# STUDENTS' PREFERENCES ON THE RESIDENTIAL REAL ESTATE MARKET IN POLISH CITIES

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#### **Abstract**

The understanding of price-setting attributes operating on local real estate market is not only an essential element of property appraisers' work, it can also greatly assist the professional activities of real estate agents. However, its primary importance is for the market – facilitating the decision-making processes of developers (developers become aware of the buyers' expectations and preferences, making it possible to more accurately form market offers and pricing strategy).

With the use of computer-assisted interviewing, a questionnaire was designed to find out students' preferences in the housing market of large Polish cities. The research was undertaken at six universities: Nicolaus Copernicus University in Torun, Poznan University of Economics, Wroclaw Medical University, Wroclaw University of Environmental and Life Sciences, University of Technology and Life Sciences in Bydgoszcz, and President Stanislaw Wojciechowski Higher Vocational State School in Kalisz. At each university, the survey was carried out on two groups of students: one included those who had chosen specializations related to the real estate market, the other one – students who did not explore the subject of the real estate market in their field of studies.

The research can make a significant contribution to the problems of real estate market analysis. The results are the first part of a broader concept of research, which ultimately aims to internationalize the findings.

**Key words**: real estate market, buyers' preferences, residential real estate.

**JEL Classification**: R21.

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#### 1. Introduction

Several authors have taken up the issue of real estate market analysis. They assumed, in accordance with reference books (Międzynarodowe Standardy Wyceny, 2005, p. 153), that real estate prices are determined by the market. What is more, the authors agree that factors regarding the fluctuation of prices, even within the same segment of the market, need to be looked into more closely. In global valuation methodology, there is a widespread view that the valuation model is an investor model, which means that valuation is performed from the buyer's perspective. Survey research has been gaining increasing importance recently, and has the potential to become an indispensable tool in understanding the attitudes of market participants.

Mapping the market is the basis of properly established market value and researching the factors determining market value provides essential information when creating appraisal reports or other estimations and evaluations, which are the basis for further court rulings or administrative decisions. The proper recognition of cost factor attributes which function at the local estate markets is one of the elements concerning real estate market analysis. Research carried out in the field is used not only by real estate appraisers, but also rationalizes the operations of other professions connected with the real estate market, i.e. real estate brokers and administrators. The results of the analyses are often used in supporting the decision-making processes among developers, creating their awareness regarding the buyers' expectations and preferences, which allows them to accurately form their offers and market strategy.

Studies on buyers' preferences are currently at an early stage. However, this type of research carried out among students seems to exhaust the definition of "potential buyers", considering that, due to their young age (20-25 years old), this group of respondents is soon going to look for their own flat (house, plot of land). Because students currently tend to reside in big cities where major universities are located, the research pertains students studying in examples of such, i.e. Poznan, Wroclaw, Bydgoszcz, Torun and Kalisz.

# 2. The preferences of real estate buyers in reference books

The analysis of preferences is not a new issue; this field of research has grown in Poland, especially in the last 10 years, together with the development of both the real estate market and evaluation methodology. For numerous scholars, demand coming straight from the market constituted the reason behind taking up this subject matter, mainly among property appraisers, who are focused on authenticating their calculations and meeting the requirements first stated in the Professional Appraisers Standards (2002-2009) and then in the National Appraisal Guidelines (2009-2014). The proper determination of market prices and their influence on the level of transaction prices is a fundamental matter when it comes to valuation using the comparative approach and, to some extent, the profit approach (FORYŚ, KOKOT 2008, p. 45). It is worth highlighting that, in the USA, there are two formal methods of market research (ALLEN, AUSTIN 2001):

- based on the transaction data,
- based on the preferences, expectations, convictions and attitudes of market participants.

The valuation methodology in Poland is described in Interpretative Note 1 - *The Application of the Comparative Approach in Real Estate Valuation*, and indicates the possibility of establishing the impact of market prices on the differentiation of transaction prices and the grading scale of a given feature depending on the condition of the market (NI 1, pt. 3.10):

- 1) the results of an analysis of market prices and features of similar properties which are the objects of trade in a given real estate market,
- 2) an analogy to similar local markets,
- 3) research and/or observation of potential buyers' preferences,
- 4) another credible method.

When it comes to the first two methods, a researcher would encounter, on an unclear market, quality, quantity and credibility barriers regarding real estate prices. Due to this fact, the analysis of buyers' and sellers' behavior is most commonly applied by real estate appraisers within comparative analysis. A properly executed and deep analysis of preferences might become a valuable addendum to such analyses and contribute to a more precise evaluation in an appraiser's work. In the last 10 years, various elaborations regarding buyers' preferences on different local markets have been published, such as:

- the Poznan market (PALICKI 2004a, 2004b, GAWRON 2012, OLEJNIK 2013),
- the Szczecin market (FORYŚ, KOKOT 2008),
- the Bydgoszcz and Torun market (KRAJEWSKA, GACA 2007),
- the Wroclaw market (Lughofer, Trawinski B., Trawinski K., Kempa, Lasota 2011, Kempa, Lasota, Telec, Trawinski 2011),
- the Kalisz market (RĄCKA 2009, 2013).

Apart from quality analysis, quantity analyses are being performed in several academic centers throughout Poland; however, both the econometric model and neural networking require a proper set of explanatory variables expressed using a proper measurement scale. Analyses of buyers' preferences seem to complement the research well. According to Źróbek, Belej (2000), the highest credibility can be obtained using the quality-quantity approach.

Summing up, conducting analyses on the basis of transaction prices (historical data) only might lead to mistakes and thus be insufficient in order to establish market value (KUCHARSKA-STASIAK, 2011); hence the idea to conduct extensive survey research in several Polish cities and compare the obtained results. The research presented in the article is the first to have been conducted on such a scale in Poland. The fact that it is a pilot study needs to be pointed out (the authors are hoping to develop both the scale of the experiment and the research tools used in the next years). Due to the amount of the data collected, the article presents only those finding which, in the authors' opinion, are the most important.

## 3. Methodology and organization of research

The aim of the research was to obtain initial data regarding the housing situation of young people in Poland. Market analysis has proven that over 43% of people aged 25-35 still live with their parents, regardless of their situation on the job market. The effects of the global economic crisis and the value system of young Poles (personal development and obtaining status symbols), are mentioned as the most important factors leading to their low investment activity at the real estate market.

The students' housing preferences were placed in such a wide context due to the fact that they constitute a particularly important category of buyers as a result of their (current or potential) financial abilities and higher social aspirations, characteristic of the middle-class. Students were asked in the questionnaire about the type of ownership, location and standard of their dream house or flat, as well as about the projected purchase time and choice of financial source. The obtained results might be useful for various specialists working in the field of real estate and preparing offers for potential buyers. The practical effect of the project and its scientific implementations were equally important to the authors of the study.

The research, which was conducted among 623 students attending different Polish colleges and universities, was also supposed to identify and compare the knowledge of potential buyers regarding the current prices and attractiveness of properties located in big Polish cities: Poznan, Wroclaw, Torun, Bydgoszcz and Kalisz. The adequacy of their knowledge in relation with the current situation on the real estate market was checked, especially among students entering the real estate field: Architecture & City Planning, Geodesy & Cartography, Investment & Real Estate, Property Management, Spatial Economics (403 students). The remaining students were treated as the control group; however, taking the wider research perspective into consideration, not only do they create the background for the assessment of future specialists, they are also a source of knowledge regarding housing preferences among highly-educated young Poles. Students of the first and the last year of undergraduate studies (3-year bachelor's degree and 4-year bachelor's of science degree), representing 7 different faculties, i.e.: Architecture & City Planning 69, Cosmetology 71, Geodesy & Cartography 100, Management (but only those specializations connected with real estate) 60, Management & Production Engineering 87, Public Health 63, Spatial Economics 113, and postgraduate studies: Management (but only those specializations connected with real estate) 61 - took part in the experiment. The response rate among the students of particular and faculties varied from 52% to 84%. Among the participants, there were 200 students from Poznan (Poznan University of Economics [UE Poznan]), 163 from Wroclaw (Wroclaw Medical University [UMed Wroclaw], Wroclaw University of Environmental and Life Sciences [UP Wroclaw]), 130 from Kalisz (President Stanislaw Wojciechowski Higher Vocational State School in Kalisz [PWSZ Kalisz]), 69 from the Nicolaus Copernicus University in Torun [UMK Torun] and 69 from the University of Technology and Life Sciences in Bydgoszcz [UTP Bydgoszcz].

Table 1

In order to obtain the data, the research was conducted using a Computer Assisted Web Interview (CAWI). The questionnaire made available to the students consisted of 35 questions regarding both, subjective factors comprising the evaluation of the attractiveness of a property (flat, house, plot of land), and assessing their knowledge concerning the current prices of properties and price determinants. The most important socio-demographic features regarding the participants, projected purchase time and financial sources were taken into consideration. The research was simultaneously conducted in December 2013 and January 2014 in 5 academic centers.

The number of surveyed students (according to university, faculty, year)

Specification	Year				
University / Faculty (Specialization)	1	3	4	5	Total
UMK Torun	-	-	35	26	61
Management	-	-	35	26	61
UE Poznan	134	50	16	-	200
Spatial Economics	63	50	-	-	113
Management & Production Engineering	71	-	16	-	87
UMed Wroclaw	21	42	-	-	63
Public Health	21	42	-	-	63
<b>UP Wroclaw</b>	28	72	-	-	100
Geodesy & Cartography	28	72	-	-	100
UTP Bydgoszcz	46	23	-	-	69
Architecture & City Planning	46	23	-	-	69
PWSZ Kalisz	80	50	-	-	130
Cosmetology	44	26	-	-	70
Management	36	24	-	-	60
Total	309	237	51	26	623

Source: own research.

## 4. Analysis of data regarding participants

Students enrolled in full-time studies were interviewed:

- first-, third- and fourth-year undergraduate students:
  - BA Studies Cosmetology, Management (specializations related to real estate), Public Health, Spatial Economics,
  - Engineering Studies (BSc Studies): Architecture & City Planning, Geodesy & Cartography, Management & Production Engineering;
- first- and second-year postgraduate students:
  - MSc Studies Management (specializations related to real estate).

Research regarding the real estate market conducted among the population of students was, by assumption, of an absolute nature – all the students of particular faculties took part in the research. Students of faculties which are completely unrelated to the real estate market were also interviewed in order to create a "contrast of knowledge" for the research groups. Research among the latter group was prepared as absolute as well. The possible lack of answers should be attributed to the reluctance of the targeted respondents, though it should be mentioned that techniques reminding the students to complete the internet survey were used.

The vast majority of the respondents were women (71.7%), whereas men constituted the remaining 28.3%. These statistics arise from the gender structure among the researched faculties. The participants of the research were full-time students aged 19-30, with those under the age of 25 constituting 99% of all responses. Most of the students came from families living in single-family houses (63%) – of which 91% were detached houses. 27% lived in cooperative apartments, with 9% residing a in different kind of flat. Less than 1% of the respondents indicated a farmhouse as their place of residence.

In the question concerning the origin of the students (possible answers included different sizes of cities and the countryside), the biggest group turned out to be people from rural areas – 31%. This group obtained the absolute majority at President Stanislaw Wojciechowski Higher Vocational State

School in Kalisz (52% of all the interviewed students). Students derived from the countryside also constituted relatively big groups at the Wroclaw University of Environmental and Life Sciences (34%) and the Poznan University of Economics (29%). All in all, 50% of all the interviewees came from places characterized by a population of less than 25,000 inhabitants (villages and towns) and only every tenth student came from the one of main Polish cities (over 500,000 inhabitants). The latter group was dominated by students of the Poznan University of Economics and Wroclaw Medical University.

The questionnaire was divided into two parts – general questions and questions concerning the respondent. The general part consisted of 21 questions, which were followed by 14 questions regarding demographics. For the needs of the article, only the fragment regarding students' preferences as potential real estate buyers was analyzed and interpreted.

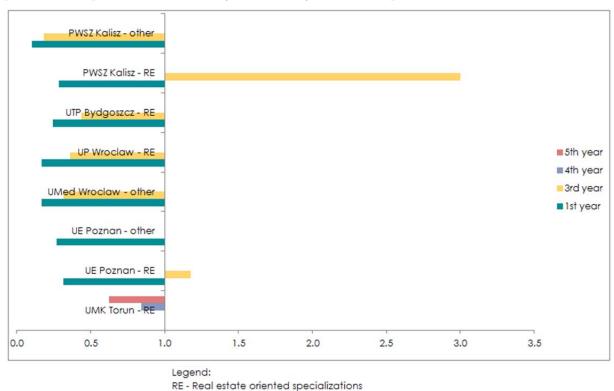


Fig. 1. Secondary flat market knowledge coefficient. *Source*: own research.

other - Non real estate oriented specializations

Students were asked if they were familiar with the secondary real estate market in the city where they were studying. Figure 1 presents the relation between "yes" and "no" answers, for a given study year, at a particular university, divided into two groups: faculties with subjects connected with real-estate (in Figure 1 – marked as "RE") and other faculties. The coefficient at the level of 1.0 means that half of students responded positively to the question. Students of the President Stanislaw Wojciechowski Higher Vocational State School in Kalisz and Poznan University of Economics (though at a significantly lower level), were found to be the most confident in their knowledge regarding the secondary real estate market. The majority of the remaining participants of the study expressed a lack of knowledge concerning this market. Table 2 presents the percentage share of students from the different universities indicating a knowledge of the secondary flat market. Individual cells show the percentage share of the total from the given row, with only the last column containing the percentage share of all the analyzed data.

Generally, only 28% of students see themselves as having knowledge concerning the secondary real estate market. The prevalence of such positive declarations among students enrolled in studies at faculties connected with real estate over the remaining ones is relevant: every third student of a faculty related to real estate and every fifth student of another specialization claims to possess this kind of knowledge.

Table 2
Structure of answers among students expressing a knowledge of the secondary flat market
(%, according to university and faculty)

Specification	UMK Torun	UE Poznan	UMed Wroclaw	UP Wroclaw	UTP Bydgoszcz	PWSZ Kalisz	Total
Students - Total	43%	33%	21%	23%	23%	26%	28%
specializations							
connected with real	43%	37%	-	23%	23%	43%	33%
estate							
specializations							
not connected with real	-	26%	21%	-	-	11%	20%
estate							

Source: own research.

Due to the filtering nature of the first question (see Figure 1), the issue in question (knowledge of the secondary real estate market) was expanded by asking the students to indicate their level of knowledge. Among students who had responded positively to the first question ("I recognize myself as being familiar with the secondary real estate market in the area" – 28% of the respondents) – the majority (53%) declared their knowledge to be at an average level (employing a four-level scale: very good, good, average, poor). Students attending real estate related subjects during their studies also tended to choose this answer. Only 6 out of 100 students declared their knowledge of the market as being very good.

The most common answer to the question regarding the source of knowledge and the students' experience with the real estate market was intuitive knowledge (33%), or a lack of experience with the market (39%).

Only 8% of the participants actually took part in a transaction on the real estate market – the majority of whom study at the Poznan University of Economics (24%), Nicolaus Copernicus University in Torun (22%) and University of Technology and Life Sciences in Bydgoszcz 22%. Only 10% of the Wroclaw Medical University students and 4% of students enrolled at President Stanislaw Wojciechowski Higher Vocational State School in Kalisz confirmed market experience.

**Table 3** Share of students planning to buy property within the next 5 years (according to universities)

	University						
Answer / Study Year	UMK Torun	UE Poznan	UMed Wroclaw	UP Wroclaw	UTP Bydgoszcz	PWSZ Kalisz	Total
Total	61	200	63	100	69	130	623
0/0	10%	32%	10%	16%	11%	21%	100%
"no"	<b>54</b> %	61%	56%	68%	68%	<b>76</b> %	65%
"yes"	46%	39%	44%	32%	32%	24%	35%

Source: own research.

Only 35% of the surveyed students planned to buy property within the next 5 years (from the date of the study). The biggest number of such students came from the UMK in Torun (46%) and UMed in Wroclaw (44%). The PWSZ students turned out to be the least eager buyers (only 24% positive responses). The lesser desire to seek one's own accommodation demonstrated by Kalisz students may derive from their plans to return to their family homes – spacious and located in the country, or from a low evaluation of their financial possibilities.

The majority of students in the group planning to purchase a property within the next 5 years are those hoping to buy a flat (61% - on either the primary and secondary market), with 14% interested in buying a house, 17% - a plot of land, and merely 8% looking into buying commercial premises.

Students would be most willing to buy a property in the city where they are currently studying (44%), or in its urban surroundings (13%). Only 14% of the respondents showed an interest in buying property in their home town, and 5% in its vicinity.

## 5. Evaluation of students' preferences

The research concerned students' preferences on the potential purchase of three types of real estate: flats, plots of land and houses. Three different catalogues of price-determining attributes were prepared and questions regarding the importance of particular features and the extent of their influence on the potential purchase were asked. Students could choose any number of answers regarding the importance of a feature, whereas for questions concerning the significance of a feature, each had to be evaluated separately. Likert's scale, i.e very strong - 5, strong - 4, average - 3, weak - 2, very weak - 1, was used to measure the features, which allowed a weight to be attributed to the answers and made it possible to present them in relation to the maximum value (see Figure 2).

Tables 4 and 5 present the structure of the answers given when it comes to flats. The analysis of the importance of particular features of flats shows a specific aggregation of preferences which can be divided into 3 categories:

- key/priority features location (i.e. district, the accessibility of schools, entertainment centers, gyms, doctors' offices, etc.), accessibility, functionality, layout (84 90% of all answers),
- important features floor space, balcony/lack of it, building technology, standard of completion, title to flat (57 68% of all answers),
- supplemental features placement within a building, extra services (CCTV, security guards), the proximity of friends and family, high/low building (17 36% of all answers).

The answers of students regarding the key features are highly rational, and mainly related to location features and the functionality of the flat.

 $\begin{tabular}{l} \textbf{Table 4}\\ Evaluation of the importance of features in the potential purchase of a flat.\\ \end{tabular}$ 

Feature / Importance	Number	Importance
location	559	90%
accessibility	557	89%
functionality and layout	526	84%
floor space	421	68%
balcony/lack of	394	63%
building technology	392	63%
standard of completion	364	58%
title to the flat	354	57%
placement within a building	224	36%
extra services	218	35%
proximity of friends and family	206	33%
exposure - side of the world	167	27%
building height (high/low)	104	17%
other	30	5%

Source: own research.

The "other features" category included: the proximity of shops, price, type of heating, number of people living in the neighborhood, building materials used – brick/large panel, year of construction, construction system of the entire block, attractiveness of the neighborhood, size and condition of the building, condition of the stairwell, emotions invoked by the building, fees, and the presence or absence of an underground garage, parking spaces, parking lot, underground parking lot, basement, elevator and playground.

Students who were asked to evaluate the strength (extent) to which they, as potential buyers, were influenced by the features which they had previously chosen as important when buying a flat, showed a great deal of coherence with their previous answers. They maintained their previous opinions regarding the crucial features (location, accessibility, functionality and layout), which verified the aforementioned features as the most important ones. However, the students' responses regarding the remaining market factors were less coherent, as the respondents tended to inflate their subjective evaluation concerning the strength of influence of these features in relation to their predefined

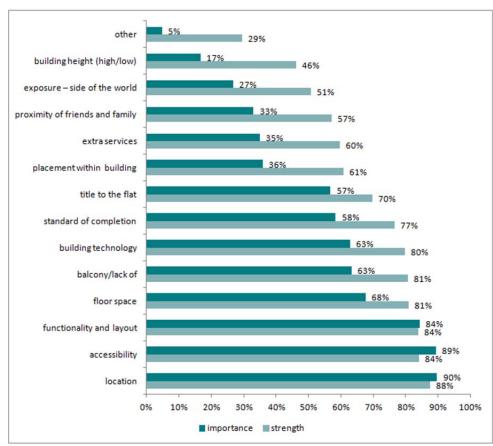
importance (Figure 2, Tables 4 & 5.). This might be caused by the fact that students were afraid to belittle such features of property, and presented a common tendency to confirm a very strong and strong influence of particular features (Table 5.). Using Likert's scale seems to be less reliable due to the fact that it shows a limited level of dispersion, which leads to the effect of "flat answers" (everything is important).

Strength of feature differentiation

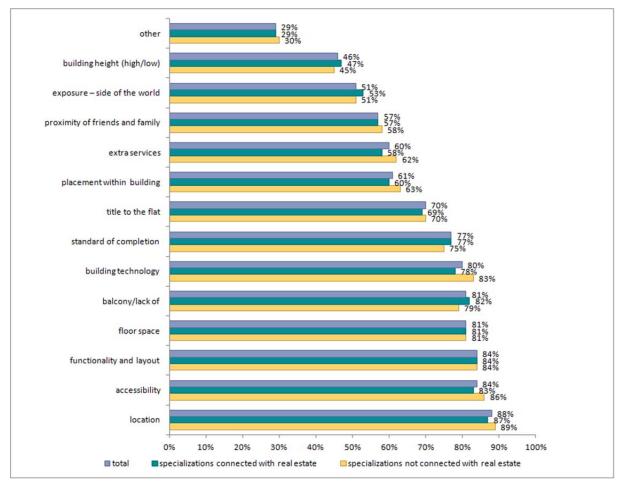
Table 5

Feature / Importance	very	ctrong	average	weak	very	no
	strong	strong			weak	opinion
accessibility	256	260	92	12	3	0
exposure - side of the world	32	102	211	130	118	30
functionality and layout	232	296	84	9	2	0
location	326	216	72	7	2	0
building height (high/low)	24	64	194	175	129	37
placement within building	43	126	253	127	51	23
floor space	194	298	101	20	7	3
title to the flat	195	230	130	42	15	11
standard of completion	194	284	106	27	8	4
building technology	224	250	119	20	6	4
extra services	65	124	256	111	50	17
balcony/lack of	134	209	156	78	40	6
proximity of friends and family	80	163	195	92	74	19
other	30	44	144	64	32	309

Source: own research.



**Fig. 2.** The importance and strength of influence of market features to potential purchasers. *Source*: own research.



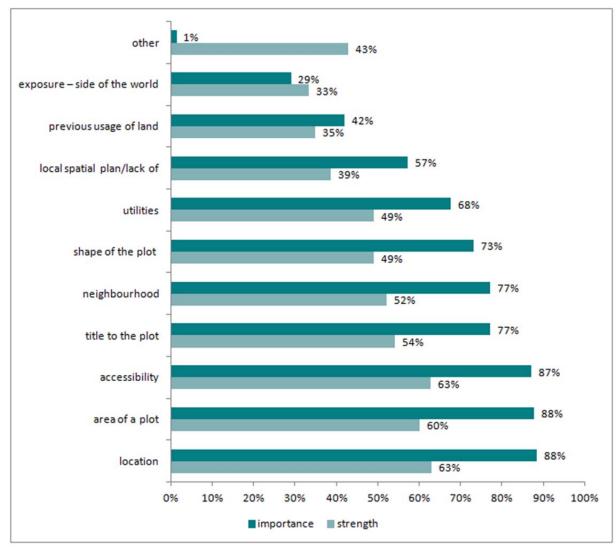
**Fig. 3.** Evaluation of the strength of influence of market features during the potential purchase of a flat (according to students of faculties connected and not connected with real estate). *Source*: own research.

Surprising agreement regarding the evaluation of the significance of particular features was observed between students who were enrolled in study programs connected with the real estate market and the students of other faculties. After having established the weight of the individual attributes, the differentiation scale for these groups did not exceed the level of 5%, and in most cases was limited to only 2%. This serves as a strong argument for the low impact of major-oriented education on the preferences of students as potential real estate market participants. Students seem to have generally coherent preferences; these are determined mainly by the fact that they belong to a group with a particular outlook and expectations, which are fairly independent of their educational path.

The key market features of plots of land were, according to the students, the location, accessibility and area of the plot. Such features were important to 87 – 88% of the respondents (Chart 4.). Among important features were the title to the plot, attractiveness of the neighborhood, the shape of the plot and its utilities – such features were regarded as important by 68 – 77% of the participants. The remaining traits, i.e. local spatial plan/lack of (57% of the responses), the previous usage of the land (42%) and possible exposure of a building (29%) were not seen as very important.

Interestingly, the evaluation of the strength of influence of the individual features of plots was significantly lower than the evaluation of their importance. After the establishment of weights, the relative value of strength constituted approximately 70% of the value regarding importance; the only exceptions to this tendency occurred in the case of the less significant features. The flat market showed the exact opposite trend. It seems that the understanding of the land market among students, who usually live in multi-tenant housing during their studies, is abstract due to the fact that buying their own plot of land is a distant perspective. The lack of direct contact with the land market, which is encountered less often and more difficult to interpret, caused extreme reactions among respondents. A

thorough analysis of the students' answers regarding the strength of a given feature shows the tendency of respondents to give extreme and radical answers – mainly "the feature has a very strong influence" and "the feature has a very weak influence". There were very few reserved moderate answers, such as "the feature has a strong influence" or "the feature has as an average influence". The obtained results regarding the strength of a feature might be regarded as not very credible, or even unreliable, due to the severity of differentiation among the respondents and the extreme nature of their responses. A significant part of the students behaved as if particular traits were relevant and irrelevant at the same time. As a result, a lack of consequence regarding the evaluation of particular market features of plots of land could be observed.

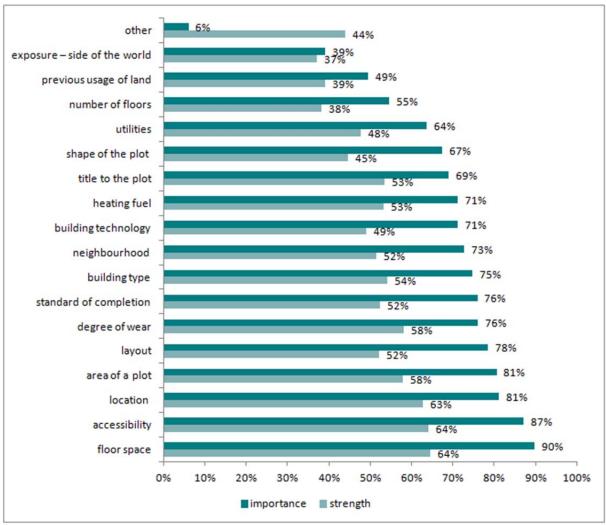


**Fig. 4.** The importance and strength of influence of market features to potential purchasers of a plot of land. *Source*: own research.

The most important market features concerning houses are: floor space, accessibility, location and the area of the plot (81-90% of all responses – Figure 5.). Attributes such as the layout, standard of completion, building type, construction technology, type of heating, and attractiveness of the neighborhood (71-78%) were seen as almost equally important. When it comes to the housing market, it is difficult to indicate numerous features deemed as less important, as only the number of levels (stories), previous use of the building and direction of exposure scored below 60%. It seems that, with some generalization, each and every feature is important to students when it comes to the housing market.

Similarly to the land market, the evaluation of the strengths of influence of the analyzed features was significantly lower than the evaluation of their importance. Having established the weights, the relative value of strength constituted about 70% of the value declared by the respondents regarding

the importance of features (the only exceptions to this tendency occurred in terms of the least important market features of houses). The source of such a reaction might be similar to the one occurring in regards to land. The large level of abstractness regarding the housing market together with the lack of direct contact with it caused the polarization of the evaluation of strength. The extremity of reactions was even higher than in the case of plots. The most common answer registered in Likert's scale was "the feature has a weak influence", together with a big group of responses claiming that "the feature has a very strong influence". There were relatively few moderate answers such as "the feature has a strong influence" or "the feature has an average influence". The problem of internal contradiction occurred once again among the respondents – students often simultaneously indicated a large and small influence of the same feature.



**Fig. 5.** The importance and strength of influence of market features to potential purchasers of a house. *Source*: own research.

## 6. Conclusions

The research results enabled the authors to draw the following conclusions:

- Students of faculties connected with the real estate market and students of other specializations do
  not show significant differences in terms of their real estate market preferences. In other words,
  education in the field of the real estate market does not change the perception of the strength of the
  individual relevant features of properties.
- 2. There is a clear gradation of the importance of market attributes on the flat market. Among the most important features are location, accessibility, functionality and layout. Students tend to evaluate market features of flats in a rational and coherent manner.
- 3. Location, accessibility and the area of a land plot were seen as the most important features on the land market. The remaining attributes were usually evaluated as more important in comparison

- with the evaluation of their less important counterparts pertaining to flats. Students would often evaluate the importance and strength of attributes in an incoherent way. This is most likely the effect of a relatively low level of knowledge on this segment of the real estate market.
- 4. The leading market features of houses, according to students, are the floor space, accessibility, location and plot size. Respondents evaluated the importance of almost every feature highly. An unnaturally low differentiation level means the lack of gradation skills regarding such features, or a "flat" perception of features of the given market.
- 5. When it comes to the didactic process, a greater emphasis should be placed on analytical skills and the ability to coherently interpret the importance of cost factors of properties.

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