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The Role of Technology in Supporting Communication for Real Estate Agents – Evaluation of the Phenomenon¹

Abstract: Globalization and the development of modern information technology have contributed to the higher importance of communication technological support and its use between the client and the entrepreneur in the service industry. Such tendencies also apply to real estate companies, in particular to real estate agents and brokers. The purpose of this article is to identify the level of service adaptation of the real estate brokerage industry to the general tendencies characterizing the service sector. Two research questions were proposed in the article. The first one is about adjustment of the communication tools used by the real estate brokerage industry to the trends in the services market. The second one includes the assessment of the tools' efficiency in the opinion of the estate brokers and agents. The literature and critical analysis as well as an introductory survey of real estate agents and brokers were all used in this paper. The introductory survey was conducted with the use of webform among real estate agents affiliated to Powszechne Towarzystwo Ekspertów i Doradców Rynku Nieruchomości, between the 2nd of October and 15th of November 2017. After a basic analysis, we can conclude that the real estate sector is quite similar to other services' sectors as far as the new means of communication usage in contacts with clients are concerned. The empirical studies results show that tools such as smartphone and laptop in combination with social media play an important role in today's communication trends. The role of traditional means of communication, on the other hand, such as leaflets and newspapers has significantly decreased.

Keywords: communication, technology, services, real estate market, real estate agents, brokers

JEL: D83, M3, R31

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1. Introduction

Technology – among its other features – is helpful in changing the traditional relations with clients (based on market segmentation) into ones based on individual preferences, thereby greatly facilitating the individualization of an organization's contacts with their customers. It also allows a company to create their own customer base and tailor communication to its needs, in terms of the content of the message, its form and the tools used to send it.

The range of communication methods are as diverse as the service types that employ them. The methods and channels used depend on the type of industry as well as the number of messages communicated and the tools used (for example in the health services – Jopkiewicz, 2012, or in fitness services – Dejnaka, 2015).

These factors led to the establishment of this article's purpose – to verify if the real estate industry has adapted its communication means and tools to the general trends within the services market (does it lead the way or lag behind)? In the United States in 1981, “22% of home buyers read newspaper ads to find a home [...]. In 2016, 44% looked for properties online first” (*Real...*, 2017).

Moreover, according to the mentioned research, in 2016 only 17% of buyers during the home buying process contacted a real estate agent (*Real...*, 2017).

The two research questions were set as:

1. What kind of tools and forms of communication in the client-broker relationship are most often used in real estate brokerage services?
2. Which of the tools and forms of communication are perceived by real estate brokers as the most effective in the process of establishing contacts with clients and finalizing contracts?

According to the problem questions, the following hypotheses were formulated.

1. In the real estate brokerage services, modern tools and means of communication dominate among the respondents involved in customer-broker relations.
2. Among the surveyed real estate brokers, there is a subjective belief that modern communication tools and means are more effective than the traditional communication tools and means in terms of establishing contact with clients and finalizing transactions.

The obvious assumption arises – that the real estate brokers use the tools and forms of communication they consider best suited to the purpose of real estate brokerage.

The characteristic feature of the real estate industry in Poland, according to the literature, is the predominance of micro and small companies employing up to 9 employees (Kałkowski, 2015). Domestic SMEs are dominant in the intermediary industry in Poland (Foryś, 2009).

2. Theoretical background

The abovementioned tendency for using modern communication tools in services leads to the prediction that real estate services are keeping pace with this overall trend.

To the authors' best knowledge, research into the communication methods used by real estate agents in Poland has not been conducted until now. Similar research was conducted in the USA, although not carried out on the categorization of communication tools and forms. The outcome of that particular study was summarized in the *Real Estate in a Digital Age – 2017 Report*. This report points out that communication by real estate agents is in line with other modern services, and the Polish real estate market differs little from the American one. Over 50 percent of American realtors use their e-mail, smartphone, laptop, desktop computer or cell phone on a daily basis (GPS is used daily or nearly every day). However, in 2016 the most common form of communication was email, used daily or nearly every day by 96 percent of the service representatives (*Real...*, 2017).

The research conducted to date on real estate agents and the industry as a whole in Poland covered the changes in regulations and deregulation of the profession (Nawrocka, 2014), and examined the degree of satisfaction with the services provided by real estate agencies in Szczecin (Gdakowicz, 2014). A theoretical classification of the multi-aspect determinants of information activities of real estate agents also exists (Rodzeń, 2014).

The term "new media" stands for those means of communication (in the broadest possible sense) that use electronic devices, in particular, integrated circuits and digital signal coding, for recording and transmitting information (Goban-Klas, Sienkiewicz, 1999). The term "new media" is burdened with the feature of rapid expiration because "the pace of development is so fast that what is new today is becoming old tomorrow. The notion of novelty is, after all, relative" (Goban-Klas, Sienkiewicz, 1999: 27).

McLuhan used the term "new media" in relation to radio and television; today these media are classified as traditional media. Levinson, on the other hand, noticed that we are now dealing with the constantly newer media which he described as "new new" media (Levinson, 2009, classification of Laskowska, 2012).

In the theory of media, there is no unambiguous position about what the new media are. There are different approaches and assessment criteria used to classify media as new or traditional. Most of the researchers accept the interactivity as a characteristic feature of modern media (e.g. Skrzypczak, 1999; Manovich, 2006; Szpunar, 2008; McQuail, 2012). In this sense – the criterion of the ability to interact with the user – the Internet, computer, telephone are considered to be the new media. Nevertheless, this classification raises doubts – "I treat the Internet as a new-old medium as it contains features of both new and old media" (Szpunar, 2012: 173).

Another criterion of modernity is the digital transmission of information, and new media is, therefore, a “digital process of creating and disseminating information, as well as its processing, exchange and storage, which are subject to social communication of an individual and mass character” (Witczak, 2013: 91). Another way to determine the “modernity” of media is the mobility of technical solutions including mobile applications installed in devices such as smartphone or tablet (Sultan, Rohm, Gao, 2009; Rohm, Gao, Sultan, Pagani, 2012; Bhawe, Jain, Rou, 2013).

The Central Statistical Office of Poland (GUS) – for its own purposes – adopted the following definition of new media: “[...] general definition of many different forms of electronic communication, which are possible thanks to the use of computer technology, using, among others, electronic publications on CD-ROM, DVD, digital TV and above all the Internet. This means using – for communication purposes – both desktops and laptops as well as other wireless mobile devices. The new media include, among others, websites, e-mail, online communities, internet advertising, electronic kiosks, cameras and digital cameras, digital phone data integration, virtual reality environment (including video games). The term is a reference to »old« (traditional) media forms, such as the printing of newspapers and magazines, which are a static representation of text and graphics” (GUS).

Among such a large variety of ways of defining what is modern and what is traditional, and for the purpose of this article, a differentiation for tools and means was introduced. The real estate sector employs several types of devices, “machines” (hardware), that are used in company-client communication. In this article, these are categorized as *communication tools*. These tools are classified by being stationary or portable, as well as by the time period when they were popularized amongst the general public – this is our basis for categorizing them into modern and traditional. In 2016 in the USA, 44% of buyers used a mobile device to search for properties online (*Real...*, 2017).

Moreover, depending on the devices or tools of communication used (e.g. computer, smartphone, etc.) people tend to use different technology or forms of communication – some prefer to send e-mails, while others search web pages or use social media – all of which may, of course, be done with the same tool. These software tools of communication are categorized as *communication means and forms*. According to research conducted in the USA, real estate representatives use e-mail (94%) and telephone (91%), whereas their clients most often use websites (95%) (*Real...*, 2017). The forms of communication are also categorized into modern and traditional – the basic criteria of this differentiation are mainly the communication form’s launch date and time-span of usage. Agents use their mobile devices to communicate with their clients (*Real...*, 2016).

This results in the following categories: That of **traditional tools** (including the traditional desktop computer, laptop and telephone) and the category of **modern tools** (including smartphones and tablets).

Traditional forms of communication are covered by television advertisements, outdoor advertisements, press releases, leaflets, www/web pages and e-mail. Television advertisements are almost as old as television itself. Many correlational studies have demonstrated an association between the duration of TV viewing and product usage or buying (Anderson et al., 1998; Kaur et al., 2003; Francis, Lee, Birch, 2003; Proctor et al., 2003). In outdoor advertising the impact is already well understood. Its effectiveness is influenced by location, position, number of words, color, respondent involvement and attitude. Ads are enhanced when situated on the right-hand side or using few words; while black and white ads are effective when the majority of those located in the vicinity are in color. The attention paid to the ad also affects its effectiveness (Donthu, Cherian, Bhargava, 1993). The press release may be defined as a type of advertisement based on textual form (Lassen, 2006). Leaflets are considered a traditional first point of contact with a company. The form may be in paper (delivered to the door or handed to passers-by on the street) or by e-mail (Ali, 2005). A large amount of information on the Web is presented in regularly structured setting and objects – on web pages. Due to the astonishing amount of information available on the web, users typically locate useful web pages through a search engine, typically in batches of 10 to 20 links. Once the users see relevant links, they may click on one or more in order to visit the pages (Ntoulas et al., 2006). Over 90 percent of real estate firms in the USA have websites (*Real...*, 2017). E-mail usage has been studied since at least the 1980s (Tyler, Tang, 2003) and it has been evolving ever since. E-mail is used as a multi-purpose strategy for deciding when to respond to email messages (Tyler, Tang, 2003) e.g. for group coordination (especially across time zones) (Begole et al., 2002). However, it now happens that e-mail is often treated as spam (Allman, 2003; 2004; Kaushik et al., 2004), which is understood as “any e-mail I don’t want to get” (Allman, 2003; Šolić et al., 2011).

Finally, there is the fourth category of **modern forms of communication**, such as social media, messenger, banner advertising on the internet, videos on the internet and modern newsletters. Social media are understood as communication channels enabling interactions among internet users by means of information technologies (Berk, 2009; Weinberg, 2009). They include a wide range of forms e.g. discussion groups and tools for interpersonal and group communication, social networks, (micro)blogs, LiveStream, Livecasts, virtual world, SocialGamers, MMO (Online game-building communities of players) and publish and share (Evans, 2010). Messengers are understood as synchronous messaging applications with group-oriented functionality designed e.g. to support teams in the workplace (Handel, Herb-
sleb, 2002) Popularity of instant messaging constantly grows. Proponents of online advertising (banner advertising on the internet) take the position that this medium allows a wide audience to effectively reach information on a given issue (Piesik, 2007). Unfortunately, the increasing amount of Internet users does not guarantee

a larger slice for realtors. Moreover, the effectiveness of this form of advertising varies – too many banners discourage people from clicking on them (Piesik, 2007).

The main purpose of the videos published on the internet by the real estate agencies is to show the property and its neighborhood by means of virtual walk, to give a visual tour (*Real...*, 2016).

A well-designed newsletter (electronic bulletin) is considered a very important and effective element of a marketing campaign. It is a marketing tool that allows the establishment or maintenance of existing relationships with clients (Ziuziański, Furmankiewicz, 2013).

3. Method

The basis of the empirical analysis are the results of a pilot study on the subject of *Technological support for real estate agent communication* conducted between October 2 and November 15, 2017 among real estate companies using an electronic questionnaire – the webankieta tool. The questionnaire consisted of closed questions. First four questions concerned the use of tools and means of communication in client-agent relations; while the other question was a subjective assessment of their effectiveness, judged from the perspective of new client acquisition and contract finalization.

The survey was sent, by e-mail, to 496 real estate agencies, which provided their e-mail addresses on the domiporta.pl portal, and to 191 real estate offices whose owners or employees are members of the Universal Society of Experts and Real Estate Advisors (Powszechne Towarzystwo Ekspertów i Doradców Rynku Nieruchomości) and are in the Public Register of Real Estate Advisors (Publiczny Rejestr Doradców Rynku Nieruchomości).

In addition, a link to the survey was placed on the pages of the Polish Real Estate Market Treaty Federation (Federacja Porozumienie Polskiego Rynku Nieruchomości) (<http://pprn.pl/?p=24606>), Universal Society of Experts and Real Estate Advisors (Powszechne Towarzystwo Ekspertów i Doradców Rynku Nieruchomości) (<http://profesjonalista.net/v2/wordpress/?p=14464>), on the Facebook page of Real Estate Advisors Group (Grupa Doradców Nieruchomości) (<https://www.facebook.com/groups/PTEiDRN/?ref=bookmarks>), followed by nearly 16,000 real estate professionals; on the fan page of the Universal Society of Experts and Real Estate Advisors (<https://www.facebook.com/pteidrn/>) and a questionnaire was sent through the newsletter of the Universal Society of Experts and Real Estate Advisors to about 6,000 recipients. One week after the survey was sent out, due to the very low percentage of surveys returned, calls were made to 191 real estate offices whose owners or employees are members of the Universal Society of Experts and Real Estate Advisors, kindly requesting them to fill in the questionnaire. The web-profile report states that as a result of the activities conducted, the question-

naire reached (was opened by) 460 people. In the end, only 50 completed feedback questionnaires were received.

The respondents were members of the Universal Society of Experts and Real Estate Advisors gathering real estate professionals from all over Poland and brokers promoting on the domiporta.pl portal. This number is considered the lowest acceptable outcome for the interpretation of the results in percentages.

This article uses the critical literature analysis and statistical analysis with regard to descriptive statistics, as well as one-way analysis of variance (ONEWAY) ANOVA for estimating the significance of differences between the types of used tools and means of communication in the customer-broker relationship, due to their frequency. The SPSS program was used for the calculations.

4. Research outcome

The graphs below show the essential characteristics of the researched group.

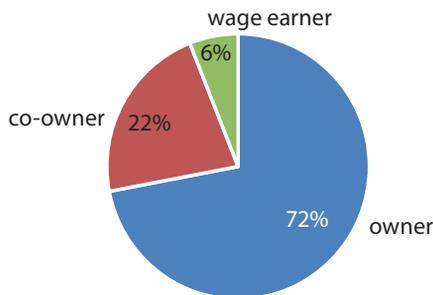


Figure 1. Company size in %

Source: own studies based on conducted pilot surveys

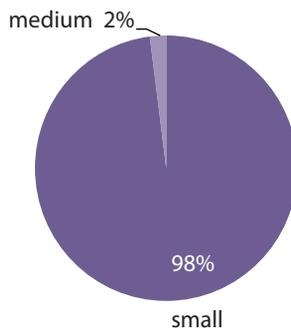


Figure 2. Company departmentation in %

Source: own studies based on conducted pilot surveys

As can be seen in Figure 1, the respondents are predominately intermediaries, working in small companies employing up to 9 employees, they constitute up to 98% of the surveyed population. Only 2% of the respondents are real estate agents working in medium-sized companies employing up to 49 employees. This is a typical situation for the real estate industry. There were no brokers from large companies employing more than 50 employees among the respondents. The research confirms the literature description on the characteristic feature of the real estate industry in Poland – that there is a predominance of micro and small companies employing up to 9 employees (Kałkowski, 2015).

The dominance of domestic SMEs in the real estate industry in Poland is in line with the surveyed population, where 72% of respondents work in offices, with no separate departments. Only 28% of respondents are employed in companies having separate departments – see Figure 2. When considering the location of the departments and headquarters, the majority of respondents answered that the departments are located in the same voivodship.

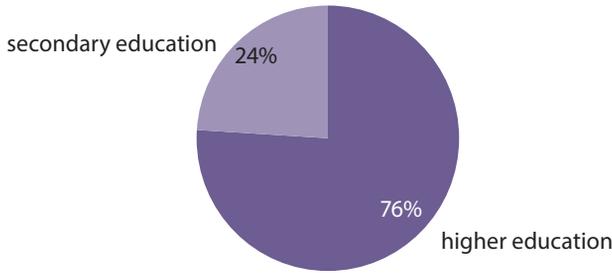


Figure 3. Education in %

Source: own studies based on conducted pilot surveys

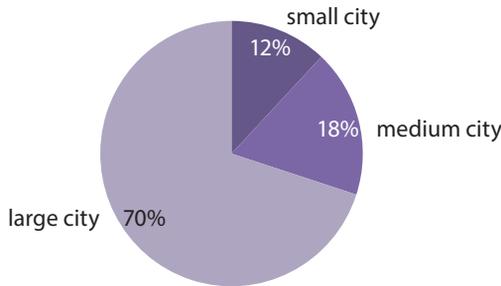


Figure 4. Location of company headquarters in %

Source: own studies based on conducted pilot surveys

100% of those surveyed are intermediaries with a higher and secondary education – 76% and 28% respectively, as shown in Figure 3. While none of the surveyed respondents said they had a vocational or basic education.

The majority of respondents – 70% – work in real estate offices which have their headquarters in large provincial cities, 18% in medium-sized cities with administrative district rights and 12% in small towns.

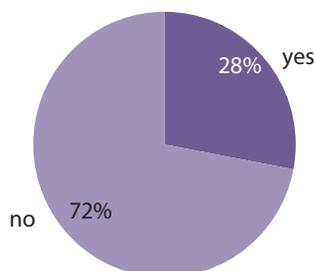


Figure 5. Forms of employment in %

Source: own studies based on conducted pilot surveys

On the basis of the conducted research, it was found that the owners of companies dominate in the group of respondents, constituting 72% of the surveyed population; 22% are co-owners of real estate offices and only 6% of respondents are wage earners.

5. The research outcomes

With reference to the classification of tools, means and forms of communication proposed on pages 2–4 of this article, the table below uses division into modern and traditional client-broker communication types and presents the frequency of their use, accordingly. Communication tools are understood as hardware (hardware), it can be both stationary and portable. Means and forms of communication are understood as a way of communicating with the use of communication tools and their software. The criterion of differentiation is the time of their implementation to the mass utility.

According to the respondents, the most frequently used communication tools in the client-broker relationships, are the laptop, telephone and smart phone. The most commonly used communication tool is the laptop – used regularly by 88% of respondents, followed by the telephone (82%), and the smartphone (76%). To a limited extent, the respondents use a tablet or a desktop computer. About 60% of respondents do not use a tablet at all and 50% of respondents do not use a desktop computer. As shown by the presented data, the interviewed agents use traditional communication tools slightly more frequently in communication with clients. This is also confirmed by the average frequency of use of communication tools per one respondent in client-intermediary relations, where in the

case of using traditional tools, it is 2.41, and in the case of modern tools it is 3.1 (see Figure 6)².

Table 1. Frequency of tools, means and forms of communication usage, in the surveyed community in the client-agent relationships

N = 50		Percentage of responses in %				
		Often	Average	Rarely	Not used at all	Total
Tools of communication						
Traditional communication tools	Desktop	44	2	4	50	100
	Laptop	88	–	–	12	100
	Phone	82	2	2	14	100
Modern communication tools	Smartphone	76	–	2	22	100
	Tablet	38	–	2	60	100
Means and forms of communication						
Traditional means and forms of communication	TV advertisement	6	–	4	90	100
	Press advertisement	16	12	22	50	100
	E-mail	80	10	6	4	100
	Leaflet	6	14	24	26	100
	Outdoor advertising	30	16	20	34	100
	WWW pages	84	4	–	12	100
Modern means and forms of communication	Social media	48	12	8	32	100
	Banner advertising on the internet	10	12	18	60	100
	Newsletter	22	10	4	64	100
	Messenger	34	8	14	44	100
	Videos on the internet	8	10	18	64	100

Source: own studies based on conducted pilot surveys

The results of the research also confirm that traditional means and forms of communication dominate over the modern ones. As can be seen in Table 1, the most commonly used form of communication are web pages – 84% of respondents use this form of communication often, i.e. at least once a week. Similarly, the e-mail – 80% of respondents use it frequently. Among modern means and forms of communication, the respondents use social media often (48%). This is also confirmed by the average frequency of using means and forms of communication in client-agent relations, where, in the case of using traditional means and forms, it takes the value 3.00, on a scale of 1 to 5, and in the case of modern tools it takes 3.75 (see Figure 7).

2 Scale of 1 to 5, where 1 stands for a few times a week; 5 – once a week.

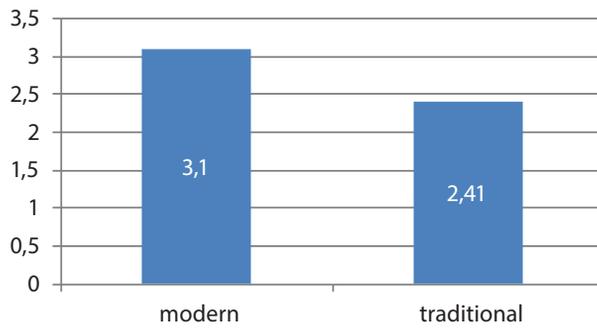


Figure 6. The average frequency of using communication tools, with the division into traditional and modern types on a scale from 1 to 5 where 1 stands for a few times a week; 5 – once a week

Source: own studies based on conducted pilot surveys

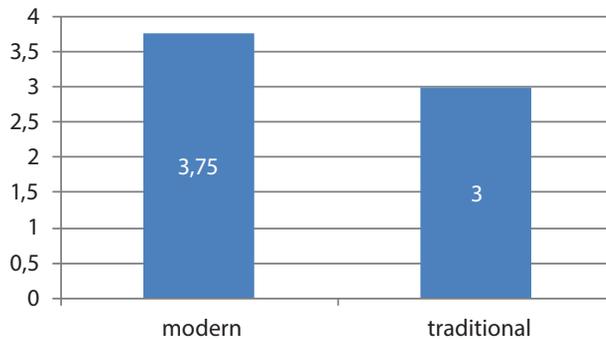


Figure 7. The average frequency of using means and forms of communication, with the division into traditional and modern types on a scale from 1 to 5, where 1 means several times a week, 5 once a year

Source: own studies based on conducted pilot surveys

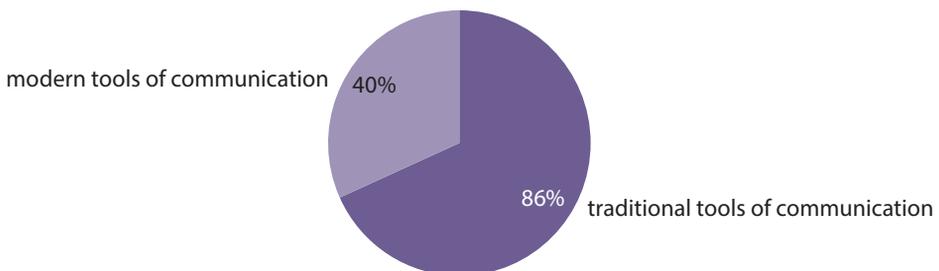


Figure 8. Currently used communication tools

Source: own studies based on conducted pilot surveys

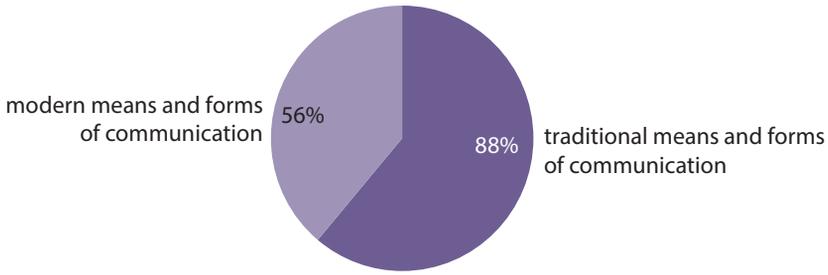


Figure 9. Currently used means and forms of communication

Source: own studies based on conducted pilot surveys

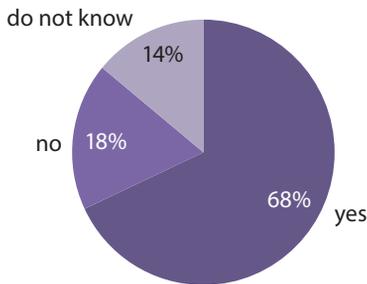


Figure 10. Declared modernization of the company in the field of traditional and modern tools and means and forms of communication

Source: own studies based on conducted pilot surveys

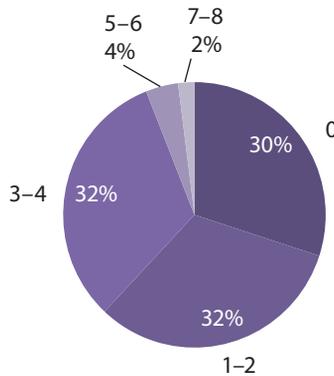


Figure 11. Planned number of changes in the field of traditional and modern tools and means of communication

Source: own studies based on conducted pilot surveys

The conducted pilot studies show that the vast majority of respondents prefer to use traditional tools, means and forms of communication rather than modern ones (see Figures 8 and 9). Nevertheless, it is positive that 68% of respondents de-

clare the intention to implement innovations in real estate offices as far as the tools, means and forms of communication with clients are concerned. The clear majority of respondents (64%) do not intend to introduce more than 4 changes to the tools, means and forms of communication used.

The research also shows that 4% of respondents do not use any software for customer service, 88% of respondents use one software type and only 8% use 2 software types. The vast majority of respondents use software accessible online. Only 12% of respondents use software that is not available online.

On the basis of the frequency analysis of usage of traditional and modern tools for broker – client communication, four basic formulas were identified (see Table 2). The above-mentioned typology was created after adopting the following boundary conditions: in the case where the broker uses traditional or modern tools in the communication process once a year or not at all, it was assumed that he or she does not use the above-mentioned tools at all. In other cases, it was assumed that the broker uses the above-mentioned tools.

Table 2. Classification of the communication tools used in the broker-customer communication process with the division into traditional and modern tools

Patterns of the communication tools used in broker-customer communication process	%
1. Brokers do not use either traditional or modern communication tools	16
2. Brokers use traditional tools but they do not use modern communication tools	24
3. Brokers use modern tools but they do not use traditional ones	20
4. Brokers use both – traditional and modern communication tools	40
Σ	100 N = 50

Source: own studies based on conducted pilot surveys

Similar classification was created referring to the traditional and modern means and forms of communication – see Table 3.

Table 3. Classification of the communication means and forms used in the broker-customer communication process with the division into traditional and modern tools

Patterns of the communication means and forms used in the broker-customer communication process	%
1. Brokers do not use either traditional or modern communication tools	18
2. Brokers use traditional tools but they do not use modern communication tools	24
3. Brokers use modern tools but they do not use traditional ones	20
4. Brokers use both – traditional and modern communication tools	38
Σ	100 N = 50

Source: own studies based on conducted pilot surveys

The analysis of data presented in Table 2 shows that among the respondents, the dominant type of the client-agent communication is definitely the one using

both traditional and modern tools of communication. The second most frequently used type of communication is the one in which traditional tools are used more often than the modern ones. As far as the frequency of using tools in the communication process between the client and the broker is concerned (divided into 4 categories – see Table 2), there were statistically significant differences in the process of contract finalization. ANOVA test shows statistical significance between the 4 distinguished types ($F = 3,792, p < 0.017$).

With the reference to the means and forms of communication, the brokers who do not use traditional or modern means and forms of communication are dominant. As in the case of tools, in the case of means and forms, the second place is taken by the type where traditional means and forms are used more often than the modern ones. In addition, there are statistically significant differences between the 4 patterns of transaction finalization distinguished due to the frequency of using means and forms of communication in the client-agent relationship (see Table 3). The ANOVA test shows statistical significance between the four categories listed in the above-mentioned typology ($F = 4.732, p < 0.006$).

Therefore, it can be concluded that in the process of communication among the surveyed population, the tools, means and forms of traditional communication are more often used than the modern ones.

The observed phenomenon of low level of modern tools and means of communication usage should not be a surprise because Poland was ranked at the low 23rd place in terms of the number of computers used by enterprises in 2016, out of all the EU countries. Only Bulgaria, Hungary, Croatia and Romania were located below (GUS, p. 54). The situation in Polish enterprises in 2016 is similar in terms of access to the Internet and the provision of employees with mobile devices. In both cases, Poland was also ranked on the 23rd place among the 28 EU countries (GUS, p. 66). The situation of Polish enterprises is slightly improved by the fact that Poland is ranked as 21st among the EU countries for mobile broadband Internet access (GUS, p. 63), and as 22nd in terms of the use of computers with internet access by enterprises (GUS, p. 70).

Among enterprises classified by PKD sections³, *the Real Estate market service*, as many as 98.3% have access to the Internet and is ranked as 5th among 13 sections classified by the activity type. The strong leader in this area are companies operating in the sector of repair and maintenance of computers as well as in the sector related to financial and insurance activities (GUS). This is also confirmed by the research carried out by (*Polak w cyfrowym świecie*, 2015), which shows that finance managing and administering is the second area, following searching for information and expanding knowledge, where the Internet has had the strongest

3 PKD (Polska Klasyfikacja Działalności) is the Polish classification of economic activities that obey the rules of International Standard Industrial Classification of all Economic Activities ISIC and Statistical Classification of Economic Activities in the European Community NACE.

impact on workers' lives. In the case of equipping employees with mobile devices, large enterprises dominated in 2017, where 97% of employees were equipped with the above mentioned devices. In the case of small enterprises, only 65.8% of employees were equipped with portable devices. Most companies operating in the real estate market, including those dealing with real estate brokerage, are small companies. Enterprises classified by activity as Real Estate services occupy the last – 13th place – in terms of equipping their employees with mobile devices. Companies operating in the Real Estate services sector occupy sixth place (53.8%) among the 13 classified activities according to PKD sections in terms of employees' usage of a computer with Internet access. For comparison, it is 94.8% of employees within the Information and communication industry and 90% within the insurance and financial industry use a computer with access to the Internet (GUS).

On the basis of the conducted survey and statistical analysis with cross tables, characteristics of the dominant features of the examined brokers representing particular highlighted types were compared with the finished transaction. The characteristics included socio-demographic features such as education, form of employment, company size and company headquarters.

The analyses show that among surveyed brokers who are mainly using modern means and forms of communication, the dominant group is characterized by higher education (10.5%). For comparison, over 40% of respondents who use traditional means of communication more often are people with secondary education. The situation is similar in relation to the tools used by agents in the communication process. Among the respondents as much as 16% using only modern tools in the communication process are people with higher education, while only 4% are people with secondary education.

As far as the forms of employment are concerned, people working as self-employed or co-owners use modern means and forms of communication more often than hired employees. A similar situation takes place in the case of respondents in relation to the use of modern tools of communication. Both in small and medium-sized enterprises, traditional tools and means as well as forms of communication are used more often. However, the analysis of cross tables suggests that small companies employing up to 9 employees (8.5%) use modern means and forms of communication more often. In the case of modern tools, up to 20% of small companies use them in communication with the clients. This may be happening due to the fact that in Poland, over 90% of the companies dealing with real estate brokerage, are small companies.

Agents whose companies are placed in big cities (36.4%) dominate among the respondents who use modern means and forms of communication. A similar situation occurs when using tools in the client-broker communication process. The vast majority of agents using only modern communication tools are employed in companies that have their headquarters in large cities (16%).

These analyses are confirmed by data included in numerous reports of the Central Statistical Office (GUS) and various authors (e.g. Arendt, Kryńska, 2015; Pekasiewicz, Szczukocka, 2017). This shows that people with higher education working in big cities have better access to modern tools and forms of communication.

Table 4. Evaluation of the effectiveness of the tools and means of communication used in establishing relationships with clients, in the respondents' opinion

<i>N</i> = 50		Percentage of responses in %				
		Often	Average	Rarely	Not used at all	Total
Tools of communication						
Traditional communication tools	Desktop	28	18	6	48	100
	Laptop	58	22	4	16	100
	Phone	74	12	8	6	100
Modern communication tools	Smartphone	52	14	6	28	100
	Tablet	26	20	4	50	100
Means and forms of communication						
Traditional means and forms of communication	TV advertisement	6	2	8	84	100
	Press advertisement	4	32	32	28	100
	E-mail	46	38	12	4	100
	Leaflet	4	30	34	32	100
	Outdoor advertising	30	28	4	38	100
	WWW pages	72	22	4	2	100
Modern means and forms of communication	Social media	28	20	16	36	100
	Banner advertising on the internet	20	26	4	50	100
	Newsletter	6	16	16	62	100
	Messenger	12	20	16	52	100
	Videos on the internet	4	28	10	58	100

Source: own studies based on conducted pilot surveys

As the most effective tools of communication with clients, the respondents indicated tools recognized as traditional forms of communication, such as telephones (74%) and laptops (58%) and, among modern tools, smartphones (52%). Among the means and forms recognized as traditional communication, respondents rate websites as the most effective (72%) followed by e-mail (46%), social media (28%) and banner advertising on the internet (20%).

As can be seen in Table 5, the respondents attribute a comparable role to the laptop, telephone and smart phone in the process of acquiring customers. In the opinion of 34% of the respondents more clients were acquired thanks to the use of these three tools. Among the means and forms of traditional communication,

which helped increase the number of clients, websites (66%) and e-mail (44%) were ranked first; and among modern forms of communication social media was used most often (32%). Both in the case of tools and means and forms of communication, the respondents point to a slightly more important role of traditional tools when compared to modern tools in the process of customer acquisition. This is also confirmed by the average assessments of the role of tools, means and forms of communication. On a scale of 1 to 5, where 1 means definitely improved and 5 – significantly deteriorated, the average assessment of the role of traditional tools takes the value of 3.74 and in the case of modern tools – 3.97, (see Figures 12 and 13). In the case of means and forms of communication, it takes 4.11 for traditional forms and 4.83 for modern forms.

Table 5. The role of the tools, means and forms of communication used in acquiring clients by real estate agents, in their own opinion

<i>N</i> = 50		Percentage of responses in %				
		Often	Average	Rarely	Not used at all	Total
Tools of communication						
Traditional communication tools	Desktop	10	36	4	50	100
	Laptop	34	38	4	24	100
	Phone	34	30	10	26	100
Modern communication tools	Smartphone	34	30	4	24	100
	Tablet	8	38	4	24	100
Means and forms of communication						
Traditional means and forms of communication	TV advertisement	6	8	2	84	100
	Press advertisement	8	18	14	60	100
	E-mail	44	34	12	10	100
	Leaflet	6	26	10	58	100
	Outdoor advertising	24	18	10	48	100
	WWW pages	66	24	4	6	100
Modern means and forms of communication	Social media	32	18	6	44	100
	Banner advertising on the internet	12	18	4	66	100
	Newsletter	2	16	2	80	100
	Messenger	20	14	–	66	100
	Videos on the internet	4	20	2	74	100

Source: own studies based on conducted pilot surveys

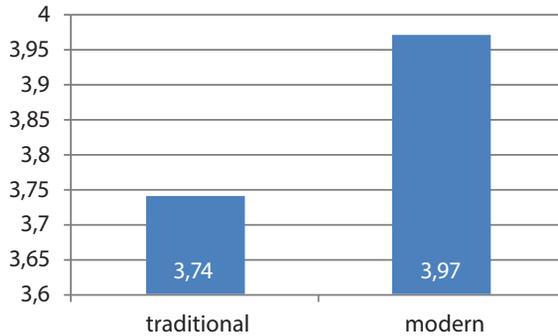


Figure 12. Average assessment of the role of communication tools used in acquiring customers
 The scale is from 1 to 5, where 1 stands for 'strong improvement', and 5 – 'strong decrement'
 Source: own studies based on conducted pilot surveys

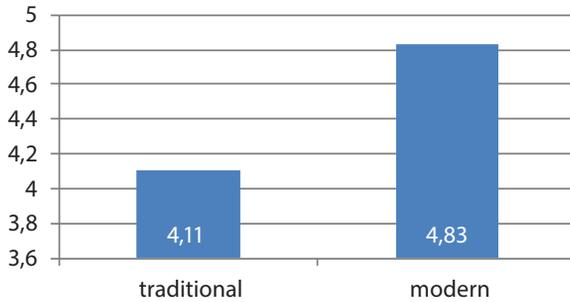


Figure 13. Average assessment of the role of the means and forms of communication used in acquiring customers
 The scale is from 1 to 5, where 1 stands for 'strong improvement', and 5 – 'strong decrement'
 Source: own studies based on conducted pilot surveys

The data from the research gathered in Table 6 show that smart phones (34%), telephones (32%) and laptops (28%) are the most important communication tools for finalizing contracts with clients, according to the respondents' opinion. Websites (48%), emails (38%) and social media (26%) dominate among the means and forms of communication. Taking into account the average assessment of the role of the tools, means and forms of communication per one respondent, the conclusion is that the respondents assess the usefulness of both tools and means and forms of traditional communication, in the transaction finalization process considerably higher. Particularly significant differences in assessment are evident in the case of tools, much less in the case of means and forms of communication (see Figures 14 and 15).

Table 6. The role of the tools, means and forms of communication used in finalizing transactions by real estate agents, in their own opinion

N = 50		Percentage of responses in %				
		Often	Average	Rarely	Not used at all	Total
Tools of communication						
Traditional communication tools	Desktop	6	38	6	50	100
	Laptop	28	38	4	30	100
	Phone	32	36	8	24	100
Modern communication tools	Smartphone	34	28	4	34	100
	Tablet	12	26	2	60	100
Means and forms of communication						
Traditional means and forms of communication	TV advertisement	4	2	–	94	100
	Press advertisement	8	24	10	58	100
	E-mail	38	30	14	18	100
	Leaflet	8	16	16	60	100
	Outdoor advertising	16	26	4	54	100
	WWW pages	48	36	4	12	100
Modern means and forms of communication	Social media	26	22	2	50	100
	Banner advertising on the internet	4	22	–	74	100
	Newsletter	–	22	4	74	100
	Messenger	16	24	2	58	100
	Videos on the internet	6	18	4	72	100

Source: own studies based on conducted pilot surveys

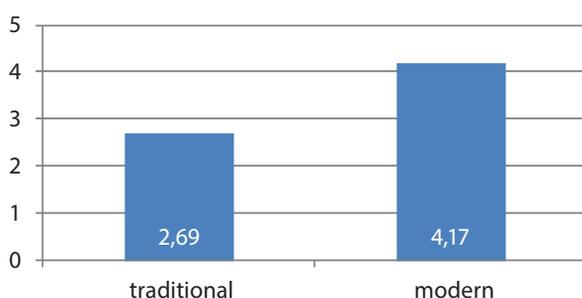


Figure 14. Average rating of the role of communication tools used in finalizing the transaction
The scale is from 1 to 5, where 1 stands for 'strong improvement', and 5 – 'strong decrement'

Source: own studies based on conducted pilot surveys

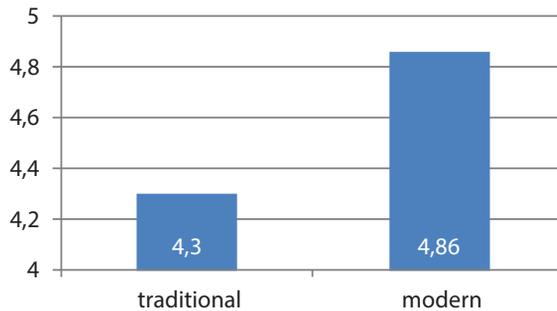


Figure 15. Average rating of the role of the means and forms of communication used in the finalization of the transaction

The scale is from 1 to 5, where 1 stands for 'strong improvement', and 5 – 'strong decrement'

Source: own studies based on conducted pilot surveys

6. Conclusions

1. Among the traditional communication tools, the most frequently used ones are laptops and phones, and among modern tools – smart phones. For comparison, the results of the report (*Real...*, 2017) prove that, as in the case of Polish real estate agents, more than 50% of American agents in their daily work with clients often use such communication tools as a laptops and smartphones. The websites and e-mails play a dominant role among the studied group of communication forms. Appropriately, 80 and 84% of respondents use these forms of communication most often. The results of the research (*Real...*, 2017) are analogous, where almost 96% of respondents use e-mails to communicate with clients.
2. Real estate agents use traditional tools and means and forms of communication far more often than modern ones. This confirms, among others, Poland's relatively low position in the information society development and thus the use of modern information and communication technologies in every area of people's lives (private, professional and social).
3. Social media dominate among the means and forms of modern communication. The necessity for the surveyed real estate brokers' presence on social networks is forced by the increasing competition, not only due to the deregulation of the broker profession, but also due to the growing popularity and importance of these forms of communication among the public. Similar conclusions are included in the report (*Real...*, 2017). The researched brokers in the US see the greatest threat to further functioning of their profession and their companies from the virtual world.

4. The clear majority of respondents plan to modernize the means and forms of communication by implementing modern tools of communication in their companies. Among the planned changes, the purchase or replacement of smartphones (28%) prevails for the communication tools, and among the means and forms of communication, the respondents clearly emphasize the need to increase their activity within the network, both in relation to social media (28%) and in the field of online advertising (28%).
5. The vast majority of respondents use software available online for customer service at work.
6. The respondents use predominately traditional tools, means and forms of communication in relations with clients. This situation is not conducive to increasing the number of clients acquired and signing more contracts. Perhaps the situation would change if the respondents decided on a more intensive use of modern tools, means and forms of communication. However, it cannot be excluded that the decreasing number of contacts and finalized contracts are conditioned by other factors than the used tools, means and forms of communication.
7. The results obtained from the research conducted on the use of both tools and means of communication reflect the average position of the real estate market on the use of modern information and communication technologies in the context of 12 other industries classified according to PKD. The reluctance to use modern tools as well as means and forms of communication is related to socio-demographic features, such as education and form of employment.
8. As far as the subjective belief of the respondents about the effectiveness of the traditional and modern types of tools, means and forms of communication is concerned, the dominant opinion is that the traditional tools, means and forms of communication are more effective methods of finalizing transactions. This is evidenced by the average assessment of the role of the tools and means used in the communicating process of finalizing the transaction. Similar belief prevails among the respondents in the case of the use of tools and forms of communication in the customer acquisition process. In this case, the average assessment of the role of traditional tools and forms of communication used in the process of customer acquisition is more beneficial than in the case of modern tools and forms of communication.
9. The results of this analysis provide the grounds for rejecting the hypotheses H1 and H2.

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Technologiczne wsparcie komunikacji pośredników nieruchomości – ocena zjawiska

Streszczenie: W dobie globalizacji i rozwoju nowoczesnych technologii informatycznych coraz większą rolę odgrywa wsparcie technologiczne środków komunikacji w kontaktach między klientem a przedsiębiorcą w branży usługowej. Takie tendencje dotyczą również przedsiębiorstw związanych z obsługą rynku nieruchomości, a w szczególności z pośrednictwem w obrocie nieruchomościami. Celem artykułu jest identyfikacja poziomu dostosowania usług w branży pośrednictwa nieruchomości do ogólnych tendencji charakteryzujących sektor usług. W artykule zostały postawione dwa pytania badawcze. Pierwsze dotyczy dostosowania poziomu wykorzystywania narzędzi wspomagających komunikację w branży pośrednictwa nieruchomości na rynku usług, a drugie oceny skuteczności wykorzystywanych narzędzi w opinii pośredników. Dla potrzeb opracowania przeprowadzono analizę literatury, analizę krytyczną oraz pilotażowe badania ankietowe wśród pośredników obrotu nieruchomościami.

Słowa kluczowe: komunikacja, technologia, usługi, rynek obrotu nieruchomościami, pośrednicy w obrocie nieruchomościami

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