REPORT ON FACTOR ANALYSIS OF OPEN DATA READINESS ASSESSMENT

IN THE REPUBLIC OF KAZAKHSTAN

(in accordance with World Bank methodology)

This Assessment deals with the readiness in seven areas that are considered to be critical to open data initiatives and to constitute such data's stable ecosystem. The undermentioned recommendations imply that the open data initiative will affect various aspects of that ecosystem.

When reviewing a certain indicator, the preparedness shall be marked with "+", and lack of preparedness, with "–". The data that enables making dual conclusion or does not count in favor of preparedness nor on the contrary, shall be marked with "0".

The recommendations proposed are based on global best practices.

LEADERSHIP

Is there a clear understanding of political importance of open data / open government?

+ Kazakhstan was the first government in Central Asian region to take the "Open Government" initiative. To developing Open Government, KZT 39,680,000 have been assigned for the period 2014 through 2016.

+ The Republic of Kazakhstan's Government pays great attention to transparency, which is proved by the 2nd position in e-Participation Index occupied by the country in UN's rating in 2012 (shared with Singapore).

+ Internet industry has shown high interest in Open Data. The Association of Kazakhstan Internet Business and Mobile Commerce is willing to cooperate actively, developing projects and creating apps based on Open Data.

+ The pilot project was launched, "Open Data Portal Prototype", where the data of some government agencies were collected, processed and published in machine-readable format (XML), as well as the application with tentative name: "Government Agencies Navigator".

− Some public administration agencies regard the data publication with specific caution.

+ There is the "Open Government" module in the "e-Government Web Portal and Gateway in the Republic of Kazakhstan" Feasibility Study.

Has a political structure been established for development of policy and implementation of interdepartmental initiatives?

+ Pursuant to National Program, "Information Kazakhstan – 2020", for 2013 – 2017, the automation of government agencies' interoperability is to reach 80% by 2017.

+ The Single e-Workflow System (SEWS) among government agencies is being operated.

- Lack of clear-cut separation of areas of specific government agencies' and organizations' responsibility, powers and functions in terms of transparency.

Are there any political activities or plans related to Open Data? (Importance: Medium)

+ Special attention was paid to Open Data in National "Information Kazakhstan – 2020" Program where not only the "open data" concept is pronounced, but also the idea of "open data" platform as well.

+ The Government has implemented the practice of real-time broadcasting of its sessions and other important events.

+ On the government agencies' official web resources, the feedback blogs are operated.

+ The Republic of Kazakhstan's Government gives much attention to transparency. In virtually all official documents (strategies, programs, plans), transparency is designated as one of the major factors that helps achieve the goals.

− There is no governmental Action Plan for Open Data Project Implementation (just like Open Data Initiative, Open Data Plan of Canada/USA)

+ Establishing the Big Data Lab under national Information Technologies JSC was approved with a view to research of Open Data.

Recommendations:

- Think over the governmental standalone program, "State Open Data" related to disclosure of information of central government agencies and local governments in the Republic of Kazakhstan;
- Give specific attention in terms of transparency to the UK, US, Singapore and EU practices;
- Make up National Action Plan for transparency of governmental data, with distinct timeframes, objective and goals, target indicators, and ways to achieve them being indicated;
- In future, post the reports on implementation of governmental programs on the open data portal, because currently the reports are "scattered" across different websites, which hinders studying them;
- Create legal framework for posting the information on activities of government agencies and local governments in the open data format;
- Create incentives for government agencies to disclose their data;
- Adopt the Law "On Open Data";
- Make amendments to industry-specific legal regulations in terms of providing the access to official information;
- Create separate pages for open data on the official web resources of government agencies.
- Create on the Open Data Portal the page dedicated to statistical information (citizens shall have the right to add data in the special section independently);
- Afford the opportunity of citizens' proposing recommendations as to the distribution of funds from national and local budgets ("OpenSpending");
- Publish the updated and true statistical data on the Open Data Portal;
- Once in two months, conduct "Citizen Chat" on the website of the agency responsible for budget, with a view to identifying the prospective areas for assignment of funds from the budget (brain storm effect);
- On the official web resource of Agency for Statistics of the Republic of Kazakhstan, once in two months, conduct "Citizen Chat" to discuss statistical data and to form a trend in terms of some statistical data;
- Revise the mechanisms for management of information space with clear-cut separation of areas of specific government agencies' and organizations' responsibility, powers and functions, and with assignment of single managing center that would determine the government strategy in terms of transparency;

• Pay special attention to the below items, since it is these items that characterize government agencies' transparency:

1) existence of feedback to the public / target audience (existence of blogs);

2) interoperation with civil society institutions;

3) media openness;

4) arranging public hearings on the government programs, plans, and initiatives.

LEGAL FRAMEWORK

What regulations exist in terms of government information that could influence the open data development?

+ Constitution's ensuring the right to access information;
+ no payment for use of government information;
+ draft Law "On Access to Information";
+ clear definition of "access to information";
+ the mechanism for citizens' queries of information from government agencies is described in laws and regulations of the RK.
+ In Law of the RK "On State Secrets":
+ information related to state secrets;
+ information prohibited to be considered secret or confidential.
+ In the RK legislation, the owner of public sector information and the type of information presented by government agencies and local governments for publication are clearly specified;
− there is no definition of "right for information".
− there are no laws and political measures on multiple use of public sector information;
− there is no law "On Access to Information";
− there is no publicly licensing the data by government;
− draft laws "On Access to Information", "On Informatization" are being considered by the legislative authority for years;
− on practically all ministries' websites, there are notices of protection of copyright owned by individual ministries;
− some definitions in Law of the RK "On State Secrets" are a little bit vague;
− the reality is that there are rather wide possibilities of retaining information as a secret or confidential one

Recommendations:

• create a flexible license eligible for reuse of information published by government agencies;
• adopt the law "On Access to Information" or "On Freedom of Information";
• enter the regulation for processing the users' messages in the Open Data Portal;
• introduce into the conceptual construct of Law "On Informatization" the new terms related to open data (open data, machine-readable data, open data portal, etc.).
• Making amendments is necessary to the legal framework concerning state secrets, namely:
• precise definitions of information considered secret;

• provision of access to various types of secrets considered to be state secrets in cases where disclosure thereof would be more useful to the public than where these secrets remain hidden by government.

• Posting publicly-available information on the government agencies' websites (creating separate pages for open data on government agencies' websites).

What laws and regulations exist, related to government's right for secrecy of its activities and access to information? What regulations /laws help or prevent the use of information by the public or by civil society?

− Personal data: for personal data processing, the prior consent of a person whose data is to be processed, or of his/her lawful representative is required.

− Commercial secret: any commercial secret may not be disclosed without consent of the private enterprise entity.

− Competition and monopoly: Legislation of the RK contemplates measures to limit the use of information relating the monopoly and competition issues.

− State secret: the information pertaining to state secret is clearly defined, and any disclosure thereof is punishable by imprisonment. The problem in terms of our government is that many government agencies interpret various information to which they limit the access as the information pertaining to state secrets.

+ Child protection: legislation does not hamper the disclosure of data.

+ Advertising: in Law "On Advertising", there are no constraints to data disclosure, except the use of "covert information" in data publication.

+ Mobile operators: right of access to information pertaining to "operator"

+ Internet service providers: right of access to information pertaining to Internet service providers.

+ Mass Media: right to request information on all actions of public administration, local governments, organizations, public associations, and official representatives thereof.

+ There are no prohibitions to disclosure of information in the fields of: emergency events and catastrophes, environment status, public health, sanitary situation, demography, education, culture, agriculture, citizens' and/or businesses' offences, government agencies' and/or their official representatives' offences; allowances, compensations, social packages.

Recommendations: Adopting the Law "On Access to Information" that would govern the information access right in all fields in favor of the country citizens and the corresponding amendments to laws of the Republic of Kazakhstan.

INSTITUTIONAL PREPAREDNESS

Achievements

Citizens' rights for access to information:
- Constitution of the Republic of Kazakhstan
- Draft Law of the Republic of Kazakhstan "On Access to Information"
- Draft Law of the Republic of Kazakhstan "On Informatization"

Mechanisms for government's dialogue and feedback to citizens and businesses
- All government agencies have created web resources containing information to citizens and businesses.
- On the e-Government Portal, the "Virtual Reception Desk" service was implemented where citizens apply to government agencies directly.
- The blogs of top executives of government agencies and Government are maintained where anyone who likes may post comments and ask questions.
- Many executives have accounts in twitter.com

Recommendations:

Make amendments to the existing draft laws of the Republic of Kazakhstan "On Access to Information" and "On Informatization" in institutional part thereof (i.e. powers, competencies, technical skills, citizen involvement, etc.):
- Preparing the list of data that government authorities should disclose in machine-readable format;
- Encouraging the citizens to collect ideas online;
- Involving the experts in assessment of ideas;
- Determining government employees' liability for untimely or incomplete publishing the open data which must be contemplated by law;
- Performing works on shaping of active demand from the public for information represented by open data; promulgation of best practices;
- Involving the citizens in collaborative addressing the social infrastructure problems;
- Arranging campaigns to promote open data among government authorities.

DATA AVAILABILITY AND DEMAND FOR DATA

Technical requirements to publishing the data on official web resources

+ Pursuant to Resolution by Government of the Republic of Kazakhstan No. 598 as of July 13, 2007, the Rules for posting digital information resources on the websites of government agencies were approved. These Rules were developed in accordance with Law of the Republic of Kazakhstan as of January 11, 2007 "On Informatization".

+ Dynamic information is updated as new information becomes available, but at least once a week.

+ Static information on the web resources of government agencies is updated as necessary.

+ Digital information resources posted on government agencies' websites are presented as follows:

    1) in plain text formats: Word, Excel, HTML, etc.;

    2) graphic files in JPG, GIF formats, etc.

- There are no requirements for posting the data in machine-readable format.

Multilingual content

+ In Kazakhstan, the three-language policy is maintained today, which is reflected in government agencies' official web resources. In the web resources researched, the content is offered in three languages: national (Kazakh), Russian and English.

+ This approach based on use of multilingual content broadens the user audience. To Kazakhstan, the use of two foreign languages – Russian and English – is quite enough, since English gives access to global community and Russian – to CIS countries.

Data storage in digital format

+ At the legislative level, the e-document storage is described as follows: e-documents are stored in public and/or private information systems pursuant to the procedure established by legislation of the Republic of Kazakhstan. (Clause 8 of Law of the Republic of Kazakhstan No. 370-II of January 7, 2003 "On e-Document and Digital Signature").

Data integrity issues

+ Today, the problem of data integrity in Kazakhstan is reviewed in a draft Law of the Republic of Kazakhstan "Access to Information" and in Law of the Republic of Kazakhstan "On Informatization".

+ Obligations on provision of complete and reliable information are imposed on information owners.

– Metadata problems were not taken into consideration. In other words, data for the Open Data Portal is only considered to be complete if it contains metadata.

– Problems on dataset passports were not reviewed.

Technical standards and metadata standards

– The Republic of Kazakhstan Agency for Statistics` strategic plan for 2011-2015 comprises the article on metadata system development;

– May 22, 2000 – General Data Dissemination System (GDDS), IMF

– March 24, 2003 – Special Data Dissemination Standard (SDDS), IMF

– 2011 – the 1st phase in Construction of "Metadata" IT system as a component of Agency for Statistics' "e-Statistics" data-measuring system.

Recommendations:

✓ It is advised not to develop the in-house metadata standards. It would be preferable to accept and adapt ISO 19139 technical specification, based on ISO 19115 abstract specification to national environment.

✓ It is advised to establish priorities for data documentation.

✓ It is advised to accumulate metadata gradually.

✓ The creation of ID system for coordinated spatial data is advised for the use at global level.

The process of data migration from "hard" to digital format

The main features of migration to paperless workflow:

+ In Kazakhstan, E-Government is operated

+ Single E-Workflow System

+ Electronic Archive

Advantages of e-Document flow

+ Economy. Elimination of paperwork saves money.

+ Access. E-Document flow implies digital format of all documents. They can be kept in Cloud, with having access to data via web-applications.

+ Management. It is easier to arrange, search and edit e-documents. It is much easier and faster to find a necessary file in computer than to root around a pile of documents.

+ Ecology. Elimination of the usage of copy paper will allow saving a lot of trees.

Disadvantages

− Consistency. It is easy enough to gain access to digital data, and it is also easy enough to lose data. If a hard disc becomes faulty, then all documents stored on it will disappear. In order not to lose data it is needed to use a backup external system.

− Security. Information confidentiality is a serious problem for paperless offices. Local servers, encoding and restricted access can be used. Some documents should be kept in paper format.

− Processes. Migration to E-Document flow implies the revision of current processes and operations.

Formats of data publication (proprietary – open source)

+ Currently, in draft Law of the Republic of Kazakhstan "Access to Information", the issues were reviewed related to providing government agencies with publicly-available data, which is common for open data. Payment for the provided information is collected if query is made in writing (on paper), when document printing and copying exceed 10 pages. Yet, the main problem with open data in terms of rendering publicly-available data on official web resources of government agencies has been examined. There are some problems with access to laws and regulations in private web resources, where one has to pay for a document.

Process of data aggregation to socio-economic indicators

+ As part of "e-Statistics" project, 4 components were created: "Primary Statistics Archive" and "Statistical Registry of Population" IT systems; "Administrative Information" and "Aggregated Indicators" databases. Also, 7 IT systems were upgraded. "Taldau" information-analytical system is a useful tool to work with statistics for any user having access to Internet.

Key data files accessibility

+ Helpful data is accessible on Kazakhstan web resources. Major data on official statistics is posted on the Agency's website. Data on housing construction, public utilities sector, etc. is located on different web resources. E-Government website provides the most useful data but the majority of it is out of date.

AVAILABILITY OF DATA USERS COMMUNITIES

Are there any mediators in data supplying (such as data journalists) who can transform open data into information that makes sense to the public?

- There are NGOs, journalists and media organizations which gather information on government agencies' performance from different sources.
- Journalism is mainly organized around major media organizations. Freelance journalists perform their activities, however, but more opportunities and transparency need to be provided to them.

Does the Government promote multiple use of data stored by Government (for example, development of software applications or implementation of co-operative activities on creation of software applications)?

- There are mobile versions of government agencies` official web resources. Some of government agencies` mobile applications, as well as mobile versions of websites, are available. Applications based on government data are created but still there`re not many of them;
- In October, Hackathon took place in Astana, dedicated to "Smart-Astana" application. Contests of programmers became of great interest only recently and is just gaining momentum;
- Government data is used by both internal (governmental) and external (non-governmental) communities. Electronic communication system has been established.
- There are evidences of data interchange between government agencies and of reuse of one agency's data by another agency. For example, Agency for Statistics reuses the data of Kazakhstan government agencies.
- Mobile apps economy is at its initial stage in Kazakhstan. There are applications that need to be upgraded, and there are apps based on low-grade out-of-date data.

Are there any organizations dealing with open data research?

- Big Data Laboratory is working under National Information Technologies JSC, which is engaged in availability analysis for open data and transparency in Kazakhstan
- There are technical schools and universities with IT programs, though there are not many of them as compared to those for the Humanities.
- The secondary school curriculum includes computer science and ICT training.

Overall results from factor analysis

0 Government agencies should involve citizens, business organizations and other stakeholders to get feedback about their services, decisions and activities in general, including citizens' and businesses' participation in service delivery, departments' decision-making and operations - by using either ICT or more traditional methods.

+ There is a blog platform of government agencies' executives functioning in Kazakhstan, where you can ask a question or make a request or appeal to Ministers and Chairmen of Agencies and Committees.

+ There is a need to involve the developers in creation of software applications and e-services.

+ A contest for the Open Data Portal development was arranged.

0 Conducting joint activities is required, in order to create software applications and e-services (e.g. groups of programmers' working at narrow topics, computer software contests, and contests among software application developers).

0 Hackathons are just being introduced in Kazakhstan. So, there is a need to get young creative developers interested and in creating useful applications, and motivate them.

− There is a small cluster of local developers, and they, as a community, are active on social media platforms and in their private capacity.

− Financing is available at initial stage to businessmen and to newly-established companies. Establishing the startups is supported in Kazakhstan, but mostly just "on paper".

+ The country's economy is beginning to shape based on software applications (even though it is quite small), in which companies are developing software applications, and people use/purchase/download software applications

+ Applications for smartphones and tablets are available, developed by Kazakhstan's or Russian developers

+ There are universities with curriculums in computer science and information systems, with a significant number of IT professionals graduating therefrom.

+ International IT University operates in Kazakhstan. In national universities, there are IT-focused departments.

− Journalism is mostly organized around the major media organizations, while there are very few freelance/independent journalists, and no independent associations of journalists.

− In media industry, the state-controlled media dominate

+ There are public organizations in Kazakhstan that actively express their interests in relation to the openness and transparency of government agencies

+ Citizens are interested in open data

0 It is necessary to involve public organizations in proposing recommendations on data publication

+ The developers faced difficulties in finding the required information in the process of creating applications

+ Citizens disbelieve in data because there are no links to official sources

+ Citizens' opinions in social media about the need for government data to be disclosed for free access were taken into account.

<u>Recommendations:</u>

- Adopt the Law on data transparency by which the government will be obliged to disclose the entire list of its activity areas, while citizens will be able to request the detailed information on a relevant area. Thanks to that, the overwhelming part of government data will be open, with only the information remaining non-public which must not be disclosed for national security reasons;
- Particular attention should be paid to the popularization and promotion of open data among citizens in the Republic of Kazakhstan
- It is necessary to conduct Hackathon after launching Open Data Portal and publishing the basic data thereon
- It is necessary to involve talented developers and "idea hamsters" upon preliminary selection (using social media and mass media)
- Involve students in working with open data, motivate them to perform research
- Deliver seminars and lectures on open data in the country's educational institutions
- Invite international experts to cooperation in research related to transparency and open data
- Establish cooperation with research institutions, schools, laboratories that are occupied with open data problems
- Organize contests, competitions among the students and young specialists for performing open data research
- It is necessary to develop a group of open data users as info-mediators, as this group will be able to significantly improve access to data and its use by citizens and businesses.

FINANCING

Are there enough resources for the initial phase financing of the open data initiative, including applications development? Is the necessary ICT infrastructure present for Open Data and do enough staff have the skills needed to manage an Open Data initiative?

+ There are resources available for funding and staffing the initial phase of open data initiative, which will include: open data portal, targeted capacity building within government, and investments in joint initiatives for creation of applications and data reuse. Funding will be provided within the e-Government portal development.

− Government did not identify funding for the development of specific high-priority software applications and e-services in which open data will be used.

+ Under the initiative of National Information Technologies JSC, the Open Data Portal prototype was created

+ The portal includes the publication of data related to various government agencies

+ Also, there is an application based on the above open data

− It is not clear whether or not any other funding organizations have shown interest in working with the government on open data.

− Third parties do not support the open data initiative; or rather do not show much interest.

− Government has not identified any sources of potential funding the open data initiative.

+ Nevertheless, the Big Data Laboratory Analysts in National Information Technologies JSC are trying to establish communication for further cooperation with the World Bank, namely:

- Andrew Stott - Member of the Public Sector Transparency Council, UK;
- Jennifer Shkabatur – Open Data Expert in IBRD (International Bank for Reconstruction and Development);
- Jeff Kaplan - Open Data and Open Government Senior Expert, ICT Department, World Bank; Managing Director, Open ePolicy solutions.

− Government has not identified potential sources of funding for the ICT infrastructure development needed to support governmental open data ecosystem.

+ Almost all of executive agencies have the IT professionals on the staff

− Government has not as yet appointed full-time employees responsible for data management in government agencies and local governments.

+ Government has long been investing in the government personnel training to using ICT.

Recommendations:

- Funding the open data initiative is necessary in the Republic of Kazakhstan.
- Government's funding the data reuse initiative is necessary, namely, funding the joint applications creation and data reuse. That includes competitions announcement, holding events and Hackathons for the development of data reuse.
- Include into national action plan the launch of new grant programs and the existing programs reorganization with the re-orientation aimed at openness and transparency of government and society.
- There is a need for investments in ensuring the joint use of ICT infrastructure, as well as and the availability of personnel with skills for data management
- Governmental or a third-party investment is needed for the establishment of open data schools and institutes, as well as the introduction of courses on open data
- Promotion of open data initiatives, both in the state and among the civil society

Does government have innovation funding mechanisms?

+ There are some established mechanisms already for financing the innovations in Kazakhstan.
+ Government invests in the development of e-services and e-Government projects.
+ Government distributes grants for the financing of innovations
+ There are public-private partnerships in the field of technology with government participation in the Republic of Kazakhstan
− There are no public-private partnerships to finance open data

Recommendations

- Increase the state's innovation financing size; allocate grants for the Open Data initiative
- There is a need for public-private partnerships' investment in the development of value-added products based on the open data.

ICT INFRASTRUCTURE & SKILLS

Is Internet access at sufficient levels and at low enough cost to support a robust Open Data ecosystem in your country/locality?

+ High-speed Internet, including mobile one, is accessible for most of citizens in the Republic of Kazakhstan.

+ Internet users amount to more than half of the population of Kazakhstan

+ Ministry of Transport and Communications decided to equip all the major railway stations with Wi Fi. Wireless internet is becoming accessible in many business centers and shopping & leisure centers, higher educational institutions, , cafes and hotels.

Does government use shared infrastructure or services?

+ Government does not have enterprise architecture, but it exercises the shared use of ICT infrastructure. Government agencies use the government Intranet.

+ Government shares some services, such as email, electronic document workflow system and the laws/draft laws storage system.

+ There is a special interdepartmental organization responsible for information security

+ Despite the fact that it is difficult to estimate the ICT skills of the senior officials, it can be noted that there are Blogs of government agencies' executives being maintained, and also social media are used. This implies a fairly serious level of digital literacy.

+ Mobile office: all of the executives use the software on tablets

+ Government employees receive basic ICT training.

Recommendations

• Introduction of a standard is proposed, to allow unifying the process of government employees training

• The development of sharing the infrastructure and services is required in the field of open data use.

CONCLUSION

This Open Data Preparedness Assessment is designed to perform a rapid evaluation of Kazakhstan's readiness for maintaining the Open Data initiative. In doing this, the key dimensions were considered.

DIMENSION	IMPORTANCE
Leadership	VERY HIGH
Policy/Legal Framework	HIGH
Institutional Preparedness	MEDIUM HIGH
Data within Government	HIGH
Demand for Data	HIGH
Open Data Ecosystem	MEDIUM HIGH
Financing	HIGH
ICT Infrastructure & Skills	HIGH

Based on the analysis results, the overall conclusion can be made that on the whole, the Republic of Kazakhstan has the resources and facilities for the high-quality open data initiatives implementation. However, there is a need for the consistent and well-thought-out work in this direction, the government agencies' awareness of "open data" importance, and the popularization thereof among the public.