

## **EQUIPMENT LEVEL OF POLISH HOUSEHOLDS IN INFORMATION TECHNOLOGY**

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The problem of the use of information technology can be analyzed in terms of aspirations, goals and values, but also in terms of the region's population to participate actively in the development of the information society. Statistical studies show different levels of access to information technologies. To actively participate in the surrounding reality beyond the skills of the users of communication technology is an important access to modern information technology. The aim of this article is to assess the level of the use of modern technology in households.

Keywords: households, Internet users, levels of access to information technologies

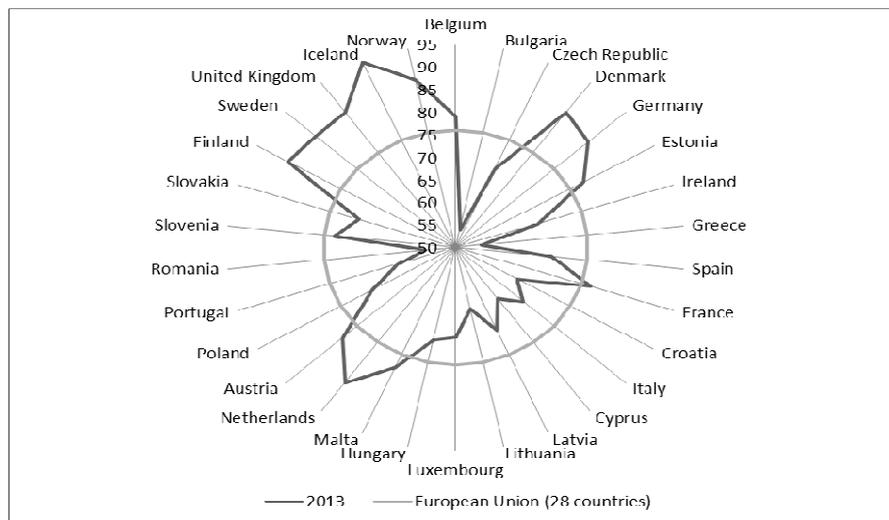
### **1. Introduction**

Modern technology offers users a variety of specialized functional communication tools with computer networks, especially the Internet. Effective network access is a prerequisite for the implementation of suit your preference [3, 5]. Modern technology is a factor in determining the direction of the transformation of contemporary developed societies. A study conducted by TNS Digital Life shows that in Poland the average Internet user spends online an average of 18 hours and 25 minutes per week. It's almost 80 hours per month and almost 1,000 hours a year, which translates into 40 days of continuous residence before the monitor [11]. Information needs are so important in the hierarchy of needs of a modern household [5]. The level of their satisfaction affects the

development of the individual units, and the operation of the entire household. It is determined we have a variety of conditions and factors that influence often difficult to identify and explore. The aim of the study is to assess the level of use of the equipment and Internet access to Polish households.

## 2. The level of access of EU households

The dynamic development of information and communication technologies since 2003 for analysis of access and use of modern technology has been developed digital access index (DAI) based on four factors affecting the development of the information society of the country [12]. These factors included infrastructure, affordability, knowledge and skills, and the actual use of ICT - communication. Among the 181 countries of the EU countries occupy top positions in the ranking. Regardless of the type and classification of factors influencing the development of the information society is the most important equipment of households with computers and Internet access. The level of equipment of households with a computer with Internet access is shown in Figure 1.



**Figure 1.** Households with broadband Internet access in selected European countries

In 2013, the highest percentage of households with broadband Internet access were recorded in Ireland, Denmark and Finland. At least in the high-speed Internet access are provided with households Romania. Poland despite the increase in the level of equipment over the years 2004-2013 in the ranking it gained slightly below the European average.

### 3. Polish household equipment in hardware

Development of telecommunications, including the proliferation of wireless telephony Polish consumers will be from year to year are increasingly used the Internet not only as a source of information, but also as a tool to facilitate action in everyday life [1]. The results of a study conducted by the Central Statistical Office on household equipment show an improvement in the level of equipment in hardware [4]. The most important factor influencing the access to the global network is to provide households with a computer. Percentage of households with a computer has steadily risen in recent years. While in 2009, 66.1% of households were equipped with computers, in the next year already 69%. The lowest increase in the number of households with a personal computer appeared in Eastern Poland (an increase of 7 percentage points in 2013 with respect to 2009), while the highest in central Poland - 9 pp (Information Society in Poland, 2013).

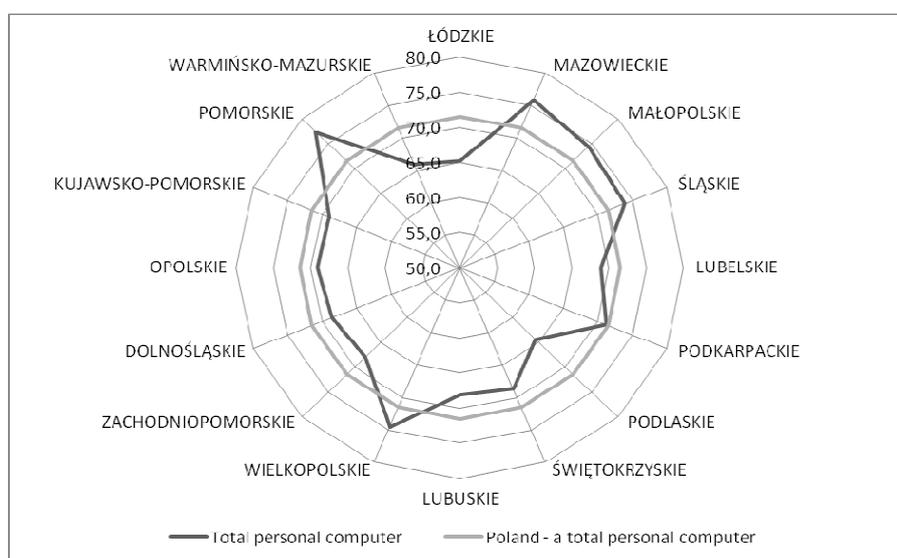
**Table 1.** Equipment Polish households with a personal computer in 2004-2013

specification	Total personal computer [%]									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Łódzkie	30.4	35.1	41.2	47.0	53.1	55.4	58.4	60.3	63.1	65.2
Mazowieckie	35.8	42.0	48.0	53.2	59.7	63.8	69.0	71.4	73.1	75.8
Małopolskie	36.9	42.7	47.6	55.0	60.0	63.3	67.9	67.5	69.1	74.4
Śląskie	34.1	41.7	46.0	51.4	57.1	61.8	67.2	67.9	69.6	73.9
Lubelskie	31.2	33.4	37.0	45.5	51.2	56.7	59.7	61.5	64.8	68.9
Podkarpackie	30.5	37.4	40.8	48.1	56.1	59.5	65.3	67.0	66.9	71.2
Podlaskie	32.4	30.6	38.6	44.7	54.8	59.6	59.9	62.7	64.2	64.4
Świętokrzyskie	26.3	30.2	34.4	40.4	49.7	55.8	60.7	60.5	62.7	68.7
Lubuskie	29.8	39.9	47.2	48.7	57.6	62.3	66.1	62.8	64.1	68.1
Wielkopolskie	34.0	40.2	45.3	53.4	57.0	60.1	65.8	69.6	72.3	74.5
Zachodnio-pomorskie	32.0	37.2	42.7	48.5	54.1	60.4	62.7	64.5	67.4	68.0
Dolnośląskie	31.4	38.8	43.3	48.7	55.4	59.8	64.5	65.3	66.1	68.6
Opolskie	31.6	36.4	41.4	48.2	54.3	60.7	62.3	66.9	70.6	69.1
Kujawsko-Pomorskie	30.8	37.0	38.7	49.6	57.3	63.4	65.6	66.4	64.9	69.0
Pomorskie	36.5	39.4	50.6	57.2	62.2	63.8	67.9	72.9	73.7	77.3
Warmińsko-Mazurskie	27.2	35.3	37.2	41.2	51.3	58.1	59.7	61.9	62.1	66.0

Source: own preparation on basis [8]

Household equipment varies depending on the number of children in the family, or, depending on income. An important factor differentiating the level of equipment of households is also a place of residence (Table 1).

The largest increase in households with a personal computer in relation to 2004 was observed in świętokrzyskie. This change was at 42.4 p.p. The smallest change in the equipment of households with a personal computer was reported in podlaskie (32 pp). It should be noted that in 2013 the average level of equipment in a personal computer in Poland was 71.5% (Fig. 2).



**Figure 2.** Level of personal computer equipment in Poland in 2013

Province, where the level of personal computer equipment in 2013 was higher than the national average are: : mazowieckie, małopolskie, śląskie, wielkopolskie and pomorskie. Pomorskie the percentage of households with a personal computer was a 5.8 pp higher than the national average and amounted to 77.3%. At the lowest level of personal computer equipment was in podlaskie - 64.4%.

#### 4. Internet in households

One of the mainstays of various sectors of the economy is a better use of information technology. The methodology research in the European Union, as a household with Internet access takes the farm and the possibility of having the computer communications [10]. Among households equipped with a means of

access to the Internet is still a large group without Internet connectivity. Table 2 shows the level of equipment with a computer with Internet access in 2004-2013.

**Table 2.** The level of equipment of Polish households with a computer with internet access in 2004-2013

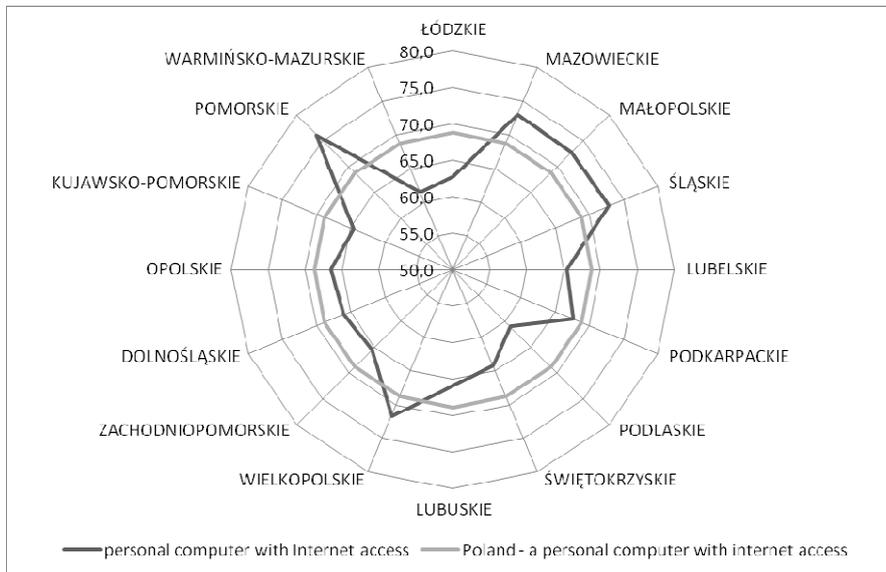
specification	Personal computer with Internet access									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
	[%]									
Łódzkie	14.4	18.4	25.4	32.5	40.6	47.0	52.3	54.9	59.2	62.8
Mazowieckie	20.2	26.9	32.5	40.5	49.4	56.5	64.2	67.5	69.2	73.0
Małopolskie	20.0	27.7	32.5	41.8	51.0	57.4	63.6	64.2	67.2	72.7
Śląskie	18.3	27.3	33.9	42.2	51.3	57.6	64.1	65.2	67.9	72.9
Lubelskie	14.6	16.4	19.4	28.1	36.4	46.0	50.6	55.4	59.5	65.4
Podkarpackie	15.8	22.0	24.8	30.9	41.9	50.4	59.5	62.2	62.6	67.6
Podlaskie	17.4	19.7	28.0	33.9	44.1	51.5	52.6	57.5	59.4	61.0
Świętokrzyskie	11.0	13.5	18.2	22.2	32.5	43.3	52.2	52.5	56.7	64.3
Lubuskie	13.1	24.5	31.1	34.7	45.8	55.9	60.5	59.9	59.7	65.9
Wielkopolskie	14.1	20.4	26.7	36.5	42.9	51.0	59.4	64.3	68.5	71.7
Zachodnio-pomorskie	16.2	20.3	27.6	35.6	46.4	55.3	57.4	61.0	64.0	65.5
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Opolskie	13.1	19.3	23.9	34.3	44.1	52.5	57.3	63.4	66.7	66.5
Kujawsko-Pomorskie	14.9	16.8	20.8	33.6	43.1	53.7	58.6	59.5	59.2	64.5
Pomorskie	21.8	24.8	37.3	47.0	53.0	58.0	64.2	69.4	71.0	76.1
Warmińsko-Mazurskie	13.9	17.8	22.1	28.7	39.0	48.8	55.8	58.1	58.2	61.5

Source: own preparation on basis [9]

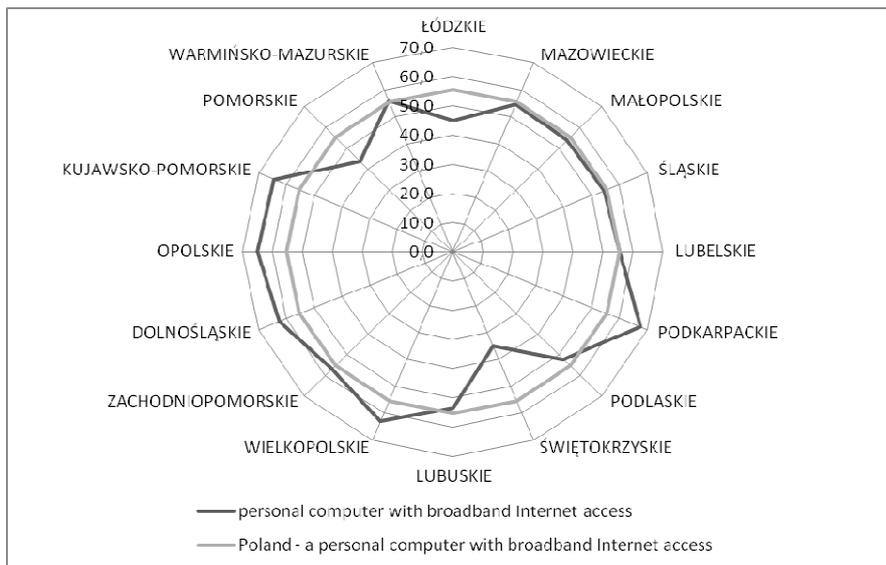
In Poland, in 2013 the percentage of households with access to the Internet, in which at least one person has a global network was 71.9%. The highest increase in households equipped with a computer with Internet access during the Polish EU membership was observed in Wielkopolska by 57.6 percentage points (from 14.1% in 2004 to 71.7% in 2013). Despite various efforts to bring the level of household equipment Polish Internet access varies between regions (Fig. 2).

In 2013, 68.8% of households had access to the Internet. At the slightest possibility of using the network to residents Podlaskie (61%), warmińsko-mazurskie (61,5%) and łódzkie (62,8%).

Because of the speed and quality of information flow every Internet user seeks to obtain broadband. This is a link increasingly being used by users, but for various reasons, there are still many households do not have such access to the Internet. The level of equipment in the Polish broadband households in 2013 is shown in Figure 3.



**Figure 3.** The level of equipment of households with a computer with Internet access



**Figure 4.** The level of equipment in the Polish broadband households in 2013

In Poland in 2013, households have broadband access to the Internet accounted for 55.4%. The highest percentage of users were recorded in Podkarpackie province, where 67.6% of households have broadband Internet

access. Households from świętokrzyskie are but the least equipped with broadband access. Only 35.2% of individuals has the opportunity to reach the network.

## 5. The objectives use of the Internet

Good quality-Speed Internet allows users to better meet your needs. Despite the increasing range of products and services offered through the Internet, Polish users for several years in a study conducted by the Central Statistical Office show as the most frequently performed operation in the network to send and receive electronic mail (Fig. 4).

•Sending and receiving e-mail	52,9%
•Participation in chat rooms, discussion groups or forums, instant messaging, creating and reading blogs and the use of social networking sites	41,1%
•Calling over the Internet, video conferencing	27,5%
•Searching for information about goods or services	50,1%
•Using the services of services related to travel and accommodation	13,8%
•Listening to Internet radio	19%
•Downloading software	14,9%
•Downloading files from games, music or video	27,6%
•Reading online, download files from newspapers or magazines	47,2%
•Banking services	32,6%
•Finding a job, sending offers for employment	11,6%
•Sales of goods or services	11,6%

**Figure 5.** Most frequent activities on the Internet

Second order, the use of e-mail, Polish Internet users find information exchanged target about goods and services (50.1%), while it was not clear to the purchase. A large group of surfers uses modern technology to read online and download magazines or newspapers (47.2%).

## 6. Conclusions

In developing the information society household equipment can be reflected in the emergence of new needs of the applications of ICT. The availability of modern technology in households is a factor contributing to the new behavior and changes in the mentality of household members, the organization purchases and consumption. The availability of modern technology gives you opportunities, but we should not forget the limitations of household income. It should be remembered, as confirmed by the data in Table 2 that there are significant differences in the equipment of information and communication technologies by households, depending on their location. Generally, the state of the IT hardware equipment is a phenomenon as an expression of the most positive and getting better meet consumer needs of Polish households in this area. Equipped with modern technology contributes to changes in many aspects of life. Among them, the great hope for the future, for example, a change in the way the trade. E-commerce allows you to make a completely digitized business processes using a global network the Internet. The development of e-services and e-commerce therefore also strongly developed in the European Union [2]. E-services is to be the way to improving the quality of life of societies and increasingly better orientation to satisfy all the needs of consumers [6]. With e-commerce, the market increases the number of available information, increasing the speed of circulation. Transactions are processed on the global market, and are therefore not dependent in any way from the border states [7].

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