEOPLE'S DAILY ROUTINE IN THE 21ST CENTURY

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## Abstract

Through the ages of time, mankind has always been in a constant motion towards revolutionization – abandoning old habits and paving new paths for the next generations so they could live a better and more easeful life, was and always will be number one priority of our ancestors. Digital Revolution began in late 20th century and we are still living in it though it is nearing the end of its lifespan. Another problem for our society is that digitalization is perceived in different ways by generations such as X, Y, Z, Alpha. The focus of our research is the ongoing processes that are directly or indirectly connected with the Digitalization as a new historic period such as critical digital literacy, development of new artificial intelligence, the digitalization of our personal lives – a threat to our privacy or a new frontier aimed at getting people together, the future professions. This study also presents some results from our survey conducted with parents towards their children's habits with digital technologies.

**Keywords:** digitalization, digital literacy, students, digitalization, survey, parents.

## INTRODUCTION

Through the ages of time, mankind has always been in a constant motion towards revolutionization – abandoning old habits and paving new paths for the next generations so they could live a better and more easeful life, was and always will be number one priority of our ancestors. It is fair to say, there are three main revolutions that have led our civilization to its current state and currently, the most significant one is the Digital Revolution which began in late 20th century and we are still living in it though it is nearing the end of its lifespan. Another problem for our society is that digitalization is perceived in different ways by generations such as X, Y, Z, Alpha (McCrindle, 2012).

In this study, the main topic is the effect of digitalization on us as individuals, on our families, friends, colleagues, societies, countries, regions and the world on the most primitive level and that is our everyday life. Research of local and national problems in Bulgaria and in our society may give right decisions for our future life and the process of the digitalization.

## METHODOLOGY

The focus of our research is the ongoing processes that are directly or indirectly connected with the Digitalization as a new historic period and its projections are *critical digital literacy*, *development of new artificial intelligence*, the *digitalization of our personal lives* – a threat to our privacy or a new frontier aimed at getting people together, *the future professions* – what portion of the world is it going to have an impact on, etc.

Our team conducted a survey about the digital literacy amongst children between eight and twelve years and the way their family introduces and prepares them for the digital world they are being raised in and are going to live in. The survey is a part of the fundamental project

"Digital Competencies and Media Education at Pre-school and Primary School Age" (DN 05/8) that Assoc. Prof. Dr. Parijkova has participated in. It analyses the impact of digital technologies on students' everyday life of their parents' points of view (Parijkova, 2019).

## RESULTS

### Critical digital literacy

This new reality requires people in it to possess not only skills and abilities related to the use of technological tools but also critical thinking and knowledge so that they can use the new technologies appropriately. It is really important to be 'digitally literate' in this way encompasses issues of cognitive authority, safety and privacy, creative, ethical, and responsible use and reuse of digital media, among other topics (Digital, 2020). A lack of digital literacy can be an issue to develop our potential of being a competent student, an empowered employee or an engaged citizen. Digital literacy is often considered a school-based competency, but it is introduced and developed in informal learning contexts such as libraries, museums, social groups, affinity spaces online or the home environment. The concept of 'digital literacy' was created in the late 1990s, it was defined as educational terms, recognizing the fundamental but unique usage of the Internet (Developing Digital Literacy Skills, 2020; McDougall et al., 2018). This means that digitally literate student must have a specific set of information skills applied to text and multimedia information found on Internet and to use it for school-based learning. Even in its earliest conceptualization, it was clear that being digitally literate far surpassed the basic literacy skills of reading, writing, listening and speaking. People now can also create, work, share, socialize, research, play, collaborate, communicate and learn using digital media and technologies.

The graphic above (Fig. 1) was developed by Juliet Hinrichsen and Antony Coombs at the University of Greenwich and it shows five fundamental dimensions of critical digital literacy. First is decoding which is related to the media – modes, structures, and conventions of digital media. Meaning Making is focused on the reader – style, purpose and interpretation. Analyzing – the author – aesthetics, ethics, and related choices. The next dimension – Persona is related to a community – how others perceive the issue, topics, and context. Using means a fusion between self and community – problem-solving and data acquisition for a variety of authentic and changing – purposes (Hinrichsen & Coombs, 2020).

Returning to the generations overview, the representatives of generation X, born between 1965-1980, are the ones that give digitalization a push into the world. The following generation "Y" contribute by improving on the foundations and making the Internet even more accessible to wider groups. Furthermore, generation Z (born between 1990-2010) are the easiest to adapt to fast-paced digital world, and generation Alpha is born in the digital world (Kasasa, 2021).

## New artificial intelligence

The next element of the digitalization – the development of new artificial intelligence – will create a variety of new jobs. It is possible that artificial intelligence (AI) systems will need a lot of human input in order to ensure that they perform as expected. In addition to this, there will need to be system maintenance, technologists and business management occupations. There are many advantages in having an increase of robot labor in the workforce like increasing the safety of workers – especially for production lines, farming and the construction industry. This type of work requires physical strength and concentration. We can fill the gap in laborer shortages and increase efficiency. There will be no need for robots to be absent from work or to take a vacation. Developing new artificial intelligence will lead to a decrease in labor costs for businesses. Some professions will extinct forever because human labor will be replaced by robots programmed specifically for this type of working process. Some of the disadvantages will be less adaptability and versatility in the workforce. Creating a big amount of intelligent machinery could lead to more environmental pollution. Also, the maintenance requires large upfront investments. It is clear that the increase in robots will inevitably mean the loss of human jobs, contrary to that some new jobs will be created. However, to ensure job security for those already working within a high-risk occupation, a discussion must be undertaken about the future role of robots in the workforce.

## Future professions

What will be the future professions? What should young people focus on, what should they study to be successful and to be able to find a job related to their education? Maybe we should qualify in the sphere of mechanics, IT so we can maintain and develop the new artificial intelligence?

According to Teodor Teofilov, future professions to information technology (IT) sector and AI – in an article about the topic, he gives examples such as "Data Detective, Ethical Sourcing Officer, Artificial Intelligence Business Development Manager, Master of Edge Computing, Walker/Talker, AI-Assisted Healthcare Technician, Cyber City Analyst, Virtual Store Sherpa, Personal Data Broker, Cyber Attack Agent etc." (Teofilov, 2019).

We can give an example of the robot on the market already – Fastbrick Robotics' Hadrian X. This Australian robot is capable of laying more than 1000 standard bricks an hour, which could be not done by a human laborer in the same time frame (Fastbrick_Robotics). On the other side of the world, Simbe Robotics in the USA has developed Tally which can work in a supermarket stacking shelves and checking prices of goods. Another example we can give is "Sophia", which

is a social humanoid robot developed by Hong Kong-based company Hanson Robotics. Sophia is considered to be the most modern robot, endowed with a remarkable ability to express and communicate. She can simulate a full range of expressions and recognize the emotions of her interlocutors, and look them into eyes and talks deeply with them. The robot "visited" the capital of Bulgaria – Sofia. The event was part of the Webit Festival in March 2018 (Webit, 2018).

## Data analysis from the survey

The survey was conducted online and sent via emails to the target group – parents of children up to 11 years old by emails. The results are especially useful for our research because they give us information about the digital literacy and digital culture of students, but also about their parents. Information such as this is of great value for the scientists and analysts who have an interest in digitalization and need to find a way to determine what stage of development certain groups, ethnos or nations have achieved regarding their digital literacy and digital culture.

Taking critical digital literacy into consideration, we should examine how the younger members of our society perceive not only the real world but also the digital one. They are the future and it is important to examine their perception towards the digital processes which go hand to hand in our daily life. Accordingly, our team conducted a survey of 66 parents whose children are up to 11 years old. The survey took place from June 2020 to early November 2020. The participants – they are women and men from different cities, they have different education degree and qualifications, social rank and age.
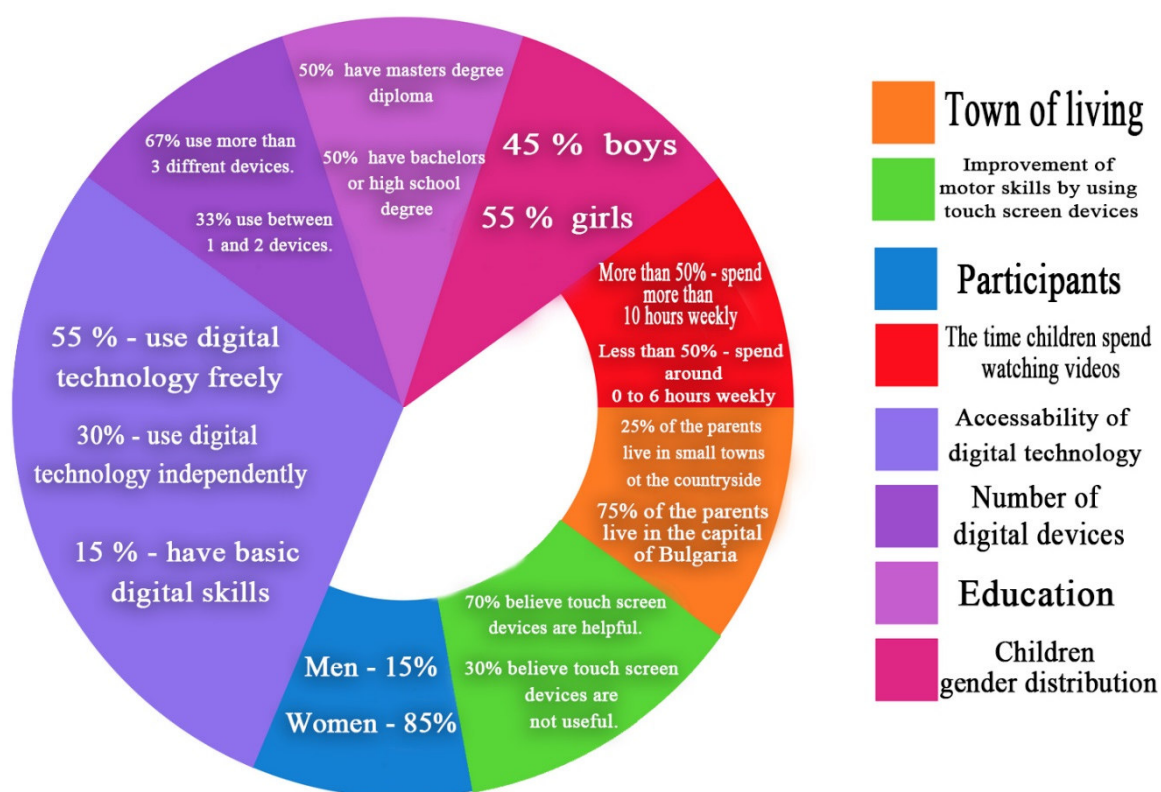


*Figure. 2. Some important results from own online survey with parents*

The majority of the interviewed are between the ages of 20 to 49 years old. Almost all of the participants live in the capital of Bulgaria and most of the answers came from the group between ages 30-39. More reluctant to participate in the survey were women. As we have mentioned earlier, it is no surprise that the parents are fully-employed citizens from the middle

class, some of them are even occupied in the IT sector, where the technologies that we use on a daily routine. Moving back to the results, the first question is about the parents themselves and how well they believe they could handle digital technologies which are at their disposal. Not much to our surprise, having already summed up and described the group that had taken a part in our research, a little more than fifty percent marked down their digital skills were as good as riding a bicycle. The other half was split between the ones that could handle everyday tasks by their own without much hassle and the last group knew and could do most of the basics. Proceeding to the second question, we were surprised how even the results were between each section. They were asked at what age their child/children had the opportunity to use a smart device for the very first time – whether it was a smartphone, tablet, smart TV, personal computer, laptop or other smart appliances. Most of the interviewed had introduced their children to the smart world before reaching the age of six, however, as we have already said, the results with the other available choices were very close, too. Based on the results, we are able to conclude the aspiration towards the digital world is not an exclusivity only to a certain fraction of the society, but it is a necessity that even the not-so-well-educated-on-paper fellow citizens are aware of, and in order to develop to find a job with a good remuneration package and to feel as equal as the ones surrounding us, we have to familiarize the youngest members of the society with the cutting-edge digital solutions at a very early age. Many of the students find useful smart devices only for entertainment purposes such as playing video games, watching videos and getting in touch with their friends via social media. Having said that, we've also included a question about the time the children spend on such activities like the once that we have already listed above. According to the answers, more than half of the parents that have taken the survey have noted that their child/children spends roughly 10 or more hours per week in the digital world. To some people, this is could be of a concern due to potential health hazards such as developing short sight obesity and social distancing and etc. In conclusion, we are unable to isolate the children from the digitalization. Although the smart world brings many advantages to our daily routine, parents should be wary of how much time their children spend in front of the screen as it could negatively affect their physical and mental health.

## Discussion

Being online is part of our daily life. In general, we are used to having access to information at our fingertips, it also exposes surprisingly large amounts of our personal information to the rest of the online world. It depends on the websites and services we use, all manner of data from your browsing habits through to your birthday, address and marital status can be harvested from your online presence. Nowadays people socialize through the Internet. There are different sites – for music, books, online shops and business, online diaries, magazines. However, the most popular web sites require our personal information. Exposing our lives online can lead to many threats. To start with the so-called "web tracking". Maybe you've noticed when you browse the web for any amount of time the adverts that follow you from site to site – filled with products you may have been looking at earlier. That's because you're being tracked. Websites use cookies which are used to track web browsing via a piece of data inserted into your browser. Other techniques like account tracking can be used to see what you've been doing on the web. While some people are happy to find the items they want online and don't seem concerned about their personal information, some may find it an invasion of digital privacy. If you're concerned about online tracking, it's always worth delving into the privacy settings of various services, apps and web browsers to make sure they're set to give you the level of privacy you want.

Another problem is the lack of security. Websites and online services that don't have the latest and most robust security can effectively leave the information they might hold on you and the data flowing between your computer and a web server, at risk from hackers. Furthermore, if

the servers that support a website or online service are hacked, then you could find that cybercriminals have access to some of your personal credentials. This is not threat only to your privacy but also paving the way for fraud and identity theft. This is the reason why so many governments already have cybersecurity laws. The development of the new technologies could pose a threat not only to one person but to the whole nation and the global peace (Moore-Colyer, 2020).

As Eric Pearson from CEO International Hotel Group said: „It is no longer the big beating the small, but the fast beating the slow" (Eisen, 2015).

Digital transformation has many aspects. Some people are against the new technologies taking over so fast, others can't live without them. Various generations perceive it in different ways.

The Futurelab's authors said, "it is not… enough to assume that young people automatically have all of the skills, knowledge and understanding that they need to apply to their use of technology. All young people need to be supported to thrive in digital cultures; they need help making sense of a rapidly changing world of technology which gives them access to vast amounts of information, which is infused with commercial agendas and which for many reasons can be difficult to interpret." (Hague & Payton, 2010, p. 12).

## CONCLUSIONS

All in all, we can say that the world is developing thanks to the inventions and creations of the people. We are testing our limits – it seems like there is nothing unachievable but everything takes time. According to the opinion of Elon Musk – one of the greatest entrepreneur of our time "If you go back a few hundred years, what we take for granted today would seem like magic – being able to talk to people over long distances, to transmit images, flying, accessing vast amounts of data like an oracle. These are all things that would have been considered magic a few hundred years ago." (Binod, 2020).

The new digital technologies are changing the business model – the process of digitalization is used by many companies to reorganize their work methods and strategies to obtain greater benefits thanks to the implementation of new technologies. Digital transformation also provides new revenue and value-producing opportunities. We can say that it is the process of moving to a digital business. This is an indispensable step forward, especially during a pandemic.

Integration, particularly with technologies, has many benefits – we are able to spend more quality time with each other because machines already are doing our work around the house instead of us. What will happen next depends on us. Will we take advantage of the free information that we can use 24/7? Can we integrate a new "e-curriculum" in order to countries like Bulgaria and many others to have benefited from so life-changing reform? Last but not least, can we use all this free and accessible information in our education not only for entertainment?

Nowadays, due to the COVID-19 pandemic governments around the world have to enforce online courses and classes so to put a halt to the spread of the virus. The ministry of education in Bulgaria must invest time and resources so as to maintain a high quality of education.

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