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PRELIMINARY REPORT

The Use of Information and Communication Technologies Among Generation X in Serbia: A Comparison Before and After the COVID-19 Pandemic

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ABSTRACT
The aim of this paper is to examine the use of information and communication technologies (ICT) among Generation X in the years before and after the COVID-19 pandemic. The pandemic brought significant changes in digital technology usage and accelerated shifts in work, communication, and societal functioning. Generation X, comprising individuals born between the 1960s and 1980s, grew up during a time when digital technologies and the internet were not as prevalent. Given that they now live and work in a digital era, it is crucial to understand how they adapt to the rapid changes driven by digitalization. For this research, microdata from the survey "The Usage of Information and Communication Technology by Individuals/Households in the Republic of Serbia" were analyzed for the years 2019 and 2023. Results show a slight increase in internet and computer use, particularly among younger members of Generation X. Additionally, there was a significant increase in online shopping and the use of communication services in 2023, which gained popularity during the lockdown. Regarding public administration services, respondents in 2023 primarily accessed services related to the pandemic, such as vaccine information and green certificates. However, a significant number of respondents, 49%, did not use public services in either 2019 or 2023, suggesting potential issues with trust or perceived complexity. The main contribution of this paper is a detailed analysis of this group's behavior before and after the pandemic, focusing on ICT usage and responses to changes triggered by the COVID-19 pandemic.

Keywords: *ICT, digital technologies, generation X, COVID-19*

JEL Classification: O33, J11, I15

INTRODUCTION

The COVID-19 pandemic brought global changes that introduced the world into a new era of digitalization, where information and communication technologies (ICT) have become essential tools for the functioning of society. The acceleration of digital transformation was inevitable as social and economic systems worldwide were forced to rapidly transition to online formats. Adapting to new circumstances was challenging for individuals across all generations, which is understandable due to their different backgrounds, levels of education, and social statuses. Consequently, each generation has developed distinct patterns of adopting and utilizing digital technologies. While younger generations, who were raised in technology-rich environments,

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exhibited greater flexibility in embracing new digital solutions, older generations encountered a variety of challenges, both technical and psychological. In order to better understand generational behavior patterns, a classification system has been developed. This system identifies five generational groups: Builders, Baby Boomers, Generation X, Generation Y, and Generation Z (Berkup, 2014; Strauss & Howe, 1992). The literature does not establish uniform time frames for these generations; rather, various accepted interpretations are available. For instance, Berkup (2014) defines Builders as those born between 1900 and 1945, Boomers between 1946 and 1964, Generation X between 1965 and 1979, Generation Y (Millenials) from 1980 to 1994, and Generation Z from 1995 to the present. Although these time frames differ slightly across sources, they do not pose significant challenges to the observation and analysis of core characteristics and behavior patterns of these groups. Each generation has been shaped by specific historical and social events, which have greatly influenced their attitudes toward change, particularly those changes associated with the rise of the modern digital era. In this context, the ability of different generations to adapt to technological changes is particularly significant. Generational differences have tangible implications in various aspects of life, particularly during times of crisis, such as the COVID-19 pandemic, when technological adaptation becomes a crucial factor for social and economic resilience. This paper focuses on Generation X, a cohort that came of age during significant social and technological shifts. Generation X witnessed the beginning of the digital era, marked by the advent of personal computers, the Internet, and mobile technologies. As a result, members of this generation often exhibit a degree of skepticism toward technology, stemming from their upbringing in a pre-digital world. This skepticism is not merely technological but often relates to concerns over privacy and the complexities associated with the use of new tools.

The COVID-19 pandemic significantly impacted the ways Generation X engages with ICT, as it rapidly accelerated the process of digital transformation. Although this generation may have been less prepared at the outset, they were compelled to adapt to changes, with many encountering advanced digital tools for work and communication for the first time. The challenges were especially pronounced in the fields of work and education, where the transition to digital tools and platforms was both rapid and, for many, unexpected. Given the impact of the pandemic, it is critical to examine how Generation X adapted to these new conditions, particularly in Serbia, where social and economic circumstances played a significant role in shaping the adoption of digital technologies. Serbian society, with its distinct transitional challenges, provides a unique context for analyzing digital adaptation, particularly among older generations who have experienced the shift from an analog to a digital age. Understanding how Generation X adapted to these changes is essential for identifying the specific barriers they faced and for assessing the long-term effects of the pandemic on their work, education, and consumer habits.

The aim of this study is to determine whether there has been a noticeable change in ICT usage among Serbian citizens before and after the pandemic, with a specific focus on Generation X. By analyzing various areas of ICT application, including education, work, and consumer habits, this study seeks to provide insights into how this cohort adapted to new conditions and what the long-term implications of these changes might be for society. This analysis is not only relevant in the context of the pandemic but also for broader discussions about ICT literacy among older generations, which is critical for future strategies of digital inclusion and development.

LITERATURE REVIEW

Generation X

The classification of different generations was first mentioned in 1992 by Strauss & Howe (1992). Current scientific literature records several different opinions on the time frames that define each generation. Taking into consideration Generation X, Gurau (2012) defines the key years as the period from 1961 to 1979, while Basantes-Andrade et al (2020) highlight the time frame between 1966 and 1976. Gao (2023) cites that Generation X includes individuals born

between 1965 and 1980. According to Berkup (2014), Stjepić, Vukšić, & Suša Vugec (2019), Generation X includes individuals born between 1965 and 1979. Different opinions on the time frames for defining generations come from various socio-cultural changes, criteria, and regional boundaries. Elagin & Mikirtumov (2020) note that time frames can vary and need to be adjusted based on the region and social group of the individual. Despite the different time frames for defining various generations, the available literature generally agrees on the overall characteristics and behaviors of individuals (Lissitsa & Kol, 2016). Regardless of which time frame is chosen, the characteristics of the observed group will remain unchanged. For the purposes of this paper, we will use the time frame that defines Generation X as those born between 1965 and 1979. This classification is widely accepted in scientific literature and provides a solid foundation for analyzing the specific behaviors and characteristics of this generation.

Coklar & Tatli (2021) noted that members of Generation X experienced the rise of new digital technologies and observed their impact on social life. They are generally more skeptical about digital technologies, use them less, and adapt to them based on their circumstances, compared to members of other generations. Since they grew up during significant social and technological changes, such as the advent of computers, the Internet, and changes in work conditions, this generation has had to adapt to new situations. Due to their lifestyle, Kittelson (2023) suggests that this generation may experience a gap in connecting with technologies and other generations around them, as each reacts differently to new technologies. Weeks and Schaffert (2019) indicate that the ideal job for members of Generation X is one that allows the development and achievement of individual goals while supporting flexibility, innovation, and independence. They value autonomy and independence at work (Eyoun et al., 2020), have a strong work ethic, and are satisfied with their jobs, appreciating external rewards when they achieve satisfactory results (King et al., 2017). Prensky (2001) and Palfrey & Gasser (2010) refer to them as "digital immigrants," representing individuals born before the 1980s, prior to the existence of digital technologies.

Using of ICT and COVID-19

In today's world, having ICT skills is crucial for quality education, healthcare, and functioning in modern society. According to Banović & Pavlović (2021), these skills are necessary for individuals to access information online and identify reliable data. Recent studies have shown that age plays a significant role in encouraging the use of ICT (Niesel & Nili, 2021), with different age groups adapting to changes in their environment in various ways. The pandemic significantly impacted how people work, learn new skills, and perform daily tasks. ICT has become a vital tool for handling these challenges, allowing daily life to continue. The pandemic led to a global increase in digital technology use (Neena Pandey & Pal, 2020), with usage rising from 40% to 100% compared to pre-pandemic levels (Roy, 2021). Many people used the Internet for daily activities like buying supplies and accessing services such as e-banking and online payments. They also used digital platforms for information, news, communication, and education through online courses. The rise in Internet and computer use during the pandemic was especially noticeable in business. The pandemic accelerated digital transformation and introduced new business models (Golinelli et al., 2020; Zeynalli & Zeynalli, 2022; Burlea-Schiopoiu et al., 2023). Remote work, once uncommon, became standard for many employees (Kossek & Lautsch, 2018; Van der Loop, Willigers, & Haaijer, 2019). The shift to remote work replaced the traditional office with working from home (Sarfraz et al., 2021). In this context, Coklar & Tatli (2021) highlight that Generation X has developed an adaptive system for digital technologies based on their circumstances. This system has proven essential during the pandemic. Konig & Seifert (2022) note that most older workers who switched to full-time remote work reported acquiring new computer skills, reflecting Generation X's effective adaptation. Online education, enabled by ICT (Bick et al., 2020; Johnson, 2020), also faced challenges as universities quickly adapted to new conditions. Johnson et al. (2020) observed that most universities moved to online teaching, even if they had little prior

experience. Staff lacking online teaching experience had to learn new methods. Despite the push for fast adaptation, a digital divide was evident between older and younger staff. Samifanni & Gumanit (2021) and Khan et al. (2021) found that older professors, mainly from Generation X, struggled more with the transition to online education compared to their younger colleagues.

There was also a notable increase in ICT usage for entertainment and communication purposes (Petrosyan, 2023), as people widely used video calls and social media to stay connected (Nguyen et al., 2020; Silva et al., 2021). On the other hand, Hashem (2020), Ivanovic & Antonijevic (2020), Moon et al. (2021), Wiścicka-Fernando (2021), and Young et al. (2022), report a significant rise in online shopping. All these activities, from work to education and shopping, require strong ICT skills and the effective use of digital technologies.

The impact of pandemic-induced changes has not been the same for everyone, particularly considering factors such as gender, age, or demographic category. This study emphasizes age as a key factor, specifically examining Generation X, whose early life and educational background are notably different from today's younger generations. These differences may influence how Generation X adapts to changes in the digital environment and their ability to effectively use modern technologies. Due to frequent challenges in adopting and utilizing digital technologies, it is crucial to analyze technology usage in the year before the pandemic and to determine whether there were changes in usage in the years that followed. These results could highlight potential gaps and provide insights into the long-term effects of the pandemic on work, education, and consumer habits, as well as identify specific barriers that this generation had to overcome. Understanding these challenges can aid in developing strategies to facilitate the transition and enhance digital inclusion for Generation X in the post-pandemic period.

DATA AND METHODOLOGY

For this research, microdata from the survey "*The Usage of Information and Communication Technology by Individuals/Households in the Republic of Serbia*" for 2019 and 2023 were used. The data were provided by the Statistical Office of the Republic of Serbia (SORS), and the study is conducted according to Eurostat methodology in the territory of the Republic of Serbia. The authors chose to include 2019, the last year before the pandemic, and 2023, to obtain a more comprehensive view of the long-term impact of COVID-19 on ICT usage. While 2020 and 2021 were characterized by a rapid and often disruptive shift to digital technologies, analyzing data from 2023, which represents a more stable period, enables a deeper insight into the enduring shifts in ICT usage patterns and adaptations that took place beyond the initial aftermath of the pandemic. This approach provides clearer insights into the long-term effects and trends in digital behavior that have emerged as societies adjusted to the new normal. Due to the newly arisen situation caused by the pandemic, the survey conducted in 2023 underwent minor changes. These changes were found in several different segments of the survey. They mostly pertained to the frequency of various activities carried out on the Internet and computers, as well as the types of actions performed online. In the 2023 survey, a noticeable trend in the offered responses was directly influenced by the pandemic, such as those related to the use of e-government for green certificates, vaccination information, and similar topics.

The main objective of SORS in the process of conducting annual research is to provide data on the use of information and communication technologies among individuals/households, as well as enterprises in the Republic of Serbia. The reference period covered the three months prior to the telephone interviews (SORS, 2023). The research is conducted with a sample of 2,800 individuals, targeting those aged 16 to 74. For 2019, the year before the pandemic started, the response rate was 93.8%, with 2.627 individuals participating. Among them, 37.6% were men and 62.4% were women out of the total population (SORS, 2019). In 2023, the response rate remained high at 93.3%, with 2.612 participants. Of these, 40.8% were men and 59.2% were women out of

the total population (SORS, 2023). Descriptive statistics were used to present the analysis, and cross-tabulation was utilized to explore more detailed information within specific segments.

Taking into consideration socio-demographic data for Generation X in 2019, 51.1% of the respondents were women, and 48.9% were men. A similar situation was noticed in 2023, where 50.8% of respondents were women, and 49.2% were men. The majority of this generation in both years completed secondary vocational school or high school; most of them were employed, and more than 50% were employed in both observed years. Detailed socio-demographic data are presented in Table 1.

Table 1. Socio-demographic characteristics of Generation X in 2019 and 2023

GENDER	**2019**	**2023**
Male	48.9%	49.2%
Female	51.1%	50.8%
EDUCATION		
Lower than secondary	19.8%	14.6%
Secondary	60.9%	60.5%
Tertiary	19.3%	24.9%
WORK STATUS		
Employed	57.6%	53.5%
Self-employed	2.6%	6.8%
Unemployed	25.7%	24.5%
Retired	4.8%	6.6%
Disabled	2.6%	/
Serving military duty	0.1%	/
Housewife	4.7%	5.6%
Other	1.9%	3%

Source: Authors' calculations based on SORS data

Table 1. shows a balanced gender distribution in both years, with slightly more women than men. The educational attainment indicates a shift towards higher education, with an increase in tertiary education from 19.3% in 2019 to 24.9% in 2023. Employment status remains stable, but there is a notable rise in self-employment and retired individuals, reflecting broader socio-economic trends and possibly the impact of the pandemic on job markets.

RESULTS AND DISCUSSION

When it comes to computer use in the past three months, the majority of Generation X used a computer every day or almost every day in the year before the pandemic, with 65.2% of respondents. After the pandemic, this number slightly increased, and in 2023, 68.4% of respondents used a computer every day or almost every day. The slight increase can be attributed to the continuity of computer use among individuals who had previously engaged in work or other activities involving computers, extending into the year following the pandemic. Additionally, in recent years, the use of other devices, such as smartphones, smart TV and tablets, which have become increasingly accessible, may have influenced computer usage. Many tasks that once required a computer can now be performed on mobile devices. Eurostat stated that mobile devices were used to connect to the Internet by 9 out of 10 EU users (Eurostat, 2024).

In this context, 83% of individuals in Serbia access the Internet via mobile phones, while desktop computers are used by 39% of citizens. In neighboring countries, mobile phone usage for internet access stands at 88% in Montenegro and 81% in Bosnia and Herzegovina. The highest rates of mobile device usage are found in Scandinavian countries, where it exceeds 95%, with Norway reaching 99% (Eurostat, 2024).

On the other hand, 79.6% of individuals used the Internet every day or almost every day in 2019. According to new trends in 2023, SORS modified the questionnaire and included the response option "I used the Internet multiple times per day". In the mentioned year, 85.3% of respondents used the Internet daily or multiple times a day. Data show that in the years following the pandemic, the use of the Internet and computers increased. These findings are satisfactory but not sufficient. According to Eurostat (2024), Serbia remains near the bottom of the list when it comes to Internet usage. In many European countries, Internet use is present in daily activities for over 90% of the population. The results presented in Table 2 refer to Internet and computer usage in 2019 and 2023 for the total population of Generation X.

Table 2. Computer and Internet usage in the previous 3 months in 2019 and 2023

Computer usage in the previous 3 months			**Internet usage in the previous 3 months**		
	2019	**2023**		**2019**	**2023**
Multiple times per day	.	.	Multiple times per day	.	85.3%
Every day or almost every day	65.2%	68.4%	Every day or almost every day	79.6%	3.5%
At least once per week	10.5%	8.5%	At least once per week	5.8%	3.5%
At least once per month	3.0%	3.0%	At least once per month	1.7%	0.4%
Less than once per month	1.5%	0.5%	Less than once per month	0.5%	/

*Missing value computer usage 2019 - 19.9%; **Missing value computer usage 2023 – 19.6%
***Missing value Internet usage 2019 - 12.3%; ****Missing value Internet usage 2023 – 7.2%

Source: Authors' calculations based on SORS data

For a detailed analysis of the Internet and computer usage in the specified years, Generation X was categorized by age groups, providing insights into changes in usage patterns between 2019 and 2023. We divided individuals into two groups: the "younger" group, consisting of individuals aged 40 to 46, and the "older" group, comprising individuals aged 47 to 54. In 2019, over 80% of individuals in both groups used a computer every or almost every day, with a minimal difference of 1.3%. In terms of Internet use, the "younger" group used the Internet every or almost every day slightly more than the "older" group in 2019, which was anticipated. The results for 2023 are consistent with this pattern, despite the changes in methodology. Specifically, the "younger" group continues to have an advantage in terms of using the Internet multiple times a day.

Table 3. Computer and Internet usage in the previous 3 months for specific groups of Generation X in 2019 and 2023

Computer usage in the previous 3 months					**Internet usage in the previous 3 months**				
	2019		**2023**			**2019**		**2023**	
	40-46	**47-54**	**40-46**	**47-54**		**40-46**	**47-54**	**40-46**	**47-54**
Multiple times per day	.	.	.	.	Multiple times per day	.	.	93.5%	89.8%
Every day or almost every day	82.3%	81.0%	89.1%	81.5%	Every day or almost every day	94.3%	88.5%	2.6%	5.2%
At least once per week	12.6%	13.2%	9.1%	11.7%	At least once per week	3.1%	9.2%	3.8%	4.4%
At least once per month	2.8%	4.6%	1.8%	5.8%	At least once per month	1.6%	2.1%	.	.
Less than once per month	2.3%	1.2%	0.2%	1.0%	Less than once per week*	1.0%	0.1%	0.2%	0.7%

*Change in methodology in 2023 (previously, it was categorized as "less than once per month")

Source: Authors' calculations based on SORS data

In both years, individuals with tertiary education used computers and the Internet more frequently, with over 90% in each observed year. The analysis also revealed that in 2019, more men than women used a computer every day, with 51.6% of men compared to women. However, a slight reversal occurred in 2023, when more women used a computer every day, with 51.3%.

Table 4. Computer and Internet usage in the previous 3 months according to education in 2019 and 2023

Computer usage in the previous 3 months					**Internet usage in the previous 3 months**				
	2019		**2023**			**2019**		**2023**	
	secondary	**tertiary**	**secondary**	**tertiary**		**secondary**	**tertiary**	**secondary**	**tertiary**
Every day or almost every day	63%	92.5%	91.4%	96.1%	Multiple times per day	84.4%	99.3%	95.8%	99.5%

Source: Authors' calculations based on SORS data

The analysis of results provided insights into the habits of Generation X regarding online ordering of goods and services for personal use. In 2019, 30.4% of respondents ordered goods and services online in the previous three months, and this number significantly increased to 43.4% in 2023. These results are in line with the findings of Young (2022); Svatošova (2022); Waqas et al. (2023); Jensen et al. (2021), who also observed a significant increase in online shopping during the pandemic. Moreover, a gender shift occurred. In 2019, 54.9% of purchases in the previous three months were made by men, while women made 45.1%. By 2023, the trend reversed, with 51.4% of purchases being made by women, and a slightly lower percentage of men, at 48.6%. These results align with the findings of Kireyeva et al. (2022). After gaining experience with online shopping during the pandemic, many consumers continued to use these services even after the restrictions were lifted. This observation is also supported by Shaw et al. (2022) who highlighted that a large number of respondents plan to remain online shoppers in the years following the pandemic. As a result of the overall situation, there has been a significant decrease in the number of Generation X individuals who have never ordered goods and services online. In 2019, 35.9% did not engage in this activity, but this number highly changed in 2023, with 24.8%.

Table 5. Purchasing/ordering goods or services online for personal purposes in 2019 and 2023

	2019*	**2023****
In the previous three months	30.4%	43.4%
More than three months ago (less than a year)	10.0%	13.5%
More than a year	11.8%	12.8%
Never	35.9%	24.8%

*Missing value 11.9%
**Missing value 5.6%

Source: Authors' calculations based on SORS data

An analysis of the frequency of online purchases of goods and services was conducted for two distinct groups within Generation X. In 2019, the "older" group demonstrated a higher average rate of purchases in the previous three months, accounting for 39.5%. However, by 2023, the younger group became more prominent, with 55.6% of respondents reporting purchases during the same period.

When examining education levels, individuals with tertiary education were more likely to purchase goods and services across both years. This proportion increased from 54.4% in 2019 to 67.2% in 2023, highlighting a notable rise in online purchasing activity among the higher-educated population.

Table 6. Purchasing/ordering goods or services online for personal purposes for specific groups of Generation X in 2019 and 2023

	2019		2023	
	40-46	**47-54**	**40-46**	**47-54**
In the previous three months	33.7%	39.5%	55.6%	34.0%
More than three months ago (less than a year)	11.6%	9.9%	14.7%	14.3%
More than a year	14.1%	10.4%	18.1%	11.4%
Never	40.6%	40.2%	18.5%	33.5%

Source: Authors' calculations based on SORS data

Given the above-mentioned results, the findings regarding the frequency of ordering goods and services in 2023 compared to the year before the pandemic were expected. In 2019, 14.8% of Generation X representatives ordered online 1 or 2 times per month. This number increased to 22.9% in 2023, while there was a 5.2% increase in respondents who ordered 3 to 5 times in 2023 compared to 2019. These findings are in line with the statements of Lu et al. (2021), Yuliana & Adityawati (2023), Fittler et al. (2022).

Table 7. How frequently did you Purchase or order goods or services online in the previous 3 months in 2019 and 2023

	2019*	**2023****
1-2 times	14.8%	22.9%
3-5 times	11.4%	16.6%
6-10 times	2.6%	3.2%
More than 10 times	1.6%	0.8%

*Missing value 69.6%
**Missing value 56.6%

Source: Authors' calculations based on SORS data

When discussing activities conducted via the Internet, Table 8 shows an increase in almost all activities. This result is not surprising, especially in the context of business communication (sending and receiving emails), with an 8.3% increase observed in Generation X due to the shift to remote work. Individuals who were previously less dependent on computers in their work environment became more reliant on them while working from home. Additionally, there was a noticeable rise in the use of Internet communication applications, whether for personal or business communication. Results were expected, primarily due to the shift to remote work, followed by lockdowns and subsequent additional restrictions on movement. These results are consistent with the findings of Moawad (2022), World Economic Forum (2020), and Barayev et al. (2021). Generation X uses social media for communication with friends and family, networking, and consuming news and entertainment content (Media Culture Report, 2023). However, the lower use in 2023 compared to 2019 is not surprising. This generation is inclined towards in-person social gatherings, and although they are present on social media, they use it significantly less compared to younger generations. Moreover, this trend can be explained by digital fatigue observed during the pandemic and post-pandemic period, as there was an oversaturation with social media. As a result, social media became one of the areas where users made cuts in their usage, as confirmed by Gregersen et al. (2023), Sharma (2021), Romero-Rodriguez (2023), and Sunil (2022).

Table 8. Activities done by Internet for personal purposes in the previous 3 months in 2019 and 2023

Activity	2019	2023
Sending/receiving emails	50,9%	59,2%
Communicating by Internet (WhatsApp, FaceTime, Viber, Skype...)	19,5%	30,3%
Social media (Facebook, Twitter, Instagram)	5,7%	1,6%
Other	23,9%*	8,9%

Source: Authors' calculations based on SORS data

*Summarized activities that have less than 5% per each (Sending online messages through Skype, reading newspapers and journals, Web banking, selling goods or services through websites or applications like eBay, etc.)

In 2019, Generation X primarily used public administration services to obtain information and stay informed. However, it is noteworthy that 49.1% of respondents did not engage in any of the activities offered that year. The pandemic has significantly altered how society interacts with public services, leading to changes in the response patterns observed in 2023. For instance, the response options provided by SORS were updated in 2023 to reflect these changes, recognizing the new context. In 2019, respondents could not indicate whether they accessed personal information through public services, such as vaccination records or green certificates. By 2023, this activity became the most common among Generation X, with 29.1% reporting it. Nonetheless, it remains concerning that nearly 50% of respondents did not participate in any of the activities offered. This could suggest a lack of trust in public services, a sentiment supported by Garcia-Rio et al. (2023) and Hooda et al. (2022), who identified trust as a crucial factor influencing attitudes toward using such services.

Table 9. Activities done in the previous 12 months by public services online for personal purposes in 2019 and 2023

Activity	2019	Activity	2023
Obtaining information on the website or applications	26.8%	Access personal information stored by public authorities (vaccination information, green certificate, etc.)	29.1%
Downloading or printing templates	2.4%	Access to information from public databases or registers (land registries, company registers)	5.6%
Sending filled templates	0.2%	Obtaining information (about services, benefits, rights, laws, working hours)	5.8%
None of the above	49.1%	I have not used public administration services	49.5%

*Missing value 21,5% (2019)
*Missing value 10% (2023)

Source: Authors' calculations based on SORS data

CONCLUSION

This paper aimed to examine the use of ICT among Generation X in the years before and after the COVID-19 pandemic. Studying the use of digital technologies among this generation is crucial due to their characteristics and life experiences, as they grew up before the dominance of the Internet and digital technologies. This generation faced the need to adapt to the rapid changes brought about by digitization, raising questions about how members of this group dealt with the challenges arising from the pandemic-induced changes in societal functioning. The COVID-19

pandemic led to the increased use of the Internet and computers, a shift to remote work, online education, digital shopping, and the use of public administration portals. The analysis presented in this paper shows that the period from 2019 to 2023 brought some changes in ICT usage, particularly in the areas of work, education, and consumer habits. Before the pandemic, Generation X largely relied on traditional methods of work and communication. However, pandemic challenges, including the need for remote work, digital education, online shopping, and the use of public administration services, forced this generation to adapt more quickly than ever before and to adopt new digital tools and technologies. Regarding the use of the Internet and computers, there was a slight increase in the number of people who used them every day or almost every day. The changed SORS methodology due to the pandemic also brought a new finding: in 2023, 85.3% of Generation X used the Internet and computers, with the "younger" members of this generation, i.e., individuals aged 40 to 46, being the majority. Online shopping also increased, with a significant reduction in the number of people who had never ordered goods or services online by 2023. It is expected that most of these individuals will continue shopping online in the future. The pandemic also impacted Internet-based activities, with the Internet being used for both business and personal communication—online communication networks became very popular. The results indicate that, although they found themselves in a new situation, individuals managed to adapt quickly. A somewhat different distribution of responses was observed regarding the use of public services, where a large number of respondents had never used any of the offered public service options, neither in 2019 nor in 2023. This may indicate insufficient knowledge of the basic functions of public administration but also a lack of trust in using these services. Therefore, the primary recommendation is to work on informing citizens about the various functions of public administration and providing simplified access, given that the use of digital public administration services is expected to increase in the future.

Further research could focus on differences in the adaptation of digital technologies among different subgroups within Generation X, such as additional differences by education, geographic location, or work sectors. It would also be useful to compare the adaptation of Generation X in Serbia with similar generations in other Balkan and European countries to gain a broader understanding of global and regional trends in ICT usage, given that they represent a generation that has experienced numerous changes throughout their lives, requiring rapid adaptation.

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