The e-Government Readiness in Latvia: Past and Present

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Abstract – **The e-government has an important role to play now and in the future. To compare the readiness of Latvian electronic government in past and present, the Latvian e-government readiness will be evaluated, i.e., the e-government development index changes will be analysed in the period 2008–2012, as well as main factors influencing this index will be discussed to assess the e-government readiness in future.**

Keywords – **e-government, e-governance, e-government readiness, information and communication technologies, e-readiness**

I. INTRODUCTION

Progress in online service provision continues in most countries around the world. Many countries have put in place e-government initiatives and information and communication technology (ICT) applications for the people to improve public sector efficiency and streamline governance systems to support sustainable development. Among the e-government leaders, innovative technology solutions have gained special recognition as a means of revitalizing economic and social sectors.

"The development of e-government systems and services is highly prioritized in governments all over the world. Electronic service provision shall enable the governments to reach a number of ambitious goals, typically including citizen-centric service provision, increased service quality, increased efficiency of government service provision, lowered cost of government service provision, and improved democratic processes through improved dialogue between the government and its citizens" [1].

The increasing role of e-government in promoting inclusive and participatory development has gone hand-in-hand with the growing demands for transparency and accountability in all regions of the world. E-government has strongly shifted expectations of what governments can and should do, using modern information and communication technologies to strengthen public service and advance equitable, people-centred development.

Since 2002, the Cabinet of Ministers of the Republic of Latvia has approved the implementation of e-government concept; e-government has become an important public policy component.

Since 2010, ICT has been playing an important role in the improvement of the quality of life by providing electronic access and ICT skills, focusing on digital skills and the needs of the people-oriented public services.

Using the methodology and indicators, annually the EU member states prepare comparable figures for the use of ICT and its impact on sustainable economic development and social welfare. Considering that most of the EU member states have already introduced 20 basic services proposed by the EC, new indicators and methodologies will be developed, which will allow analyzing the availability of e-government in the future. One of comparable indicators, which will allow comparing the EU member states at the level of e-government implementation to meet citizens' needs, has promoted the development of public services.

The paper aims to assess the Latvian e-government readiness in past and present and analyse the e-government development index over the years.

To achieve the aim, the following tasks have been defined:
a) to analyze e-government readiness in past and present;
b) to examine the changes of e-government development index through the years;
c) to assess the e-government readiness in future in the case of Latvia.

II. METHODS

Many similar consequences, parameters and terms arise, among which there is one important term that measures the ability of a government or an enterprise to adopt e-Governance initiatives - e-readiness. E-readiness is a synonym for e-government development index (EGDI) [2]. To comply with e-governance, one must first be e-ready. Thus, e-readiness is the ability to use information and communication technologies to develop economy and foster welfare. A key indicator of e-readiness is infrastructure, and in developing countries this is often a key challenge for the advancement of society. There are many elements, which lead to e-readiness, such as infrastructure, telecommunications, Internet connectivity and skills set as outlined in the contemporary resources [3], [6].

Six out of ten countries of Northern Europe (Table I) were among the world leaders in the e-government development index.

TABLE I
E-GOVERNMENT DEVELOPMENT IN NORTHERN EUROPE IN 2008–2012

Country	E-government development index			World e-government development ranking		
	2012	2010	2008	2012	2010	2008
United Kingdom	0.8960	0.8147	0.7872	3	4	10
Denmark	0.8889	0.7872	0.9134	4	7	2
Sweden	0.8599	0.7474	0.9157	7	12	1
Norway	0.8593	0.8020	0.8921	8	6	3
Finland	0.8505	0.6967	0.7488	9	19	15
Estonia	0.7987	0.6965	0.7600	20	20	13

TABLE I. Continued						
Iceland	0.7835	0.6697	0.7176	22	22	21
Lithuania	0.7333	0.6295	0.6617	29	28	28
Ireland	0.7149	0.6866	0.7296	34	21	19
Latvia	0.6604	0.5826	0.5944	42	37	36

Some other Northern European countries developed their e-services by providing better access and inclusion opportunities. However, they did not improve their global ranking; other countries such as Lithuania (0.7333 – 29th), Ireland (0.7149 – 34th), and Latvia (0.6604 – 42nd) also improved e-government applications, networking, and other web services.

"The steady improvement in all the indicators of the e-government development index has led to a world average of 0.4877 as compared to 0.4406 in 2010. This reflects that countries in general have improved their online service delivery to cater to citizens' needs. On a regional level, Europe (0.7188) and Eastern Asia (0.6344) lead, followed by Northern America (0.8559), South Asia (0.3464) and Africa (0.2762)" [3].

Latvia's one-stop-shop portal (https://www.latvija.lv) offers 29 e-services and online banking (e-payments). Points of single contact allow service providers to obtain information through a single entry point and complete required administrative procedures electronically in order to commence provision of services in a chosen business sector in Latvia. An advanced user's authorization system through bank or ID cards ensures users' privacy and security. The online banking system allows users to employ the system more efficiently and securely (e.g., for income tax declaration).

"Employing e-government to improve efficiency and effectiveness of public service delivery in government structures is one facet of economic sustainability. Many Member States are moving from a decentralized single-purpose organization model to an integrated unified whole-of-government model contributing to efficiency and effectiveness" [4]. The model aims to centralize the entry point of service delivery to a single portal where citizens can access all government-supplied services, regardless of which government authority provides them. In some countries, the whole-of-government approach helps build a transparent government system with interconnected departments and divisions, feeding into the funnel of greater government efficiency and effectiveness.

In recent years, Latvia has shown significant progress in the electronization of public services. As the European Union has decreed that basic services need to be provided for national and local authorities electronically, at present Latvian residents have access to about 90% of services and the employers – to 100% of services [5]. This is higher than the European Union average.

Analyzing EGDI and its components for Latvia (Fig. 1), it is evident that EGDI tends to increase, which shows government progress in the implementation of e-government.
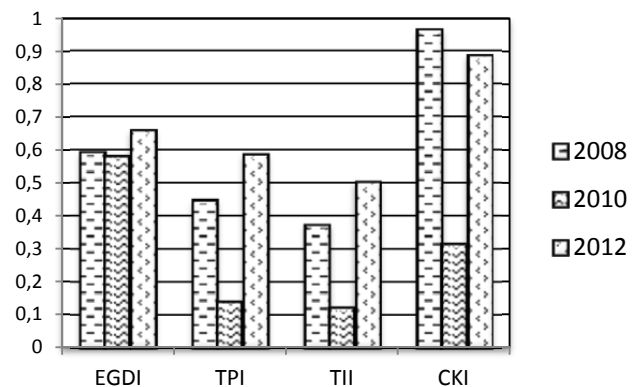

Fig. 1. The e-government development index and components for Latvia

E-government development index (EGDI) consists of three indices - the online service index (TPI), the telecommunication infrastructure index (TII) and the human capital index (CKI) [2].

The TPI consists of four components – points for emerging information services (JIPP), points for enhanced information services (UIPP), points for transaction services (DPP) and points for connected approach (SPP). The TII consists of five components – estimated internet users per 100 inhabitants (ILI), main fixed telephone lines per 100 inhabitants (TLI), mobile subscribers per 100 inhabitants (MAI), personal computers per 100 inhabitants (PDI) and total fixed broadband per 100 inhabitants (FPI). The CKI consists of two components – adult literacy rate in percentage (PLI) and combined gross enrolment ratio for primary, secondary and tertiary schools in percentage (KII).

By studying all three components of EGDI, it is clearly visible that in 2010 there was a sharp decline in all of the components, but in 2012 – a significant increase. The research shows that in the period 2008–2012 the index of development increased, except for CKI, which was very high previously. Although CKI showed a tremendous decrease in 2012, it did not significantly affect the total EGDI.

Analysing the online service index (TPI) in the period 2008–2012 in the case of Latvia (Table II), it is obvious that all TPI components have grown through the years. From TPI components, JIPP has largely increased, which means that Latvia has sequentially been developing and establishing new services for citizens, businesses and government needs. Also, all other TPI components have increased, which means that the Latvian government enhances information services and transaction services every year.

TABLE II
E-GOVERNMENT DEVELOPMENT INDEX AND ITS COMPONENTS IN LATVIA IN 2008-2012

Year	Online service index				Telecommunication infrastructure index					Human capital index		
	JIPP	UIPP	DPP	SPP	PDI	ILI	TLI	MAI	FPI	PLI	KII	ELI
2008	8	23	1	2	0.27	0.53	0.63	0.30	0.15	99.70	90.20	0.2273
2010	52	37	19	23	55.20	28.40	97.70	32.80	6.44	99.80	88.60	0.2714
2012	100	67	35	46	19.30	68.40	23.60	102.00	14.10	99.80	84.50	0.2105

In the period 2008–2012, some components of the telecommunication infrastructure index (TII) increased, but others decreased (Table II).

The number of personal computers per 100 inhabitants decreased from 2010 to 2012 because of new technologies in the field of ICT and their widespread use in everyday life. Also, the number of fixed telephone lines per 100 inhabitants decreased, indicating a variety of beneficial services for mobile operators. However, the number of internet users per 100 inhabitants increased because of the increasing availability of e-services (Table II).

In the period 2008–2012, the human capital index did not change and was stable in adult literacy rate and combined gross enrolment ratio for primary, secondary and tertiary schools (Table II).

The Electronic Government Development Program has implemented various measures for public administration modernization, i.e., legal and regulatory framework of e-government and information systems has been developed; e-signature smart cards have been introduced, an e-document system in public administration has been launched. There are methodological recommendations to establish procedures at the local level in order to process documents in municipal (city) administrations. National information systems have been developed, including an electronic procurement system and a Latvian portal of public services (https://www.latvija.lv), which in the future will be developed into a virtual one-stop shop point. In the future, the development of national information systems requires the optimization of the existing ICT infrastructure, taking into account the principle of a single data centre and the establishment of ICT resource directory of state institutions.

The e-services are increasingly created. The increasing use of e-services will bring positive benefits to the state regulatory process improvement and the control of the bureaucracy, saving time, labour, and material resources.

Given that e-government as a horizontal industry affects all aspects of life, it is important to provide all citizens with e-services based on real-life situations. Fig. 2 provides the representative example of a group of services tethered to life situations, and shows the importance of ICT resident life cycle.

In order to increase citizens' satisfaction with public administration, e-government will help to ensure a unified approach that will change the traditional public service delivery – switching from a service provider's point of view to the people-oriented perspective.
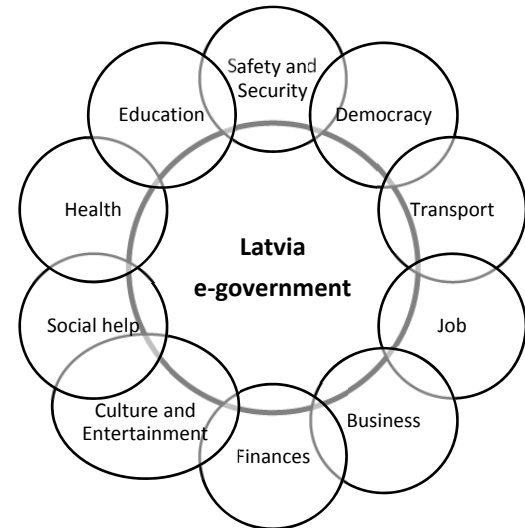

Fig. 2. People-oriented e-government development

Many developing countries have adopted citizen inclusion as a key in providing customer-oriented services. Europe has the largest share of the top e-participation countries. Despite progress the gains are not spread evenly, both across and within countries, with the majority still offering low levels of engagement possibilities.

The role of the government is to reform the governance systems through which services are delivered in a way that maximizes development and minimizes natural resource degradation. A holistic approach to governance includes taking into account the efficiency and distributional aspects of sectoral policies and their outcomes, national development agendas, and international cooperation agreements, so that resulting solutions are sustainable in the future.

Increasingly powerful and user-friendly technologies are creating opportunities for governments to offer new ways to interact with citizens in order to respond to their needs more effectively and with their integral participation. Taking advantage of the introduction of devices such as smart phones, interactive voice response systems, digital television, and self-service terminals, the private sector has been making use of multiple channels for a long time. Such initiatives encourage citizens to envision new forms of interaction with the desire that service providers – public and private – become as accessible and responsive as modern technology allows. Although many governments are aware of this trend, few developing countries are exploiting the full potential of multichannel service delivery to serve their constituents [6].

Multichannel service delivery is the provision of public services by various means in an integrated and coordinated way. Citizens can make selections according to their needs and circumstances and receive consistent information and services across channels resulting in an increase in their satisfaction and trust in government [6].

Traditional channels can include face-to-face contact, telephone or postal mail. Digital channels encompass websites, mobile-based services and public access points. Public agencies can also make use of the existing physical and virtual networks managed by a private sector or non-governmental organizations. To facilitate higher penetration of e-government and to advance efficiency in public service delivery, it is necessary to consider the use of all available channels.

In general, within the framework of the Electronic Government Development Program, the development indicators of e-governance and information systems have significantly improved (Fig. 3).
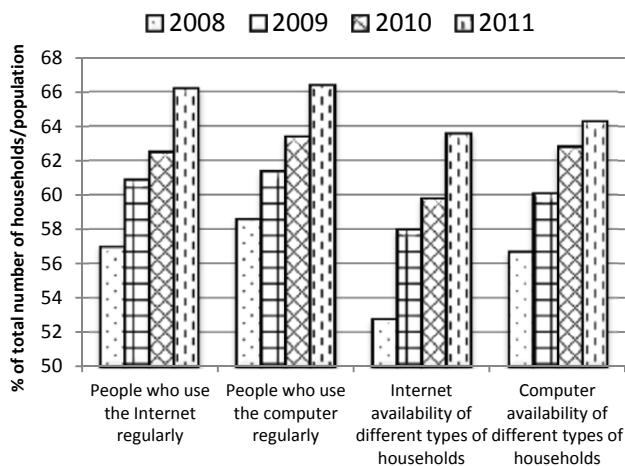

Fig. 3. Statistics of e-government development

Despite the growth of ICT in Latvia, ICT has significantly improved in recent years in the EU, as well. According to Eurostat data, 56% of the population regularly used the Internet in 2008 (45 percent – in 2006, and 51 percent – in 2007).

It is appreciated that the level of computer and internet skills increases among the Latvian population. According to Eurostat, since 2005 the number of people, whose computer skills are at a low level, has decreased by four percent, while the number of people with a high level of computer literacy has increased by three percent reaching 14 percent (the EU average is 23 percent). Also, the number of people with low Internet skills has decreased by five percent, but the number of people with a high level of Internet skills has increased more than three times, reaching 11 percent, which is three percent more than the EU average.

In general, the Latvian ICT indicators have increased since 2005, which is a positive trend. However, many ICT indicators are still below the average EU indicators. Thus, it is necessary to continue current activities, as well as undertake new activities in order to reach the average EU level in the field of ICT.

The turnover of electronic procurement system amounted to 7111.2 thousand LVL in 2010 (Fig. 4).
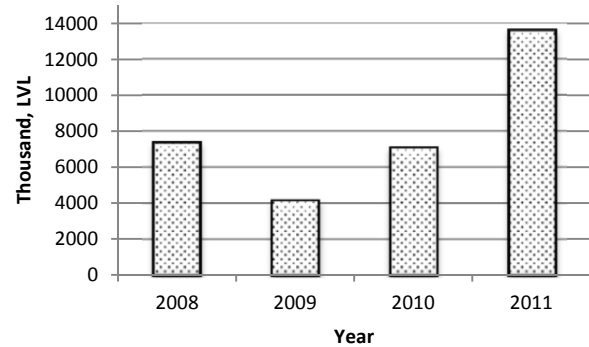

Fig. 4. The turnover of electronic procurement system

In the first half of 2011, turnover amounted to 5048.3 thousand LVL or more than 70% of the volume in 2010. It was forecasted that in 2011, the total turnover of the electronic procurement system would reach 13 643.8 thousand LVL.

III. RESULTS

Countries at all levels of development are still affected by a lack of integration of administrative simplification with e-government development plans, lack of infrastructure and human resource capacity and a gap between e-service supply and demand. Low-income countries, in particular, continue to contend with traditional barriers to ICT investment such as lack of technical skills, high costs of technology, and ineffective government regulation.

While it is important to continue with service supply, governments must begin to rethink in terms of e-government – and e-governance – placing greater emphasis on institutional linkages between and among the tiered government structures in a bid to create synergy for inclusive sustainable development. An important aspect of this access is to widen the scope of e-government for a modifying role of the government towards cohesive, coordinated, and integrated processes and institutions through which such sustainable development takes place [3].

The underlying principle of e-government, supported by an effective e-governance institutional framework, is to improve the internal workings of the public sector by reducing financial costs and transaction times so as to better integrate workflows and processes and enable effective resource utilization across the various public sector agencies aiming for sustainable solutions.

The European e-Government Action Plan project for 2011–2015 forecasts creation of new e-government services in a generation, complying with the principles of openness, flexibility and personalization. The EU e-government or cross-border service development and implementation will provide a

united market of European Digital Citizenship development. To make electronic cooperation among EU member states safe and effective, some prerequisites are necessary – open standards and compatibility of electronic identity and ICT infrastructure for innovation. In order to increase the efficiency and productivity of government services, greater attention should be paid to organizational process improvement, administrative press and carbon emission reduction, as well as citizen-centric, inclusive e-service creation and re-use of public sector information [4].

IV. CONCLUSIONS

To effectively increase the use of e-services in Latvia, particularly in the context of sustainable development, more effective policies and strategies should be developed to help overcome differences in usage, increase awareness and promotional activities, focus on user needs, further explore and exploit the potentials of social media and open data, and provide additional incentives for the use of e-services.

To make a faster and easier communication with the public authorities and municipalities, it is necessary to plan a variety of service options – traditional (customer service centres) and remote (e-mail, e-paper, e-services, phone, etc.). It is essential to respect the following principles:
- the client has the right to choose the most convenient and the most appropriate communication channels;
- a single process for all service channels (for example, not recommended for e-services to be separated from the overall service process).

In order to identify the most efficient ways of providing services, it is necessary to evaluate service availability and customer convenience requirements and the cost of providing various groups of services.

Users and their needs should be placed at the core of service design and delivery to improve usage. E-services can be better tailored to meet the specific needs and priorities of different users. To this end, governments should enhance their capacity to garner, monitor and incorporate users' feedback, satisfaction and needs. In particular, in order to foster personalized e-services and identify needs and gaps in e-service delivery, it is important to collect disaggregated data on different citizen groups, analyze and monitor their specific usage patterns, and share the data with citizens. This analysis should form the basis for resource allocation and the development of more personalized e-services for greater usage opportunities. It is expected that with the right institutional framework, policies and capacity-building efforts, progress in enhancing the contributions of e-government to sustainable development is within reach.

However, adequate funding is needed to enhance e-government. Furthermore, it shows that there are challenges of reducing the digital divide and increasing access to public services by vulnerable populations and distant communities. More than ever, mobile services, crowd sourcing, cloud computing, e-service kiosks and other innovations of this sort must be nurtured and supported and made available to all segments of society.

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Daiga Dumpe, Irina Arhipova. E-pārvaldes gatavība Latvijā: pagātne un tagadne

Pētījumā analizēta e-pārvaldes gatavība ieviešanai Latvijā. Papildus analizētas e-pārvaldes attīstības indeksa izmaiņas un novērtēta e-pārvaldes gatavība nākotnē. Kopš 2002.gada Latvijas Ministru kabinets ir apstiprinājis e-pārvaldes koncepcijas ieviešanu, un e-pārvalde ir kļuvusi par svarīgu sabiedrības sastāvdaļu. Informācijas un komunikāciju tehnoloģiju (IKT) loma pēc 2010.gada ir saistīta ar uzlabotu dzīves kvalitāti, nodrošinot elektronisku piekļuvi pakalpojumiem un IKT prasmju apguvi, liekot akcentus uz cilvēku orientētu sabiedrisko pakalpojumu vajadzībām. Latvija pēdējos gados ir parādījusi ievērojamu progresu valsts pakalpojumu elektronizācijā. Eiropas Savienībā (ES) ir noteikti pamata e-pakalpojumi valsts un pašvaldību iestādēm, no kuriem Latvijas iedzīvotājiem tagad ir pieejami aptuveni 90%, un darba devējiem - 100%. Šis rādītājs ir lielāks nekā vidēji Eiropas Savienībā. Analizējot e-pārvaldes attīstības indeksu (EGDI) un tā ietekmējošos faktorus Latvijā, ir skaidrs, ka EGDI ir tendence pieaugt, kas liecina, ka ir vērojams progress e-pārvaldes jomā. Pētot visas trīs EGDI komponentes, ir skaidri redzams, ka 2010. gadā ir bijis straujš kritums visām komponentēm, bet 2012. gadā bija ievērojams pieaugums. Analizējot secināts, ka Latvijas IKT rādītāji ir auguši kopš 2005. gada. Tomēr daudzi IKT rādītāji joprojām ir zem ES vidējiem rādītājiem. Līdz ar to būtu nepieciešams turpināt pašreizējo darbību, kā arī jaunas aktivitātes, lai sasniegtu vidējo ES līmeni IKT jomā. Lai efektīvi palielinātu e-pakalpojumu izmantošanu Latvijā, jo īpaši saistībā ar ilgtspējīgu attīstību, nepieciešams ieviest efektīvāku politiku un stratēģijas, lai palielinātu informētību un reklāmas aktivitātes, koncentrējoties uz lietotāju vajadzībām. Būtu nepieciešams izpētīt un izmantot potenciālos sociālos medijus, lai nodrošinātu papildu e-pakalpojumu izmantošanu.

Дайга Думпе, Ирина Архипова. Готовность э-управления в Латвии: прошлое и настоящее

В исследовании проведен анализ готовности э-управления в Латвии. Дополнительно проанализированы изменения индекса развития э-управления и оценена степень готовности э-управления в будущем. С тех пор, как в 2002 году Кабинет министров Латвии утвердил концепцию внедрения э-управления, оно стало важной частью общественного развития. Роль информационных и коммуникационных технологий (ИКТ) после 2010 года связана с улучшением качества жизни, обеспечивая электронный доступ к услугам и освоение навыков ИКТ, делая акцент на необходимости социально-ориентированных общественных услуг. Латвия в последние годы показала значительный прогресс в области электронизации общественных услуг. В Европейском Союзе (ЕС) определены необходимые электронные услуги в государственных учреждениях и органах самоуправления, из которых жителям Латвии в настоящее время доступны примерно 90% и работодателям - 100%. Этот показатель выше, чем в среднем в Европейском Союзе. Анализируя индекс развития э-управления (EGDI) и влияющие на него факторы на примере Латвии, становится ясно, что EGDI тенденция роста указывает на существенный прогресс в области э-управления. В результате исследования всех трех компонент EGDI сделан вывод, что в 2010 году был резкий спад всех компонент, но в 2012 году произошел значительный их рост. В результате анализа сделано заключение, что показатели ИКТ Латвии увеличивались с 2005 года. Однако многие показатели ИКТ по-прежнему ниже средних показателей ЕС. Таким образом, необходимо будет продолжать существующую политику, а также новые виды деятельности в целях достижения среднего уровня показателей ЕС в области ИКТ. В контексте устойчивого развития Латвии для повышения эффективности использования электронных услуг необходимо внедрить эффективную политику и стратегию по обеспечению информированности населения, ориентируясь на потребности пользователей. Необходимо исследовать возможности использования потенциала социальных медиа для предоставления дополнительных электронных услуг.