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Digital exclusion: definitions, causes, countermeasures

Introduction

The rapid development and proliferation of digital communication technology are visible in all areas of life, changing patterns of work, study and leisure. The information (electronic, digital) revolution (Aftański, 2011; Muszyński, 2010) has transformed traditional industrial society into a new type of global society, i.e. the digital one,[1] in which three aspects have come to play the most important role: information, knowledge and technology. A deficiency in any element of the triad provides evidence of the civilisational backwardness of a given society (Aftański, 2011). Unfortunately, together with new opportunities, there are

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[1] The term information society is used to denote a society in which services gradually replace traditional industry as the basis of economic development, and the number of people whose job is to process and manage information becomes larger than the number of manual workers. As a result, subjects creating, storing and processing a range of different data come to play the main role in society (*Społeczeństwo informacyjne*, 2012, p. 16). The saturation with information leads to the emergence of a society based on science, rationality and reflexivity; an economy in which all values and sectors, even agriculture and industry, are increasingly connected with information production; a labour market where the majority of occupations are largely or completely based on processing information, which requires adequate knowledge and higher education (hence the alternative name knowledge society); a culture dominated by media and information products with their typical signs, symbols and meanings (van Dijk, 2006). Manuel Castells defines the information society as a specific form of social organisation, in which creating, processing and transmitting information become the fundamental source of productivity and power (van Dijk, 2006). However, unlimited opportunities to use information and communication technologies also lead to a number of threats, whose negative consequences affect the functioning of the individual's psychological and physical sphere. From this point of view, the information society may be seen as a society that brings risk (Haber & Garwol, 2013).

also new problems connected with inequality of access to the above-mentioned elements of the information society, and the development of a phenomenon called digital exclusion (Kluszczyński, 2001).

The state of the information society in Poland

The level of development of the information society in a given country can be determined by measuring a number of factors. Among the most commonly used are the accessibility of technology and the level of its use (Płoszaj, 2008). This method was implemented in the study ESPON 1.2.3 *Identification of Spatially Relevant Aspects of the Information Society*, which developed the regional indicator of the information society (IS) (Olechnicka & Gorzelak, 2007, p. 50). The components of the indicator correspond to the phases of the "life cycle" of the information society and include: (1) readiness (resources and skills necessary for the development of the IS, measured by means of the following indicators: human resources in science and technology, households with a fixed telephone line, appropriate household income); (2) growth (accessibility and use of Information and Communication Technologies (ICT), indicators: households with personal computers, households with at least one mobile phone, households with Internet access, households with broadband Internet access, access to optical fibre cable network, companies with Internet access); (3) impact: (influence on economy; indicators: employment in technology and knowledge, ICT patent applications) (Płoszaj, 2008). The level of the IS in Poland was assessed as very low. Fifteen out of sixteen Polish administrative regions had a very low level of readiness (the lowest on the scale), with the Mazowsze region assessed as low (i.e. higher on the scale). On this basis Poland was classified as an information periphery of Europe (Płoszaj, 2008). It must be noted, however,that the information society has developed considerably since 2007, when the study was conducted. The data collected in the ESPON 1.2.3 project are thus quoted in order to illustrate changes in Polish society as regards the question of possessing and using modern technologies.

The latest research results show that 72% of households own computers, and 71% have access to the Internet. The largest group among computer and Internet users are couples with children at school (95%). It is very rare that a household owns a computer but has no Internet access. On the contrary, there are households which have access to the Internet but no computers, and use tablets and smartphones instead. There is a marked

increase in the use of tablets, from 9.2% in 2013 to 24.2%, in 2015, i.e. 15 percentage points (Batorski, 2015).

Increase in capacity is another important change concerning Internet access. The 7 to 10 Mb/s bandwidths most commonly used so far are currently being replaced by much faster ones. The European Digital Agenda has set the following ambitious targets to be reached by 2020: all Europeans should have access to 30Mb/s bandwidth, and for half of households the figure should be at least 100Mb/s. The findings of *Social Diagnosis 2015* show a steady increase in Internet capacity in Poland: "The pace at which bandwidth doubles, is rather steady; in the past several years, the Internet bandwidth in households doubled every 19.4 months" (Batorski, 2015, p. 369).

Digital exclusion: definition and dimensions

The concept of digital exclusion was first formed in the United States. The growing popularity of the Internet brought about a division of American society into the information rich and the information poor, or the information haves and have-nots. Literature on the subject also uses the term information and communication poverty. The colloquial, literal meaning of the term digital divide suggests a rift between those who have access to new technologies and those who do not. As Łukasz Arendt points out, however, such a view is an oversimplification, which offers only a partial explanation of the phenomenon and in addition generates problems of an ethical nature (Arendtet al., 2011). First, it may suggest that those who have access to ICT are in some way better than those who do not. Furthermore, it only explains part of the problem, since it treats digital exclusion as a dual phenomenon, whereas in fact one should speak of a number of different divisions of a social, economic and technological nature. Individual attitudes, needs, opinions and experiences should also be taken into account. It should be emphasised that the colloquial understanding of the digital divide derives from technological determinism, which sees digital exclusion as a result of uneven dissemination of technology (Arendt et al., 2011).

Literature on the subject suggests also other definitions of the phenomenon under discussion. Digital exclusion is identified with systemic differences in the access to and use of new technologies among individuals of different education, income, occupation, place of residence and stage of life (Bujak, 2013). Manuel Castells offers an even more comprehensive definition of digital exclusion as "the divide created between those individuals, firms, institutions, regions,

and societies that have the material and cultural conditions to operate in the digital world, and those who cannot, or cannot adapt to the speed of change" (Castells, 2001, p. 270).

Bearing in mind the above theoretical assumptions, it can be seen that the concept of digital divide does not cover the whole spectrum of the phenomenon. It does not include the extent to which information and communication technologies are used by individuals, and leaves out the problem of the level of digital competences, the existence of the necessary infrastructure or the impact of social, economic, organisational and cultural factors. For these reasons, the term digital exclusion seems more appropriate.

In literature on the subject, digital exclusion is described as a multidimensional phenomenon. The first dimension concerns motivational exclusion, i.e. mental barriers and an aversion towards new technologies caused by mainly: lack of confidence in one's abilities, lack of motivation and willingness to become acquainted with new technologies or fear of novelty (Zielińska 2015). The second, material dimension is connected with the colloquial understanding of digital exclusion, and involves lack of means to buy the necessary devices, software and access to the Internet. The third concerns skills and is understood as a lack of opportunities to acquire, keep up and update skills necessary to use ICT, while the fourth deals with the actual "usage", which means that technology is used for a particular purpose (Kryńska & Arendt, 2010). As Jan van Dijk stresses, the above model is cumulative and recursive in nature (van Dijk, 2012), with the respective dimensions of digital exclusion following in succession, and the process repeating with the introduction of new technologies.

Reasons for the appearance of the phenomenon of digital exclusion

In the most general terms, it is the information society itself that is the main cause of digital exclusion. Literature on the subject distinguishes two types of causes of digital exclusion (Wasiak, 2013). The first type includes factors which depend on the individual, such as quality of life, income, skills, personality traits. The second group comprises those reasons that are independent of the individual, such as the hermetic nature of knowledge, a high degree of specialisation of knowledge, technological progress. The present article assumes that the main causes of digital exclusion derive from the dimensions described above, and that they include: lack of motivation, lack of access to new technology, a low level of digital skills and a low level of ICT use.

Lack of motivation

Lack of motivation to use modern technologies may derive from the following sources: first, some people do not have sufficient knowledge how to use new devices and opportunities given by the Web; second, the range of services and content offered on the Internet is not adapted to the needs of certain social groups (e.g. the disabled or elderly people). Third, fear[2] (e.g. in the case of banking transactions) as well as misconceptions concerning the harmful effect of working with computers (e.g. dangerous radiation) also play an important role (Batorski & Płoszaj, 2012). Drawing on German and American research findings, Jan van Dijk (2012), points to the following reasons: lack of need or possibilities for usage, lack of time or willingness, perception of technology as a dangerous medium, lack of financial resources and lack of skills. The data provided by the Central Statistical Office of Poland (Główny Urząd Statystyczny [GUS]) for 2014 reveal that as many as 59.1% of people who had no access to the Internet simply did not feel such a need. The next category included people who did not have the necessary digital skills (44.9%). Despite the falling costs of devices and attractive Internet packages offered by Internet providers, 28.7% of Poles considered the cost of purchasing a computer too high, and a further 22.4% could not afford the cost of access to the Internet. Dislike (5.7%) and disability (3.6%) did not have a significant impact on whether a household had access to the Internet (GUS, 2014).

Lack of motivation to use ICT is a dangerous phenomenon which can be observed in recent years. A new category has developed, which includes individuals who have new technologies at home, but do not make use of them. The number of people who have access to the Internet at home, but do not use it, is slowly rising. In 2007 the figure was at 11%, while in 2015 it reached 15.4%. In addition, some of those who used the Internet in the past no longer do so. Slightly over 5% of respondents over the age of 18 started to use the Internet between 2013 and 2015, but at the same time almost 4% stopped browsing the Web. All in all, up to 2015, 6% of people who had declared they used the Internet two years before stopped using it (Batorski, 2015).

Electronic devices and broadband Internet are not in themselves sufficient to make the use of ICT really widespread in Poland. It is not lack of willingness alone that is the key factor, but rather its causes, since they are the basic barriers to the dissemination of new

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[2] Fear of technologies understood as a sense of discomfort, stress or anxiety when coming into contact with them. Fear of ICT use is colloquially known as technophobia (van Dijk, 2012).

technology. A low level of knowledge about ICT plays a particularly significant role, as it has an impact on the appearance of other negative phenomena: lack of need to use new technologies, lack of the necessary skills, and problems of a psychological nature such as fear and self-exclusion[3] (Batorski & Płoszaj, 2012).

Lack of access

Over the last years, the results of the successive editions of *Social Diagnosis* indicate the diminishing number of households with no access to the Internet. The mobile phone is the most commonly used new technology in Poland. In 2003, 23% of ICT users had a mobile phone, in 2011 the figure was at 85%, and in 2015, 90.5% of the surveyed. Between 2003 and 2015, the number of households owning a computer rose by 36.1 percentage points. Desktop computers are currently being replaced by laptops. In 2013 there was no considerable difference, with 49.3% owning laptops and 46.9% desk computers. However, in 2015 there were laptops in 59% of households, while 40% owned desktop computers (Batorski, 2015). According to data provided by the Public Opinion Research Centre (Centrum Badania Opinii Społecznej), almost two thirds of Poles are Internet users. Nearly all users have access to the Internet at home, but with the growing popularity of mobile devices, more and more people acquire a mobile Internet connection (Feliksiak, 2015). Internet use is strongly connected with owning a mobile phone. As many as 93% of smartphone owners use the Internet, while the figures for users of ordinary mobile phones and those who do not have a mobile phone are 52% and 8% respectively (Batorski, 2015). The presence of children has a significant impact on ownership of computers and Internet access. In 2014, there were computers in 68.2% of households "without children" and in 94.8% of households "with children", with the figures for Internet access at 65.2% and 94% respectively (GUS, 2014).

There are marked differences in access to information and communication technologies among Polish regions. The Pomorze province (*województwo*) leads the way with 85.4% households owning computers and 78.8% having broadband Internet access. In as many as nine provinces the percentage of computer owners is lower than the Polish average, i.e. 77.1%. Among provinces with the lowest level of broadband Internet access there are Lubuskie (63.3%), Warmia and Mazury (64,1%), Łódź (66%), Western Pomerania (66.5%) and Silesia (68.2%) (GUS, 2014).

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[3] Self-exclusion can be seen in such declarations as "this is not for me"; it is also connected with a dislike of changes and novelties, and the conviction that lifelong learning is not necessary (Batorski & Płoszaj, 2012).

Only 13.3% of the surveyed in 2011 did not use any new technologies, while 55% used a mobile phone, a computer and the Internet. The number of those using the three technologies rose by 28.4 percentage points between 2005 and 2011. By contrast, there are fewer and fewer households using landline telephones (Batorski, 2011).

Low level of digital skills

The notion of "digital skills" includes a range of skills connected with the use of modern technologies, and can be divided into two kinds: medium- and content-related. Medium-related skills include: operational (actions required to operate e.g. a computer) and formal skills (browsing and navigating). The content-related category includes: information (searching for, selecting, evaluating information), communication (mailing, contacting, creating online profiles, giving opinions), strategic (using technology as a means to achieve one's professional and personal objectives) and content-creation skills (editing content according to one's liking) (van Dijk, 2012).

Generally it can be observed that Poles have merely basic digital skills, such as: using a search engine (91.5%), copying or moving a file or folder (69.7%), using the copy, cut and paste commands (63.2%). As many as 63.9% of computer users could not use basic functions in a spreadsheet and 76.8% were not able to create an electronic presentation (Batorski, 2011). In 2014, 52.2% of people aged 12–15 and 49.5% of those aged 16–74 declared the ability to use basic mathematical functions in a spreadsheet, while 41.7% (12–15) and 29.7% (16–74) were able to create a multimedia presentation (GUS, 2014). In 2011, only 8.8% of users had specialist skills required to write a computer programme using a programming language (Batorski, 2011), while in 2014, 7.2% of people aged 12–15 and 7.6% of those aged 16–74 (GUS, 2014) had the necessary skills to do so. Activities performed on the Internet involve mainly communication skills such as: sending e-mails with attachments (72.7%), taking part in online chats and discussion forums (40.5%), and making phone calls via the Internet (44.5%)[4] (GUS, 2014).

Unfortunately, the low level of digital skills is connected with age. The survey conducted in 2012 as part of "Go-myLife"[5] application tests confirms that people over 60 find it difficult to use modern technologies. The elderly pointed to the following problems and

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[4] The presented data concern the surveyed aged 17–74.

[5] "Go-myLife" is an application for older people, its aim being "to enable and facilitate interaction with other people and to improve access to information. According to the objectives of the project, this should ultimately bring about an improvement in the quality of life of older people, thanks to the use of social media and new mobile technologies: smartphones, tablets, laptops and other devices" (Zielińska, 2015).

inconveniences: lack of a traditional printed version of the instruction manual, difficulty with remembering the meaning of particular buttons and icons, the requirement to have a login and password, the small size of the font, the small size of smartphone screens, technical problems connected with access to, and usage of, the platform and difficulties with understanding the language of new technologies (Zielińska, 2015).

Low level of ICT usage

The low level of use of opportunities offered by new technologies is related to knowledge and competences. A low level of digital skills implies less effective ways of using a computer, the Internet and other technologies such as smartphones or smart TV.

Work (33.8%) is the main purpose when using a computer. Nearly one in five people uses a computer for study and one in four for entertainment purposes (Batorski, 2007[6]). The Internet is mainly used in order to email (82%) and find information about goods and services (73.6%). Almost half of the surveyed used the Internet to do shopping and banking, find information about health, download and read newspapers and magazines and listen to the radio. One in four Internet users chooses e-administration services to look for information on public administration websites. Only 8.7% make use of the opportunities offered by the so-called digital space in order to use their files on various devices and in different places, easily share files with their friends and for safety reasons. Only about a dozen per cent of the surveyed use smartphones to email, check the weather forecast and keep a diary, while 14% can use the basic functions of Smart TV[7] (GUS, 2014).

Groups at risk of digital exclusion

Research suggests a positive connection between the use of modern information technologies and the economic growth and standard of living in Poland (Bujak, 2013). On the other hand, disproportions between the "information rich" and "information poor" are becoming more and more visible. In addition, dynamic changes in the use of technologies concern mainly the pace and not the range of new developments. This

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[6] The quoted data come from a 2007 survey since later research results concern computer skills (such as copying, moving folders) rather than reasons for the use of computers.

[7] This pertains to the services offered by a particular TV station.

is why the adage coined to describe globalisation processes, "the rich get richer and the poor get poorer" can also be applied here. In the context of new technologies, this means that there is a group of people who systematically invest in electronic devices and communication services, realising the benefits and advantages their use may bring. On the other hand, people who, for different reasons, have not used advanced technologies, put other needs at the top of the list, postponing the purchase of a computer, interface, and Internet access indefinitely. Consequently, the rapid development of social life will continue to lead to the marginalisation of some people who will not have a chance to keep up with the rest as a result of lack of access to new technologies or lack of ability to use them (Bujak, 2013).

Following Magdalena Szpunar, it is assumed that the "digitally excluded" are people of low material status, with some kind of disability, i.e. the deaf-mute, persons with eyesight or limb impairments, or those who are afraid of novelty and do not understand the principles of the information society (Szpunar, 2005).

Age is the most important variable determining the use of the Internet. Using the Web is particularly widespread among the young, aged 18 to 34, and a large majority of people aged 35 to 44. Over half of people aged 45 to 54 are Internet users, whereas among those aged 55 to 64 the figure is 40%, and over 65 years of age it drops to one in six (Feliksiak, 2015). In addition, as researchers point out, the situation does not hold out any prospect of improvement, since the fastest growth in the number of Internet users is still observed among young people. Education is another significant factor. In 2015, almost everybody with lower secondary (*gimnazjum*)[8] (94%) and higher (94%) education used the Web, while the figure for those with primary school education was only 18% (Feliksiak, 2015). Among those who did not use the Internet, 33.4% had primary school, and 39.4% vocational school education (Batorski, 2015). Research findings also prove that the smaller one's place of residence, the higher the chances of being "digitally excluded". In 2015, 43% of people living in rural areas did not use the Internet, while the figures were 34% for residents of towns under 20,000, 33% for towns up to 100,000, 27% for cities up to 200,000, 24% for cities up to 500,000 and 17.6% for residents of the largest cities, i.e. over 500,000. The level of income is also a factor affecting the use of new technologies. Well-to-do persons start to use the Internet earlier, but the relationship in this case is not as significant as in that of

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[8] This is because they are people in the middle of the educational process, students of higher secondary schools (*szkoły ponadgimnazjalne*).

age and education. Slightly more than a half of Poles with the lowest income were Internet users in 2015 (Batorski, 2015). Thus analysis of the latest research findings does not bear out Benjamin Barber's claim that "When profitability is the primary object, technological innovation is likely to reinforce extant inequalities, making the resource-and-income-poor information-poor" (Barber, 1995, p. 271). Interestingly, the size of the household also affects the use of modern technologies. As mentioned at the beginning of the article, it is predominantly married couples with children who own computers and use the Internet, while the category most threatened by digital exclusion includes mainly people living alone, particularly the elderly.

Social consequences

Undoubtedly, digital exclusion – as a new type of social exclusion emerging in the twenty-first century – is a phenomenon whose consequences can be seen in many areas of social life. The "digitally excluded" are consigned to a worse position on the European market as: employees,[9] since lack of digital skills diminishes their competitive edge; consumers, as lack of access to information leads to higher expenditure and lack of independence; and citizens, deprived of access to public services offered on the Web (Wasiak, 2013).

Research findings show that lack of interest in the Internet leads to a lower level of social capital of individuals who do not maintain online contacts. In addition, Internet activity implies a higher level of participation in social and cultural life. As many as 72% of Internet users and merely 36% of non-users take part in social meetings. The "digitally excluded" are less likely to vote in elections, which suggests a lower level of civil participation and awareness. The highest number of threats, however, can be observed in the sphere of work. People who do not use ICT have lower chances of finding or changing a job, or getting promotion in their current place of employment owing to lack of motivation or skills necessary to raise their qualifications (Batorski & Płoszaj, 2012). Undoubtedly the most serious consequence of digital exclusion is the fact that it leads to social exclusion. This is why it is essential to take measures in order to counteract this phenomenon, especially in highest risk areas.

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[9] "In the 25–40 age group, the number of people in employment is about 20 percentage points higher among Internet users than among non-users" (Batorski & Płoszaj, 2012, p. 25).

Counteracting digital exclusion in rural areas

In view of the rapid development of digitalisation of all areas of life and the complexity of the phenomenon of digital exclusion, the great challenge facing the central and local government as well as social organisations is how to include the groups threatened by exclusion in the community of those who fully use the opportunities offered by the Internet. This can be achieved by abolishing technological and psychological barriers, with the state having a decisive role to play by providing information, inspiration and support to other actors, such as the local government and social organisations (Stawicka, 2015).

Providing Internet access and the necessary training to people threatened by digital exclusion can serve as an example of measures taken by local government. The projects were co-funded by the European Regional Development Fund under the Operational Programme: Innovative Economy 2007–2013, Measure 8.3. "Counteracting digital exclusion: e-Inclusion", Priority Axis 8: Information society – increasing innovation of the economy (Stawicka, 2015).

Below, by way of illustration, I present selected examples of projects aiming to counteract digital exclusion, implemented in the rural areas of the Skierniewice district (*powiat*).[10] The district forms a part of the Łódź province, and comprises nine communes (*gmina*): Bolimów, Maków, Lipce Reymontowskie, Godzianów, Słupia, Głuchów, Kowiesy, Nowy Kawęczyn, Skierniewice. The Skierniewice district covers 755.11 square kilometres, and takes the thirteenth place in terms of size among the districts of the Łódź province. The nine communes have 38,600 residents.[11]

The following projects we implemented under the Operational Programme: Innovative Economy 2007–2013, Measure 8.3. "Counteracting digital exclusion: e-Inclusion", co-funded by the European Regional Development Fund: "Internet for the residents of the Bolimów commune: counteracting digital exclusion"; "Elimination of digital exclusion in the Kowiesy commune"; "Counteracting digital exclusion – e-Inclusion in the Maków commune"; "Alleviating the effects of digital exclusion in the Słupia commune". The combined expenditure involved was PLN 6,490,639.75. The projects primarily targeted residents of the above-mentioned communes who did not have the necessary devices and access to the Internet, and were in a difficult financial situation.[12] The main beneficiaries of the projects also included

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[10] The author of the article lives in the Skierniewice district, hence the choice of the area as the subject of the study.

[11] Source: "Plan rozwoju lokalnego powiatu skierniewickiego" [Local development plan for the Skierniewice district] (n.d.).

[12] This pertains both to residents and households.

the disabled, children and teenagers who achieved good results at school, people over 50 years of age, single parents and foster families. In accordance with the objectives of the projects, the beneficiaries were provided with the necessary computer hardware and software as well as broadband Internet access. They also took part in computer and Internet training sessions. In addition, the local councils also provided their subordinate institutions such as schools, social welfare centres (*Gminny Ośrodek Pomocy Społecznej*) and libraries with computers and Internet access. In all, twenty-one such institutions received support as part of the project.

The following projects were implemented in the district as part of the Łódź Regional Operational Programme 2007–2013, Priority Axis IV: Information Society, Measure IV.2: E- public services: The school of the future: "E-education as development opportunity for the Głuchów commune" and "E-education changes pupils, pupils change the Skierniewice commune". The combined expenditure was PLN 819,057. The projects were targeted at primary and lower secondary schools in the area, and their main aim was to even out the differences in the access to, and use of ICT, as well as to raise the level of ICT use. The support provided under the projects included: the purchase of 390 tablets with operating systems, network attached storage devices enabling the storage of files and creation of Wi-Fi networks, as well as a series of training sessions on how to use technology in the process of e-education.

To sum up, it must be noted that the implementation of projects counteracting digital exclusion in rural areas is becoming increasingly widespread. Every year more and more communes obtain funds for the purpose, with the grants provided by the European Union undoubtedly playing a crucial role.

Operational Programme Digital Poland 2014–2020: opportunities

The Operational Programme Digital Poland (OP DP) 2014–2020, which succeeds the Operational Programme Innovative Economy 2007–2013, offers grants for the implementation of projects counteracting or alleviating the results of digital exclusion. The programme was adopted by the Polish government on 8 January 2014 and approved by the European Commission on 5 December 2014. The authors of the programme, the Ministry of Administration and Digitisation and the Ministry of Infrastructure and Development, are committed

to close cooperation with partners from different areas of social and economic life, such as non-governmental organisations, local government and investors (Stawicka, 2015).

The main aims of the OP DP include: the construction, development and modernisation of networks providing fast broadband Internet access (over 30 Mb/s), the development of effective and user-friendly public e-services, opening up public resources and raising the level of digital competences of people threatened by digital exclusion. The objectives of the OP DP are to be implemented as part of three priority axes: priority axis I: Common access to high-speed Internet; priority axis II: E-government and open government; priority axis III: Digital competences of the society, and priority axis IV: Technical assistance. Projects implemented as part of the OP DP are targeted at government administration units, their subordinate units and the units they supervise, research units, state-supported cultural organisations, non-governmental organisations and companies. The combined expenditure is about 2 billion euros, with 880 million euros to be devoted to the development of broadband Internet networks and e-administration.[13]

The OP DP is complementary with strategic documents at the level of the European Union (e.g. Europe 2020, European Digital Agenda) and Poland, e.g. Polish National Development Strategy 2020 and Effective State Strategy 2020, particularly its implementing documents: the National Integrated Informatisation Programme and the National Broadband Plan (Hołubowicz, 2013).

Conclusion

As follows from the research findings presented in the article, it is the low level of digital skills, ineffective use of modern technologies and lack of motivation rather than lack of access that are the main reasons for the underdevelopment of the information society in Poland and the problem of digital exclusion. It is thus essential that local actors (local government, entrepreneurs, non-governmental organisations) engage in joint initiatives and promote educational activities in order to raise the level of digital skills necessary to use ICT effectively.

Translated by Maria Fengler and Piotr Styk

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[13] Source: "Polska Cyfrowa" [Digital Poland] (n.d.).

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Digital exclusion: definitions, causes, countermeasures

The aim of the article is to present forms of digital exclusion. The article defines digital exclusion and identifies the main causes and social consequences of the phenomenon. Describing the ways of counteracting digital exclusion, the author refers to the Operational Programme Digital Poland for 2014–2020. In addition, the author presents the results of her analysis of measures taken to prevent digital exclusion in rural areas.

Keywords:
digital exclusion, ICT, access, digital skills

Digital exclusion – definicje, przyczyny, przeciwdziałanie

Celem niniejszego artykułu jest przedstawienie zjawiska wykluczenia cyfrowego. W artykule omówiono, czym jest wykluczenie cyfrowe, wskazano główne przyczyny oraz społeczne konsekwencje zjawiska. Określając sposoby przeciwdziałania wykluczeniu cyfrowemu, autorka odwołuje się do Programu Operacyjnego Polska Cyfrowa. Ponadto autorka przedstawia wyniki wykonanej przez siebie analizy dotyczącej przeciwdziałania wykluczeniu cyfrowemu na obszarach wiejskich.

Słowa kluczowe:
wykluczenie cyfrowe, technologie informacyjno-komunikacyjne, dostęp, umiejętności cyfrowe