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## **ELECTRONIC SEARCH ENGINE FOR HOUSING EXCHANGE AS A TOOL IN THE MANAGEMENT OF THE MUNICIPAL HOUSING STOCK**

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### **ELEKTRONICZNA WYSZUKIWARKA ZMIANY MIESZKAŃ JAKO NARZĘDZIE W ZARZĄDZANIU MIESZKANIOWYM ZASOBEM GMINY**

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**Summary:** The article is devoted to the problem of using information technologies in the management of the municipal housing stock. In particular the impact of the use of these technologies on the effectiveness of the recovery of overdue municipal receivables due to the lease of communal premises and the improvement in the living and financial situation of the tenants was analyzed. In order to demonstrate the practical use of information technologies in managing the municipal housing stock and their effectiveness in the aforementioned area, the example of the electronic search engine for exchanging apartments, which was launched by the Department of Housing Management Social Housing Association in Czestochowa LLC (ZGM TBS Sp. z o.o.), was used. The article also discusses the influence of the search engine on credit management of the Municipality of Czestochowa and on the effectiveness of using its housing stock, as well as using the engine as a tool in debt relief programs for the tenants. In addition to the indicated issues, the article characterizes the systemic status of municipalities and their tasks in the management of their housing stock, as well as in meeting the housing needs of the local community. The main purpose of the article is to indicate the positive influence of the applied technologies on debt restructuring and on increasing the subjectivity and individuality of tenants.

**Keywords:** information technologies, management of the municipal housing stock, credit management.

**Streszczenie:** Artykuł poświęcono problematyce wykorzystania technologii informatycznych w zarządzaniu mieszkaniowymi zasobami gmin. Analizie poddano wpływ wykorzystania tychże technologii na efektywność ściągłości zaległych należności gmin z tytułu najmu lokali komunalnych oraz na poprawę sytuacji życiowej i materialnej najemców zasobów. W celu przedstawienia praktycznego wykorzystania technologii informatycznych w zarządzaniu mieszkaniowymi zasobami gmin i ich efektywności we wskazanym zakresie posłużono się przykładem elektronicznej wyszukiwarki zamiany mieszkań, która uruchomiona została

przez Zakład Gospodarki Mieszkaniowej TBS Sp. z o.o. w Częstochowie. Omówiono wpływ wyszukiwarki na zarządzanie wierzytelnościami gminy Częstochowa i na efektywność wykorzystania jej zasobu mieszkaniowego, a także wykorzystanie wyszukiwarki jako narzędzia w programach oddłużeniowych dla lokatorów. W artykule scharakteryzowano też pozycję ustrojową gmin oraz ich zadania w zakresie gospodarki zasobami mieszkaniowymi, jak również w zakresie zaspokajania potrzeb mieszkaniowych wspólnoty samorządowej. Głównym celem artykułu jest wskazanie pozytywnego wpływu stosowanych technologii na restrukturyzację zadłużenia i na zwiększenie podmiotowości i indywidualności najemców.

**Słowa kluczowe:** zarządzanie mieszkaniowym zasobem gminy, zarządzanie wierzytelnościami, technologie informatyczne.

## 1. Introduction

Local government units at municipal level were set up in order to implement a number of the so-called public tasks which are related to meeting the needs of the local community. One such task is to satisfy the housing needs of that community. The realization of this task, bearing in mind its character and significance to the residents, is undoubtedly one of the most important commitments of these units.

In order to implement public tasks that are given to municipalities, these units undertake a number of actions provided for by law. Currently an increasing number of such actions is based on using information technologies [Kadłubek 2015; Łęgowik-Świącik et al. 2016].

In pointing out the fact that municipalities are established to implement public tasks, it should be mentioned that their activity is not focused on earning income. However, considering the costs related to the implementation of those tasks, municipalities should take appropriate measures to recover their receivables, and thus rationally and properly manage their receivables. An example of the receivables of municipalities which they should try to recover as part of their activity are undoubtedly rent receivables for occupying premises that belong to their housing stock.

The purpose of this article is to present the issues of using information technology in the actions of municipalities, undertaken in terms of managing the municipal housing stock and managing their rent receivables.

## 2. The tasks of municipalities with regard to meeting the housing needs of the inhabitants

The basic legal act which regulates the systemic status of municipalities and determines their tasks is the law of 8 March 1990 on local government (i.e. Dz.U. (The Journal of Laws of the Republic of Poland) of 2016 item 446, as amended). According to the regulation of art. 2 of this law, municipalities have a legal personality and perform public tasks on their own behalf and at their own risk. The number of

cases in which municipalities possess suitability and competence to act is large, because according to art. 6 item 1 of the law, the scope of actions of the municipality includes all public affairs of local importance not reserved by laws for other entities. The tasks given to municipalities are not only the object of interest of legal sciences, but also of economic sciences, including management [Dębski 2006, p. 326].

An example of the scope of cases in which the municipality has jurisdiction to act was defined by the legislator in art. 7 of the law on local government. It follows from the aforementioned provision that the municipality has the right to perform tasks in the field of municipal construction. On the other hand, further rights and obligations of municipalities in this area were regulated in the law of 7 July 1994 – Building code (i.e. Dz.U. of 2016, item 290, as amended), the law of 20 December 1996 on the municipal economy (i.e. Dz.U. of 2017, item 827, as amended) and in the law of 21 June 2001 on the protection of the rights of tenants, municipal housing stock and on amending the Civil Code (i.e. Dz.U. of 2016, item 1610, as amended; hereinafter: the law on the protection of the rights of tenants) [Hauser, Niewiadomski 2011]. Due to the size of this article, the last of the quoted regulations will be analyzed within the discussed scope.

According to art. 4 of the law on the protection of the rights of tenants, own tasks of the municipality include the creation of conditions to meet the housing needs of the local community. The municipality, under the rules and in cases provided for in the law, provides social and substitute housing, but also meets the housing needs of households with a low income. The municipality performs these tasks by means of using the municipal housing stock or in some other way. However, 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 the tasks mentioned in art. 4. This provision provides for the authorization of the municipality to undertake any actual and legal actions that might lead to the acquisition of properties or the spontaneous possession of new premises by these units [Doliwa 2015]. In cases where the municipality creates or owns its housing stock, it is obliged to do it only in order to create conditions to meet the housing needs of the local community or to provide social and substitute housing in certain cases and under the rules provided for in the law, as well as to satisfy the housing needs of low income households. The autonomy of the discussed entities in managing their property is of considerable significance in this respect [Gilowska 1998, p. 164]. It is also pointed out that the active management of the municipal real estate does not merely use those properties to carry out public tasks, but it is also used to implement a local strategy towards the socio-economic development [Małkowska 2010, p. 77].

It should also be mentioned here that the management of the housing stock of the municipality may take place in one of the three forms provided for by law – managing the stock by the staff of the municipal office, managing the stock through municipal organizational units (including municipal companies), or even entrusting a private operator with it [Pawlik 2008].

### **3. Housing stock of the municipality as a source of its income**

The municipal housing stock, created, owned and managed by municipalities in order to perform public tasks provided for in art. 4 of the law on the protection of the rights of tenants, are premises owned by the municipality, municipal legal persons or commercial companies established with the share of the municipality, except for social housing associations, as well as premises which remain in the autonomous possession of these entities [Doliwa 2015].

Premises which constitute the housing stock of the municipality are subject to rent as provided for in the law on the protection of the rights of tenants, on municipal housing stock and on amending the Civil Code and in acts of the local law in the form of resolutions of bodies owned by municipalities. The rent is for a local community group which is unable to rent a flat on the secondary market, or cannot purchase it or build it [Brendzel-Skowera 2012]. Consequently, the function of dwellings included in the aforementioned stock is to give help to residents with a low standard of living, which does not absolve the municipality from the responsibility to seek income from this title [Sikora-Fernandez 2010].

As already mentioned in the introduction to this article, the source of income of the municipality from renting premises belonging to its housing stock is rental fees paid periodically by tenants, as well as compensation for the non-contractual use of the premises in case of occupying the premises in spite of not being entitled to it. Failure to pay those fees by residents of the communal premises leads to the actual reduction of revenue to the commune budget. As a consequence this reduces the pool of funds available to the municipality, which is used to carry out its public tasks, and in particular to maintain the residential resources of the municipality. Expenditure incurred by the municipality for the latter purpose can be divided into current expenditure, i.e. covering the exploitation of buildings (such as insurance, maintenance of green areas) or current repairs and capital expenditure – e.g. renovation of buildings, creating new housing [Nowak 2011, p. 20].

Due to the fact that communal premises are designed especially for people in a difficult life and financial situation who are affected by the problem of social exclusion and marginalization and are unable to overcome the situation on their own – failure to pay the rent in due time or failure to pay it at all is quite a common situation.

### **4. Actions of municipalities in terms of debt elimination**

Bearing in mind the aforementioned considerations, local government units at municipal level are forced to take such measures and to use such instruments of rent arrears management that will ensure the optimum efficiency of debt collection and, at the same time, will be adjusted to the situation of the indebted tenants and persons who occupy communal premises without legal title. Undoubtedly, tools of social

economy that allow to reduce the negative effects of social exclusion and marginalization of the indebted will find a use in this field. It should also be mentioned here that a fixed amount of rent also affects the effectiveness of the management of the municipal housing stock, as well as the management of its rent receivables [Bończak-Kucharczyk 2014, p. 493].

Municipalities seeking to effectively manage rent arrears are undertaking a growing number of various solutions to eliminate or at least reduce arrears. Often, in addition to the recovery of overdue debt, these solutions also aim to improve the life and financial situation of those who occupy communal premises. More and more frequently, municipalities are introducing the possibility of spreading the incurred debt into installments, working it off or restructuring the overdue rent receivables.

## 5. Debt elimination in Czestochowa

An example of the aforementioned actions are the measures taken by the Mayor of Czestochowa with reference to people with debt due to charges incurred in connection with occupying the communal premises belonging to the housing stock of the Municipality of Czestochowa. On November 7 2014, order no. 2366/14 of the Mayor of Czestochowa led to the introduction of the regulations on facilitating the repayment of debt towards the Municipality of Czestochowa for the use of dwellings belonging to the municipal housing stock (whose management was entrusted to the Department of Housing Management Social Housing Association in Czestochowa LLC – ZGM TBS Sp. z o.o.) to people in a difficult financial situation. Currently, a new version of the regulations was introduced under the ordinance no. 1498.2017 of 16 January 2017 of the Mayor of Czestochowa<sup>1</sup> (hereinafter: the regulations), repealing at the same time the previous regulation in this regard. According to the preamble to the currently valid regulations, the purpose of the adopted regulation is to increase the sense of security and to prevent the phenomenon of homelessness and social exclusion of people threatened with the loss of residential premises due to debt caused by their difficult living and financial situation, resulting especially from long-term unemployment, disability or other random events.

The regulations provide numerous solutions for the Municipality of Czestochowa in terms of managing its rent receivables for municipal premises, which are characterized with facilitations in regulating the overdue receivables by the debtors. According to § 11 (2) of the regulations, facilitating the repayment of debt and preventing homelessness consists in granting a debt relief in the form of spreading it into installments, postponing the payment deadline, the amortization of part or all of the receivables, allowing to settle the rent arrears in the form of benefit in kind or helping to find a contractor for the voluntary exchange into a lower-rent housing

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<sup>1</sup> Order no. 1498.2017 of 16 January 2017 of the Mayor of Czestochowa on facilitating the repayment of debt for the use of dwellings belonging to the municipal housing stock to people in a difficult financial situation.

located in the housing stock of the municipality. The regulations specify the detailed mode and rules for using the above solutions by the inhabitants.

The regulations also provide another form of managing the housing stock of the Municipality of Czestochowa along with its rent receivables, namely the possibility of the voluntary exchange of residential premises. The purpose of the proposed solution is, in particular, to reduce the amount of current rent fees to debtors who struggle with a difficult financial situation and who are threatened with the loss of residential premises, but also to reduce the number of those debtors. Moreover, the aim of the exchanges is to adjust the premises in terms of their size, standard and the amount of fees to the needs and capabilities of the residents. In addition, the intention of the Municipality while implementing the discussed solution was also to improve the general housing conditions and living situation of those who live in municipal premises. Tenants of municipal dwellings, tenants of other resources, owners of residential premises and debtors against whom the debt collection procedure is in progress can apply for the voluntary exchange of apartments. The prerequisite for the exchange of housing is the fact that one of the exchanged premises must be owned by the Municipality of Czestochowa.

## **6. Electronic search engine for apartments in the practice of the Department of Housing Management Social Housing Association (ZGM TBS Sp. z o.o.) in Czestochowa**

Due to the fact that the possibility to exchange apartments was of great interest, the administrator of the housing stock of the Municipality of Czestochowa – Zakład Gospodarki Mieszkaniowej TBS Sp. z o.o. w Częstochowie (i.e. the Department of Housing Management Social Housing Association in Czestochowa LLC, hereinafter referred to as: ZGM TBS Sp. z o.o.) launched an electronic search application for the exchange of housing in September 2016. The search engine is available at <http://www.mieszkania.zgm-tbs.czest.pl>. The persons concerned may provide the Company with offers of housing exchange, which will then be placed in the search engine free of charge.

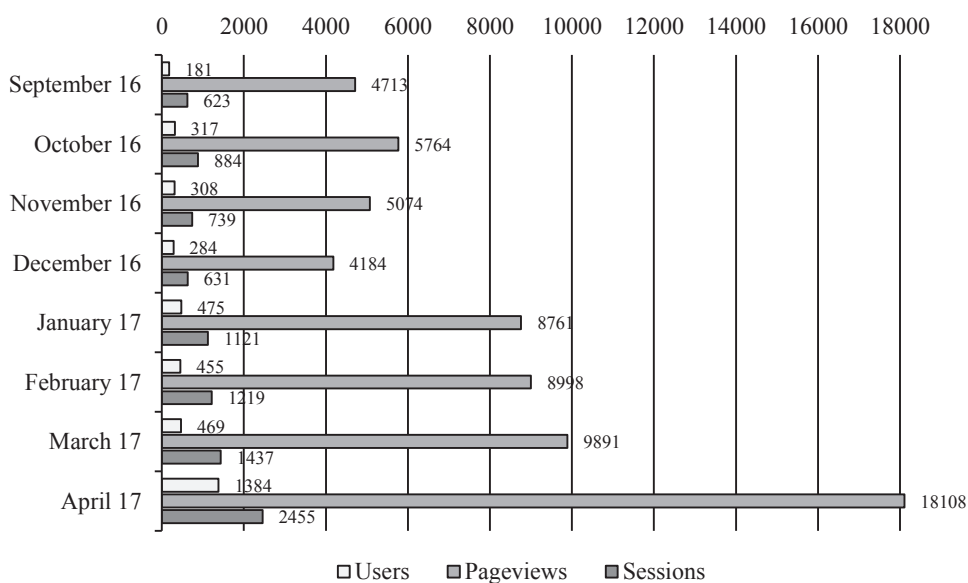
The operating application, similarly to the program of voluntary apartment exchange, is very popular among the residents of Czestochowa. This is confirmed by the fact that since the launch of the engine to the end of April 2017, there were 148 offers of exchanging apartments, and 12 participants of the program actually made this kind of exchange.

Regardless of the number of the submitted offers and the amount of the conducted exchanges, the considerable interest in the electronic search engine for the exchange of apartments is also confirmed by the statistics related to the number of users of the engine, the number of views of the page on which the search engine was placed and the number of sessions.

Figure 1 illustrates the aforementioned statistical data for the period from September 2016 to April 2017. With regard to the number of users of the search engine it may be noticed that the number increased with every month of the application's operation, or it possibly remained at about similar level. The largest increase of users was noted in April 2017. As a consequence, from September 2016, when 181 users used the search engine, to April 2017 the number of people using this application increased approximately eight-fold and amounted to 1,384 users.

Significant interest in the application is also shown in the statistics relating to the number of page views of [www.mieszkania.zgm-tbs.czest.pl](http://www.mieszkania.zgm-tbs.czest.pl). In the first month of the application there were 4,713 views of the website, but in the second month as many as 5,764. On the other hand, with respect to November and December 2016, a minimal decrease in the number of page views could be noted. However, since January 2017 there was a substantial increase in page views and this number fluctuated between 8,700-9,900 page views until March 2017. The most significant increase in page views took place in April 2017 which was 18,108 page views. Thus, compared to the first month of the engine's operation, the number of page views increased nearly four-fold.

The increasing interest in the search engine is also indicated in the number of sessions of the website on which the engine was placed. In September 2016 this number was 623, whereas in April 2017 – 2,455.



**Fig. 1.** Statistics related to the number of users, page views and sessions of the website [www.mieszkania.zgm-tbs.czest.pl](http://www.mieszkania.zgm-tbs.czest.pl)

Source: own study.

It can also be noted that in the analyzed period the engine was used by a total of 3,873 users, who viewed the web page 65,493 times. The total number of sessions amounted to 9,109.

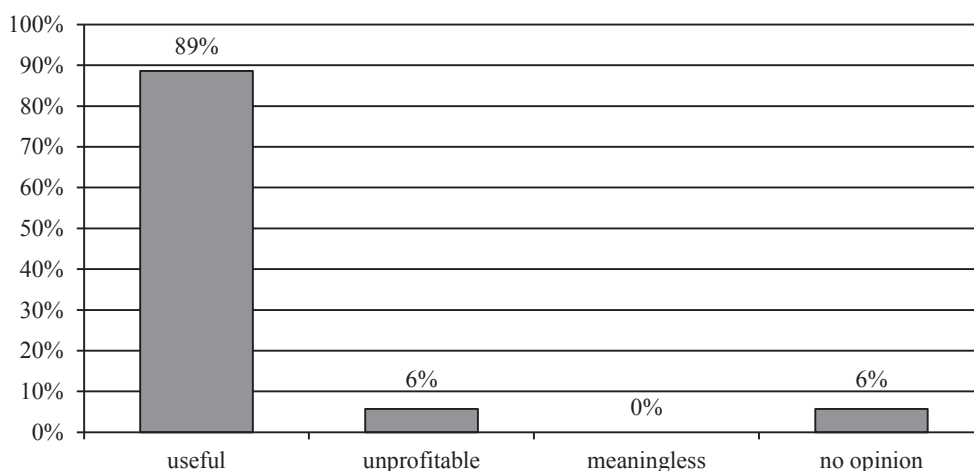
**Table 1.** Total number of users, page views and sessions between September 2016 and April 2017

	Total number	
Users	Page views	Sessions
3873	65 493	9109

Source: own study.

In connection with the preparation of this article, a survey was carried out among the residents of the housing stock of the Municipality of Czestochowa who benefited from the program of voluntary exchange of apartments through the studied application. The purpose of the study was to evaluate the validity of the introduction of the program in question and the justification of launching the electronic search engine for housing exchange, as well as to evaluate the actions of the search engine and the effects that its launch caused in terms of managing the housing stock of the Municipality of Czestochowa as well as managing its rent receivables. Out of the 148 people who placed an offer of exchanging apartments through the search engine in the analyzed period, 35 people took part in the survey. The results of the study are presented in the figures below.

It follows from the conducted survey that 89% of the subjects positively evaluate the introduced housing exchange program. Only 6% of the subjects rated the program



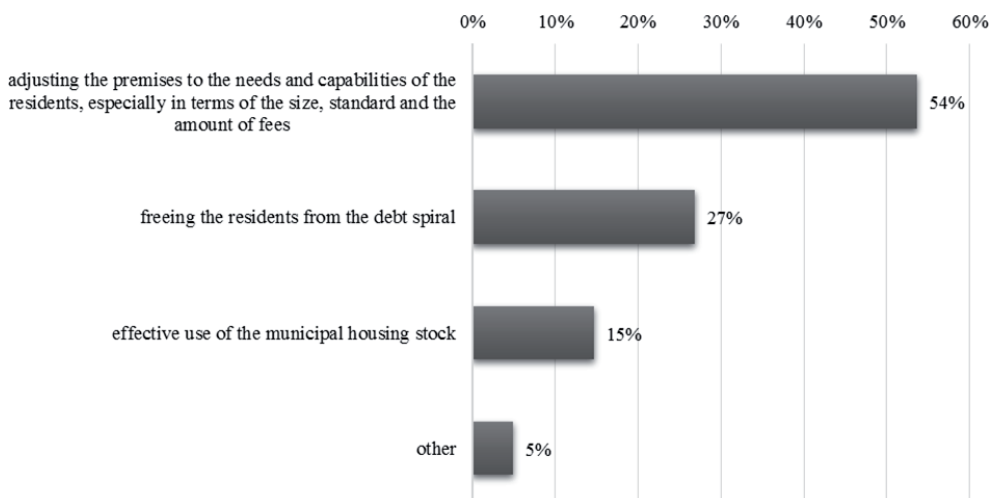
**Fig. 2.** Evaluation of the voluntary housing exchange program

Source: own study.



as unprofitable. The same number of the subjects said they did not have any opinion on the usefulness of the launched program. On the other hand, none of the participants of the study found the program meaningless. The above is presented in Figure 2.

The next figure shows the results of the survey in terms of effects which, according to the subjects, were caused by the launch of the housing exchange program.



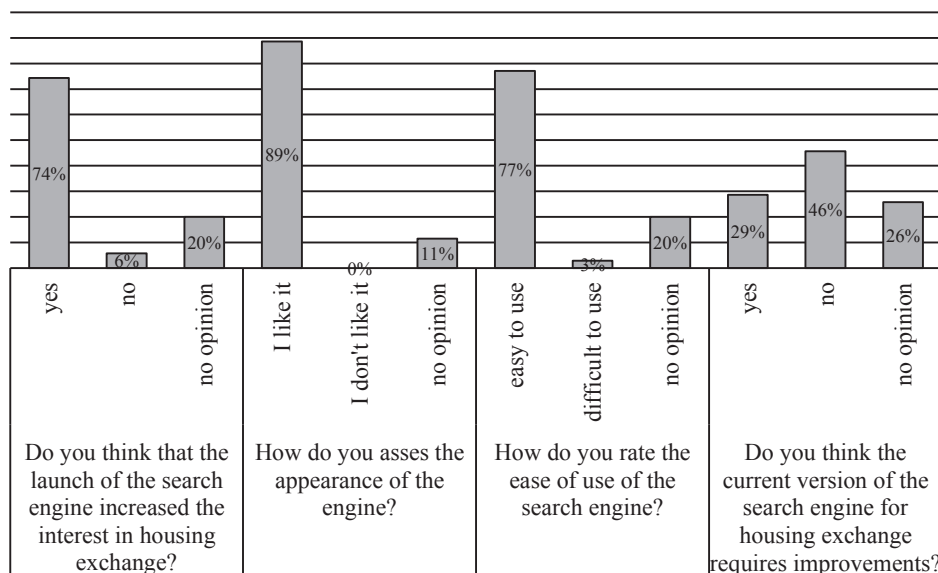
**Fig. 3.** Effects of the voluntary housing exchange program

Source: own study.

It may be inferred from the analysis of the responses that as many as 54% of the subjects say that the effect of introducing the program and making the exchanges is the adjustment of premises to the needs and capabilities of the residents, particularly in terms of the size, standard and the amount of fees. Subsequently, other respondents (27%) point out that the effect is freeing the inhabitants from the debt spiral. In turn, 15% of those who took part in the study indicated the effective use of the municipal housing stock as a result of launching the program and the search engine. On the other hand, 5% of the subjects pointed out the "other" effects of the actions taken but did not give their examples.

In the conducted survey the subjects also evaluated the impact of launching the electronic search engine for exchanging apartments on the interest in the studied program. Moreover, the respondents assessed the electronic search engine with regard to its appearance, ease of use and the possible need for improvement. The percentage of responses relating to these issues are presented in Figure 4.

According to the analysis of the responses, 74% of the subjects believe that the launch of the engine has led to increased interest in housing exchanges, whereas only



**Fig. 4.** Evaluation of the electronic search engine for housing exchanges

Source: own study.

6% of the subjects claim its launch has not affected it in this regard. In contrast, 20% of the respondents indicated they did not have a viewpoint in the matter.

When it comes to the appearance of the search engine, 89% of the subjects said they liked the way the engine looked while others indicated they had no opinion in this regard.

In terms of the ease of use of the search engine, 77% of the respondents claimed it was easy to use, while only 3% rated the search engine as difficult. In contrast, 20% of the subjects did not have a say in the analyzed issue.

However, in terms of making possible improvements in the engine, the subjects responded in the following way: 46% of the respondents did not notice the need to improve it, 29% of the respondents saw the need to improve the engine, whereas 26% of the subjects did not have an opinion on the matter. Among the examples of improvements proposed by the subjects, the offers might include photos of the premises submitted for exchange as well as the phone numbers of people who offer apartments for exchange.

To conclude the deliberations on the program of voluntary housing exchange along with the electronic search engine launched in Czestochowa, attention should also be paid to the amount of overdue rent arrears recovered by the Municipality. In the period from September to December 2016, the Municipality recovered 31,550 PLN as a result of the exchanges, whereas in the period from January to April 2017

the amount of 138,800 PLN was recovered. As a consequence of exchanging premises via the search engine, the Municipality recovered a total of 170,350 PLN in overdue rent arrears.

## 7. Conclusions

The housing exchange program is a valuable tool that allows to run the so-called soft vindication of debt for the rental of communal premises and at the same time allows to avoid incurring high costs of court and enforcement proceedings. What is more, in many cases the program enables to recover overdue rent arrears from people in a very difficult living and material situation. Therefore, it cannot be overlooked that in such cases the forecasts often show that the potential court proceedings, and at a later stage enforcement proceedings, would not lead to the recovery of that debt. Bearing in mind the limited number of communal premises along with the long queues for admissions, the program allows for the efficient use of the municipal housing stock.

Furthermore, the program has very positive effects on those who use it. Although these people are sometimes given a smaller apartment and of a worse standard, its features make it more suited to their needs and financial capacities. This in turn allows the tenants to pay their rent fees on a regular basis, it enables them to get out of the debt spiral, and also to stay in the system of municipal premises. Moreover, thanks to this solution, these people may avoid eviction into social housing, temporary premises, and in some cases even eviction onto the street. At the same time, the program counteracts the phenomena of social exclusion and homelessness. All this is intended to increase the subjectivity and individuality of tenants in the management of the housing stock and rent claims.

The conducted study has shown that the launch of the electronic search engine for housing exchange by ZGM TBS Sp. z o.o. allows the program to reach a wider group of potential interested parties and to increase the flow of information in the field. Thus, it can be stated that thanks to the use of information technologies, the program is used in a more effective way and, as a consequence, these technologies enable to achieve the aforementioned results in the management of the housing stock and rent receivables.

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