INTERNET USAGE IN HOUSEHOLDS OF THE SLOVAK REPUBLIC

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Abstract: *The rapid development of information and communication technologies and the development of digital economy and society brings new challenges and opportunities for individuals, companies and the whole society. The huge growth of the Internet, which has contributed to these changes, and causes changes in the living of individuals and households. In addition to new ways of communicating, the Internet brings individuals new opportunities for collaboration, business, but also information retrieval and, last but not least, shopping, contributing to the growth of living standards. In this paper, the authors focus on one aspect of the digital economy – household access to the Internet and its usage for purchasing products and services in the Slovak Republic. The aim of the article is to find out the level and reasons for using the Internet by households of the Slovak Republic. In this paper, the authors use methods: time series analysis, comparison, synthesis. The authors use data from the Statistical Office of the Slovak Republic. The authors have found that the level of Internet usage in the Slovak households is increasing, but it varies depending on gender, age group and type of household. Slovak households buy mainly clothes, sports goods, and households' goods for the private usage.*

Keywords: *Digitalization, Digital economy, Internet, Information and communication technologies.*

1. INTRODUCTION

The significant development of information and communication technologies, which dates back to around the 1980s in developed countries, caused the transition from the industrial to the information society. The use of personal computers and, in particular, their interconnection via the Internet was an impulse for the emergence of the digital economy. The digital economy is based on the widespread use of computers and other electronic devices and the Internet. The Internet has made it possible to increase links between individuals, organizations and communities worldwide. Through it, people communicate, cooperate, seek information, and buy. The Internet and digital technologies thus bring new opportunities to individuals, affecting their way of life, work, family life and leisure. The Internet removes geographic boundaries, shortens distances, and enables flexible and fast communication. Digital technologies can already transform basic social services such as education, health care and people-government interactions (Chaaben, Mansouri, 2017).

The aim of this article is to find out the level and reasons for using the Internet by households of the Slovak Republic. We examine the proportion of households with access to the Internet and the reasons for using the Internet, taking into account the type of household, the economic

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status of the individual and the age group. We also examine what types of goods households in Slovakia for private use purchase over the Internet. To achieve this goal, we use the following methods: time series analysis, comparison, synthesis. Data for time series analysis are taken from the Statistical Office of the Slovak Republic.

2. INTERNET AND DIGITAL ECONOMY

Information, knowledge and new technologies are becoming a source of development in the developed countries of the world at present, in the period of development of the information society, resp. digital economy. Information technology can be understood as the use of any computer, storage device, network, and other physical device, infrastructure and process to create, process, store, secure, and exchange all forms of electronic data (Mayerová, Hyžová, 2019).

The importance and benefits of information and communication technologies for the development of economies are already undeniable. As Fabová (2014) states, advanced information and communication technologies (ICT) designed for processing and transmission of information significantly influence the economic development of developed countries and their competitiveness. Investment in information and communication technologies has a significant impact on economic growth, the creation of new jobs, growth in labour productivity and increasing the overall competitiveness of economies. ICT affects not only the ICT sector itself, but also other sectors that are increasingly using them. The fundamental changes resulting from the development of ICT are called digital transformation. It affects all areas of human life, including the environment, mental and physical work, health, family relationships, and leisure (Červeňová, 2019). The digital transformation process is based on hyper-connectivity, i.e. the growing interconnection of activities, people, machines, companies, organizational and management structures, business models. The result is new activities and processes that lead to greater efficiency and usefulness (Fifeková, Nežinský, 2018).

The Internet as a publicly available worldwide system of interconnected computer networks is of particular importance. Internet is a powerful tool that is a source of information, communication between users, allows browsing electronic catalogues, copying data and program files, e-commerce, e-learning (Halás, 2011). The Internet has made it possible to increase links between individuals, organizations and communities worldwide. Digitization and interconnection have greatly contributed to an exponential increase in computing power, increased number of mobile and intelligent devices, and existence of cloud computing in recent years (Folea, 2018).

The importance of the Internet does not lie only in the benefits for businesses and states; its benefits are undeniable for individuals and households. Internet and modern technologies modify the way of work, living, leisure or shopping. It offers a large number of options for individuals to earn in various market segments. Households currently use the Internet to communicate with each other through e-mail, chat, Internet telephony, discussion forums or social networks. Stoica, Bogoslov (2017) state that digital technologies and Internet became the main forces for transforming the modern world and its economy.

The Digital Economy is related to the rapid advent and penetration of information and communication technologies in all areas of human activity, which also requires new insights into the factors affecting the development and success of the economy. In general, it is an economy based on the widespread use of the Internet, computers and other electronic devices. According

to Leško (2019), the use of modern information technologies leads to an increase in labour productivity, which is reflected in the growth of the whole economy and information and knowledge become a decisive form of capital. Similar views are presented by Chaaben and Mansouri (2017) they state that digital technologies help improve the national economic development, the productivity of businesses across all industries and increase quality of life for human beings.

Fifeková and Nežinský (2018) also point to a close link between the level of digitization and the economic performance of the country. Digital developed countries are generally leaders in the creation, management and use of digital technologies, and these technologies use very effectively. They are able to continually create new digital impulses and create new demand for digital technologies. Maintaining a high level of digital progress promotes the growth of their economic performance, thus supporting the development of digital innovation and technology, thus creating a positive growth circle. Conversely, the low level of digitization generally makes the country less attractive to investors. According to Hučková et al. (2018), the development of new technologies and computer technology brings new dimensions in trading and accelerating business activities. Modern information technologies enable to increasingly digitize the basic functions of the economy and to transform an ever-increasing number of economic activities into digital form (Klinec, 2000). According to Leško (2019), mainly companies that have secured access to key technical, managerial and organizational skills will have great potential for growth. These firms will tend to be more productive compared to others, and digitization will help strengthen their industry leadership. For other companies, this situation will be a possibility of changing the way of organizing, and reassessing the use of their resources.

3. INTERNET USAGE IN HOUSEHOLDS OF THE SLOVAK REPUBLIC

As part of the evaluation of the information society level, the Statistical Office of the SR carries out statistical surveys on information and communication technologies in households and individuals. Its aim is to determine the level of ICT equipment of households and at the same time to determine the level of knowledge of these technologies among individuals. Quantifying the development of the information society in the economy and society is the basis for accepting changes and ensuring development in this area (Statistical Office of the Slovak Republic, 2019). Figure 1 shows the percentage of households with Internet access.

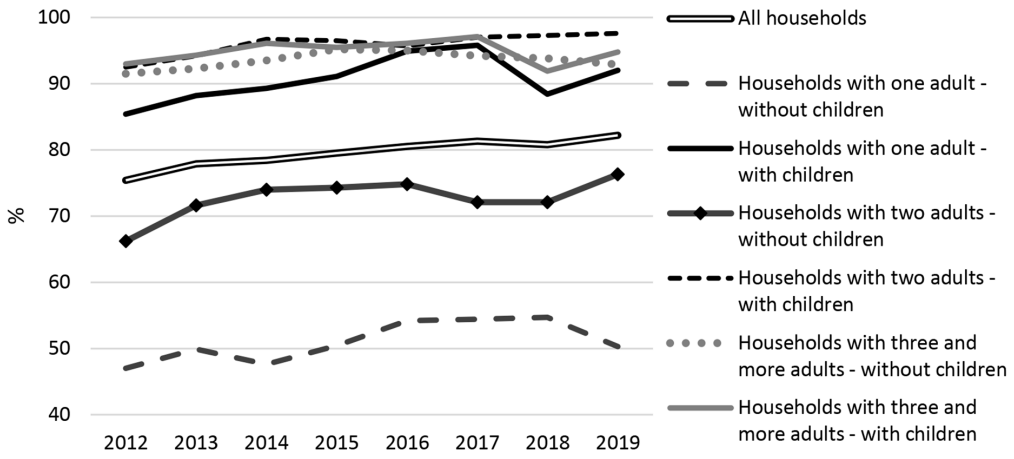

Figure 1. Access to the Internet at home by household structure (share in total households in %)

Source: own processing, Statistical Office of the Slovak Republic (2019, 2020)

Access to the internet of households of the Slovak Republic is gradually increasing, it was 82.2% in 2019. The percentage of each type of household is considerably different. Households with two adults and children have the highest Internet access, up to 97.6% in 2019. In general, households with children have a higher share of Internet access. By contrast, households with one adult without children have the lowest Internet access (in 2019: 50.3%).

We also examine what activities households use the Internet for in 2019. Figure 2 shows the percentage of all households that have used the Internet for the above activities over the last three months, broken down by the economic activity of a household member.

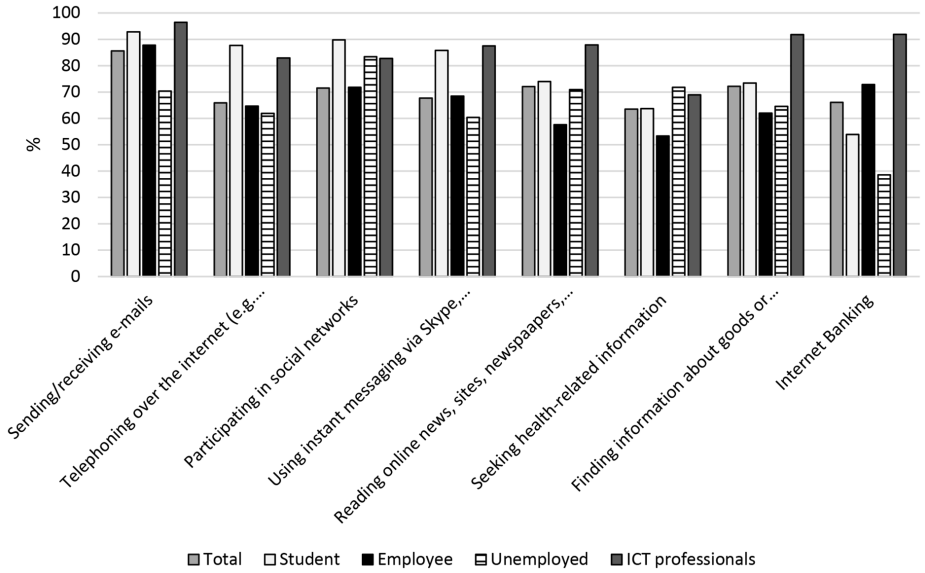

Figure 2. Reasons for using the Internet by households of the Slovak Republic in 2019
Source: own processing, Statistical Office of the Slovak Republic (2019, 2020)

Households in Slovakia use the Internet mostly for sending and receiving mail (85.6%), searching for information on goods and services (72.2%), reading newspapers and magazines (72.1%), participating in social networks (71.5 %). ICT professionals and students mostly use the Internet. The unemployed use the Internet to a lesser extent, except for participation in social networks. The unemployed least use internet banking (38.6%).

Internet usage in Slovak households varies depending on the sex and age group of the individual. Women aged 16-24 are the ones who make the most use of the Internet, most notably for messaging (91.8%), social networking and instant messaging. Men in the 16-24 age group also use the Internet more often than men in other age categories, most often for sending e-mails (90.8%). Men aged 55-74 use the internet the least, specifically for social networking (34.7%) and instant messaging (34.9%).

Figure 3 shows data when each age group last used the Internet (2019).

Most households in the Slovak Republic use the Internet very often, in the last three months it has been used by 82.9% of households. This percentage is reduced by lower internet usage of persons over 55 years of age. The young generation (16-24 years old) has used the Internet 99.3 percentage of them in the last three months. The largest proportion of those who have never used the Internet is in the age group of 65-74 years, up to 52.9%.

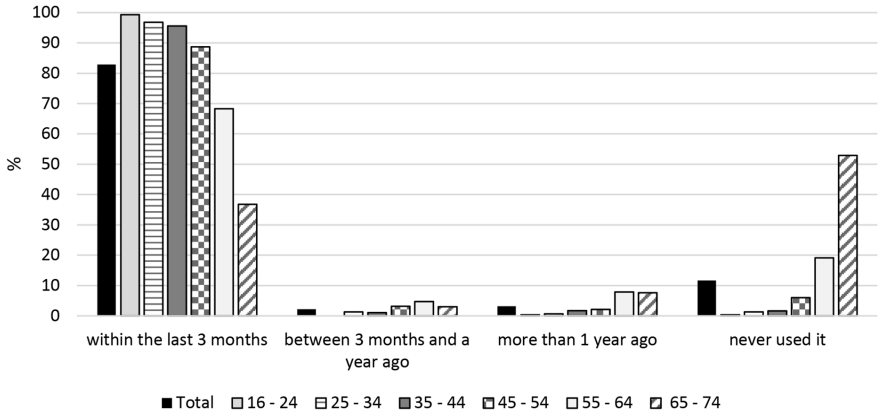

Figure 3. Frequency of the internet use

Source: own processing, Statistical Office of the Slovak Republic (2019, 2020)

If we examined the first group of households that use the Internet very often, we would find interesting facts. 91.4% of those who have used the Internet in the last three months have been using the Internet every day or almost every day. In the 16-24 age group, this proportion is up to 98.6%. The differences between men and women are noticeable only in the age group 65-74, in which 83.8% of men use the Internet every day or almost every day, but only 77.5% of women.

In the next section, we are dealing with the use of the Internet to buy goods and services. Figure 4 shows what kinds of goods and services purchased or ordered for the personal use of the Slovak household in 2012-2019 (percentage of all who ordered/purchased goods and services over the last 12 months via the Internet).

The Slovak households mostly buy clothes and sports goods (67.8% in 2019) and household goods (40.3% in 2019). In recent years, the share of buying tickets for events and holiday accommodation has been increasing. Women shop more often online. In addition to clothing, sports and household goods, women often buy event tickets. In the case of men, electronic devices are in third place.

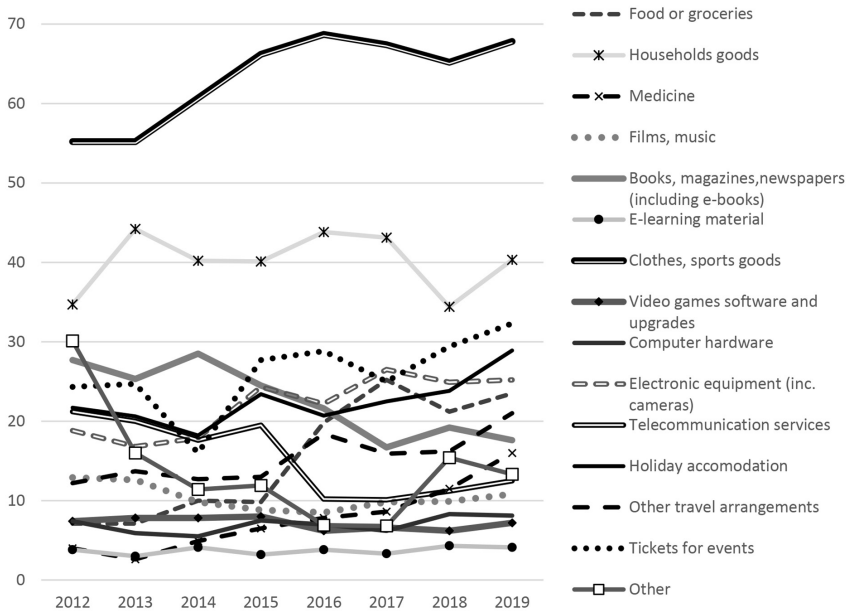

Figure 4. Types of goods or services purchased or ordered via the Internet

Source: own processing, Statistical Office of the Slovak Republic (2019, 2020)

4. FUTURE RESEARCH DIRECTIONS

The Internet and its use open up other areas of research on this issue that we want to focus on in our future research work. In terms of the digitalization of the economy, there are topics such as the use of the Internet in the business sector, public administration, banking, coverage of Slovak regions with Internet networks, security of shared data, their archiving, etc. Intranet use of the Internet in the business world has much greater possibilities than using Internet technology within the enterprise. Intranet applications include marketing and market research, human resource management applications, business communication applications, product development activities, technical support, form sorting and processing, etc. Submitted research work and proposed topics to explore the issue of the level of Internet use should be expanded and compared with other countries.

5. CONCLUSION

Based on our survey, we concluded that the use of Internet in households in the Slovak Republic increased significantly in the period under review compared to the base year 2012 in all monitored categories of households. Households use the Internet to find out about goods and services and order them via e-shop. The greatest increase in Internet use was seen in households with two adult children, approaching 100% Internet coverage, the lowest use is in one-person households without children.

In terms of gender and age, we found that the Internet is used by women aged 16-24 to communicate via social networks and instant messaging at most, almost 92%. Men also use the Internet the most in the age category 16-24 years for email communication; the least used it in the age category 55-74 years. Unemployed household members use the Internet to a lesser extent, except for participation in social networks, while the unemployed use very little internet banking services (38.6%).

At present, the priority issue is not the coverage of the territory by internet connection, but the speed of data transmission. 5G networks that have been successfully tested in several countries around the world are currently developing the future of mobile Internet connectivity.

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