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## E-services in Poland – selected research findings

**JEL codes:** O11, O39, O52

**Keywords:** information society, e-services

**Summary.** The article presents findings of a Delphi study and survey covering the Polish society and focusing on significance, use, frequency, awareness and status of e-services in Poland in the context of the development of the information society.

### Introduction

The emerging information society (IS) expanded the economic role of services and increased employment in many sectors. Developed countries and international organizations, which first recognised the opportunity to counteract the shortage of jobs resulting from production automation and growth of population, decided to stimulate and monitor social transformation to maximize economic and social gains. A condition to develop management in enterprises is sufficiently developed information infrastructure (Budziewicz-Guźlecka, 2012, p. 206). The stimulation involved distribution of funds, development and implementation of development plans and strategies, and tightening of cooperation between countries as regards a common policy in the area concerned.

Meeting information needs improves efficiency of companies and the society alike. Provision of information is a precondition for a man to operate in an effective and safe manner and to succeed (Nicholas, 2001, p. 25).

The role of transmission media changes in time. Although initially, they have constituted a functional basis for the information society, their recent development provided a broad information band that facilitates provision of all sorts of services and

organizational solutions. Thus, the main point of focus is the rapid generation of optimized results in the economy and society.

The rapid development of the Internet has led to the emergence of new sectors of the economy, either directly or indirectly related to the functioning of the network (Drab-Kurowska, 2012). Rapidly growing e-services are the means to meet that end. Today, the services are the most vivid effects of the knowledge driven civilization strategy encountered by the society and businesses. Apart from the fact that they are addressed to a wide society, some of them, such as e-administration, create real possibility of generating social and economic benefits by the business sector (e.g. easier and faster exchange of documents and reduction of organizational cost) and state administration (e.g. improved internal document flow system). This proves that e-services have frequently multifaceted effects.

The article presents selected findings of the nationwide survey and expert study which focused on a number of issues pertaining to the use of e-services.

## 1. Idea of e-services

E-services facilitate the operation of companies and manufacturing of new products and services. Functionalities of the Internet make it an excellent distribution channel and a platform for providing new services. This can be seen in public administration, medicine, education, retail, finance, tourism, insurance, culture etc. (Dąbrowska, Janoś-Kresło, Wódkowski, 2009, p. 41, 47).

E-service can be defined as: ‘service provided partially or entirely automatically using an IT technology, IT systems in public telecommunication networks, on individual request of the user, without simultaneous presence of parties in the same location and requiring minor engagement of a man on the part of the user’ (Regulation of Minister of Regional Development of 13th August 2008).

Some of basic differences between traditional services and e-services is that the human and distance factors are eliminated in part or in whole (Flis, Szut, Mazurek-Kucharska, Kuciński, 2009, p. 4).

## 2. Economic and social significance of e-services

In Q2 and Q3 2015, the author carried out a study using the Delphi methodology. The study aimed at establishing, among others, the role and importance of e-services for the economy and social development. The study covered nineteen carefully selected experts who represented three groups linked with the research area:

- political and legal group connected with the sector of ICT (e.g. employees of Polish Electronic Communication Office, authors of development strategies, specialists on granting telecommunication rights etc.),

- science and research (specialists working chiefly at universities and practitioners at the same time),
- ICT group (mainly specialists who are managers at leading telecoms in Poland).

Figure 1 presents the assessment of relevance of services created by IS and fast Internet. The majority of them are assessed as very important and/or important. Virtual enterprises, e-mail and social media are considered to be the most important. Specialists surveyed considered teleconferences and smart buildings as less important among e-services.

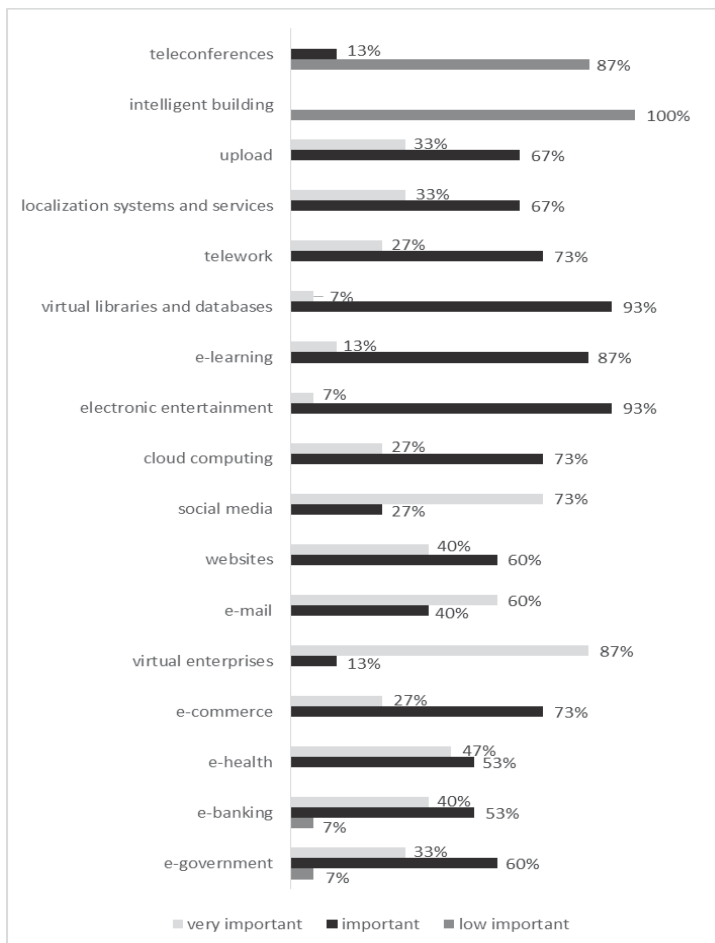


Figure 1. Importance of e-services

Source: own materials based on research (Delphi method).

### 3. E-services in Poland – presentation of selected survey findings

The expert study was expanded with a survey of the Polish society as regards people's preferences in using and awareness of e-services. The study was implemented from March until June 2016. To make the study representative it was established (calculated) that the minimum population of the research sample was 385. The number of appropriate returns was 500 and those were used for further statistical analysis.

The survey covered twenty three e-services examined from the point of view of their awareness, development, use and frequency of using those services by the Polish society.

#### **Awareness of e-services**

In Poland, people are well familiar with e-services (Czaplewski, 2016, p. 401–402). The social awareness should be considered high. According to table 1, the awareness of a given e-service does not mean that the surveyed must have encountered it directly. Major disparities have been observed in the case of e-administration, virtual enterprises, computation clouds, e-learning, virtual libraries, telework, intelligent buildings, e-consulting and virtual museums. The highest cohesion level was observed regarding social media (only 4 p.p.), websites (4 p.p.), localization systems and services (5 p.p.) and primarily electronic mail. In those areas, a declaration made by consumers was equivalent to a direct contact with a given service.

The fact that the Polish society has relatively broad knowledge about e-services is not reflected by the awareness of the term of 'information society'. The information society should be perceived as the digital world present in all spheres of everyday life and the source of transformation and improvement of all telecommunication services. The study presented in Figure 2 show that IS in Poland has poor association with e-services, despite the fact that they are an integral part of the newly created and convergent society.

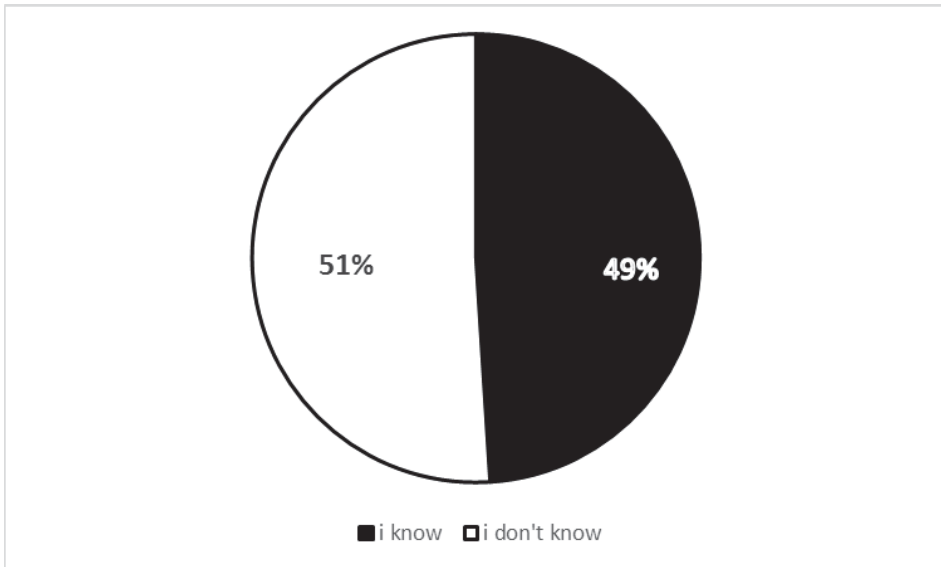


Figure 2. Awareness of the term of Information Society

Source: own materials based on survey (questionnaire method).

Figures in table 1 show that virtual museums and cloud computing are the least known among all services examined. Only 58% and 61% surveyed respectively has certain knowledge about them, which is still a better result comparing to the awareness of the term of IS.

#### **Use and frequency of using e-services**

The largest number of the surveyed (80% and more positive answers) use e-banking (86%), e-mail (92%), websites (93%), social media (90%), localization systems and services (84%) and e-logistics (81%). At the same time, people surveyed declare that they use those services very frequently and/or frequently except localization systems and services which are used rarely (81%). Other very rarely used services include telework (81%) and virtual museums (77%).

#### **Assessment of the level of e-services in Poland**

The society is optimistic regarding the development level of e-services in Poland (tab. 1). In their opinion (70% and more answers) the most popular is e-banking, e-commerce, e-mail, websites, social media, text messages, e-marketing and e-logistics. The group of least developed services (50% and more answers) includes virtual enterprises, e-learning, e-consulting, virtual museums and e-health. The latter was unfortunately in the forefront of the least developed e-services.

Table 1. E-services in Poland (%)

p.	E-service	Frequency of use				Use			Knowledge				Level of development				
		rarely	often	very often	sum	I did not use	I use	sum	I do not know	I know but I have not met	I know and I have met	sum	v. poorly	poorly	firmly	v. firmly	sum
1	e-government	69	25	6	100	42	58	100	11	25	64	100	14	34	43	8	100
2	e-banking	14	39	47	100	14	86	100	4	9	87	100	3	20	48	28	100
3	e-health	61	26	13	100	54	46	100	4	9	87	100	20	40	36	4	100
4	e-commerce	25	40	35	100	22	78	100	9	10	81	100	5	22	43	29	100
5	virtual enterprises	58	25	17	100	64	36	100	20	38	42	100	18	33	33	16	100
6	e-mail	6	25	69	100	8	92	100	8	0	92	100	4	14	41	41	100
7	websites	4	18	78	100	7	93	100	3	4	93	100	3	9	47	41	100
8	social media	16	23	61	100	10	90	100	6	4	90	100	3	14	37	46	100
9	cloud computing	66	21	13	100	70	30	100	39	25	36	100	16	28	40	15	100
10	electronic entertainment	11	40	49	100	70	30	100	10	6	84	100	4	28	39	29	100
11	e-learning	50	36	14	100	40	60	100	16	24	60	100	9	43	39	10	100
12	virtual libraries and databases	51	34	15	100	41	59	100	14	26	60	100	12	36	40	11	100
13	telework	81	12	7	100	87	13	100	20	49	31	100	25	30	38	8	100
14	localization systems and services	81	12	7	100	16	84	100	10	5	85	100	6	27	40	28	100
13	upload	26	44	30	100	31	69	100	11	15	74	100	5	30	42	22	100
16	intelligent building	63	28	9	100	82	18	100	24	52	24	100	16	31	39	13	100
17	teleconferences	39	40	21	100	31	69	100	15	16	69	100	3	28	48	21	100
18	text messenger	22	35	43	100	29	71	100	13	15	72	100	3	26	42	29	100
19	e-marketing	39	41	20	100	31	69	100	12	19	69	100	5	21	58	16	100
20	download	29	40	31	100	23	77	100	9	14	77	100	3	20	47	30	100
21	e-logistics	41	42	17	100	19	81	100	10	9	81	100	3	23	54	20	100
22	e-consulting	62	29	9	100	66	34	100	27	33	40	100	21	31	38	10	100
23	virtual museums	77	19	4	100	78	22	100	42	35	23	100	34	30	33	3	100

Source: own materials based on questionnaire survey

## Conclusions

The beginning of e-services was marked with a rapid development and spread of information technologies. The world wide web, based on those technologies, provided a new virtual environment which supported new services as well as shifting existing services to the virtual dimension.

E-services and the Internet are closely linked with social changes and the development of the information society. The latter being the only right way of economic and social growth. Those important dependencies, resulting from the specific nature of the new information technology sector and omnipresent convergence, are a very important factor contributing to wealth and comfort of living.

The article presents selected findings of two studies implemented by the author. Despite the application of separate techniques, both studies focused on the Polish sector of e-services. The examination of the area concerned was extremely difficult due to technical and subject specific reasons. This was due to the multifaceted nature of phenomena studied as well as their impacts and consequently multitude of stakeholders.

Despite the fact that findings can be considered accurate and correct, the author has recognised certain risks related to studying e-services. The first one of them is the limited possibility of encountering direct effects of a given e-service by people surveyed. An ideal example is e-logistics. Although it plays an important economic role, which is hardly encountered by the society, elements of e-logistics accessible for an ordinary citizen, such as tracking mailings, do not have major economic significance. E-logistics, in its comprehensive dimension, is going to be important, whereas the perception by the society will be based on insignificant areas.

Yet another issue is indirect vs. direct and dedicated nature of some e-services. It happens that although a service is dedicated for the society, the society encounters it through other tools or functionalities. This is true for instance in the case of cloud computing. Although they operate catering for needs of individual consumers, very few people are aware of using them, since its use takes place through a specific software (e.g. smartphone application).

Regardless the obstacles, findings enable drawing the following conclusions:

1. E-services in Poland are associated with the information society.
2. Poles have considerable knowledge about e-services.
3. Knowledge about e-service does not necessarily mean that the service is actually used.
4. There is an interrelation between declared use of a given e-service and the assessment of its level – Poles use services that are well developed and accessible.
5. In Poland, the development of advanced e-services, such as e-health, is poor.

Based on the above, we may conclude that Poles are prepared to operate in the new cyber world as regards their skills and information awareness. We may expect that e-services will rapidly develop and spread in the years to come, and this will have a direct bearing on economic and social benefits.

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## E-USŁUGI W POLSCE-PREZENTACJA WYBRANYCH WYNIKÓW BADAŃ

**Słowa kluczowe:** społeczeństwo informacyjne, e-usługi

**Streszczenie.** W artykule zaprezentowano wyniki badania delfickiego oraz badania ankietowego społeczeństwa w Polsce, które dotyczyły ważności, korzystania, częstości korzystania, znajomości oraz stanu rozwoju e-usług w Polsce w kontekście kreującego się społeczeństwa informacyjnego.

*Tłumaczenie Piotr Gutowski*

## Cytowanie

Gutowski, P. (2017). E-services in poland-selected research findings. *Ekonomiczne Problemy Usług*, 1 (126/2), 65–72. DOI: 10.18276/epu.2017.126/2-07