

Digitization of core administrative services for citizens - the case of selected CEE countries

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Abstract: The paper outlines very preliminary findings on level of digitization of core administrative services for citizens in three CEE countries – Czechia, Romania and Hungary. For the purposes of the paper existing e-government stage/maturity were mapped and discussed and a core list of the services was prepared by the authors. The survey indicates that in comparison to administrative services for citizens, that have been traditionally benchmarked, for instance, by Capgemini et al. for the European Commission, the level of digitization of core administrative services for citizens is rather low, and the countries have not grabbed the potential of ICT for better delivery of core administrative services for citizens.

Key words: e-government, e-government maturity models, core administrative services for citizens

1. Introduction

E-government has become one of the most important elements of public sector reforms across the world. "E-gov" (e-government, e-governance, e-democracy, e-participation...) has been paid a lot of attention in theory and research.

Available benchmarking studies indicate that during e-government development attention was paid mainly to digitization of public services for businesses in many countries. On the other hand, there are countries (like Denmark) that have refocused their e-government strategies on core public services, which may represent a more demand-oriented approach in designing e-government policy and in e-government development. Focusing on core PA services is also in compliance with requirements of the EU e-government plans to develop e-government in a more rational and effective way.

The paper outlines to what extent core e-government services for citizens are digitized in Czechia, Romania and Hungary. Originally, Slovenia was supposed to be included. It also points out main factors of their development and current state.

The 2017's and 2018's e-gov benchmarking reports for the European Commission considered Czechia (and also Hungary and Slovenia) as a country with non-consolidated e-government – the country that do not benefit from ICT opportunities. It was recommended to improve digitisation and penetration by digitising front-and back office and encouraging citizens to use e-gov services. Romania represented a country with unexploited e-gov according to the report – countries from this group have a good level of penetration, but a level of digitisation is below the EU average (Tinholt et al., 2017, p. 112 – 113; Tinholt et al., 2018, pp. 100 - 106). Still, the benchmarking is not always dealing with services that can be considered as core. Individual life events, that are benchmarked, may consider indicators that are not always so relevant etc.

So new perspective would be beneficial and can contribute to the literature because not so much is known about digitization of core PA services for citizens in CEE countries. This topic has not been

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tackled sufficiently in available benchmarking studies (for instance those prepared by Capgemini for the European Commission).

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2. Maturity models for e-gov services and our approach

In practical approaches to e-government evaluation a great potential has been attributed to benchmarking. eGovernment benchmarking means undertaking a review of comparative performance of e-government between nations or agencies and (Heeks, 2006). For the purposes of e-government benchmarking (international or intra-national) various sophistication/maturity/stage models of e-government have been developed and discussed. They still have their potential, although e-government maturity was viewed by the UN as obsolete since e-government goals and targets are constantly evolving to deliver and surpass what the public expects (UN, 2018, pp. xx).

Following the concept of maturity measurement as published by the Software Engineering Institute (SEI), they usually assess implementation of e-gov as an evolutionary process and represent a desired evolution path (Laposa, 2017). Based on his literature analysis, Laposa (2017) points out that maturity models focus on different maturity factors such as process maturity, object maturity (level of sophistication of a software) and people capability (ability of knowledge creation and proficiency enhancement). According to him, the maturity models can be one-dimensional or multi-dimensional and descriptive, prescriptive or normative. Concerning the structure of their stages, they also can be fixed-level (consisting of generic maturity levels) or focus area (these models identify focus areas that need to be developed and the distinct focus areas may have a different evolution path – number of stages may vary from area to area). These focus area maturity models enable a more balanced and incremental improvement, because they cope better with the complexity of factors determining effectiveness etc.

E-gov maturity models and benchmarking approaches that use them have their own developments both in terms of practical activities practice and related theory. In this paper, only selected approaches are outlined.

Model of Layne and Lee (2001) is considered as one of the earliest models to measure the structural transformation of public services (Laposa, 2017). They built their stages of growth model for fully functional e-government on an assumption that e-government is an evolutionary phenomenon and therefore its initiatives should be accordingly derived and implemented. Their model works with the following stages:

1. cataloguing (online presence, catalogue, presentation, downloadable forms)
2. transaction(-based) (services and forms available online, working database supporting e-transactions)
3. vertical integration (local systems linked to higher level systems, within similar functionalities)
4. horizontal integration (system integrated across different functions, real one stop shopping possible)

Their paper presents the model, but the authors did not use it for evaluation of actual e-gov maturity.

Andersen and Henriksen (2006) suggested extension of the Layne and Lee model, because, according to their opinion, more dimensions should be considered due to developments in IT. They proposed

Public Sector Process Rebuilding (PPR model) that focuses more on streamlining core processes and reaching customers in a more efficient manner. They proposed the following stages:

1. cultivation (horizontal and vertical integration within government; limited use of front-end systems for customer services, downloadable PDF available)
2. extension (extensive use of intranet and adoption of personalized web user interface, but still many manual routines)
3. maturity (abandon use of the intranet, transparent processes, personalized Web interface for processing of customer requests; internet and intranet merged, web site is organized to solve problems and requests rather than presenting formal organizational structures and general info, self-service is a key priority)
4. revolution (data mobility across organizations, application mobility across vendors, ownership to data transferred to customers)

Their model was based on generalization of features that were available on web pages of 110 state agencies and boards. It has not been applied to evaluate a specific list of e-services either.

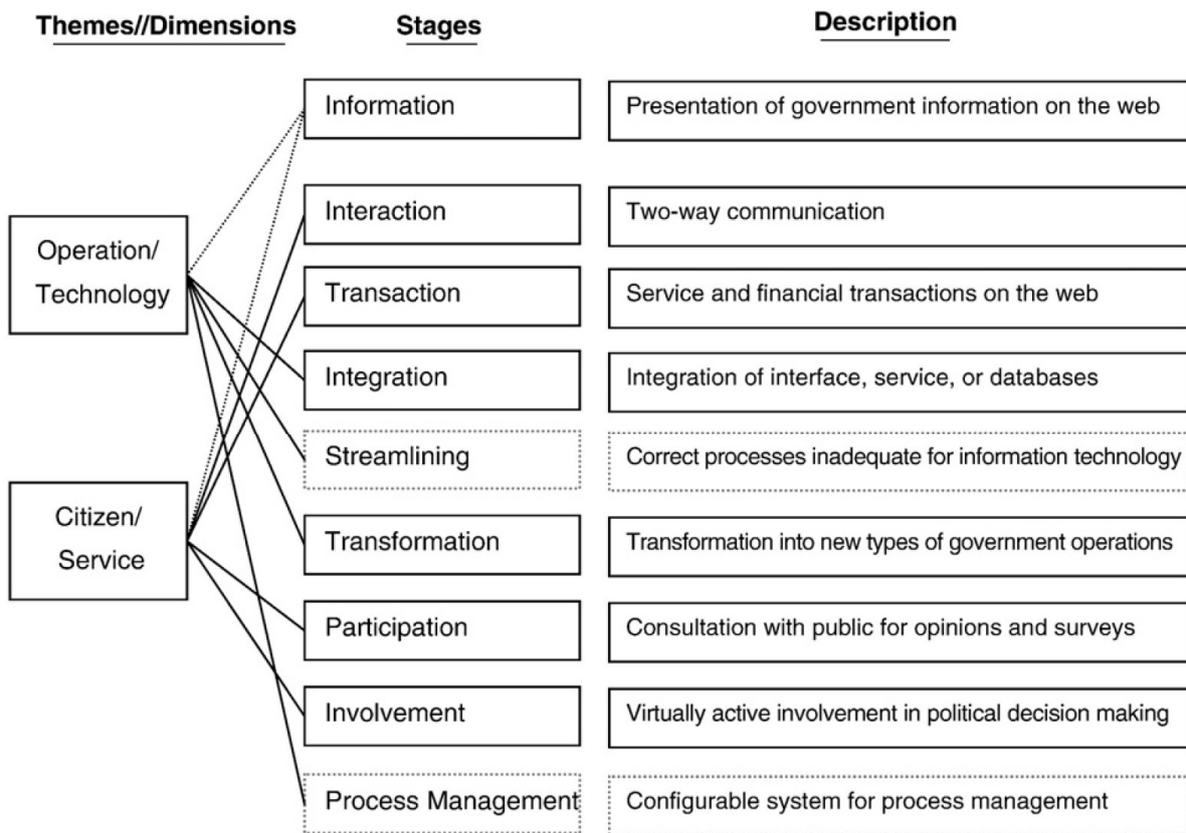
Since that time, other models have been developed, some of which were subjected to various evaluations and meta-analyses. However, **it seems that the theory of maturity models for e-government and its services has not been consolidated to a larger extent so far.** This can be clearly seen in studies evaluating existing e-gov maturity models.

For instance, in 2010 Lee published a qualitative meta-synthesis 10 years retrospect on stage models of e-gov emphasizing that although various models had been suggested, they seemed to be incongruent with each other as these were based on different perspectives and used somewhat different metaphors. According to Lee this presented a difficulty not only in understanding different research results, but also in planning future actions for e-government. The synthesis is based on analysis of 12 available models. They identified 10 stages used in the stage models that can be – with some simplification – summarized as follows:

1. Stage 1: basic networking (e-mail or internal network) that may be a technical prerequisite for later stages;
2. Stage 2: presentation of information (publishing / cataloguing / presence stage);
3. Stage 3: interaction – two-way communication and interaction: asking questions, taking part in forums and opinion polls;
4. Stages 4, 5 and 6: transaction after the interaction stage, some models may differentiate between basic capability, service availability, and mature delivery, different terminology may be used – “service and financial transaction” / “allowing exchange of value”;
5. Stages 7 and 8: Integration as an important development after the transaction stage – data mobility across organizations, application mobility across vendors, and ownership to data transferred to customers. The process can be traced through the internet and there is information available online about progress in case handling;
6. Stage 9: transformation – business / service transformation and back-office streamlining;
7. Stage 10 – democracy or participation.

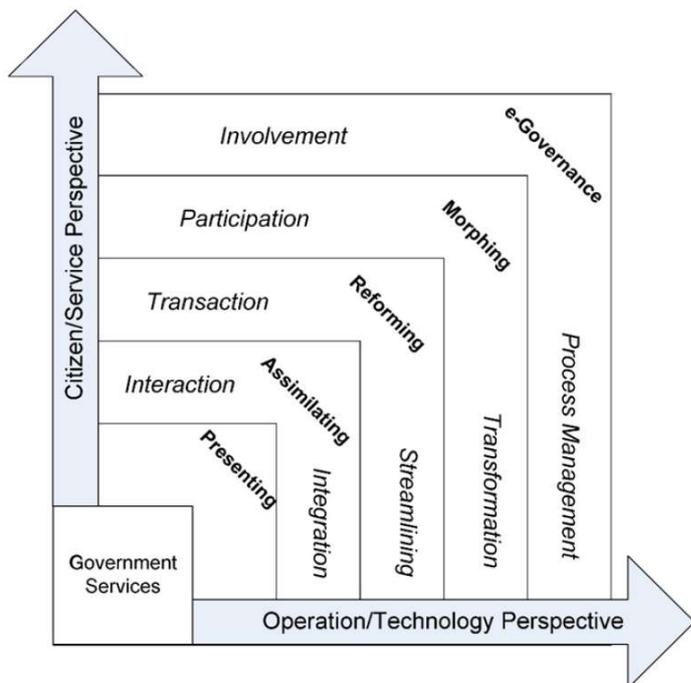
The synthesis suggests the following Figure 1 on relationship between themes and stages. Lee than suggested a common frame of reference for e-government stage models differentiation citizen/Service Perspective and Operation/Technology Perspective as depicted in the Figure 2.

Figure 1 – Meta-synthesis of e-gov stage models published by Lee (2010)



Source: Lee (2010, p. 228).

Figure 2 – A common frame of reference for e-Government stage models as suggested by Lee (2010)



Source: Lee (2010, p. 229).

Abdoullah et al. (2014) compared 25 e-government maturity models. In their paper they summarize individual approaches and differentiated three types of models: governmental, holistic and evolutionary (but they do not work with this categorization more in their comparative findings, although it would be helpful for sorting the existing models). The governmental models are developed to help agencies identify and improve their level of e-government maturity. The holistic approach models are designed to be applied in public service development projects to help agencies identify if an e-gov project will be successful or not. The evolutionary models focus on evolution using sequential steps. According to their findings, almost all of the models contain:

- a stage related to the availability of the portal
- a stage where the citizens can interact with governments (interaction)
- a stage where the citizens can transact with governments (transaction)
- an advanced stage that covers advanced features such as information sharing between agencies (integration).

This is rather useful for practical assessment of e-gov sophistication, but the authors summarized their findings and did not go further – they did not suggest their own model and use it for evaluation of existing solutions.

In 2016, Almuftah, Weerakkody and Sivarajah published their comparison of 17 selected e-gov maturity models (not all of them were included in the previous meta-approach of Abdoullah et al.). Those models were selected based on references made to them in existing literature. Although they work with question on drawbacks of the models, this is not a more elaborated part of their paper as published. The paper is mostly only mapping the stages. The authors are rather general about the drawbacks pointing out that the models adopt a stop and jump procedure and there is very little clarity on the prescriptive nature of change required. They also point out that there was only a very little effort devoted to research citizens' requirements. Models also do not explain how people from disadvantaged sections of the society, and those in rural areas, are able to access the e-gov portal. Most of the models do not also consider inputs from social media or have mechanisms to address complaints, suggestions, and comments. The models also largely focus on information and transactional capability of processes that have a statutory requirement either on the part of the citizen or government and ignore how e-government deals with more complex services such as healthcare, social services or education. On the other hand, they do not suggest changes to models.

Similar, but more specific approach can be seen in the paper published by Zahran et al. (2015). They point out the following remarks (based on their own findings and based on their literature analysis):

- Majority of models are based on objective measure and follow a quantitative approach that may lead to a dilemma if not designed properly, because they do not deal with qualitative issues.
- There is clear imbalance of the abundance of government-side surveys compared with the scarcity of citizen-side studies.
- Some countries, that reflected results of international benchmarking, could adapt “quick fix, quick wins” principle and hastily constructed the e-equivalent of a bureaucratic administration.
- Conceptualization into stages is doubtful – evolutionary stages are not independent and linear.
- Sometimes, methodology is not sufficiently introduced.

- Models do not focus sufficiently on local e-gov.

In 2017, Das, Singh and Joseph published their longitudinal study of e-government maturity. According to their opinion, studies that have examined e-gov maturity so far use cross-sectional data or within-country analyses, but cannot identify factors influencing evolution of e-gov over time. They also criticize bias in coefficient estimates introduced by the misspecification of models, particularly the omission of potentially relevant predictors. In their study they seek to measure and explain e-government maturity as demonstrated behaviour, in contrast to other measures (e.g. benchmarking made by the UN) that assess the potential of a country to enact e-government. They conceptualize e-gov maturity by focusing more on the provision of services than on political activity – on transaction capability. They rely on the evaluation of e-gov web sites by West and his associates at the Inside Politics research center at Brown University who examined more than 1500 government web sites from more than 190 nations in the period 2002 – 2008. They suggest a mixed-effect model and try to estimate effects of GDP, ICT infrastructure, Human capital and governance, but do not deal with the maturity (and their own model) per se.

Meyerhoff Nielsen (2017) identified 42 e-government stage models and enumerated their following weaknesses:

- majority of models are technology and supply oriented without any focus on outcomes or use;
- most models show no real understanding of core government service concepts – e.g. individual service elements (e.g. information, transaction capability, and personal data) are not separate; downloadable forms are merely a type of static information and do not warrant a separate level;
- decision-making, exemplified by the e-participation/e-democracy stages, should not be considered;
- front-office service provision and back-office integration are often mixed;
- no identified model addresses governance directly;
- most models merely restructure or adjust existing ones.

Following the criticism of available maturity models, in our approach we would like to deal with a model which would be focused more on the user-centricity – or as the Lee (2010) called it Citizen/Service perspective of Lee (2010). Therefore, we would like to concentrate on the following questions:

- what activities can users of the core services accomplish (what steps have been digitized and what steps are not supported by the solutions used)
- where (on which platform) the e-service is available.

Both this general components – steps digitized and the platform where the service is available to potential users - tackle the extent to which the services is supporting a smooth accomplishment of an administrative task.

We do not want to reject the more complex stage models that are available, but we believe that not all of them are suited for assessment of some public services and the level of their digitization from the user-centric perspective. For instance, we think that maturity models should be adapted more to individual types of public services. This is not done in some maturity models, because they may be constructed especially for evaluation of portals. In this respect, e-participation services that are sometimes required in the highest maturity levels, should be clearly separated from services that

allow proceeding of an applications for certificates etc. This calls for better differentiation of e-government from e-governance solutions (although interlinked, the nature and mission of their services are rather different. The research clearly indicates, that e-participation has its own evolution/development. **This necessarily requires more work on categorization of administrative services and their reflection in maturity models that will not be carried out more in this paper. Future work can specify more a content of individual stages taking into account what is possible and/or have actually been used in existing solutions thanks to available technologies.**

Some models also mix citizen/Service perspective and operation/technology perspective as outlined by Lee (2010). In our view it is better to

- start with the Citizen/Service perspective
- and combine it with operation/technology perspective when assessing the level of seamlessness of available services, or
- explain the stage of the service using the operation/technology perspective.

Building on existing maturity models, we believe that for services that originally required steps starting with personal visiting an authority in order to obtain a form and finishing with visiting the authority in order to pick up a certified output of an administrative process (a certificate, new ID, an administrative decision), a model that would have the following (more or less) standard types of web-presence is sufficient:

0. NO E-PRESENCE: no relevant services are not available online at all
1. SIMPLE E-INFORMING: simple web presence (web pages / portal) with one-direction information (here adaptation to mobile technologies can be checked in order to cover current developments in technologies used for accessing information of public administration; this is surveyed, for instance, also within the e-gov benchmarking for the European Commission – see sub-points of Tinholt et al., 2017, on mobile friendliness of services)
2. SIMPLE E-TRANSACTIONING: some interactions are available (e.g. it is possible to download a form, or fill-in a form online), but full transaction (like authenticated submission of the form) is not enabled (forms can be downloaded, but cannot be filled-in using the platform)
3. ADVANCED E-TRANSACTIONING: transaction is enabled and a user can accomplish the procedure fully online (full online transactions are available on the platform; user can authenticate him-/herself, fill-in a form and submit it completely online)
4. MORE SEAMLESS E-TRANSACTIONING: in this stage there is a higher level of facilitation of digital interaction between citizens and their governments; in comparison to the previous stage tools are available that further support seamless features of the e-service for users, because they are enabled thanks to higher level of integration of formerly separated processes; in this stage more complex online service is available thanks to more complex environment of the platform (a more integrated portal – local or national – depending on the governmental level responsible for the service - is available for accessing the transactional services and – at the same time - more comfortable tools are available on this portal - including information regarding steps and length of the process, possibility to save a draft, store documents, personalization, adaptation of the environment to mobile technologies; reducing number of fields required to be filled-in thanks to data sharing and tools for recognition of the user and application of once-only principle).

We will try to build on this later on when specifying more our model for comparison of digitization of core services for citizens in selected countries later on and will continue with few words advocating our approach.

What can be seen in the models is that the first two or three stages are specified rather clearly compared to descriptions of the last, or evolutionary higher steps stages that anticipate larger integration of back-offices. To some extent this is overcome in models that differentiate vertical integration and horizontal integration as a following and final stage (some models combines both this types of integration within a single maturity stage). Still, such differentiation can be too broad and its use may not always produce data useful for comparative analyses or policy-makers, public managers etc. This needs to be elaborated more in future approaches. We tried to cope with this when we outlined the fourth stage. This will be specified more in our methodology used for data collection.

Some models may require Web 2.0 components in the highest stages of e-gov maturity. Still, for a user it may not be important if he/she can submit a feedback on the existing level of service. This can be relevant for an evaluation from the supplier-perspective. This means, that the fourth or all the **maturity stages can be designed separately for user-perspective evaluation or supplier-perspective evaluation** that should also consider costs, interoperability and compatibility with existing e-gov solutions and the vision in a national e-gov policy etc.

Also, some maturity models require transformation of processes in their higher stages, but in practice integration of existing processes may not always mean that they are actually transformed (in terms of reorganizations of existing administrative system etc.). Some portals may look like one-stop shops, but the real processes behind may be different (some speak about blindly digitising current processes – e.g. Meyerhoff Nielsen, 2017). This can be valid for countries where digital by default principle has not been implemented and e-channels are representing one of the channels offered for dealing with an individual administrative service. Again, similar stages may be relevant for evaluating e-gov development from the supplier perspective (that would deal with questions like to what extent the potential of ICTs is being grabbed, new technologies are used efficiently etc.) more than from the user-perspective. Across existing maturity models, the meaning of “transformation” may vary and one should carefully check definitions of individual maturity stages. That is also why some synthesis and integration of existing theory on existing maturity models would be beneficial.

Also more consistency in new proposals with former proposals would be beneficial too (in case of some models, the last stage may be titled as one stop shops, but their authors require functionalities enabling citizens to vote electronically, contribute in online discussions, make comments on policy and legislation proposals etc. – see Netchaeva Maturity Model).

Similarly to most of the maturity/stage models available, also our model will be supply oriented without any focus on outcomes or use.

3. Core e-government services – available lists and our list

We have not found any list containing core administrative services for citizens that would be subjected to evaluation of their online sophistication. This clearly raises questions about the real level of citizen-centric development of e-government. Neither in the PA / PM a list with public services that are most frequently used by citizens is available.

Within the eGovernment Benchmarking for the European Commission only some of such services are being benchmarked – Losing and Finding a Job (Employment), Studying (Education), Starting a small claims procedure (Justice), Moving (General Administration) and Owning and driving a car (Transport) and family life (2016+) (Tinholt et al., 2017).

For our research purposes we propose a pilot list of the following services we consider important for citizens (building on a hypothesis that they are high-impacted administrative services, i.e. used by comparatively high number of citizens; we do not want to concentrate on services for businesses and other organizations, like NGOs):

- obtaining new IDs and travel documents;
- registering a new address (This is partly covered by the e-gov benchmarking of life event “Moving” for the EC. The last benchmark on this was prepared by Tinholt et al., 2018, pp. 70-78). Still some components that were surveyed we do not consider as relevant for our research – e.g. possibility to obtain information on local facilities, permits for moving, notification to post and utilities. For Czechia, for instance, no permission for moving is required and only the following is relevant: registering a new address, notifications related to IDs, vehicle registration, health insurance.)
- obtaining / changing a driving license;
- registering a car (This service is also covered by the e-gov benchmarking for the EC. The last benchmark on this was prepared by Tinholt et al., 2018, pp. 79-88. Again, some of the aspects benchmarked for the EC, are not considered as relevant for our method – we would like to deal only with procedure in registering of a car.)
- solving a waste disposal
- paying local taxes and fees (including water supply)
- paying for local transport (this may not be available in smaller cities and towns)
- making submissions to local administration (like complaints)
- participation in local decision-making (not forgetting participatory budgeting as an emerging tool experienced on the local level)
- application for childcare (for a kindergarten / a primary school)

The list combines national as well as local services which may determine the level of digitization of their delivery (including the situation on existing means of authentication etc.).

In the original list we suggested we also worked with social allowances. Because this is a rather complex issue and social allowances and their administration may be various in countries, we decided not to include this in our list of core services. This is partly covered by the e-government benchmarking for the European Commission – within the “Losing and finding a Job” life event; here 20 indicators are evaluated – see page 89 of Tinholt et al., 2017.

In the original list we also suggested voting to local councils, but because this is not developed in our countries (in terms of legislative framework, agenda of the national policy) we also do not include this in our list.

We decided not to include studying as approached, for instance, by the e-gov benchmarking for the European Commission. It is focused on university education and sophistication of available services is determined by universities. In our set of core services we work only with application for placement of a kid to kindergarten or to a primary school. We can add similar indicator on secondary education in the future.

We could also add transparency of personal data, but this is sufficiently covered by the e-gov benchmarking prepared for the European Commission. The methodology used by Capgemini surveys if online access is possible, notification of incorrect data is available, citizens can modify data,

complain and also monitor who has consulted personal data. In case of the latter the methodology of Capgemini et al. (Tihnolt et al., 2017) differentiates 5 stages: 0 (it is not possible to monitor who consulted your personal data and for what purpose); 1 (you can only monitor whether your data has been consulted); 2 (+when your data has been consulted); 3 (+ who has consulted); 4 (+ for what purpose).

4. Method

As the main data source, available information was used – for this paper particularly information on life events and services related to our core services were checked. In the future we also anticipate that a follow up e-mail survey will be addressed to civil servants from responsible national authorities in order to obtain data on perceptions and opinions on main barriers and challenges in individual countries.

- In Czechia, life events are available on the National PA portal (<https://portal.gov.cz/obcan/zivotni-situace/>, accessed 14.05.2019). More friendly descriptions may be found on web pages of municipalities responsible for the service. But this was not systematically surveyed for this paper.

For services provided by local authorities, services and web pages of 3 largest cities were considered.

- This group is rather heterogeneous in Czechia in terms of number of citizens (Prague has more than 1,2 million inhabitants, Brno has about 400 000 inhabitants, and Ostrava as the third largest has about 300 000). **In future we may also consider smaller cities.**

In our evaluation, we do not want to follow the philosophy of maturity models when one stage has to be accomplished to obtain higher score. We just prepared our own model as presented in the above point 2 and linked it with a score individual services may be awarded. We used a scale from 0 to 8 points as outlined in the following table:

Table 1 – Types of web-presence and scoring in our approach

Types of web-presence	Points that can be given
NO E-PRESENCE	0
SIMPLE E-INFORMING	0.1 - 2
SIMPLE E-TRANSACTIONING	2.1 - 4
ADVANCED E-TRANSACTIONING	4.1 - 6
MORE SEAMLESS E-TRANSACTIONING	6.1 - 8

We decided not to use the scale 0 – 4 points scale and used the 8 points scale, because we believe it can give us more space for evaluating differences between cases. We also decided that a service can also obtain a score like 3,5. The aim was to link the score closer to situation of individual services. This also was supposed to be reflected in comments on individual services in individual countries.

Based on individual scores we then constructed a national composite score which is purely informative – it is better to compare individual services and discuss their level of digitization in a comparative perspective, rather than to deal with overall scores.

5. (Very ... very preliminary) Findings

5.1 Czechia

Preliminary findings on Czechia can be outlined by the following table:

Table 2 - Digitization of core administrative services for citizens - Czechia

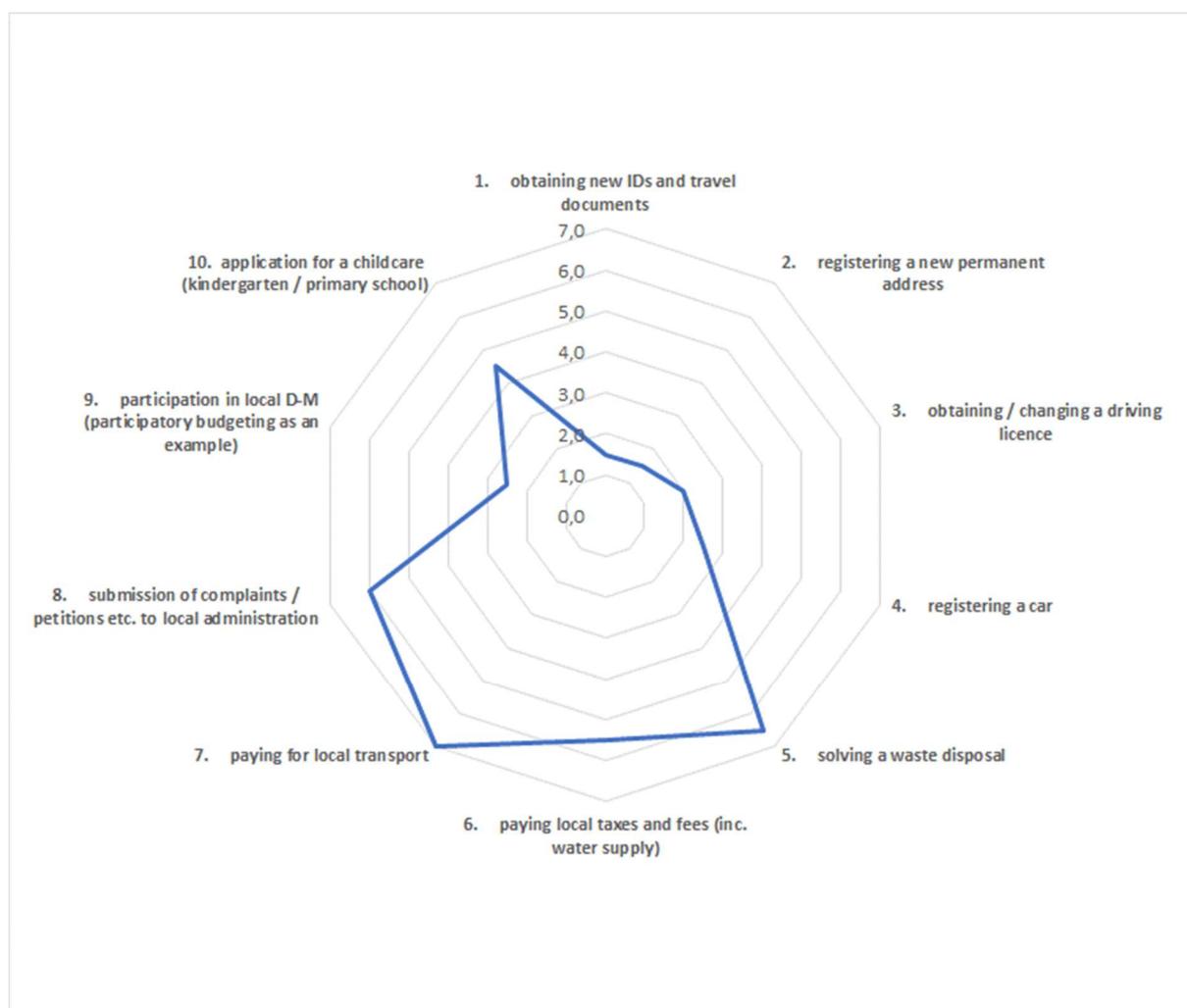
Services	Score	Comments on current type of web-presence
1. obtaining new IDs and travel documents	1.5	This is a national service. Only information describing the service and related requirements are available on the national portal. No forms are available for downloading, personal visits are required, no tools simple e-transacting is available. See Annex for more comments.
2. registering a new permanent address	1.5	This is a national service. Only information describing the service and related requirements are available on the national portal. No forms are available for downloading, personal visits are required, no tools simple e-transacting is available. See Annex for more comments.
3. obtaining / changing a driving licence	2	This is a national service. Only information describing the service and related requirements are available on the national portal. No forms are available for downloading, personal visits are required, no tools simple e-transacting is available. See Annex for more comments.
4. registering a car	2.5	This is a national service. Information describing the service and related requirements are available on the national portal. A downloadable form is available, link is available on the portal.
5. solving a waste disposal	6.5	This is a local service and its description is not available on the national PA portal, but on web pages of individual towns and cities. It is determined by a permanent residence of a citizen. Citizens with a permanent residence in a municipality are required to pay a fee for a waste disposal as specified as regulated by this municipality. Situation in the three largest cities is outlined in Annexes. Two largest cities (not Prague) offer instruments for e-payment. Their functionality cannot be tested, because it is linked to a prior registration and a permanent residence of a citizen.
6. paying local taxes and fees (inc. water supply)	5.5	These services are local services in Czechia and their description is not available on the national PA portal, but on web pages of individual towns and cities. Their provision may be decentralized and administration of payments and related services is determined by existing structures. Water supply is usually administered by municipal companies. Citizens are also required to pay administrative fees for dogs or local property tax directly. Structure for administration of the fee for dogs is dependant on individual cities – in Brno, for instance, city districts are responsible for it. Local property tax is administered by Tax Office of the Czech Republic and money gathered are than distributed to individual municipalities. In

Services	Score	Comments on current type of web-presence
		case most of the fees payments by bank transfer is available, in case of some of the local services citizens can register and have their user account within which they can administer payments.
7. paying for local transport	7	Municipalities and cities are responsible for local transport. In case of large cities, usually a city businesses company is established that is usually linked to city budget also (due to a kind of subsidies). Payments for local transport can be handled completely electronically in the three largest cities.
8. submission of complaints / petitions etc. to local administration	6	<p>Submissions to bodies of municipalities can be made using various means – in Czechia e-registry-office (“e-podatelna”) is the oldest e-tool. It can have a form of a simple e-mail address or it can be an application where, upon prior registration, citizens can track their submissions. Since July 2009, communication via data boxes is enabled (for citizens it is voluntary). The data boxes are established by the Ministry of Interior – application for their establishment can be made via Czech POINT contact points and face-to-face procedure is required. If established, data boxes can be used as a file repository and also as an instrument for sending application for information based on freedom of information legislation. E-services for citizens can also be integrated into larger information systems (e.g. this is the case of former ESMO project and current eMIA initiative of Ostrava - https://esmo.ostrava.cz/cs/uzivatelska-sekce/prehled-sluzeb-emia).</p> <p>According to legislation, only paper petitions can be submitted. No e-petitions are allowed at the present.</p>
9. participation in local D-M (participatory budgeting as an example)	2.5	<p>In general, electronic means for involvement of citizens into public decision-making are rather underdeveloped in Czechia. there is no special national portal dedicated to electronic submission of comments and proposals in the country (like the Citizens’ Initiative Portal in Estonia, Parlement et Citoyens in France) and this has not been substituted by any platform that would be initiated by NGOs.</p> <p>Available information indicates that similar tools are not available on the local or regional level either. There has not been any more complex e-participation project implemented by municipalities or regions (i.e. Czech self-governments). The practice of e-participation that supports consultation of citizens and not only e-informing is rather scarce in the country. But this does not mean that it does not exist. ICT are used by some cities in order to obtain feedback via e-discussion forums, input for participatory budgeting (with which some municipalities have been experimenting for some time) or initiatives focusing on citizens involvement in strategy formulation (Brno 2050 – see Špaček, 2018; fajnOVE in Ostrava). Only Brno has initiated a participatory budgeting project used for the whole Brno territory. In Ostrava and</p>

Services	Score	Comments on current type of web-presence
		Prague, participatory budgeting initiatives have been implemented only by some of their city districts.
10. application for a childcare (kindergarten / primary school)	4.5	Municipalities are responsible for primary education (kindergartens and primary schools) in Czechia. Application procedures may vary. In case of the three largest cities, only in Brno an e-tool is available for applications for a childcare on the whole city territory. In Ostrava and Prague this is decentralized on individual city districts.
National score	39.5 out of 80 (about 50 %)	

The findings can be summarized by the following Figure 3.

Figure 3 – Level of digitization of core administrative services for citizens in Czechia



The findings clearly indicate that digitization of the core services for which the national level is responsible is rather low compared to local services. National services are not interlinked more with available electronic means of communication and means for electronic conversion of the documents

as it was made possible earlier for the Czech POINT project (e.g. data boxes). The research indicates that in case of the core services for which the local level is responsible often some tools of simple or advanced e-transactioning are available. But in Czechia, there are more than 6.200 of municipalities and the level of their digitization is determined by level of their e-government. In case of large cities, provision of some of the core services may be decentralized to their city districts and may not be standardized on the central (i.e. city) level. Only Brno offers more centralized services in case of the core services surveyed.

There are various factors that might determine the situation. From the most important, that may be subjected to further research, the following may be enumerated:

- insufficient strategic prioritizing,
- insufficient legislation
- insufficient innovative thinking and inclusion of stakeholders into policy- and service-delivery designs more
- a problem of departmentalism.

5.2 Romania

Preliminary findings on Romania can be outlined by the following table:

Table 3 - Digitization of core administrative services for citizens - Romania

Services	Score	Comments on current type of web-presence
1. obtaining new IDs and travel documents	3	Obtaining a new ID is a local service. Obtaining travel documents is a national service. There is no complete transaction for these services. In the case of travel documents, you can make an appointment online) in all offices in the country) but physical presence is still necessary. For IDs, it differs from city to city (in some you do not have any online service, in others you have online appointments or you can pay the fee online). Information services and downloadable forms for both are available in most municipalities.
2. registering a new permanent address	2.5	This is a local service. It differs from city to city (in some you do not have any online service, in others you have online appointments or you can pay the fee online). Information services and downloadable forms are available in most municipalities.
3. obtaining / changing a driving licence	3	This is a national service. Information describing the service and related requirements are available on the national portal. Forms are available for downloading, personal visits are required and can be scheduled online.
4. registering a car	3	This is a national service. Information describing the service and related requirements are available on the national portal. Forms are available for downloading, personal visits are required and can be scheduled online.
5. solving a waste disposal	1	This is a local service. Private companies provide this service in most municipalities. In most cases, information describing the

Services	Score	Comments on current type of web-presence
		service and related requirements are available on the provider website. No downloadable forms and no scheduling are available.
6. paying local taxes and fees	5.5	This is a local service, but a national portal for paying taxes exists. Information describing the service and related requirements are available both on the national portal and on the municipality's webpages. In most cases, the transaction can be initiated and completed entirely online.
7. paying for local transport	4	Municipalities and cities are responsible for local transport. In case of large cities, usually a city businesses company is established that is usually linked to city budget also (due to a kind of subsidies). Payments for local transport can be handled completely electronically in the three largest cities (electronic wallets, sms, mobile apps).
8. submission of complaints / petitions etc. to local administration	5	In differs from city to city. In most big cities, there is a way to send a complaint through electronic means and to receive an answer through email. Some cities also have a platform on which any complains are also visible to the other users and they must receive a public answer (MyCluj is an example from the city of Cluj-Napoca, integrated with the internal back-office system of the city hall). Some central government institutions offer the possibility to send a petition through email also.
9. participation in local D-M (participatory budgeting as an example)	4	Romania has no special national portal dedicated to electronic submission of comments and proposals in the country (like the Citizens' Initiative Portal in Estonia, Parlement et Citoyens in France) and this has not been successfully substituted by any platform that would be initiated by NGOs (there were some failed initiatives in the past). A number of cities use dedicated online platforms for participatory budgeting (Cluj-Napoca, Oradea, Turda, etc.) in which a percentage of the city's investing budget is dedicated to project proposed and supported by citizens and NGOs. This trend is spreading, with more cities implementing such projects each year. Some cities use either dedicated tools or social media to collect feedback or to ask for proposals as input for the decision-making process.
10. application for a childcare (kindergarten / primary school)	2	This is a local service (for children up to 3 years old) or national service (for children over 3 years old). There is no national or local online service in this area, everything happens on paper and face-to-face. Information describing the service and related requirements are available either on the education ministry website or on the local municipalities' websites.
National score	33 out of 80 (about 41 %)	

The findings can be summarized by the following Figure 4.

Figure 4 – Level of digitization of core administrative services for citizens in Romania



As for the reasons that the situation in Romania is what it is, there are a number of issues.

- a lack of central coordination (we do not have a central institution with the authority to decide and implement change in the public sector - no minister will dream of letting the Romanian government CIO decide over how things should be changed inside their ministry)
- no functioning interoperability projects (the national framework was approved only in December 2017 and after that nothing moves for its implementation)
- no national registries
- no eID of any kind
- no political consensus
- very little political interest for this area
- individual cities, tired of waiting for the central government, began implementing their own (necessary limited and insular) online services; because of the particularities of Romanian

public sector, in which institutions are either local, decentralized or de-concentrated, institutions that reside in the same city cannot work together in most cases

- low digital skills, both citizens and public servants.

5.3 Hungary

Preliminary findings on Hungary can be outlined by the following table:

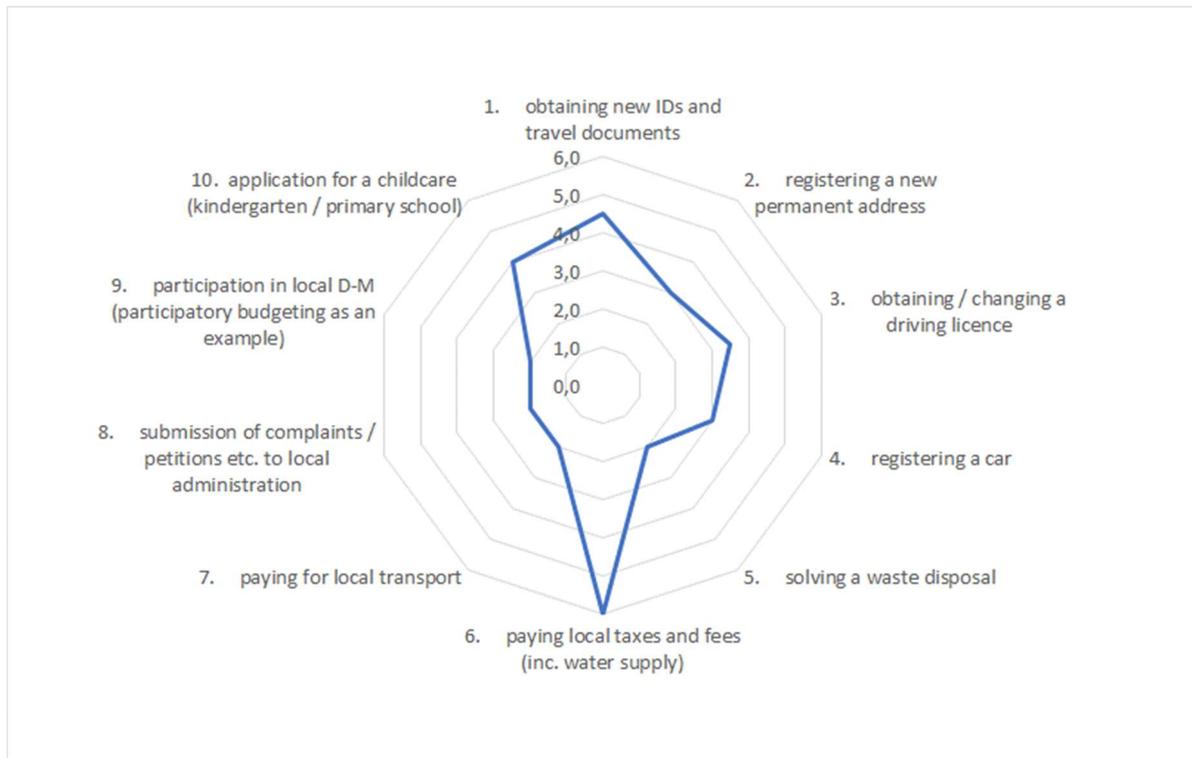
Table 4 - Digitization of core administrative services for citizens - Hungary

Services	Score	Comments on current type of web-presence
1. obtaining new IDs and travel documents	4,5	Obtaining a new ID and passport is a national service. There is no complete transaction for these services. Appointments can be made online in all offices (Governmental Windows) in the country), physical presence is still necessary. There are no downloadable documents as civil servants creating the application forms (and pictures) on the spot, where payment is possible if necessary. Some passport related services (obtaining secondary passport, replacement of stolen, lost or damaged documents) can be done fully online. The production status of the documents can be followed up online.
2. registering a new permanent address	3	This is a national service. A citizen residing in the territory of Hungary is obliged to register the address of his/her place of residence within 3 working days after moving. Application for the documents must be submitted in person (in the Governmental Windows), using a paper-based form. An address card will be issued with the new address. Information available online and appointments can be made online in all offices.
3. obtaining / changing a driving licence	3,5	This is a national service. Information describing the service and related requirements are available on the national portal. Personal visits are required and can be scheduled online. There are no downloadable documents as civil servants creating the application forms (and pictures) on the spot, where payment is possible if necessary. As with IDs and passports, the replacement of stolen, lost or damaged driver licences can be made fully online (If no data changes). The production status of the documents can be followed up online.
4. registering a car	3	This is a national service. Information describing the service and related requirements are available on the national portal. Application must be submitted in person (in the Governmental Windows), after the registration of the new owner, new registration card and logbook are issued. Fees can be paid in the Governmental Windows. Appointments can be made online or via telephone.
5. solving a waste disposal	2	This is a national and a local service. Local/regional companies provide this service in most municipalities, but a relatively new entity is responsible for pricing and billing. At the moment, there is no central customer e-service, and local waste management companies also provide basic information on

Services	Score	Comments on current type of web-presence
		their websites (requirements, scheduling) and some downloadable forms are also available.
6. paying local taxes and fees	6	This is a local service, but a national portal for local governments is available for smaller municipalities that not developed e-services. Water supply companies also have e-customer service in the largest municipalities. In most cases, the transaction can be initiated and completed entirely online.
7. paying for local transport	2	Municipalities and cities are responsible for local transport. In case of large cities, usually a city businesses company is established. that is usually linked to city budget also (due to a kind of subsidies). Payments for local transport cannot be handled completely electronically in the three largest cities in Hungary (except some passes and tickets in Debrecen with eID or student card).
8. submission of complaints / petitions etc. to local administration	2	In differs from city to city. In most big cities, there is a way to send a complaint through electronic means and to receive an answer through email, but there are no sign of concentrated effort.
9. participation in local D-M (participatory budgeting as an example)	2	Hungary or the largest cities have no special national portal dedicated to electronic submission of comments and proposals in the country. There are some rare examples of participatory budgeting and planning.
10. application for a childcare (kindergarten / primary school)	4	This is a local service (kindergarten) or national service (primary school). There are some cities/districts where downloadable forms, or online services are available for kindergarten-registration. For primary school enrolment, a new, central service started this year (with limited functionalities) on the public education e-service portal (https://eugyintezes.e-kreta.hu/kezdolap) which is still under development.
National score	32 out of 80 (40%)	

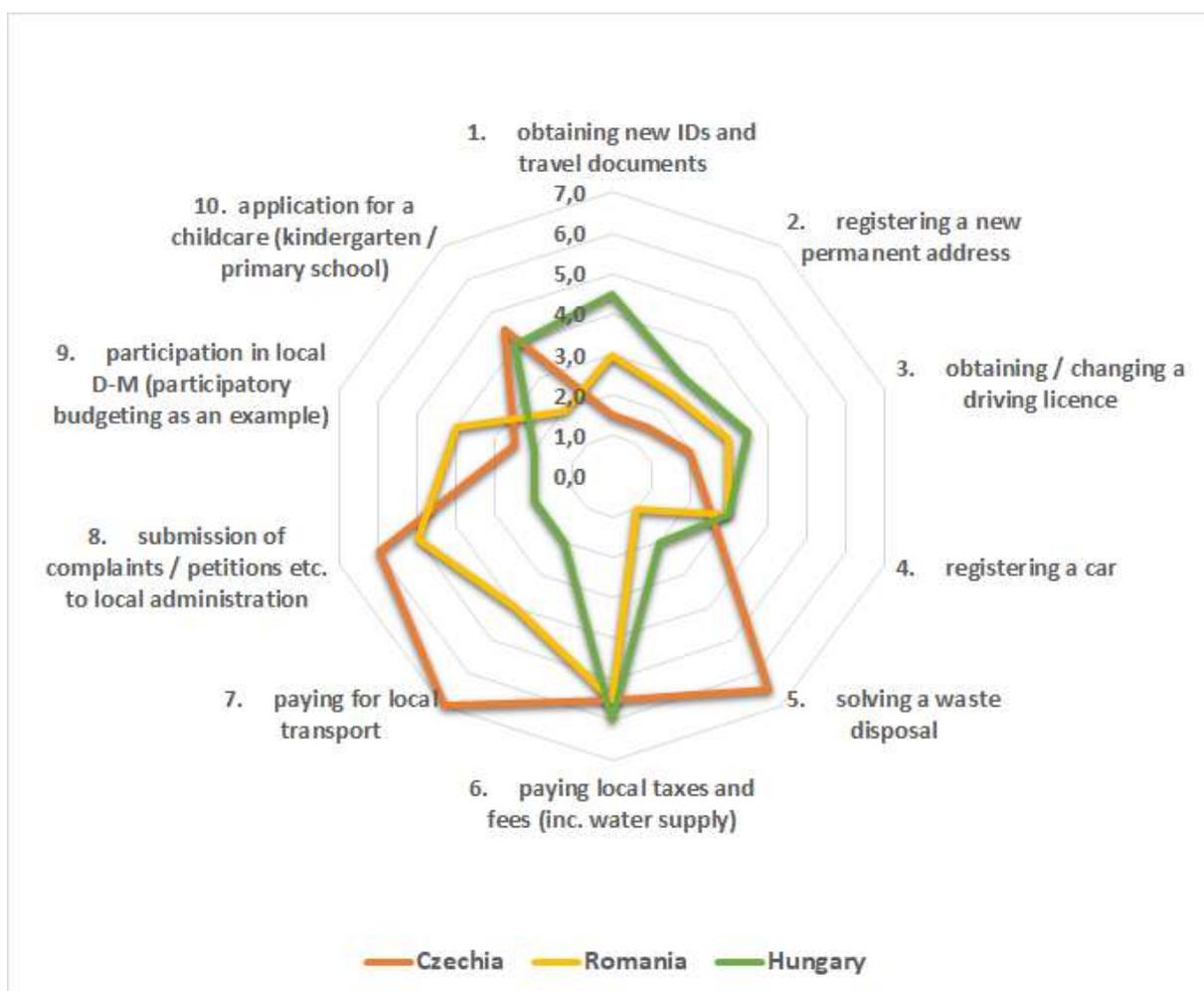
The findings can be summarized by the following Figure 5.

Figure 5 – Level of digitization of core administrative services for citizens in Romania



The situation in all three countries can be summarized by the following Figure 6.

Figure 6 – Level of digitization of core administrative services for citizens in Romania



6. Concluding remarks, future steps and challenges

The paper has dealt with a level of digitization of core administrative services in three selected CEE countries – Czechia, Romania and Hungary. The findings clearly indicate mixed situation. In overall terms the digitization of the services is low and in most of the cases not going further than allowing simple e-transactioning.

In our approach it means that in most of the cases, some interactions are available online (e.g. it is possible to download a form, or fill-in a form online), but full transaction (like authenticated submission of the form) is usually not enabled in vast majority of cases of our core administrative services (forms can be downloaded, but cannot be filled-in using the platform).

Only in case of some services the countries scored higher – this was the case of local rather than national services. Usually services related to paying local taxes, making submissions to local administration scored the highest.

Our findings clearly indicate that although it has been often emphasized that e-gov should be citizen-centred, the supply of electronic administrative services for citizens is clearly not.

Our next steps should focus more on determinants of the current situation. Preliminary data were obtained only for Czechia and Romania and suggest that national level is not doing well in terms of strategy and coordination. But we research this more in future.

Also, we have to check scoring of individual countries and discuss it more inside our team, because the method used allows for some heterogeneity in awarding a points.

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Annexes – Information on individual core services and their web presence in individual countries

Czechia

Services	Score	Comments on current type of web-presence
1. obtaining new IDs and travel documents	1	<p>Requirements on this service are described on the national portal (https://portal.gov.cz/obcan/zivotni-situace/obcan-a-stat/obcanske-prukazy/vydani-obcanskeho-prukazu.html). The service is regulated by the act on personal IDs (act 328/1999 as ammended). There is a list with topics related to the service which is rather long.</p> <p>In case of IDs without a chip, application for the ID must be submitted in person. In case of IDs with chip, personal visit is required and an applicant is required to prepare additional things. Two photographs in a specified format are required. Larger municipalities (the called municipalities with extended responsibilities, 205 exist in Czechia) are responsible for taking pictures. Also, a photographer may sent a photo to the municipality to which the application is submitted. Additional documents are also required for issuing of the first ID (like a birth certificate).</p> <p>In some municipalities, an appointment with a civil servant may be made through e-appointment tool available on its web pages. But this has not been standardized and depends on available municipal e-services. Usually, citizens are required to pay the fee for the services at a different desk.</p> <p>There is a section “E-service that can be used” within the description of the service on the national portal saying that an applicant may sent a written request for additional information to responsible authority (but there is no tool available that would assist him with finding this municipality).</p> <p>In case of passports, the process is similar. Here the section on e-service only states that this services cannot be handled by sending an application by electronic post.</p>
2. registering a new address	1	<p>This service is regulated by the act on electronic records on inhabitants and on birth numbers (act 133/2000 as amended) and by related regulation. It is described on the national PA portal (https://portal.gov.cz/obcan/zivotni-situace/obcan-a-stat/evidence-obyvatel/hlaseni-trvaleho-pobytu.html).</p> <p>According to legislation, a citizen can have only one permanent resident according to Czech law. He/she is required to submit an application for the permanent resident at a municipal office of a municipality where he/she will have the his/her permanent residence. Together with the application, the applicant is required to authorize using his ID and also to give evidence approving that he/she can use a flat or a house (using an extract from the cadastral register or a lease contract).</p> <p>Requirements on the service are described on the national PA portal (https://portal.gov.cz/obcan/zivotni-situace/obcan-a-stat/evidence-obyvatel). Only a model application is available on the portal, but a personal visit is required and only a paper application can be used and is given to an applicant at a municipal office.</p> <p>On the portal it is just said that this service cannot be handled electronically.</p>

Services	Score	Comments on current type of web-presence
		<p>Only information describing the service and related requirements are available on the national portal. No forms are available for downloading, personal visits are required, no tools simple e-transacting is available.</p> <p>If a citizen is moving to another municipality, he/she is only required to apply for the new permanent residence, not to terminate his/her permanent address at the former local authority. At least this is automated.</p> <p>This is however followed by other services related to registration of vehicles, driving licence etc. Visits of responsible authorities are required and if a new permanent address is at a small municipality, a citizen is required to travel to larger municipality (municipalities with extended responsibilities are responsible for the administrative things related to the service). Information on permanent residence are recorded in the register on inhabitants. Insurance companies can access the register based on the contract with the Ministry. Banks cannot however and a citizen is often required to announce new information to banks in person. Also, another problem is that deadlines for announcing may be different (i.e. a different deadline may be stipulated for announcing changes into register of vehicles, to department responsible for driving licences etc.).</p>
3. obtaining / changing a driving licence	1	<p>This service is regulated by act 361/2000. It is described on the national PA portal (https://portal.gov.cz/obcan/zivotni-situace/doprava/ridicske-prukazy).</p> <p>In order to obtain / change a driving license a personal visit to local authority is required. Municipalities with extended responsibilities are the local authorities where submission can be made (thanks to recent changes regardless a permanent address of the applicant). There is no e-form available.</p> <p>This service is regulated by act 361/2000. In order to obtain / change a driving license a personal visit to local authority is required. Municipalities with extended responsibilities are the local authorities where submission can be made (thanks to recent changes regardless a permanent address of the applicant). There is no e-form available. The application is prepared by a civil servant on spot working with ID and additional information provided by an applicant. Photographs are required, if not available in the IS of PA, civil servants take a picture. Additional documents can be required depending on the type of a driving licence (e.g. applicants for a driving licence for trucks are required to provide with a certificate from a doctor). Information on the portal also say that an extract from the cadastral register is also required. Fees are required, it is not possible to pay them online and means of their payment depend on individual municipalities (usually a citizen is required to visit a cash desk which may be situated on different floor / different part of the building of the municipal office etc. Also, notification on results depends on individual municipalities. Some municipalities provide with an e-tool allowing a citizen to make an appoint with a civil servant on their web pages. Some also at least inform that applications submitted on a specific date have been handled and citizens can pick up their driving licences. On the national portal it is shortly stated that the application cannot be submitted by electronic post.</p> <p>Similar procedure is applied in case of changes of data on a driving licence.</p>
4. registering a car	2	<p>Information describing the service and related requirements are available on the national portal. A downloadable form is available, link is available on the portal.</p> <p>This service is regulated by the act 56/2001. It is described on the national PA portal within information on services related to the Register of vehicles (https://portal.gov.cz/obcan/zivotni-situace/doprava/registr-vozidel),</p>

Services	Score	Comments on current type of web-presence
		<p>New car:</p> <p>A new owner of a car is required to register his/her car. A written application is required that should be submitted to any municipality with extended responsibilities. A downloadable form is available also on web pages of the Ministry of Transport and the national PA clearly informs about this and provide a link to the web pages of the Ministry. A fee is required. It is not possible to pay it online and available tools depend on a municipality. Some municipalities also enable making prior appointment through e-tools available on their web pages.</p> <p>Second-hand car:</p> <p>A former owner is required to take care of the service. He/she can authorize a new owner to do so. Otherwise the process is the same in principle.</p>
<p>5. solving a waste disposal</p>	<p>3.5</p>	<p>The service is regulated by the act on local fees (565/1990), a tax order (act 280/2009) and act on waste (185/2001) and regulations of individual municipalities. The situation in the three largest Czech cities can be outlined as follows:</p> <p>Praha: Citizens are required to announce and register at a company dealing with a waste disposal at a given area (there is a map available on the web page dedicated to the fee showing what company serves where; there is also a table with contact date here; http://www.praha.eu/jnp/cz/potrebuji_resit/zivotni_situace/poplatky/poplatek_za_komunalni_odpad.html). No downloadable or e-form is available on the web pages. He/she is required to pay a fee using a bank transfer. No e-payment is available.</p> <p>Brno: Information are described on the web page of the city (https://www.brno.cz/sprava-mesta/magistrat-mesta-brna/usek-1-namestka-primatorky/odbor-zivotniho-prostredi/oddeleni-spravy-poplatku-za-komunalni-odpad/mistni-poplatek-za-provoz-systemu-nakladani-s-komunalnim-odpadem/). The fee can be paid by 4 means: 1) through an e-shop www.brnopas.cz. 2) bank transfer, 3) by cash or card at the City Office, 4) Czech Post money order. It is regulated by the regulation 10/2015. In case of the e-shop, a citizen has to authorize through Brno iD (he can access also some other local e-services – related to local transport, tourism, participation in special events and also in a participatory budgeting project).</p> <p>Ostrava: Requirements are described on the web pages of the City Office (https://www.ostrava.cz/cs/urad/magistrat/odbory-magistratu/odbor-financi-a-rozpocetu/oddeleni-dani-a-cen/zivotni-situace/poplatek-za-komunalni-odpad). Citizens are required to apply for the fee and also announce changes. The following methods of payments are available: 1) bank transfer; 2) Czech Post money order; 3) e-payment available on payment portal of the city (https://platebniportal.ostrava.cz/zpo/platebni-brana); 3) using a QR code or 4) at the city office. If a citizen provide with his/her e-mail address, he/she will be informed about a payment day.</p>
<p>6. paying local taxes and fees (inc. Water supply)</p>	<p>3.5</p>	<p>These services are local services in Czechia and its description is often not available on the national PA portal, but on web pages of individual towns and cities.</p> <p>Services related to water supply are usually provided by business companies established by individual towns and cities. For individual flats situated in blocks of flats and similar types housing an administering company can arrange related services and citizens just pay advanced payments.</p>

Services	Score	Comments on current type of web-presence
		<p>Situation in the three largest cities can be outlined as follows:</p> <p>Praha: Services are provided by a company Prague Water and Sanitation Services (PVK). Citizens may register and after registration their user account is established and they can administer their payments and related things on the user portal (https://portal.pvk.cz/).</p> <p>Brno: Services are provided by a company Brno Water and Sanitation Services (BVK). Similarly to Prague, upon registration on dedicated web pages (https://zis.bvk.cz/) that is voluntary citizens may have their user account established. Here they can administer their payments.</p> <p>Ostrava: Services are provided by Ostrava Water and Sanitation Services (OVAK). The situation is similar to Prague and Brno – citizens can have their user account established (https://zis.ovak.cz/) for administering the services.</p> <p>There are other various local fees citizens are required to pay directly – this is especially the case for local property tax, fees for dogs and waste disposal fee.</p> <p>In case of the fees for dog, situation may be more complicated in the cities. For instance in Brno, administrative structure is determining payments of the fee – it is organized according to the sub-division of the city into city districts – i.e. citizens are not dealing with the city office, but with an office of a city district. Random monitoring of web pages of some of the city districts (Brno has 29 of such districts) indicate that citizens can pay the fee at the city office, by a bank transfer or using a Czech Post money order.</p> <p>Payment of local property tax is administrated by Tax Administration. Related service is described on the national PA portal (https://portal.gov.cz/obcan/zivotni-situace/finance/dane-danova-priznani/podani-priznani-k-dani-z-nemovitych-veci.html). Citizens are required to apply for registration of their new property (submit their first property tax declaration). This cannot be handled online completely in comparison to income taxes and VAT declarations however. After this first registration they receive a payment order every year. If a citizen has a data box established, he/she receives information about coming payment day into the data box. Citizens can also register their e-mail and receive such information by e-mail. Payment can be made via a bank transfer or Czech Post money order.</p>
7. paying for local transport	4	<p>Situation in the three largest cities can be outlined as follows:</p> <p>Praha: Prague transport company (DPP) is responsible for public transports (busses, trams, boats and metro). People can obtain special ID – Litacka (www.litacka.cz). They can apply for it in person (at contact points of the transport company) or on-line. Litacka can be used also in local libraries and primary education institutions, it can be used for charging electromobiles. Special mobile application is also available.</p> <p>Brno: Brno Transport Company (DPMB) is responsible for public transport (busses, trams and boats). BrnoiD can be used to administer payments for public transport. Also, special mobile applications (like Poseidon) available to anyone can be used upon prior registration and tickets can be handled completely electronically. BrnoiD can be used in public transport, for handling waste disposal fees, for obtaining Brnopas card (https://www.gotobrna.cz/brnopas/) for tickets for cultural institutions and tourism, for special programmes of the Brno ZOO and also for a city participatory budgeting project Dáme na vás (https://damenavas.brno.cz/).</p>

Services	Score	Comments on current type of web-presence
		<p>Ostrava: Ostrava Transport Company (DPO) is responsible for public transport. Special electronic purse (ODISka) can be used, tickets can be bought electronically also via other means. It can be used for a transport within the Region Moravskoslezský. It is planned that that will be possible to use the card in public libraries, for paying parking fees.</p>
<p>8. submission of complaints / petitions etc. to local administration</p>	<p>4</p>	<p>Submissions to bodies of municipalities can be made using various means – in Czechia e-registry-office (“e-podatelna”) is the oldest e-tool. It can have a form of a simple e-mail address or it can be an application where, upon prior registration, citizens can track their submissions. Since July 2009, communication via data boxes is enabled (for citizens it is voluntary). The data boxes are established by the Ministry of Interior – application for their establishment can be made via Czech POINT contact points and face-to-face procedure is required. If established, data boxes can be used as a file repository and also as an instrument for sending application for information based on freedom of information legislation. E-services for citizens can also be integrated into larger information systems (e.g. this is the case of former ESMO project and current eMIA initiative of Ostrava - https://esmo.ostrava.cz/cs/uzivatelska-sekce/prehled-sluzeb-emia).</p> <p>According to legislation, only paper petitions can be submitted. No e-petitions are allowed at the present.</p>
<p>9. participation in local D-M (participatory budgeting as an example)</p>	<p>2.5</p>	<p>The situation in the three largest cities can be outlined as follows:</p> <p>Praha: There is no central e-participation initiative. Participatory budgeting initiatives have been launched by some Prague Districts – e.g. Praha 8, Praha 5, Praha 3. Available information indicates that collection of input was also supported by ICTs – through special web-forms etc.</p> <p>Brno: In Brno, initiative called Brno 2050 has been evolving especially since 2016 in order to make strategy processes that are initiated by the city level more inclusive and participatory. Various e-instruments have been used for obtaining input from the public (special web pages were established, also special FB profile has been used – Chytré Brno. There is also a participatory budgeting initiative “Dáme na vás” (We count on you; https://damenavas.brno.cz/). It has its own web pages. A downloadable form is available for project proposals that can be submitted for calls announced by the City Office. The participatory budgeting initiative of Brno is used on the whole Brno territory.</p> <p>Ostrava: In Ostrava special initiative “fajnOVA” has been launched for making decision-making more participatory. Its web pages (http://fajnova.cz) have been used to collect input from citizens in few rounds. There is not participatory budgeting initiative for the whole territory of Ostrava. Available information indicate that only one city district – Ostrava-Jih have initiated participatory budgeting project recently (https://ovajih.ostrava.cz/cs/obcan/participativni-rozpocet).</p>
<p>10. application for childcare (kindergarten)</p>	<p>2.5</p>	<p>Situation in the three largest cities can be outlined as follows:</p> <p>Praha: In Prague, application for kindergartens and primary schools are organized according to individual City Districts. Special web pages exist for informing parents (e.g. www.jakdoskolky.cz of the City District Praha 6), they may contain only information on related procedures and downloadable form (web page can be used for making appointment at schools). Sometimes they allow monitoring of results of the selection procedure.</p>

Services	Score	Comments on current type of web-presence
		<p>Brno: In Brno, submissions of applications into kindergartens can be made via special web pages - https://zapisdoms.brno.cz/. Parents can find information about decisions here (using an insurance number of their child). Decision can be also communicated by phone, sms, e-mail or post. Decision on acceptance must be picked up in person however, otherwise it is sent to parents. Similar procedure is used for applications for primary schools – the following web pages can be used: https://zapisdozs.brno.cz/.</p> <p>Ostrava: Situation is similar to Prague. There is no central instrument like in Brno.</p>

Hungary

Services	Score	Comments on current type of web-presence
<p>1. obtaining new IDs and travel documents</p>	<p>4,5</p>	<p>Requirements on this service are described on a specific portal/application (https://www.nyilvantarto.hu/hu/) dedicated to services related to official documents and state registers/databases. (Travel documents: https://www.nyilvantarto.hu/hu/utlevel; ID: https://www.nyilvantarto.hu/hu/szig). The description of the processes can also be found on the website of the one-stop-shop Governmental Windows, where the applications must be submitted in person. (New ID: http://kormanyablak.hu/hu/feladatkorok/6/OKMIR00090; Passport: http://kormanyablak.hu/hu/feladatkorok/111/OKMIR00012)</p> <p>Application for the documents must be submitted in person. Photographs are taken during the application in the Governmental Windows. Appointments can be made with the help of a central e-appointment service (https://idopontfoglalo.kh.gov.hu) or via telephone. If there is a fee It can be paid by bank card on the spot.</p> <p>There are some additional services that can be done online, using the web-based administrative assistant service (https://www.nyilvantarto.hu/ugyseged/) which is also available as a smart phone application (https://nyilvantarto.hu/okmanyapp/): the replacement of stolen, lost or damaged documents, invalidation of the stolen/lost IDs or priority/accelerated issuing of passports. These transaction can be made fully online.</p> <p>The production status of the documents can be followed up online.</p>
<p>2. registering a new address</p>	<p>3</p>	<p>A citizen residing in the territory of Hungary is obliged to register the address of his/her place of residence within 3 working days after moving. (Description/requirements of the process: http://kormanyablak.hu/hu/feladatkorok/6/OKMIR00001)</p> <p>Application for the documents must be submitted in person (in the Governmental Windows), using a paper-based form. An address card will be issued with the new address.</p> <p>Appointments can be made with the help of a central e-appointment service (https://idopontfoglalo.kh.gov.hu) or via telephone.</p> <p>The process must be followed by other services related to registration of vehicles and utilities, but the Governmental Window send the information to some institutions (tax authority, health insurance fund).</p>
<p>3. obtaining / changing a driving licence</p>	<p>3,5</p>	<p>In order to obtain/change a driving license a personal visit to a Governmental Window is required. There is no e-form available. (Description/requirements of the process http://kormanyablak.hu/hu/feladatkorok/75/OKMIR00029).</p> <p>The application is prepared by a civil servant on spot working with ID and additional information provided by an applicant. Photographs are also taken on the spot. A certificate from a doctor is also required. Similar procedure is applied in case of changes of data on a driving licence, however as with IDs and passports, the replacement of stolen, lost or damaged driver licences can be made fully online (If no data changes).</p> <p>The production status of the documents can be followed up online.</p> <p>Appointments can be made with the help of a central e-appointment service (https://idopontfoglalo.kh.gov.hu) or via telephone.</p>

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4. registering a car	3	<p>Information describing the service and related requirements are available on the national portal. https://ugyintezes.magyarorszag.hu/ugyek/410001/420003/Gepjarmuvek_kapcsolatos_eljarasok20091202.html?ugy=gepjvas.html</p> <p>Application for the documents must be submitted in person (in the Governmental Windows), providing the proof of origin, and the old registration card logbook of the car. After the registration of the new owner, new registration card and logbook are issued. Fees can be paid in the Governmental Windows.</p> <p>Appointments can be made with the help of a central e-appointment service (https://idopontfoglalo.kh.gov.hu) or via telephone.</p>
5. solving a waste disposal	2	<p>In 2016, a co-ordinating organisation was set up in Hungary for carrying out the waste management public task of the state (based on Section 32/A of Act CLXXXV of year 2012 on wastes). The Co-ordinating Organisation is called National Coordination of Waste Management and Asset Management Plc (NHKV Plc https://nhkv.hu/en/home/). NHKV Plc aim is to establish and develop a system that optimizes the waste management public service in Hungary, with implementing a financial system that is sustainable in the long term.</p> <p>This model among others means that there are regional/local organisations dealing with waste management, but NHKV deals with billing. For the time being the electronic online mode of payment is not available to the clients in view of the fact that starting with April 1, 2016 the deployment of the national unified invoicing system will be carried out which is not up and running at the moment.</p> <p>Organisations dealing with waste disposal in the three largest cities are FKF (Budapest, https://www.fkf.hu), DHK (Debrecen, http://www.dhkkft.hu/) and SZH (Szeged, https://www.szegedihulladek.hu). There are some downloadable forms (e.g. announce data changes) in word format in the websites of these companies.</p>
6. paying local taxes and fees (inc. Water supply)	6	<p>There are some taxes and fees on local level (from parking to weight tax of cars, or business tax for companies). Description of the services and its description is often not available on the national PA portal, but on web pages of individual towns and cities. However Hungary choose the Application Service Provider (ASP) model to develop and maintain a quality and standardised ICT solutions for (small) local governments. This model can be technologically and economically advantageous also for municipalities to support the wide range of their functions, including common platform-based provision of local e-Government services to citizens and businesses (https://ohp-20.asp.lgov.hu/nyitolap). Bigger municipalities/districts are allowed to use their own solutions (dominantly developed and introduced some years ago). The three largest cities (and districts of the capital) have their own e-government portals.</p> <p>Services related to water supply are provided by regional entities after a change in the regulation. There are cca. 40 service providers in Hungary approved by the Hungarian Energy and Public Utility Regulatory Authority. They all have their own solutions and e-service portals (Fővárosi Vízművek in Budapest: https://ugyfelszolgalat.vizmuvek.hu/; Debreceni Vízmű in Debrecen: https://e-portal.dvinfo.hu/portal-web/main and Szegedi Vízmű in Szeged: https://ugyfelszolgalat.szegedivizmu.hu/</p> <p>Citizens may register and after registration their user account is established and they can administer their payments and related things on the user portal</p>

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7. paying for local transport	2	<p>Situation in the three largest cities can be outlined as follows:</p> <p>Budapest: An e-ticketing system was introduced by BKK Centre for Budapest Transport (https://bkk.hu) in the summer of 2017 but was shut down due to technological problems. The upgrade is still under construction. Tickets and passes can be purchased in ticket offices and using the new type ticket vending machines (introduced in 2014).</p> <p>Debrecen: The city transport company (DKV, https://www.dkv.hu/) provides a website for purchasing tickets and passes (https://dkvejegy.hu/) that can be used by the holders of the new Hungarian eID card (rolling out continuously, not owned by every citizen in the country yet) or by students with their student card. The system started in the end of 2017 and basically can be used for purchasing different passes.</p> <p>Szeged: The body responsible for public transport in Szeged (http://szkt.hu/en/) is not providing e-tickets, but contactless payment was made available on the vehicles.</p>
8. submission of complaints / petitions etc. to local administration	2	<p>No sign of any electronic measure for submitting complaints or running e-petitions.</p>
9. participation in local D-M (participatory budgeting as an example)	2	<p>The situation in the three largest cities can be outlined as follows:</p> <p>Budapest: There is no central e-participation initiative, but some examples have been launched by some Prague Districts – e.g. participatory planning activities in Óbuda (3rd district), participatory budgeting in Kispest (19th district). Available information indicates that collection of input was not widely supported by ICTs.</p> <p>There is no visible sign of participatory planning, budgeting or other similar activities in Debrecen or Szeged at the moment.</p>
10. application for childcare (kindergarten, primary school)	4	<p>Situation in the three largest cities can be outlined as follows:</p> <p>Budapest: Application for kindergartens are organized according to individual City Districts. Wide range of possible solutions exists, from simple leaflets to downloadable forms and specific online section of the portal of the city district. e.</p> <p>Debrecen: In Debrecen, there is a general page on the city website on kindergarten information (https://www.debrecen.hu/hu/debreceni/oktatas/ovodai-ellatassal-kapcsolatos-altalanos-informaciok) with an application form (.doc), which can be downloaded, printed and submitted to the chosen kindergarten. Decision on acceptance is posted in written form, but an e-mail notification can be demanded.</p> <p>Szeged: There is a dedicated page for kindergartens in Szeged (http://ovi.szegedvaros.hu) where application information and downloadable forms are available (in pdf/doc format) for printing and signing.</p> <p>A central entity is responsible for all public education and a new portal is being developed at the moment which makes enrolment in primary schools available online (https://eugyintezes.e-kreta.hu/kezdolap)</p>