



# THE PROBLEM OF DIGITAL DIVIDE OF SENIORS IN MANAGEMENT OF MUNICIPAL HOUSING STOCK

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Abstract: The development of information technologies has led to the fact that digital skills are not just an option for the willing but a necessity for everyone. The pressure exerted on the computerization of business and legal transactions raises an important problem for entities managing municipal housing resources, which must combine the requirements of computerization of management processes with the digital capabilities of their clients. The purpose of this article is to describe the gap in the digital abilities of tenants of municipal premises, in particular seniors, as well as its consequences, resulting in exclusion of this group of tenants from the possibility of using the services offered to them. The article discusses the findings of the study carried out by ZGM TBS Sp. z o.o. (i.e. Department of Housing Management, Social Housing Association in Czestochowa LLC) in Czestochowa in terms of using new technologies by the seniors of Czestochowa. The study has confirmed that a significant proportion of seniors does not have appropriate tools in this area. At the same time, the study has shown that seniors are motivated to use new technologies in connection with renting premises. The conclusion was that effective implementation of information technologies in the area of tenant service is closely related to educational activities in the area of raising the digital skills of seniors.

Keywords: digital divide/digital exclusion, municipal housing stock, public tasks, seniors, the elderly

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### Introduction

The municipality is the basic unit of local self-government. The role of the municipality comes down to implementing the tasks of a public utility character. Its main obligation is to satisfy the collective needs of its residents (Nalepka 2008, p. 5). One of the basic tasks of the municipality is to meet the housing needs of the local community. In Art. 75 (1) of the Constitution of the Republic of Poland of 2 April, 1997 it is stipulated that public authorities pursue policies that are conducive to satisfying the housing needs of their citizens, in particular they prevent homelessness, support the development of social housing and support the actions of citizens aimed at obtaining their own apartment. On the other hand, Art. 163 of the Constitution or statutes for the organs of other public authorities. In Art. 164 (3) of the Constitution, however, it is stipulated that the municipality carries out all the tasks of the local self-government not reserved for other units of the local self-government.

The municipality's competence in terms of satisfying the housing needs of the commune has also been reserved in ordinary legislation. Namely, in Art. 7 (1) (7) of the Law of 8 March 1990 on municipal self-government, satisfying the collective needs of the community belongs the tasks of the municipality, in particular these tasks include the issues of municipal housing construction. Moreover, in Art. 4 of the Law of 21 June, 2001 on the protection of the rights of tenants, municipal housing stock and amending the Civil Code, the legislator predicted that creating conditions to meet the housing needs of the local community belongs to the municipality's own tasks (Sec. 1), and the municipality, under the rules and in cases provided for in the Law, provides social and substitute housing, and satisfies the housing needs of low-income households (Sec. 2).

With regard to the aforementioned statutory regulation in the literature, it is rightly pointed out that the municipality is one of those entities whose constitutional obligation is to improve the housing situation of the local community (Doliwa 2015).

In addition to the tasks concerning the fulfillment of housing needs, a number of other public tasks rests on local government units at the municipal level. An example of their catalog was indicated by the legislator in Art. 7 (1) of the Law on municipal self-government.

In the context of this article, it is also necessary to mention the activity of the municipality, as provided for by the legislator, in terms of promoting intergenerational solidarity and creating conditions to stimulate civil activity of the elderly within the local community (Art. 5c (1) of the Law on municipal self-government).

#### Management of the municipal housing stock

According to Art. 20 (1) of the law on the protection of the rights of tenants, the municipality can create and own the housing stock in order to perform tasks to satisfy the housing needs of the local community. What is more, in Sec. 2a of the quoted legal article, it is stipulated that in order to implement these sentences, the municipality may also rent premises from other owners and sub-rent them to people whose households achieve a low income. Owning the housing stock is therefore aimed at enabling municipalities to perform their own tasks. The stock includes premises owned by municipalities, municipal companies (excluding Social Housing Associations) and, moreover, premises that are in the sole possession of the indicated entities (Nalepka 2005, p. 65). In addition, it should be pointed out that the indicated regulation is in a sense an authorization for municipalities to undertake substantive and legal actions, aimed at acquiring property or spontaneous possession of new premises (Doliwa 2015).

With the housing stock at its disposal, the municipality should take appropriate actions in terms of running and managing this stock so that the tasks that within its responsibilities it are implemented in the best possible way. According to Art. 25 (2) in connection with Art. 23 (1) of the Law of 21 August, 1997 on real estate management, activities in the area of managing the housing stock of the commune

include, among others, proper registration of real estate, securing real estate against damage or devastation, appropriate disposal and acquisition of real estate, leasing and renting real estate, drawing up plans to use the resource, making divisions and consolidations and dividing real estate, as well as equipping it, as much as possible, with the necessary technical infrastructure devices (Sowier-Kasprzyk, Chrzan, Pietrasieński, Surowiec 2017, p. 203). The obligation to manage the communal real estate resource rests on the head of the commune/mayor of the city.

Municipal real estate management may be conducted using various management models. The three basic models of municipal property management are commonly distinguished (Nalepka 2008, p. 6):

- 1. direct management carried out by municipal authorities and employees of the commune office,
- 2. indirect management performed by organizational units of the commune (e.g. budgetary units) or municipal legal entities (so-called municipal companies),

order – management carried out by an external entity on the basis of a management contract. The management of the municipal housing stock is also influenced by its environment. This environment influences the resource through political, socio-demographic, economic and financial as well as technical and legal factors (Sikora--Fernandez 2010, p. 190).

With regard to the responsibilities of the commune in terms of managing its housing stock, in addition to the above-mentioned technical activities aimed at securing the premises against damage, or typical administration and accounting activities, one cannot overlook the number of other aspects connected with this management (Skowron-Grabowska, Mesjasz-Lech 2016, p. 23). It is assumed that the use of municipal real estate is not intended solely to implement public tasks. The commune's activity in this area should also serve to implement the local strategy connected with socio-economic development (Małkowska 2010, p. 77). The municipality, as the basic unit of territorial self-government, encounters problems of the inhabitants such as social exclusion, unemployment or poverty (Baskiewicz 2017, p. 42). One of the aspects of public activity is to counteract those phenomena which, along with crime and addictions, are related to the security of tenants' premises (Fehér, Teller 2016).

An example of the commune's activities in the management of its housing stock, also aimed at socio-economic development, is for instance seen in different kinds of debt relief programs. Their aim is to aid people in a difficult life and financial situation to repay debt due to rent payments, and consequently, to help them escape the whirlwind of indebtedness. At the same time, these activities are aimed at increasing self-esteem, integration with the environment and increasing the professional activity of the indebted. These objectives should be implemented by the municipality while taking into account the costs it incurs in order to maintain the housing stock. Proper debt management within the framework of managing the housing stock is of crucial importance. Socio-economic development is also determined by the actions of the commune as part of the tenants' participation in management of the housing stock. This participation is aimed at enabling the tenants to influence the management of the stock, which results in the cooperation

and integration of residents, improvement of social ties, or mobilization in terms of caring for the inhabited properties. Tenants may thus exert a real influence on decisions concerning the real estate that is inhabited by them.

The aforementioned examples of activities in the management of the housing stock have been undertaken particularly by the administrator of the housing stock of the Municipality of Czestochowa – Zakład Gospodarki Mieszkaniowej Towarzystwo Budownictwa Społecznego w Częstochowie Sp. z o.o. (i.e. the Department of Housing Management, Social Housing Association in Czestochowa LLC, hereinafter referred to as: ZGM TBS Sp. z o.o.) (Dziadkiewicz, Pabian 2017; Dziadkiewicz, Cichowski 2017).

# Digital exclusion of seniors in the management of the municipal housing stock

The tenants of the commune's housing stock are people with a diverse demographic structure. Importantly, a significant part of municipal premises is inhabited by elderly people. As a consequence, the problem of the digital divide of seniors is becoming increasingly more important in managing the municipal housing stock.

The development of new information technologies, and particularly an increase in the use of the Internet has transferred many aspects of private and public life to the digital space. They are used, among others, as the place of work, education and entertainment. Moreover, they are widely used for communication purposes (Szmigielska, Bąk, Hołda 2012, p. 141; Bogdanov 2013, p. 362; Stawicka 2015, p. 3). They can also serve to monitor health problems (Iancu, Iancu 2017, p. 11).

In connection with the above, it becomes obvious to have skills in terms of using the computer and mobile devices which allow one to use the Internet. The lack of this kind of skills makes many aspects of everyday life difficult (Kuchta 2013, p. 165). These skills are not a facilitation but rather a necessary condition for one's active participation in professional, social and cultural life (Stawicka 2015, p. 3).

The development of modern information technologies has led to social stratification of people into those who use the discussed technologies and Internet resources and those who do not use them. In the case of the second group of people, this phenomenon may consequently lead to economic and social exclusion, as well as to the deepening of social divisions. This phenomenon is referred to as digital exclusion or digital divide (Bogdanov 2013, p. 3; Szmigielska, Bąk, Hołda 2012, p. 142; Kuchta 2013, p. 169).

The elderly - seniors are indicated among those particularly subjected to digital exclusion. It should be stressed in here that the boundary between mature age and old age has not been precisely defined. There are different approaches when it comes to recognizing a certain age as the beginning of old age. In addition, the stages of old age – early old age, late old age and ripe old age - are also differentiated (Kuchta 2013, pp. 166-167). For the purpose of this article, it is assumed that seniors are people over 60 years of age.

The literature draws attention to the existence of degrees of digital divide – physical access (no possibility to use a computer etc.), competence access (lack of knowledge, skills and competences in using new technologies) and motivational access (Bednarczyk 2014, p. 2). The digital exclusion of seniors is also influenced by factors such as education, technical interests, gender, state of health, income or marital status. They are classified respectively as factors at an individual level and economic-context factors (Friemel 2014, p. 5). With regard to obtaining knowledge in the use of new technologies by seniors, it is indicated that this process is hindered due to the weakened perception process of the elderly, focusing attention or memorizing. The specificity of modern websites which use, among others, diverse embellishments or advertisements, and which make these sites illegible for seniors is also emphasized (Bogdanov 2013, p. 368). It is also pointed out that computer systems are not being designed in a friendly way for seniors (McMurtrey, McGaughey, Downey 2008, p. 132; Paul, Stegbauer 2005).

The development of modern information technologies becomes increasingly significant in management of the municipal housing stock. Examples might be found in say electronic access to tenant accounts, electronic correspondence, making rent transfers or even in various kinds of mobile applications. As a consequence, due to the diverse demographic structure of the housing resource and the fact that elderly people inhabit it, real estate managers are increasingly facing the problem of digital divide.

## Seniors living in the premises managed by ZGM TBS Sp. z o.o. in Czestochowa and their digital activity

The Department of Housing Management, Social Housing Association in Czestochowa LLC, i.e. Zakład Gospodarki Mieszkaniowej Towarzystwo Budownictwa Społecznego w Częstochowie Spółka z o.o. (hereinafter: ZGM TBS Sp. z o.o. in Czestochowa), the administrator of the housing stock of the Municipality of Czestochowa conducted a study in 2018 to analyze the digital activity of seniors who live in the premises managed by it. The study was justified by the actions of the aforementioned entity aimed at using modern technologies in its stock management, while taking into account the interests of Czestochowa seniors, increasing their social integration and counteracting social exclusion, including digital exclusion. The research was of a qualitative character. It covered a population of approximately 8,500 people who are tenants of municipal premises. 300 subjects were examined in the defined population, of which 56 people were over 60 years of age and consequently, were considered as seniors. The research was conducted in the form of a survey. The questions included in the survey concerned issues related to, among others, seniors using tools that enable use of the Internet, access to the Internet, activities undertaken by seniors using modern technologies and the Internet.

The conducted study revealed that only 37.50% of seniors living in the housing stock managed by ZGM TBS Sp. z o.o. in Czestochowa have a computer in their

households. Thus, as many as 62.50% of seniors do not own a computer (*Figure 1*), by mean of which they might be able to use the Internet.



Figure 1. Having a computer in households of Czestochowa seniors living in housing stock managed by ZGM TBS Sp. z o.o. in Czestochowa

Source: Author's own compilation, based on research carried out by ZGM TBS Sp. z o.o. in Czestochowa

The conducted study also revealed similar results in the percentage of Czestochowa seniors who have a mobile phone that provides them with access to the Internet (*Figure 2*). This kind of device is owned by 39.3% of all the respondents, whereas 60.7% of the subjects do not have one.



Sp. z o.o. in Czestochowa

Source: Author's own compilation, based on research carried out by ZGM TBS Sp. z o.o. in Czestochowa

Czestochowa seniors also commented on the frequency of using the Internet (*Figure 3*). Nearly 20% of them regularly use the Internet. The same proportion of the subjects use the Internet every day or almost every day. In turn, 14.6% use it at least once a week. On the other hand, 7.3% of seniors use the Internet less than

once a week, and the same percentage use it only a few times a month. At the same time, almost half of the surveyed people (43.9%) declared that they did not use the Internet.



Figure 3. Frequency of using Internet among Czestochowa seniors living in stock managed by ZGM TBS Sp. z o.o. in Czestochowa

Source: Author's own compilation, based on research carried out by ZGM TBS Sp. z o.o. in Czestochowa

It might be added that the most frequent forms of activity of Czestochowa seniors on the Internet include browsing websites, checking weather forecasts and atmospheric conditions, as well as searching for information.





Source: Author's own compilation, based on research carried out by ZGM TBS Sp. z o.o. in Czestochowa

The conducted survey was also aimed at verifying Czestochowa seniors' opinions in terms of the influence of the Internet on facilitating their lives (*Figure 4*). Almost 41.1% of the subjects indicated that the Internet made their lives easier. On the other hand, 58.9% said that the Internet did not exert such influence. However, one cannot overlook the fact that the percentage of individual answers coincides with the responses on having a computer and a mobile phone that provide access to the Internet. Therefore, it seems that the lack of influence of the Internet on one's life might have been indicated by those people who do not use it on a daily basis, particularly due to not having appropriate electronic tools in this area.

In the conducted study, ZGM TBS Sp. z o.o. in Czestochowa also took into account the matter of Czestochowa seniors' interest in receiving SMS notifications concerning the residential premises (*Figure 5*). A significant proportion of seniors, i.e. as many as 67.4%, indicated that they were interested in receiving SMS notifications which would be related to the premises. However, the lack of interest in receiving this kind of notifications was indicated by 32.6% of the respondents.



Figure 5. Interest of Czestochowa seniors living in stock managed by ZGM TBS Sp. z o.o. in Czestochowa in terms of receiving SMS notifications on residential premises

Source: Author's own compilation, based on research carried out by ZGM TBS Sp. z o.o. in Czestochowa

*Figure 6* illustrates the results of the study in the part referring to the seniors' interest in terms of ZGM TBS Sp. z o.o. implementing solutions based on web applications (*Figure 6*). 57.1% of the respondents declared interest when it comes to implementing this kind of application, whereas 42.9% lack such interest.



Figure 6. Interest of Czestochowa seniors living in stock managed by ZGM TBS Sp. z o.o. in Czestochowa in terms of implementing solutions based on web applications

Source: Author's own compilation, based on research carried out by ZGM TBS Sp. z o.o. in Czestochowa

Importantly, the seniors participating in the study also indicated for what purpose they would like to use new technologies implemented by ZGM TBS Sp. z o.o. The most popular are solutions which allow them to make payments, submit documents, receive answers to inquiries or report failures. Additionally, the seniors indicated obtaining information about local issues as well as obtaining information on initiatives undertaken by ZGM TBS Sp. z o.o.

It should also be emphasized that more than half of the Czestochowa seniors living in the housing stock managed by ZGM TBS Sp. z o.o. (53.2%) declared they were interested in developing competences in the use of the Internet (*Figure 7*). However, the remaining part (46.8%) did not declare interest in this respect.



Sp. z o.o. in Czestochowa in terms of developing competence in use of Internet

Source: Author's own compilation, based on research carried out by ZGM TBS Sp. z o.o. in Czestochowa

#### Conclusions

The development of modern information technologies undoubtedly affects the management of municipal housing stock and the situation of the tenants of this stock. The use of various applications and other solutions by administrators in the course of managing the housing stock undeniably exerts the greatest influence on the situation of seniors. This group faces the problem of digital exclusion to the greatest extent.

The trends and reasons for the digital divide of seniors were confirmed by the study carried out by ZGM TBS Sp. z o.o. in Czestochowa. It results from the findings that a significant part of Czestochowa seniors living in the housing stock managed by this company does not have a computer in their household, or even a telephone that enables them to use the Internet. Regular use of the Internet was declared by only 1/5 of the people participating in the study.

It is important, however, that the seniors from Czestochowa declare their willingness to develop their competences in terms of using the Internet. Furthermore, they show interest in the implementation of solutions based on web applications or in SMS notifications within the scope related to the housing stock.

Thus, it seems that in case of the elderly who live in the resources managed by ZGM TBS Sp. z o.o., the main factor affecting the digital activity of seniors is the difficulty connected with access to appropriate devices. On the other hand, psychological and motivational issues are of a lesser importance.

Administrators of municipal housing resources, as part of executing their duties, should undertake appropriate initiatives in terms of implementing modern technologies, including internet applications. At the same time, they should take into account the problem of the digital divide of seniors in managing the housing stock. Consequently, in order to meet the expectations of seniors, organizing appropriate actions that would be aimed at informing seniors about modern technological solutions and the ways of using them is well grounded.

Adopting the above solutions will undoubtedly influence a decline in the number of seniors affected by the problem of digital exclusion, as well as improvement of the quality of seniors' lives in the area related to housing and their private life, particularly by facilitating access to information, communication or dealing with official matters (even as part of so-called e-administration). At the same time, it will also have a positive effect in terms of the efficiency of housing management. With the help of the above-mentioned solutions, tenants can even be reminded about the necessity to pay their rent. Moreover, by using these solutions, it is possible to reach seniors with various types of information campaigns, also in terms of their safety and threats that seniors might face every day.

The activities indicated above were undertaken by ZGM TBS Sp. z o.o. in Czestochowa and the Municipality of Czestochowa. These entities, in particular, use the appropriate application whose aim is, among others, to inform residents about matters directly related to management of the housing stock or about information in the field of safety, health, culture etc. What is important, the actions

of ZGM TBS Sp. z o.o. in Czestochowa also take into consideration the problems and needs of Czestochowa seniors.

At the same time, it should be emphasized that these actions simultaneously have effects in terms of promoting intergenerational solidarity and creating conditions to stimulate civic activity of the elderly in the local community. The tasks in this area, as mentioned above, rest on the commune, which is the disposer of the housing stock.

#### References

- Baskiewicz N. (2017), External Conditions and Implementation of the Lean Management Concept in the Enterprise, "Zeszyty Naukowe Politechniki Częstochowskiej. Zarządzanie", nr 27, t. 1. DOI: 10.17512/znpcz.2017.3.1.03.
- Bednarczyk D. (2014), Przeciwdziałanie cyfrowemu wykluczeniu (e-integracja) w Polsce. Gromadzenie i zabezpieczanie danych cyfrowych. Badania, teorie, opinie (e-Inclusion in Poland, or Countering Digital Divide), "Biuletyn EBIB", nr 9(154).
- 3. Bogdanov D. (2013), Institutional Counteraction to Digital Divide of Selected Social Groups, "Public Management", Vol. 4(24).
- Constitution of the Republic of Poland of 2 April 1997 (Journal of Laws of 1997 no. 78 item 483).
- 5. Doliwa A. (2015), Prawo mieszkaniowe. Komentarz, C.H. Beck, Warszawa.
- Dziadkiewicz M., Cichowski P. (2017), Electronic Search Engine for Housing Exchange as a Tool in the Management of the Municipal Housing Stock, "Informatyka Ekonomiczna / Business Informatics", nr 2(44). DOI: 10.15611/ie.2017.2.04.
- 7. Dziadkiewicz M., Pabian A. (2017), Program miękkiej windykacji w zarządzaniu gminnym zasobem mieszkaniowym, "Przegląd Organizacji", nr 12(935).
- Fehér B., Teller N. (2016), An Emerging Research Strand: Housing Exclusion in Central and South East Europe, "European Journal of Homelessness", Vol. 10, No. 3.
- Friemel T.N. (2014), The Digital Divide Has Grown Old: Determinants of a Digital Divide Among Seniors, "New Media & Society", Vol. 18, Iss. 2. DOI: 10.1177/1461444814538648.
- Iancu I., Iancu B. (2017), Elderly in the Digital Era. Theoretical Perspectives on Assistive Technologies, "Technologies", Vol. 5, Iss. 3. DOI: 10.3390/technologies5030060.
- Kuchta J. (2013), Seniorzy online czy offline? O wykluczeniu cyfrowym starszego pokolenia, "Studia Kulturoznawcze", nr 2(4).
- 12. Małkowska A. (2010), *Ekonomiczne efekty gospodarowania nieruchomościami gmin*, "Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie", nr 822.
- McMurtrey M.E., McGaughey R.E., Downey J.R. (2008), Seniors and Information Technology: Are We Shrinking the Digital Divide?, "Journal of International Technology and Information Management", Vol. 17, Iss. 2.
- 14. Nalepka A. (2005), Zarządzanie zasobem nieruchomości mieszkaniowych. Aspekt organizacyjny, "Problemy Rozwoju Miast", nr 2/1-2.
- 15. Nalepka A. (2008), *Management Systems of Villages Real Estate Asset*, "Świat Nieruchomości", nr 64.
- 16. Paul G., Stegbauer Ch. (2005), Is the Digital Divide between Young and Elderly People Increasing?, "First Monday", Vol. 10, No. 10. DOI: 10.5210/fm.v10i10.1286.
- Sikora-Fernandez D. (2010), Identyfikacja ograniczeń w efektywnym zarządzaniu komunalnymi zasobami mieszkaniowymi w Łodzi – propozycje zmian, "Acta Universitatis Lodziensis. Folia Oeconomica", nr 243.
- 18. Skowron-Grabowska B., Mesjasz-Lech A. (2016), Konkurencyjne uwarunkowania zarządzania zasobami kadrowymi w przedsiębiorstwach w kontekście dostępu do rynku pracy, "Przegląd Organizacji", nr 10.

- Sowier-Kasprzyk I., Chrzan E., Pietrasieński P., Surowiec A. (2017), Management of the Territorial Unit in the Aspect of Sustainable Development and Social Economy, "Zeszyty Naukowe Politechniki Częstochowskiej. Zarządzanie", nr 27, t. 1. DOI: 10.17512/znpcz. 2017.3.1.17.
- 20. Stawicka A. (2015), *Wykluczenie cyfrowe w Polsce*, Opracowania Tematyczne OT-637, Biuro Analiz i Dokumentacji, Kancelaria Senatu, Warszawa.
- 21. Szmigielska B., Bąk A., Hołda M. (2012), Seniorzy jako użytkownicy Internetu, "Nauka", nr 2.
- 22. The Law of 21 June 2001 on the protection of the right of tenants, municipal housing stock and on amending the Civil Code (Journal of Laws of 2018 item 1234).
- 23. The Law of 21 August 1997 on real estate management (Journal of Laws of 2018 item 121).
- 24. The Law of 8 March 1990 on local government (Journal of Laws of 2018 item 994).

# PROBLEM WYKLUCZENIA CYFROWEGO SENIORÓW W ZARZĄDZANIU KOMULANYM ZASOBEM MIESZKANIOWYM

Streszczenie: Rozwój technologii informatycznych spowodował, iż umiejętności cyfrowe nie są tylko opcją dla chętnych, ale koniecznością dla wszystkich. Presja wywierana na informatyzację obrotu gospodarczego i prawnego rodzi ważny problem dla podmiotów zarządzających komunalnymi zasobami mieszkaniowymi, które muszą połączyć wymogi informatyzacji procesów zarządczych ze zdolnościami cyfrowymi swoich klientów. Celem niniejszego artykułu jest opisanie luki w zdolnościach cyfrowych najemców lokali komunalnych, w szczególności seniorów, a także jej konsekwencji skutkujących wykluczeniem tej grupy najemców z możliwości używania oferowanych im usług. Wartykule omówiono wyniki badań przeprowadzonych przez ZGM TBS Sp. z o.o. w Częstochowie w zakresie wykorzystania nowych technologii przez częstochowskich seniorów. Badanie potwierdziło, iż znaczna część seniorów nie dysponuje w tym zakresie odpowiednimi narzędziami. Badanie wykazało jednocześnie, iż seniorzy zmotywowani sa do korzystania z nowych technologii w związku z najmem lokali. W konkluzji ustalono, iż skuteczna implementacja technologii informatycznych w płaszczyźnie obsługi najemców jest ściśle powiązana z działaniami edukacyjnymi w zakresie podnoszenia umiejętności cyfrowych seniorów.

Slowa kluczowe: wykluczenie cyfrowe, osoby starsze, seniorzy, komunalny zasób mieszkaniowy, zadania publiczne