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E-Government Solutions in Poland: The State of E-Services Provided by a Selected Local Government Unit

Abstract

Objective: The subject of the article is an attempt to determine the state of e-government development in local government units in Poland based on the example of the selected Piekary Śląskie City Hall, operating in the Śląskie voivodeship. The aim of the paper is to explain the state of e-government, then to present the applied IT tools and solutions in local government units in Poland, and make an attempt to assess the state of application of e-government solutions at the local level in a selected local government unit through the perspective of e-service provision according to the maturity model.

Research Design & Methods: In this study, the method of deduction was used as well as auxiliary methods and techniques such as logical analysis, analysis and study of literature, and classification and scientific description. In order to perform the research task, the applied empirical procedure was supported by a critical review of the literature on the subject in Polish and English, and practical cooperation with a selected local government unit. The research part of the study used non-participant observation, a case study and a face-to-face interview. In order to obtain information, the Polish electronic platform for public administration services (ePUAP) of the Piekary Śląskie City Hall was analysed and an interview with an employee of this unit was conducted in July 2023.

Findings: The results of the conducted scientific analysis show that IT and technological solutions and tools have a significant impact on the effective e-government functioning. In addition, these factors reflect access to e-services provided by public administration, as well as employee and customer competence with regard to e-government.

Implications/Recommendations: The results of the scientific analysis and its findings contribute to existing research by providing knowledge on the state, progress, and development of e-government through the provision of e-services provided by public administration in a selected local government unit in the Śląskie voivodeship.

Contribution/Value Added: The research shows that the interest in the development of e-government among researchers is great, because the topic is still up-to-date and has utilitarian values. The assessment of public e-services in a selected local government unit (i.e. the Piekary Śląskie City Hall) makes it possible to determine the level of the maturity at which the examined unit is located. The study may also serve as a introduction to and a basis for a comprehensive diagnosis of the state of application of IT and technological tools and e-government development in all local government units in Poland.

Article classification: empirical article

Keywords: e-government, e-services, local government unit, public administration, information and technology solutions

JEL classification: *H83, D73, L86*

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Introduction

One of the most important elements of effective operation of local government units in Poland is the development of e-government at the local level. Local government units (at the level of the municipality [Pol. *gmina*], poviat [Pol. *powiat*] or voivodeship [Pol. *województwo*]) deal first of all with a customer – an applicant – a citizen, who most often has a matter to be disposed of in an office appropriate for him/her. On the other hand, however, the Office provides a service to the Citizen, i.e. serves him/her within the scope it is established for in accordance with the purpose of its functioning. According to the definition in the *Encyclopaedia of Public Administration*, the term 'administration' itself comes from the Latin word '*ministrare*', which means, among other things, to serve, to perform. It is worth emphasising that the servant function of administration supported by modern information and communication technologies undoubtedly improves contact between the citizen and the Office, which contributes to faster and more efficient handling of cases and customer service. In online communication, the main goal is for the citizen to complete the selected case entirely via the Internet. Therefore, the development of e-government at the level of local government units will rely on the increasing possibility of citizens to benefit from public e-services. Online public administration services are becoming increasingly important due to, *inter alia*, the growing mobility of societies, demographic changes related to the ageing of the population, growing expectations of citizens towards public services, and the reduction of public administration costs (Drobiazgiewicz, 2012). The process of implementing e-services in local government units accelerated due to circumstances related to the introduction of restrictions on visits to public offices and institutions caused by the pandemic. The pandemic situation has also influenced the interest in remote dealing with cases on the part of both citizens and decision-makers (Kwaśny, 2022). The development of e-government is also in line with the assumptions of the concept and reform of public administration called New Public Management (Mlodzik, 2015), which aims to improve the quality of management in the public sector and is an alternative to traditional public administration (Czarnecki, 2011).

The aim of the paper is to explain the state of e-government, then to present the applied IT tools and solutions in local government units in Poland, and to make an attempt to assess the state of application of e-government solutions at the local level in a selected local government unit through the perspective of e-service provision according to the maturity model. The research questions are as follows:

– Has the Municipality implemented a development strategy for IT or digitisation?
– What is the state of e-government in the selected local government unit?
– At what level of maturity are e-services provided?

This study used the deductive method as well as auxiliary methods and techniques, such as logical analysis, literature analysis and research, and classification and scientific description. In order to perform the research task, the applied empirical procedure was supported by a critical review of the literature on the subject in Polish and English, and practical cooperation with a selected local government unit. The research part of the study used non-participant observation, a case study, and a face-to-face interview

The results of the conducted scientific analysis show that IT and technological solutions and tools have a significant impact on the effective e-government functioning. In addition, these factors reflect access to e-services provided by public administration, as well as employee and customer

competence with regard to e-government. The research findings may aid in the implementation of e-government initiatives at both national and regional level.

The article consists of five parts: introduction, literature review, research methodology, discussion of the results, and conclusions. The second part of the article explains in subsection 2.1 the concept and importance of e-government, then reviews selected e-service maturity models (subsection 2.2), and presents the status of e-services in Polish local government units in the light of the results of surveys (subsection 2.3).

Literature review

The concept and significance of e-government

The term 'e-government' is not easy to define. Problems related to the unambiguous explanation of the term arise from the fact that it is within the scope of interest of many areas of life, such as legal and administrative sciences, computer science, economics, management, and social sciences. The concept is identified with administration directly using the development of telecommunications and information technology to facilitate contact between citizens and entrepreneurs and public administration bodies (Mikulski, 2008).

The issue of e-government, in other words electronic government (Kępa, 2020) at the central, governmental or, finally, local level has already received much attention. E-government has become an inherent „part of the practice of governments at the local as well as the central level. They use the Internet and information and communication technologies to deliver services, disseminate information and enable a more open dialogue between administrative entities and Citizens" (Walencik, 2018). E-government also involves increasing the efficiency of public administration and the quality of services provided, simplifying the disposing of matters, and obtaining comprehensive information about them (Wlodyka, 2021).

E-government has been studied in terms of, for example, electronic documents in local government units (Szymczuk, 2018), the identification of e-government success factors (Ziemba et al., 2015), the challenges faced by local government units in this regard, as well as barriers to implementing e-government at the local level (Kwaśny, 2022). Moreover, the use of cloud computing technologies in e-government has also been investigated (Niewiadomska, 2012), or the possibilities of providing services electronically, and online resources including official websites of offices and their public information bulletins have been assessed (Papaj, 2012). The research showed that e-participation is one of the most important success criteria of e-government, and its form changing in line with ICTs' evolution, so there is a significant need for more ongoing investigation broad field (Adnan et al., 2022). Opportunities and risks associated with the automation and robotisation of processes have already been identified in the development of public services (Baran et al., 2020). A scientific study was also conducted to try to synthesise the determinants of e-government implementation by local governments (Dias, 2020). Another study conducted by researchers looked at the role of trust in the context of e-government (Hooda, 2022). On the other hand, when it comes to research on innovation in the public sector as one of the reform mechanisms, it turns out that it is not something new. They have been widely studied in modern public administration. Most publications on public innovation are relatively new, as they were published between 2009 and 2014 and focused on the US-Anglo perspective. In addition, regional studies and the international perspective tend to emphasise a metric, index, and measurement

instrument for public sector innovation, and take place mainly in the Western context. There are previous studies which assessed the effectiveness and efficiency of public services provided by regional governments (Muksin & Avianto, 2021)

The concept of e-government is defined as the provision of public services using electronic forms of communication (ICTs, Information and Communications Technologies), resulting in an increase in the efficiency of public administration activities. A well-functioning administration should first and foremost perform the function of connecting different social groups, e-government customers, and undertake such activities aimed at adapting its services to the existing needs and conditions (Wilk, 2014). The goal of e-government is, therefore, to improve the quality of life of those using its services (e.g. through the implementation of e-services), improve efficiency, and increase the transparency of public administration activities. The development of information and communication technology mechanisms simplifies the process of trying to resolve and handle a given case for a citizen; it also shortens the time needed to resolve a case and provides the possibility to access services offered by local government units regardless of the time and place of the person concerned. E-government provides many opportunities between the Citizen (Applicant, Customer) and the office. Progress in the development of e-government is expected to ensure that cooperation between the Citizen and the office is not limited to providing downloadable documents with which, once completed, the applicant will have to go to the office to submit them in the traditional way (Werenowska, 2018).

E-government is primarily associated with the provision of e-services (Ziemba, 2012) at different levels of maturity. Both of these categories (e-government and e-services) play a part, alongside the concepts of e-democracy and e-governance, in shaping the conceptualisation of the e-government dimensions (Papaj & Ziemba, 2012).

A review of selected e-service maturity models

In the literature on the subject, one can find a number of classifications of the maturity levels (degrees) of services provided by the broadly understood administration[1]. The simplest three-level classification of types of activity, which reflect the degree of e-service maturity in administration, is considered. We can identify:

– searching for information on government websites;
– downloading official forms;
– sending completed official forms or completing them online (Jedlińska & Rogowska, 2016).

However, the article adopts a more elaborate e-service maturity model consisting of four levels due to the fact that it is one of the most frequently mentioned models in the literature.

If this interaction does not exist (none), it means that the Office only provides information in the Public Information Bulletin (BIP) on how to deal with a particular matter. This is an information-only service. One-way interaction occurs when the office additionally provides forms

[1] Fath-Allah et al. (2014) descrive as many as 25 e-government maturity models: only 1 model consists of two maturity levels (the Reddick model), four of these models consist of 3 maturity levels (Cisco, World Bank, Howard and Chen); eight models are based on four maturity levels (Layne and Lee, Andersen and Henriksen, United Nations, Alhomod, Gartner, West, Chandler, and Emanuel and Windley); nine models are based on five maturity levels (Hiller and Belanger, Moon, Shahkooh, Lee and Kwak, Siau and Long, Kim and Grant, Accenture, The UK National Audit, and Netchaeva), three models are based on six maturity levels (Almazan and Gil-Garcia, Deloitte and Touche, and Wescott).

to be filled in manually, which are used to initiate proceedings, without the possibility to send it to the office electronically. Two-way interaction occurs when interactive forms are made available with the possibility of sending them electronically to the office in order to initiate proceedings.

The third level of maturity, called the transaction level, enables two-way electronic communication in order to perform the actions necessary to dispose of a matter. In order to dispose of a matter, the applicant submits an electronic application with the necessary attachments (he/she also makes a payment), and the decision/order on the matter is sent to the applicant electronically (Kotyla, 2020).

The basic level of maturity distinguished in the literature is the information level, meaning that government offices make public information available to Citizens and Entrepreneurs on office web portals. In the case of public e-services, at the interaction level, stakeholders communicate electronically with individual offices, but a complete disposing of a matter requires a personal visit to an office. The third level, referred to as the transaction level, is connected with the possibility of completing all the activities necessary for disposing of a given matter completely electronically, but only in a single office. The last, fourth level of maturity, referred to as the integration level, ensures the integration of various e-services in the area of the whole public administration and not only individual offices (Ziemba, 2012).

This was to be facilitated by the introduction of an electronic sub-box, which provides the possibility of online correspondence between the customer and the office. Internet platforms have also been introduced, e.g. the ePUAP platform and regional platforms (e.g. SEKAP in the Śląskie voivodeship)[2]. The former government platform called ePUAP also allows electronic communication and exchange of information between public institutions.

Yet another four-stage maturity model of public e-services mentioned in the literature, which also distinguishes between one-way and two-way interaction, assumes the following levels:

– the first one (this is the so-called online information), where it is possible to search for information about a given office and the services provided there on its website;
– the second one (so-called one-way interaction), characterised by the possibility to search for information and download official forms from the office's website;
– the third one (so-called two-way interaction), with the possibility not only to search for information, but also to download and return to the office the completed forms via the Internet;
– the fourth one (the so-called transaction) consisting in the full handling of the process, i.e. the possibility to perform all the actions necessary to handle a case electronically: from obtaining information, through downloading relevant forms and sending them back after completing and affixing an electronic signature, to paying required fees and receiving an official permit, certificate, or other document requested by a given person/company (Stec, 2011).

In addition to the above-mentioned degrees of e-services, a fifth level of maturity is distinguished in the Polish literature, namely the so-called personalisation, i.e. the ability to identify the Customer in the electronic data system of the administration, which gives the opportunity to remind the Customer of the need to perform certain official activities and to provide automatically certain services that do not require the Customer's intervention (Drobiazgiewicz, 2015).

On the other hand, the classification of e-service levels adopted in the Operational Programme Digital Poland (Andrzejewska et al., 2018) is based on the methodology developed at the request

[2] In accordance with Resolution no. 2934/196/VI/2020 of the Śląskie voivodeship Executive Board of 16th December, 2020, a decision was taken to terminate the operation of the SEKAP platform on 31st December, 2021.

of the European Commission, used for the purpose of studying the maturity of e-government in individual Member States. This classification also includes a five-stage maturity scale, which reflects the range of activities that can be facilitated electronically within a given service. The maturity levels of electronic services are as follows:

– the first level – information; at this level of maturity, no forms are required to be published on the public website. It is sufficient to provide only the necessary information about the process or the required documents;
– the second level – one-way interaction; this level of maturity can be referred to in the case of services, if on a publicly available website there is the possibility of downloading forms necessary to initiate a procedure (e.g. an available application for a document, which a Citizen or Entrepreneur can download, fill in and print out). The matter itself (service) in the case of this level of maturity may be handled by traditional means, and thus will involve the necessity of coming to the Office in person;
– the third level – two-way interaction; to meet the requirements for this level of maturity, it is necessary to:
– make available on a publicly accessible website the forms to be filled in,
– ensure authentication in the ICT system of the Citizen or Entrepreneur,
– enable the initiation of an electronic service, understood as submitting an application in electronic form with the required attachments.

This level of maturity allows documents or other physical objects to be delivered by traditional means, including the personal appearance of the Citizen or Entrepreneur at the government office. It is also permissible for payments to be made electronically.

In this case, when an electronic form is used to order a non-electronic (paper) form, it is considered as the second level of maturity.

– the fourth level – transaction; this maturity level assumes that the entire service is provided electronically, in particular:
– delivery of all documents and service in electronic form,
– the absence of actions that a Citizen or Entrepreneur would have to perform in paper form,
– if a payment is required, there is the possibility to make this payment in electronic form.
– the fifth level of maturity – personalisation (individualisation); this highest level of maturity of an electronic public service assumes that:
– the electronic application forms will be pre-filled with the data of the Citizen or Entrepreneur (e.g. first and last name, address data, Personal Id. Number (PESEL), National Business Registry Number (REGON), etc.) in the possession of the entity providing the service,
– in the case of services where there is no need to submit an application, the office automatically handles the case (provides the service) to the extent appropriate to the situation of the service recipient,
– where there is a need to make a payment in the procedure, the service provider ensures that the recipient is redirected to the relevant intermediary for payment (the redirection operation must ensure that the context of the event is preserved, i.e. all the fields necessary to define and execute the payment, e.g. transfer, are filled in automatically by the service provider's system).

The state of e-service provision in Polish local government units in the light of research results

The report concerning the results of research related to the impact of digitisation on the operation of public administration offices in Poland in 2015, prepared by the ASM-Centre of Research and Market Analysis on behalf of the Ministry of Digitisation, shows that the highest percentage of local government units providing electronic services other than those based on the so-called 'general letter template' was in the Śląskie voivodeship, at 79.7%, followed by the Łódzkie voivodeship with 65%, and in the third place – the Małopolskie voivodeship at 64.8% (Walencik, 2018; Report, 2015). On the other hand, the highest number

Table 1. The part of the ranking of the municipalities distinguished in the years 2022–2023 with the 'Golden municipality for 5' award (yellow) and with the 'Municipality for 5' award including the Municipality of Piekary Śląskie

Municipality name	Voivodeship	Class	Ranking of websites	Ranking of e-mail messages in Polish	Ranking of e-mail messages in English	Total ranking
			15 points	15 points	15 points	45 points
Człuchów (1)	pomorskie	A	14	13	11	38
Rybnik (1)	śląskie	A	7	13	11	31
Płock (1)	mazowieckie	A	8	13	9	30
Żoliborz (8)	mazowieckie	A	9.5	9	11	29.5
Rydułtowy (1)	śląskie	A	12	11	5	28
Kraków (1)	małopolskie	A	5	9	13	27
Ochota (8)	mazowieckie	A	7	9	11	27
Sosnowiec (1)	śląskie	A	5	9	13	27
Zgorzelec (1)	dolnośląskie	A	12	13	0	25
Bytom (1)	śląskie	A	12	7	5	24
Lubartów (1)	lubelskie	A	11	13	0	24
Suwałki (1)	podlaskie	A	13.5	11	11	35.5
Sochaczew (1)	mazowieckie	B	13	11	11	35
Racibórz (1)	śląskie	A	9	13	11	33
Tczew (1)	pomorskie	A	10.5	15	7	32.5
Konin (1)	wielkopolskie	A	9	11	11	31
Godów (2)	śląskie	B	9	13	9	31
Bielany (8)	mazowieckie	A	10	9	11	30
Aleksandrów Łódzki	łódzkie	A	7.5	15	7	29.5
Piekary Śląskie (1)	śląskie	A	11	9	9	29
Praga-Północ (8)	mazowieckie	A	7	11	11	29

Legend: (1) urban municipality; (2) rural municipality; (3) urban and rural municipality; (8) the district of the capital of Warsaw.

Source: https://ssl-kolegia.sgh.waw.pl/pl/KNoP/struktura/IP/struktura/zpiob/forum_gmin_na_5/Documents/Raport_Gmina_na_5_2022_23.pdf [accessed: 03.06.2023].

of electronic services is provided by offices located in the Śląskie (80%), Łódzkie (65%), and Małopolskie (65%) voivodeships. The lowest number is in Świętokrzyskie (31%) and Warmińsko-Mazurskie (40%) voivodeship. At the same time, in each voivodeship, there was an increase in the percentage of offices offering this type of service between 2012 and 2015 (Report, 2015). The provision by offices of access to their services using the Trusted Profile (Profil Zaufany) in 2015 was also investigated. It turned out that in the Śląskie, Dolnośląskie, Małopolskie, and Opolskie voivodeships, the percentage of such offices exceeds 90% and even approaches 100%. Meanwhile, the evaluation of the quality of services provided to potential investors and entrepreneurs by local government units at the municipality level was carried out by a research team operating at the Enterprise Department, College of Business Administration, Warsaw School of Economics (SGH). The electronic way of contact was studied – one-way communication, i.e. access to information using the Official Website (OWI), and two-way communication, i.e. contact via e-mail (Report, 2023). The survey focused primarily on the types of municipalities' stakeholders, i.e. potential investors and entrepreneurs. The survey covered 714 municipalities, including 18 districts of the capital city of Warsaw. The willingness of officials to interact and the readiness to engage with stakeholders were also taken into account in the survey. The report shows that the most awarded municipalities are located in the Mazowieckie (10) and Śląskie (9) voivodeships. The Municipality of Piekary Śląskie was highly ranked in terms of the evaluation of its website (11 points), the evaluation of e-mails in Polish (9 points), and the evaluation of e-mails in English (9 points), which amounted to a total of 29 points. This result allowed the Municipality of Piekary Śląskie to take 9th place among the awarded in the '*Gmina na piątkę*' (Municipality for 5) category and 20th place among all the '*Złota na piątkę*' (Golden for 5) and '*Na piątkę*' (For 5) municipalities (cf. Table 1).

Among the municipalities in the Śląskie voivodeship which were ranked highest (awarded the title of "*Złota Gmina na piątkę!*" / "Golden Municipality for 5") in terms of the evaluation of their Websites and e-mails in English and Polish were the following municipalities: Rybnik (31 points), Rydułtowy (28 points), Sosnowiec (27 points), Bytom (24 points). However, among the municipalities from the Śląskie voivodeship which were awarded the "*Na piątkę!*" / "For 5" municipality prize and ranked higher than Piekary Śląskie were the municipalities of Racibórz (33 points) and Godów (31 points).

Research methodology

The aim of the study was to assess the development of e-government in the Municipality of Piekary Śląskie, including e-services provided to citizens, and to determine their degree (level) of maturity. An analysis was carried out of the e-PUAP platform (i.e. the Platform of Electronic Services), on which the Municipality of Piekary Śląskie, in accordance with the Act of 17th February, 2005, on Informatisation of the Activities of Entities Performing Public Tasks (Journal of Laws 2005, No. 64, item 565), makes available e-services, owing to which it is possible to dispose of matters over the Internet without leaving home (cf. Figure 1). The ePUAP platform is dedicated to public entities, which acquire the necessary rights on the basis of, respectively: a positive application for granting functionality to a public entity on ePUAP, an agreement concluded with the Minister, or the Minister's approval. In the described case, the ePUAP platform replaced the previously functioning regional SEKAP platform, operating at the Piekary Śląskie City Hall until 14th November, 2021 (Maćkowski, 2012).

Figure 1. The public e-services (PeUP) platform

Source: https://eurzad.piekary.pl/#!/katalog/wszystkie/priorytet

The analysis carried out made it possible to conclude that the ePUAP platform of the Piekary Śląskie City Hall divided services into 16 areas, including (cf. Figure 2):

– construction, architecture, urban planning, protection of monuments – this area contains 32 cases, including 4 cases to be completed in person at the Office or by post. One of the services, entitled 'issuance of a certificate confirming the usable area and technical equipment of a single-family house', bears the information that 'the service card is under editing. The content may be incomplete";
– identity cards, registrations, elections – 39 service cards were included in this area, of which 1 matter concerning the notification of the finding of an identity card can only be performed in person at the City Hall;
– economic activity – 12 services provided entirely electronically;
– geodesy, cartography – 11 services completely electronically;
– public utilities – 9 services completely electronically;
– communication, road construction, and transport – 99 cases, including 1 service entitled: delivery of a certificate of attendance of a professional development workshop by an instructor and/or lecturer, in person or by post;
– culture, sport, tourism and education – 18 services provided entirely by electronic means; no service card was placed in the Education and Training sub-directory;
– immovable properties, residential and business premises – 55 cases were placed in this area, of which 10 cases in the field of housing and commercial premises management can be handled only in person at the Office or by post);
– the protection of consumer rights – 1 case to be handled entirely electronically;
– the preservation of environment – 21 cases, including 6 cases to be handled traditionally in person at the Office or by post;
– taxes and duties – 39 cases to be handled entirely electronically;
– agriculture, forestry, hunting, and fishing – 17 cases, including 5 cases handled in the traditional way, i.e. in person at the Office or by post;

– civil affairs – 15 cases, including 4 cases to be disposed of in the traditional way, i.e. in person at the Office or by post;
– births, marriages, deceases – 22 cases, including 9 cases to be handled in the traditional way, i.e. in person at the Office or by post;
– promotion and information about region – 1 case processed entirely by electronic means;
– other – 14 cases processed entirely electronically.

Construction, architecture, urban planning, protection of monuments

You want to deal with matters related to construction, architecture, urban planning and protection of monuments? – this is a set of services dedicated just for you.

Identity card, registrations of residence, elections

Do you want to handle matters with your, your children's or other people's identity cards? Do you want to register in a particular municipality? Do you want to arrange issues related to presidential and other elections? This is the group of matters dedicated to you.

Economic activity

If you are an entrepreneur or are about to cecome one, if you are running a business or want to make a change to your Central Register and information on Economic Activity (CEIDG) registration, tis is the groupł of e-services dedicated to you.

Geodesy, cartography

This is tab where you will find services in the area of geodesy and cartography. Register of land and buildings. Maps. Immovables divisions. Land (classification, consolidation). Land consolidation and exchange. Agricultural geodesy.

Public utilities

Maintenance of cleanliness, waste dumps. Gas, energy, public area lighting, water and drains. Cemeteries. Green areas including landscaping facilities. War graves and gardens of remenbrance.

Communications, road construction and transport

Don't stand in a queue. Don't waste time. Start qour case quickly online. Vehicle registation, driving privileges. Licences and permits..

Culture, sport, bourism, education

If you run a school sports club (UKS), children's club, etc, look here. If you are a teacher or a pupil and want to get tihngs done, go to the "Education and Schooling" Directory.

Imovable propertis, residential and business premises

Assets of the municipality, the poviat, the State Treasury. Disposal, exchange, leasehold estety, tenancy, lending for use or putting into permanent management, perpetual usufruct. Management of residential and business premises,

Protection of consumer rights

The task of consumer ombudsmen is primarily to provide free consmer advice and legal information on the protection of consumer interests

Preservation of environment

Pronounce an opnion of locations, investments, and craft workshops. Setting of condicitons, decisions, and stipulations on the prohibition or restruction of the introduction of pollutants into the environment. Water econnomy. Nature preservation

Taxes and duties

Do you want to send in your tax return? Do you want to obtain a certificate of no tax arrears? Are there any exective proceedings underway? You have other tax and dues related matters to deal with – try to settle the matter onlinem.

Agriculture, forestry, hunting, fshing

Exclusoins from agricultural output. Crop and livestock production. Fishery Veterinary medicine.

Civil affairs

The section covers a wide range of citienship matters.

Births, marriages, deceases

Certificates of personal status and other matters relating to the Civil Registy Office.

Promotion and information about the region

Other

Public informaton, complaints, applications, petitions, change of address. If you cannot find a letter that

Figure 2. The menu of the ePUAP electronic platform

Source: https://eurzad.piekary.pl/#!/katalog/wszystkie/priorytet [accessed: 15.06.2023].

Table 1. Examples of public e-services for citizens and business people made available to citizens at particular maturity levels by Piekary Śląskie City Hall

Area of operation of the City Hall	Maturity levels of e-services			
	Information	**One-way interaction**	**Two-way interaction**	**Transaction**
Citizen affairs		– drawing up of a will; – procedure for awarding grants to non-governmental organisations; – organising visits to residents celebrating 90th, 100th and subsequent birthdays; – recognition of a foreign court decision commenced and finalised after 1st July, 2009 (countries outside the European Union) – notification of the establishment of a field organisational unit of an association registered with the National Court Register.	– Piekary Śląskie-Public consultation on part of the expenses of the Piekary Śląskie municipal budget.	– issuing permits for bringing bodies and remains from abroad for burial; – carrying out a public task as part of a local initiative; – recognising a person who has been served with a draft card for compulsory military service and a soldier in compulsory military service as having dependant family members; – recognising a person served with a draft card for compulsory military service and a soldier in compulsory military service as a soldier living alone; – issuing a decision concerning the payment of housing dues and fees to a soldier recognised as having dependant family members or as a soldier living alone; – payment of cash benefits for military exercises served; – issuing a permit to organise a mass event; – issuing a Big Family Card [Pol. *Karta Dużej Rodziny*]; – notification of entry in the register of ordinary associations;
Births, marriages and deaths	– notification (registration) of death; – change of name(s) of a child; – renaming a child after his/her mother's husband or father's wife.	– issuing a certificate stating that a marriage may be contracted (abroad) in accordance with Polish law; – contracting a marriage before the head of the register office (civil wedding); – contracting a religious marriage with civil effects (concordat wedding); – the acknowledgment of paternity; – acceptance of a declaration of return of a divorced person to the surname he/she used before marriage;		– the restoration of a civil status record made abroad; – the restoration of the content of a Polish civil status record; – correction of a civil status record; – transcription of a civil status record (transfer of a foreign civil status document to the civil status register); – the completion of a civil status record; – issuing certified copies and certificates of the civil status record;

Table 1 – continuation

Area of operation of the City Hall	Maturity levels of e-services			
	Information	**One-way interaction**	**Two-way interaction**	**Transaction**
		– issuing multilingual forms; – notification of birth of a child; – issuing a certificate of civil status.		– entry of a divorce decree made abroad in EU countries after 1st May, 2004; – issuing a permit to reduce the one-month waiting period for the celebration of a marriage; – golden jubilee; – decision to change name or surname; – certificate of not having a civil-status registry.
Business				– notification of entry in the central registration and information on business (CEiDG); – amendments to the entry in the central register and information on business (CEiDG); – notification on suspension of business activity; – notification on resumption of business activity; – notification of cessation of business activity; – issuing a licence to sell alcoholic beverages; – issuing a one-off permit to sell alcoholic beverages; – issuing a licence to sell alcoholic beverages; – issuing duplicate permits to sell alcoholic beverages, decisions and certificates; – issuing permits for sale of alcoholic beverages to entrepreneurs whose activity consists in supplying food for closed events organised at the time and place designated by the customer, based on the concluded contract; – paying for the use of permits for the sale of alcoholic beverages.

Source: Own elaboration.

The study used a four-stage maturity model for e-services in public administration, which includes the following stages: information, one-way interaction, two-way interaction, and transaction.

Examples of public e-services for citizens and entrepreneurs made available at different levels of maturity by the Piekary Śląskie City Hall are shown in Table 1. Three areas of activities and services provided by the City Hall were analysed: citizen affairs, births, deaths and marriages, and business.

The areas surveyed included a total of 49 cases and were divided according to the degree (level) of maturity they fulfil.

Scientific discussion

The benefits that arise from the provision of e-services in local government units include: a reduction in service delivery time, an increase in the number of services provided electronically, the simplification of customer service procedures, an increase in customer satisfaction with service observed by Employees, the elimination of the need for Customers to provide data that is already in the office's resources, and a reduction in the cost of customer service (Ejdys, 2018). In addition, benefits also accrue from the implementation of a properly formulated digitalisation strategy, the support of activities with own regional intellectual potential, and consistency in action (Baj-Rogowska & Zamiar, 2017). Research also shows that the use of ICTs in offices has saved time and reduced the financial effort as well as workload of officials (Budziewicz-Guźlecka, 2010).

The studies conducted after 2000 show that all over the world, it appeared that the maturity stage of e-government could be defined as formative or early transaction using M. Wimmer's typology[3] (Hawrysz, 2015). Some twenty years after the research had been conducted in this area, it can be assumed that the early transaction stage in local government units has been superseded by the transaction stage of the e-services maturity model.

A small percentage of local government offices declare the fact that they have a development strategy document for IT or digitisation (Walencik, 2018). The municipality of Piekary Śląskie also falls into this group, as it has not adopted a development strategy for IT or digitisation. From the analysis, it can be concluded that no digitisation strategy and/or IT strategy, directed at the expectations of the environment prior to the implementation of ICT solutions, has been formulated in the studied entity. The e-services implemented by the City Hall are a result of the introduced government initiative, i.e. the ePUAP platform, which was included for the first time in the State Informatisation Plan for 2007–2010 as one of the main IT projects aimed at building electronic administration in Poland. The electronic services platform of the Piekary Śląskie City Hall includes 393 service cards (cases), of which 42 service cards (which constitutes 10.69% of all cases posted on the ePUAP platform) are to be completed in a traditional manner, i.e. by traditional post or in person. The description of the remaining 351 service cards (representing 89.31% of all cases posted on the ePUAP platform) shows that they can be completed entirely electronically (marked with @ symbols). They can be classified in the fourth level of maturity of e-services, i.e. the transaction level. The area concerning the implementation of cases related

[3] The e-government maturity model proposed by M. Wimmer contains two stages (levels): the first one – formative, informational in nature, with downloadable forms, and the second one – transaction level, allowing users to complete a limited number of transactions via websites.

to business activity was covered by the fully electronic form (12 cases). The situation is different in the case of the area of citizen affairs and the area of births, marriages, and deaths, where there are services assigned to the information level (3 services), some of them to the maturity level of one-way interaction (13 services), two-way interaction (1 service), or, finally, the transaction level (20 services).

Some of the cases carried out between the office and the customer within the framework of the Piekary Śląskie City Hall will have the character of obligatory direct contact between the citizen and the employee of the office, e.g. the exchange of an ID card, where the citizen has to go to the office with an application which can be downloaded from the website. Some of the services provided by the office, due to their nature, will not be able to be provided electronically (e.g. arranging visits to city residents celebrating 90th, 100th, and subsequent birthdays, getting married). On the other hand, some of the services are provided by officials without the participation of the citizen in the process of case handling, after sending, e.g., a notice on the establishment of a field organisational unit of an association registered in the National Court Register (after submitting an appropriate application, within 1 month from the submission of a complete notice, an entry is made in the internal register of field organisational units of associations).

Previous studies on e-government solutions in local governments have addressed, among other things, the SEKAP platform operating in the Silesian province and its empirical and pragmatic dimensions. These studies concluded that the goal of e-government construction projects should be to make public e-services available to citizens, business representatives, and within public administration offices at least at the third level of maturity. The construction and development of e-government requires building awareness and improving the competence of citizens, businesses, and public administration offices in the field of public e-services. It is necessary to promote e-government projects among citizens, businesses, and public administration offices. In addition, the construction and development of e-government absolutely requires the involvement and close and constructive cooperation of central and regional authorities. Currently, local government units should focus on increasing the number of available public e-services, including more and more e-services at the fourth maturity level, as well as the number of public administration institutions providing e-services. Efforts should also be made to implement e-government in local government units at the fifth level of maturity, i.e. the so-called personalisation of public services.

Conclusions

The research shows that the interest in the development of e-government among researchers is great, because the topic is still up-to-date and has utilitarian values. Finally, taking into account the development of electronic communication technology, it should be pointed out that local government managers should continue to work on portals and, above all, the number of available public e-services should be increased, including more and more e-services at the fourth maturity level and the number of public administration institutions providing e-services. It is also necessary to strive for the implementation of e-government in local government units at the fifth level of maturity, which is the personalisation of public services, giving the possibility to remind the Citizen about the need to perform certain official activities and to provide certain services automatically, which do not require the Customer's intervention. It is also important to pay attention to the implementation and execution of digitisation and/or computerisation strategies in local

government units, directed at the expectations of the environment and considering the analysis and reorganisation of processes prior to the implementation of electronic communication solutions.

The study has limitations, as it only looked at the Polish electronic platform for public administration services (ePUAP) in one selected local government unit. Therefore, it can only be an introduction to further research. The survey can also be a prelude and a basis for a comprehensive diagnosis of the state of use of IT and technological tools and e-government development in all local government units in Poland, including the determination of the level of maturity at which they are. In future studies, statistical tools should be used to assess the information obtained. This will enable reliable conclusions to be drawn, supported by data.

In addition, future research can focus on the tangible benefits of e-services provided by local government in Poland for stakeholders such as citizens, municipalities, policymakers, and employees.

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