Implications of Open Government Data (OGD) for Arab Countries

Saleem Zoughbi
Bethlehem, Palestine

April 26-27, 2017
Beirut – Lebanon
A realistic view of the implications and potential impact of open government data in Arab countries, security and democracy.

Expert group meeting on open government: emerging technologies for greater government transparency and accountability [EMC], 26-27 April 2017
OGD Basics

OGD Technology

OGD Policies

OGD options for Arab countries
Open Government Data

“Open data and content can be freely used, modified, and shared by anyone for any purpose”

Data

Produced or Commissioned by

government or government controlled entities

freely used by anyone

Reused by anyone

Redistributed by anyone
Purpose of OGD

- **Transparency**
  - It is not just about access, it is also about sharing and reuse

- **Releasing social and commercial value**
  - It is the creation of innovative business and services that deliver social and commercial value.

- **Participatory Governance**
  - It is about making a full “read/write” society
Government data shall be considered open if it is made public in a way that complies with the principles below:

**OGD Principles (1)**

- **OGD Basics**
  - **Primary**
  - **Timely**
  - **Complete**
  - **Accessible**

1. **All public data is made available.** Public data is data that is not subject to valid privacy, security or privilege limitations.
2. **Data is as collected at the source, with the highest possible level of granularity, not in aggregate or modified forms.**
3. **Data is available to the widest range of users for the widest range of purposes.**
4. **Data is made available as quickly as necessary to preserve the value of the data.**
OGD Principles (2)

- **Data is available to anyone, with no requirement of registration.**
- **Data is available in a format over which no entity has exclusive control.**
- **Data is reasonably structured to allow automated processing.**
- **Non-proprietary License-free**
- **Non-discriminatory**
- **Machine processable**
- **Data is not subject to any copyright, patent, trademark or trade secret regulation. Reasonable privacy, security and privilege restrictions may be allowed.**
Maximize the Value and Understand the Risks of Open Government Data (1)

Benefits

- Constituent Value
  - Better service
  - Greater satisfaction

- Operational Efficiency
  - More-efficient processes
  - Lower procurement costs
  - Employee productivity

- Mission Effectiveness
  - Measurable mission impact
  - Political return

Better service
Greater satisfaction
More-efficient processes
Lower procurement costs
Employee productivity
Measurable mission impact
Political return
Maximize the Value \textit{and} Understand the Risks of Open Government Data (2)

- Development
  - Development
  - Retrieval
  - Declassification
  - Deidentification
  - Transformation

- Operation
  - Hosting
  - Piloting
  - Monitoring
  - Updating
Maximize the Value and Understand the Risks of Open Government Data (3)

Risks

- Quality
  - Incorrect Data
  - Obsolescence

- Misuse
  - Malicious Use
  - Incorrect Use

- Branding
  - Political Impact
  - Chanel Irrelevance
OGD Basics

OGD Technology

OGD Policies

OGD options for Arab countries
Strategic Technology Trends for OGD (1)

1) Digital Workplace

…… building a more social, mobile, accessible and information-driven work environment.

2) Multichannel Citizen Engagement

…… delivering interactions that are connected, consistent, convenient, collaborative, customized, clear and transparent.

3) Open Any Data

…… contribute to operational efficiency or effectiveness, and support economic development, national productivity or commercial ventures.

4) Citizen e-ID

…… The identity and access management as a service (IDaaS) provider should ensure that personal privacy and data confidentiality requirements are met.
5) Edge Analytics

.... Use OGD to apply predictive and prescriptive algorithms and cognitive computing to make real-time assessments about what will happen or what should happen.

..... They are pervasive, embedded into business processes and applications to deliver responsive and agile organizational performance.

...... They are invisible and operate continuously in the background, tracking user activity, processing sensor and environmental data, dynamically adjusting workflows to enhance the user experience, or managing activities during events as they unfold.
6) **Scalable Interoperability**
   ...... to optimize their service delivery networks and business functions

7) **Digital Government Platforms**
   ...... To incorporate service-oriented architecture (SOA) design patterns for the provision and use of enterprise services across multiple domains, systems and processes to provide services and access to government data.

8) **Internet of Things**
   ...Among other things, government agencies can expect IoT-driven changes in several different areas, including environmental or public infrastructure monitoring, emergency response, and others

9) **Web-Scale IT**
   ...... This is a system-oriented architectural pattern of global-class computing that delivers the capabilities of large cloud service providers within an enterprise IT organization.
Cloud Migration.
Cloud adoptions will be transforming to cloud-first strategies. Integration and cloud-first strategies center on using the cloud to its maximum benefit – paying only for the resources you use and taking advantage of a shared infrastructure.

Cybersecurity.
Security in the world of the internet of things (IoT) must be as agile at the components people use.

AR and VR.
The potential use of augmented reality (AR) and virtual reality (VR) in the marketplace of ideas.

Automation For Data Centers & Marketing.
Automation is an investment: Data centers already use open source automation tools.
Intelligent Apps.
To transform businesses by streamlining workplace processes, such as prioritizing emails and highlighting specific content.

Blockchain.
This is a distributed database in which information—including bitcoins—are listed sequentially in “blocks.” This helps prevent the tampering of data and promises increased trust and less business friction by offering transparent access to the chain.

AI and Machine learning:
More systems are being developed that can actually learn and change their behavior—leading the way for more intelligent devices.

Smart Beacons for Marketing and at Home
Using data platforms that allow smartphones to make purchases, view marketing options and share relevant information
**IoT, Smart Homes, and Offices.**
OGD would be intensively used by systems that develop applications for IoT and smart homes and offices become the norm.

**As-a-service Economy Explosion.**
Encompassing everything from hardware as a service, data as a service, and cloud monitoring as a service, and beyond, a new term is coming up: XaaS—or anything as a service to be offered over the cloud and fuel cloud computing.

**Hyper-convergence.**
Hyper-convergence systems unify storage, computing, networking, and virtualization from a single vendor: Its iOS trapdiond;dy advancing.

**Mobility.**
The IoT is he;ong, but not the solution to engage remote office with bruahces. New ways are advancing in engaging a ROBO—remote office/branch office—system.
Fog computing.
It has recently emerged as the paradigm to address the needs of edge computing in Internet of Things (IoT) and Industrial Internet of Things (IIoT) applications, i.e. pulling the power of the cloud closer to where data is used and stored. It’s more efficient and reduces data transport.

Cloud-to-Cloud Storage Backup.
For many businesses, jumping on a new technical ways for storage back-up is a scary process, but it is reaching a stable and safe state.

Edge computing
It is a distributed information technology (IT) architecture which enables analytics and knowledge generation to occur at the source of the data, and client data is processed at the periphery of the network, as close to the originating source as possible. This is the implementation arm for Fog computing.
OGD Basics

OGD Technology

OGD Policies

OGD options for Arab countries
Policy Principles (1):

Publishing Data with Permanence, Trust, and Provenance

Additional principles that are the main components of policies of OGD

**Permanent:** Data should be made available at a stable Internet location indefinitely.

**Safe file formats:** Government bodies publishing data online should always seek to publish using data formats that do not include executable content.

**Provenance and trust:** Published content should be digitally signed or include attestation of publication/creation date, authenticity, and integrity.
Policy Principles (2):

On The Openness Process (Public Input, Public Review, and Coordination)

**Public input:** The public is in the best position to determine what information technologies will be best suited for the applications the public intends to create for itself.

**Public review:** the process of creating the data should also be transparent and open for public review.

**Interagency coordination:** Interoperability makes data more valuable by making it easier to derive new uses from combinations of data.
Data Quality: *Precision, Accuracy, and Cost*

**Precision**
- is the depth of knowledge encoded in data.

**Accuracy**
- is the likelihood that the data reflect the truth.

**Cost**
- It may be possible to achieve high precision and high accuracy in automated processing of any data, but only at high cost.
Policy environment and context

1) Country
2) Level of government organization and mission type
3) Key motivations, policy objectives
4) Open data platform launch
5) Resource allocation and economic context
6) Legislation
7) Social and political contexts, culture in which the opening of data is institutionalized

Policy content (input)

8) Policy strategy and principles for opening data
9) Policy measures and instruments
10) Processing of data before publication
11) Amounts of opened data
12) Types of open data
13) Way of presenting data
14) Fee charged for data access
15) Target group(s) for the open data
16) Technical standards and formats for open data
17) Provision of metadata
18) Types of data not publicized
19) Technical support for the use of publicized data
20) Active encouragement of data re-use and promotion of open data
21) Data quality
22) Data license
23) Availability of data without application or registration and without requiring user details
24) Structure of relationship between information suppliers and users

Performance indicators (output)

25) Usages of publicized data
26) Risks of publicizing data (possible negative impacts)
27) Benefits of publicizing data (possible positive impacts)

Public values (impact)
Maturity Model

*The open government data maturity model. Start at the top-left and go toward the bottom-right.*

*(FOI: Freedom of Information as defined by Freedom of Information Act – FOIA)*

<table>
<thead>
<tr>
<th></th>
<th>Law</th>
<th>Services</th>
<th>Structure</th>
<th>Operations</th>
<th>Public Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online/Accessible</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured Data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global IDs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APIs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linked Data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Arab winter

Five years after a wave of uprisings, the Arab world is worse off than ever. But its people understand their predicament better.
OGD in Arab Countries

What started as Arab Spring for governance change turned to be *Arab Fall*

.... And certainly created an *Arab Winter* for OGD
OGD options for Arab countries

How much “Open Data” is “open”?

How much “raw” is the open data?

How much freedom is given to CDO’s to implement OGD?

No Open Data Model fits all
Recommendations for options

1. Find a *blue line* that defines areas of which government data can be tolerated by the government to be open

2. Focus as a *starting phase* one Loose data sets, raw, and independently Open with least related to government operations at the lowest level and most related to citizens

3. For the *next phase* Develop into assimilation of government at higher levels to guarantee resilience and acceptability of government to open government data implementations

4. Repeat #3 in *iterations until high-enough* level in the government that will become not only a partner, but patron and owner of such growing Open Data structure nationally
Concluding Candidly:

These are the real challenges to OGD in Arab Countries
United Nations
Economic and Social Commission for Western Asia

Saleem Zoughbi
Bethlehem, Palestine

April 26-27, 2017
Beirut – Lebanon

Thank You