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الأمم المتحدة  
اللجنة الاقتصادية والاجتماعية  
لقرنبي آسيا

# *Implications of Open Government Data (OGD) for Arab Countries*

April 26-27, 2017  
Beirut – Lebanon

OGD  
basics

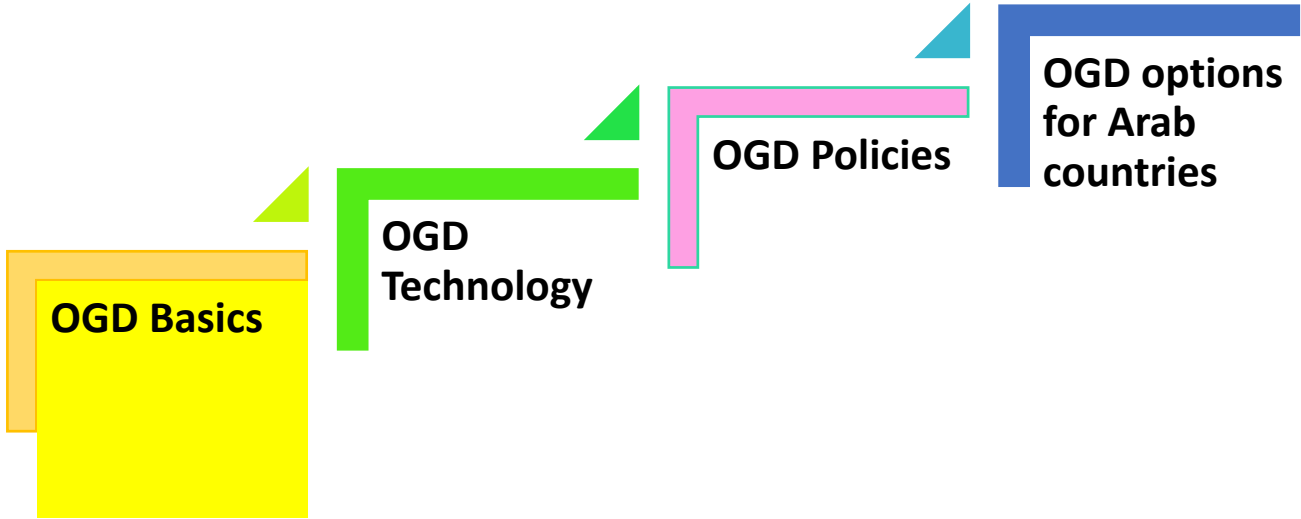
OGD  
Technology

OGD policies

OGD options for  
Arab countries

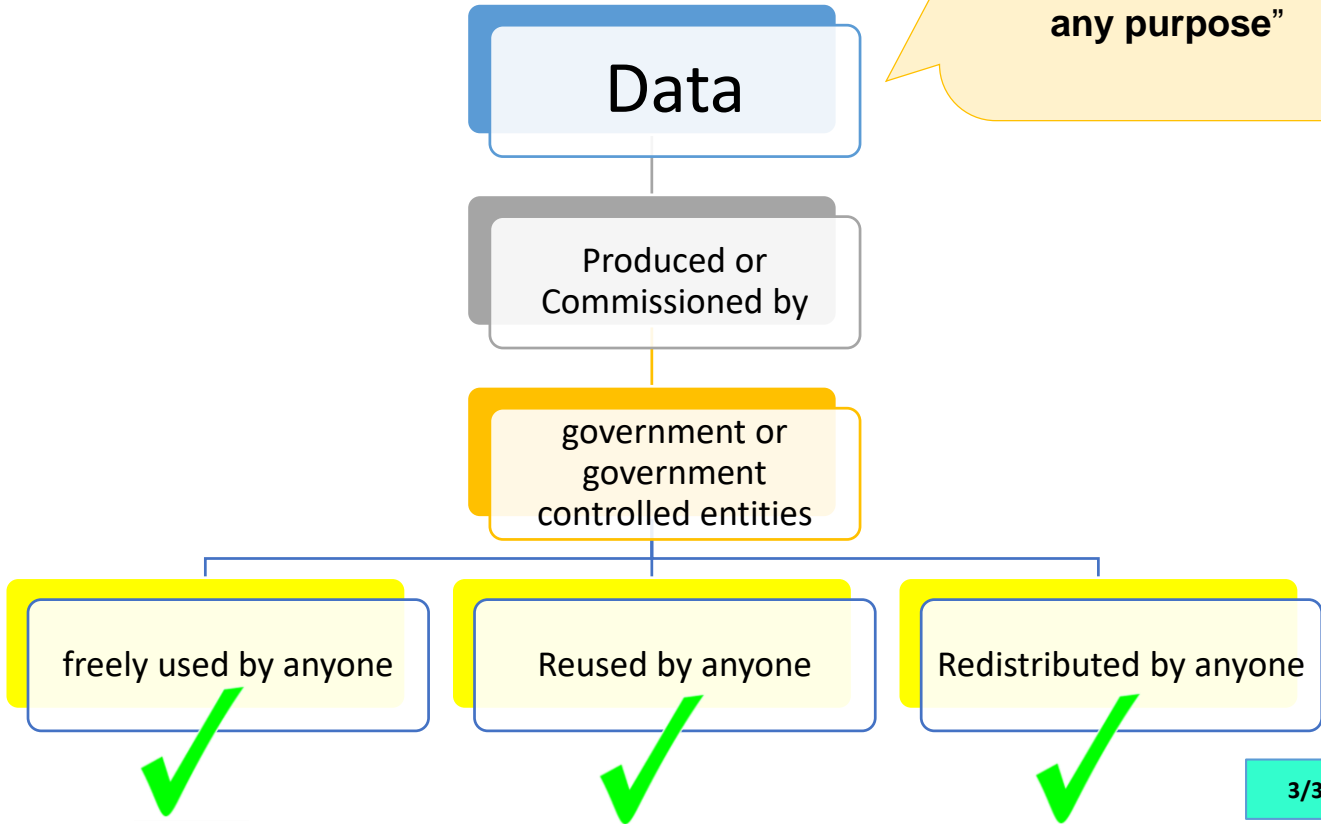
*A realistic view of the implications and potential impact of open government data in Arab countries, security and democracy.*

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



# Open Government Data

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



# 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

# OGD Principles (1)

*Government data shall be considered open if it is made public in a way that complies with the principles below:*



# OGD Principles (2)

*Data is available in a format over which no entity has exclusive control*



**Non-proprietary**



**Machine processable**

*Data is reasonably structured to allow automated processing*

**License-free**

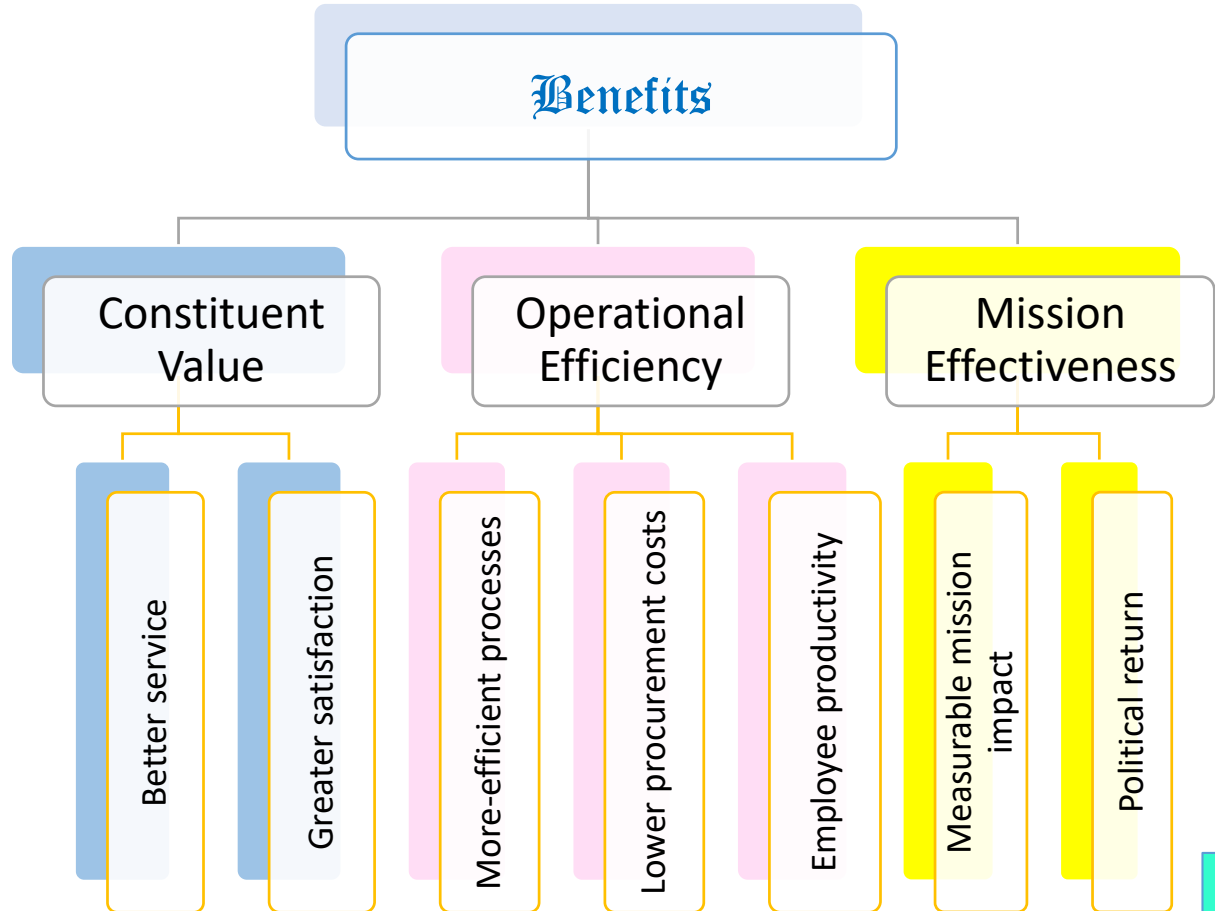


**Non-discriminatory**

*Data is available to anyone, with no requirement of registration*

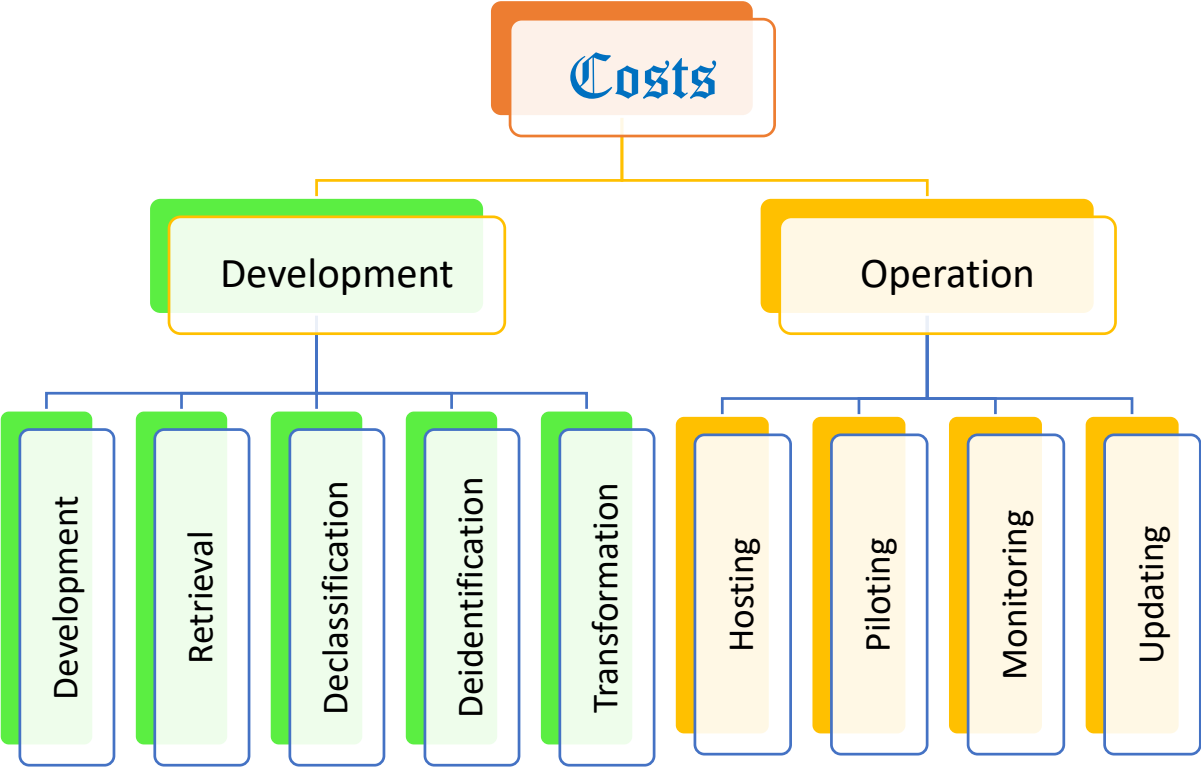
*Data is not subject to any copyright, patent, trademark or trade secret regulation. Reasonable privacy, security and privilege restrictions may be allowed.*

# Maximize the Value *and* Understand the Risks of Open Government Data (1)

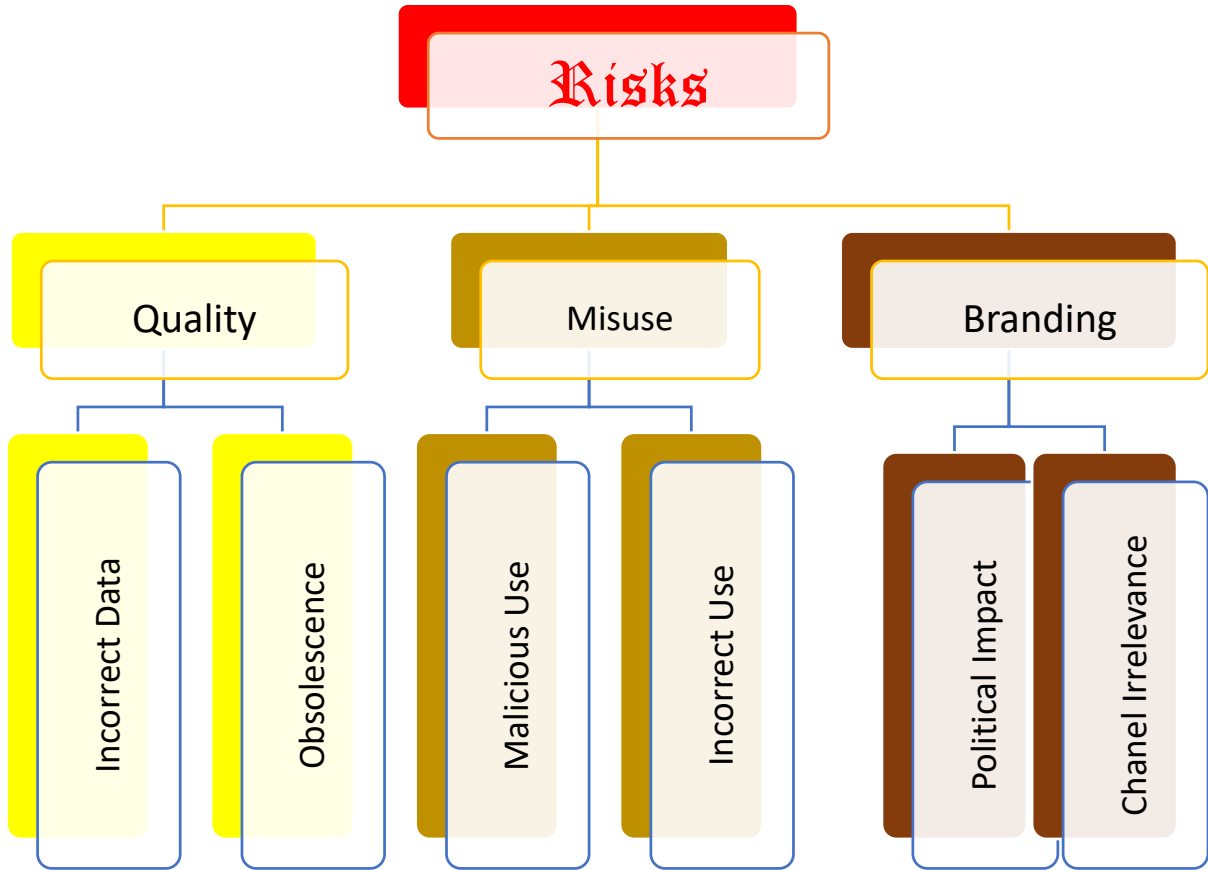


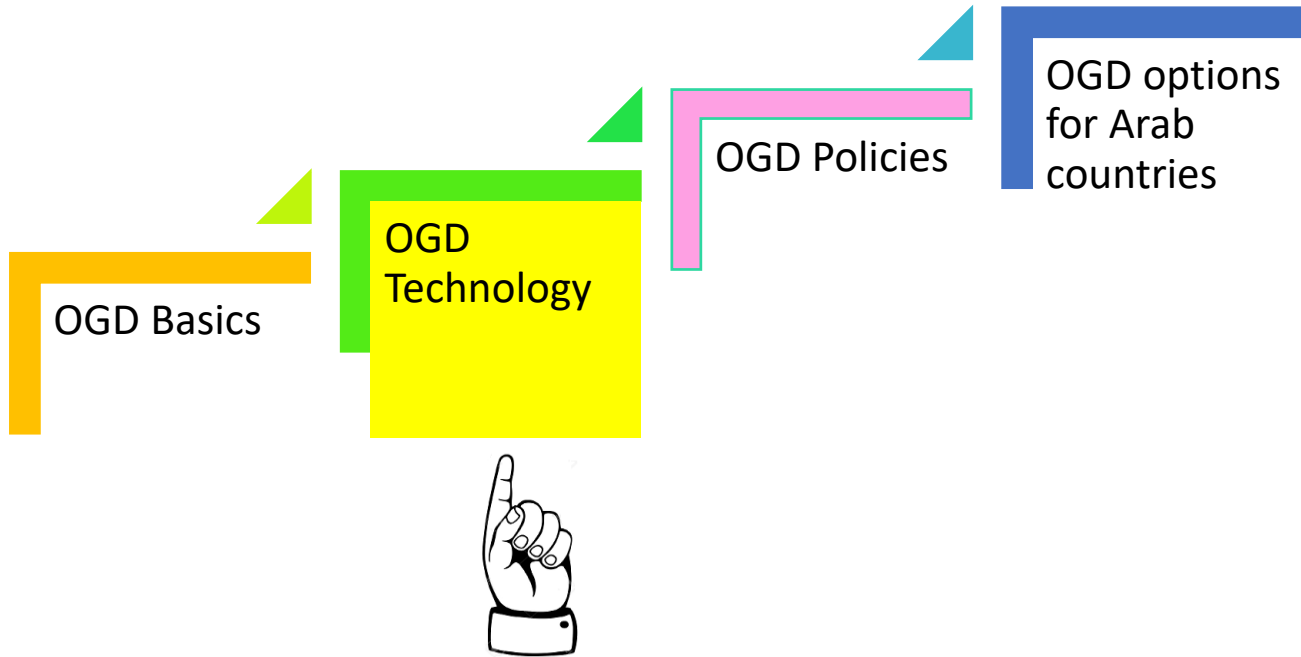


# Maximize the Value *and* Understand the Risks of Open Government Data (2)



# Maximize the Value *and* Understand the Risks of Open Government Data (3)





# 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.

# Strategic Technology Trends for OGD (2)

## 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.

# Strategic Technology Trends for OGD (3)

## 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.

# Enterprise Architecture Technology Trends For 2017 OGD (1)

## **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

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# Enterprise Architecture Technology Trends For 2017 OGD (2)

## **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



# Enterprise Architecture Technology Trends For 2017 OGD (3)

## **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 terms 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 vender: 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

# Enterprise Architecture Technology Trends For 2017 OGD (4)

## **Fog computing.**

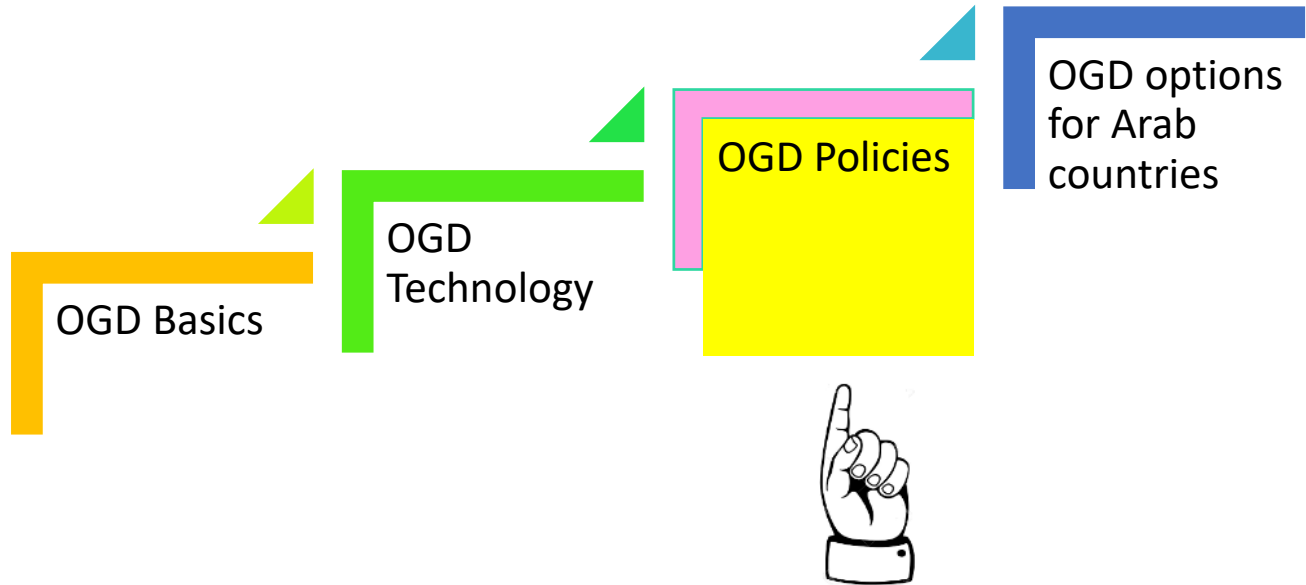
It has recently emerged as the paradigm to address the needs of edge computing in Internet of Things (IoT) and Industrial Internet of Things (IIoT) applications, i.e. pulling the power of the cloud closer to where data is used and stored. It's more efficient and reduces data transport.

## **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



## 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):

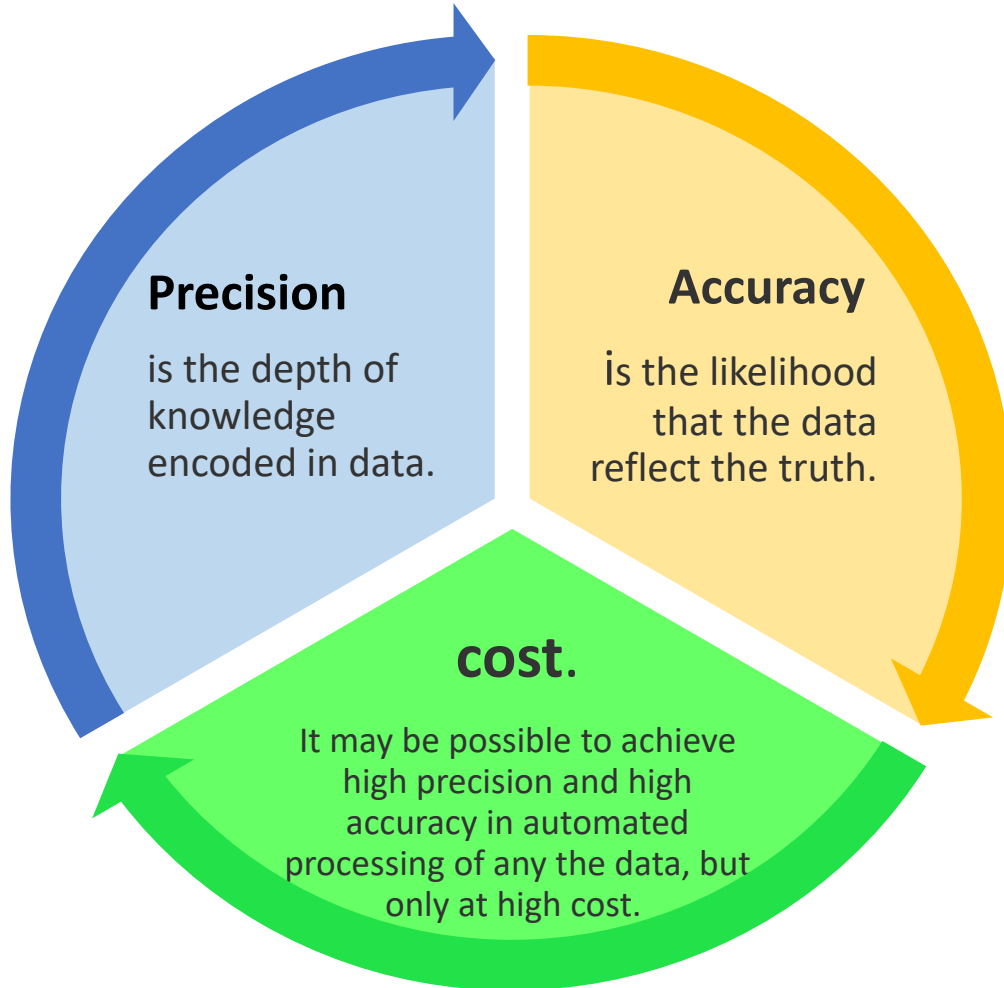
*On The Openness Process (Public Input, Public Review, and Coordination)*

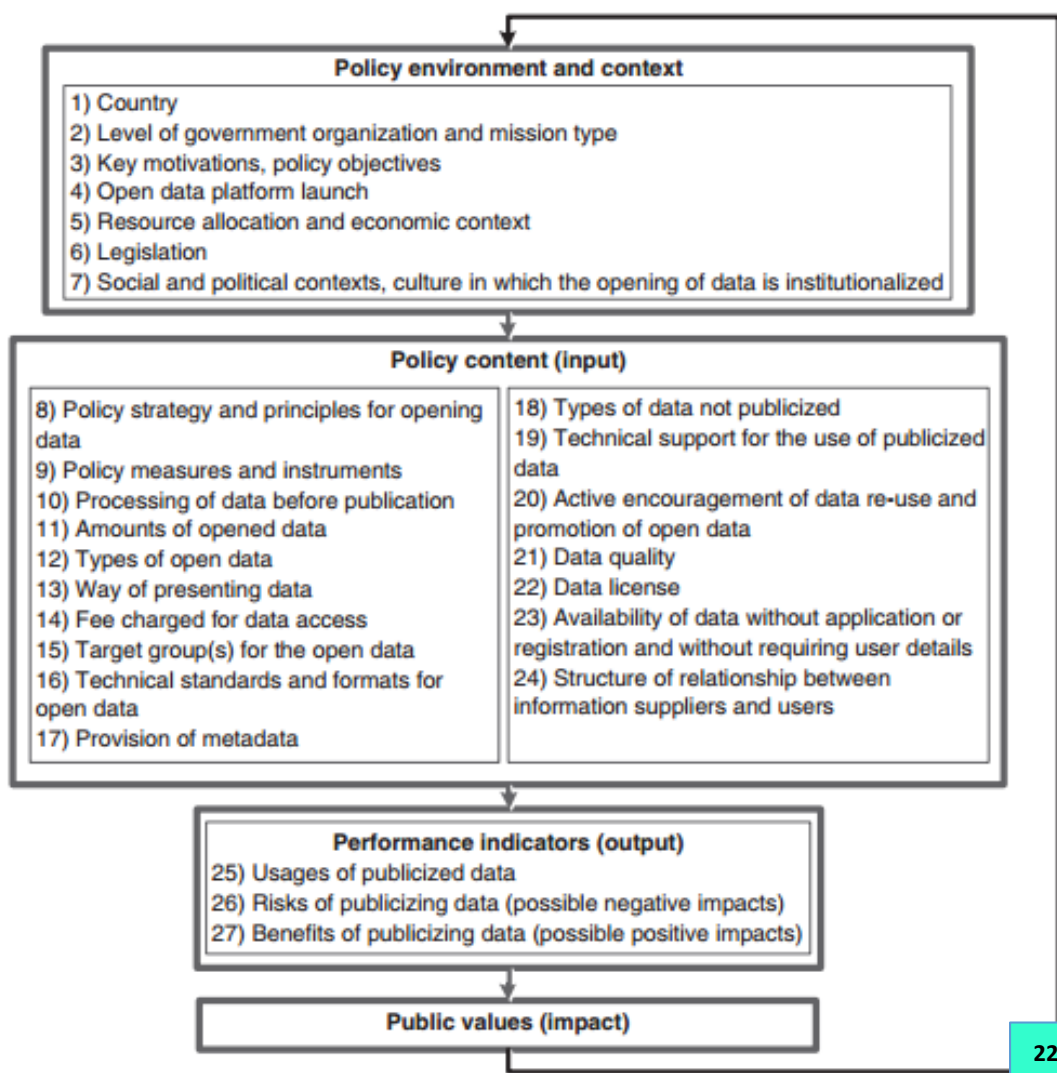
**Public input:** *The public is in the best position to determine what information technologies will be best suited for the applications the public intends to create for itself..*

**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*

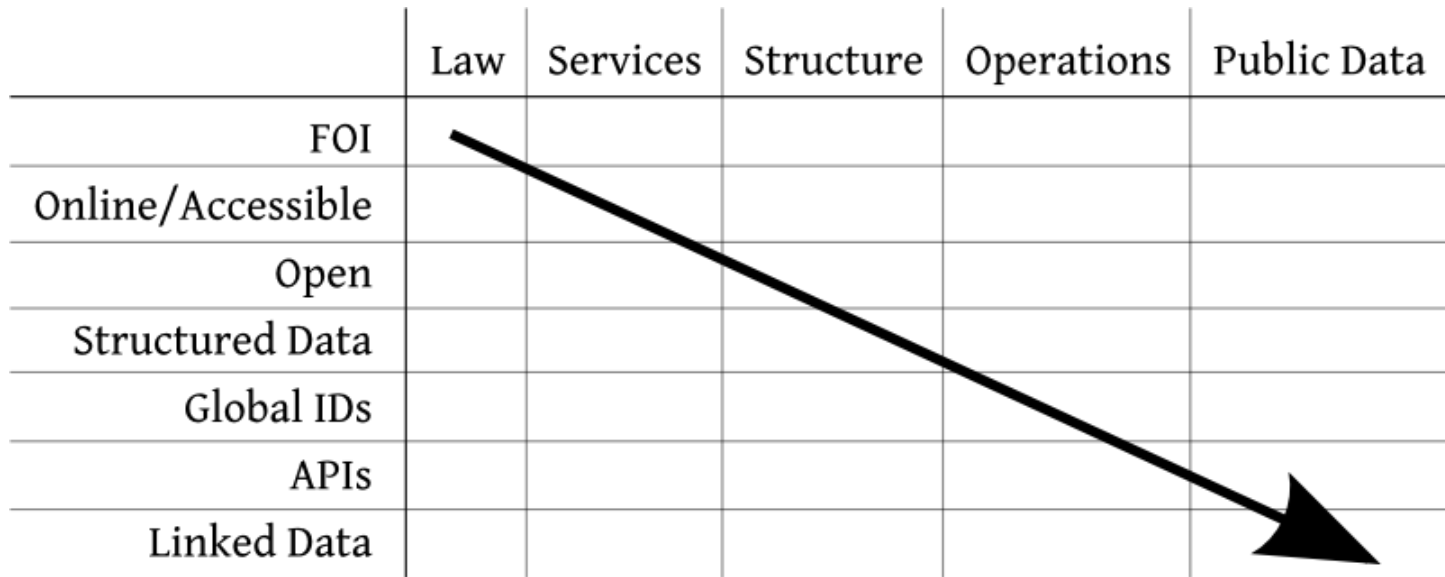




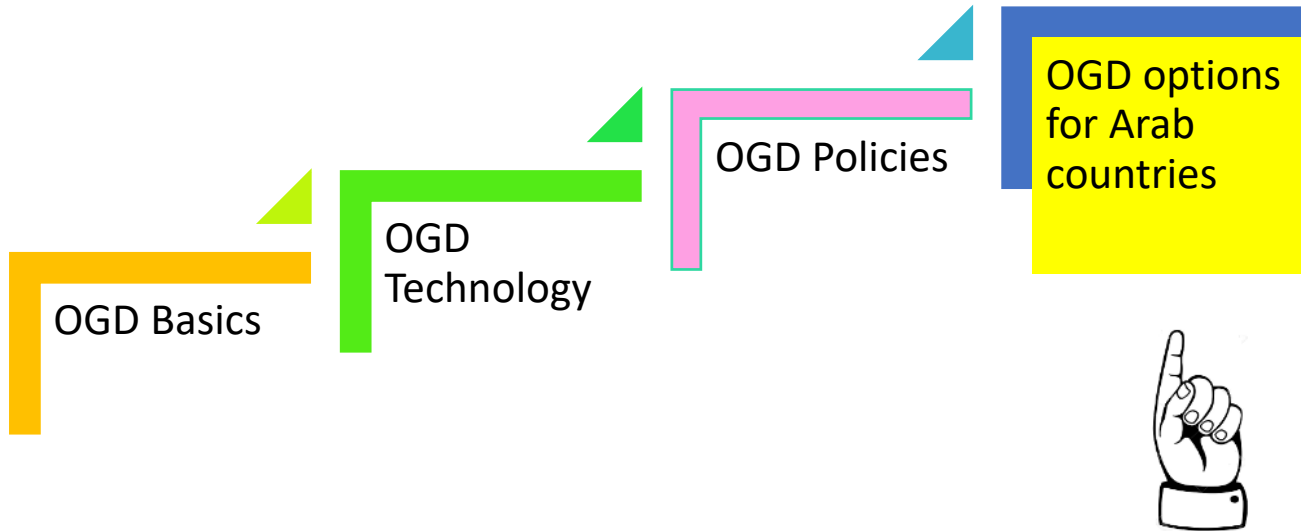
# Maturity Model

*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)*

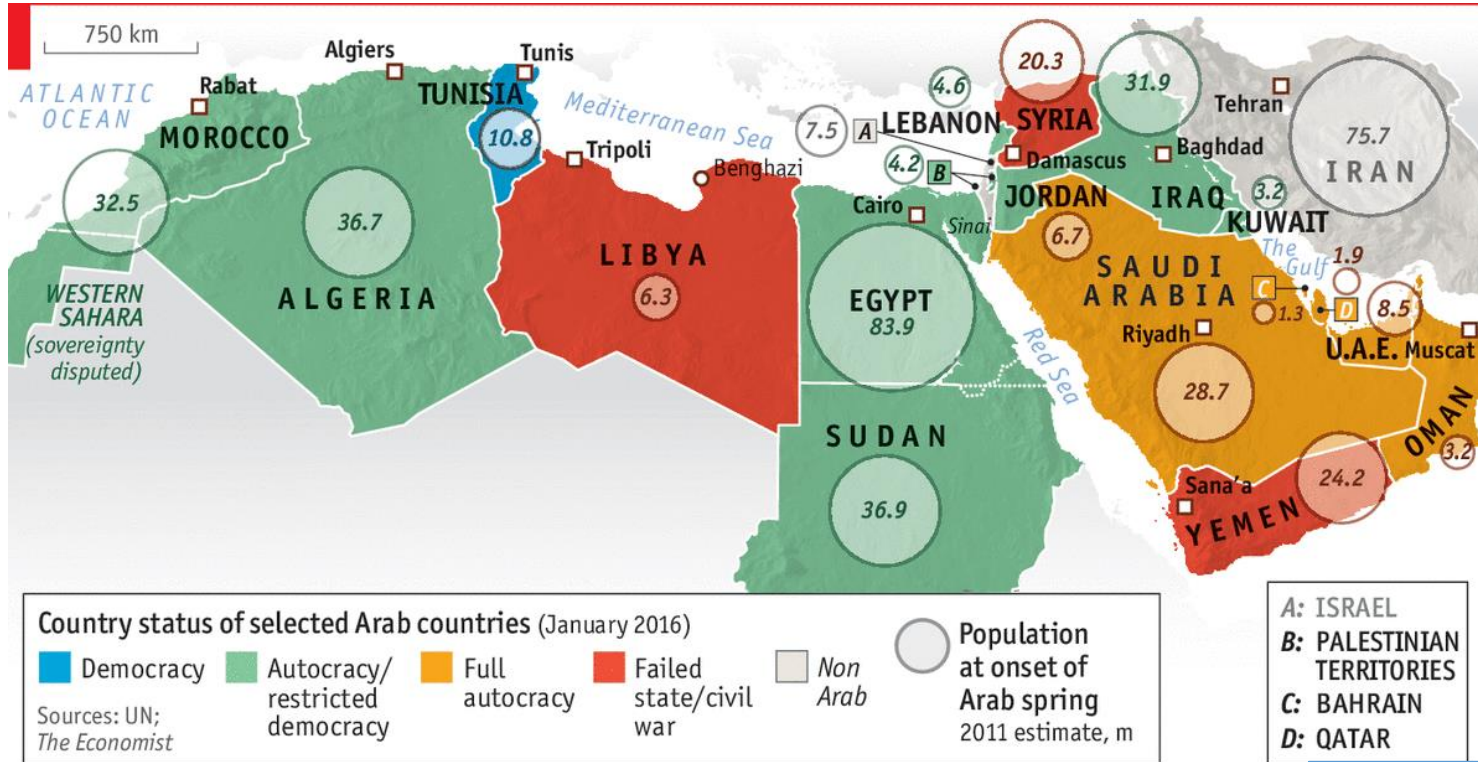






## The Arab winter

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

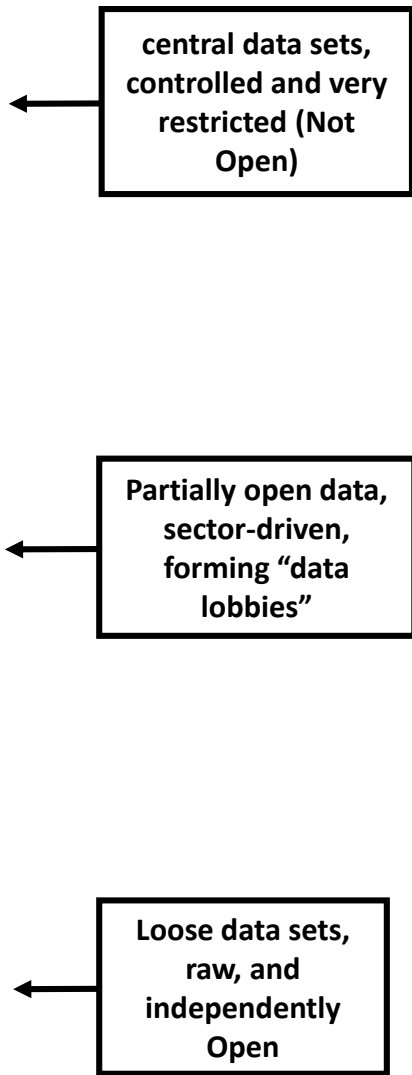




# OGD in Arab Countries

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

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



How much “Open Data” is “open”?

How much “raw” is the open data?

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

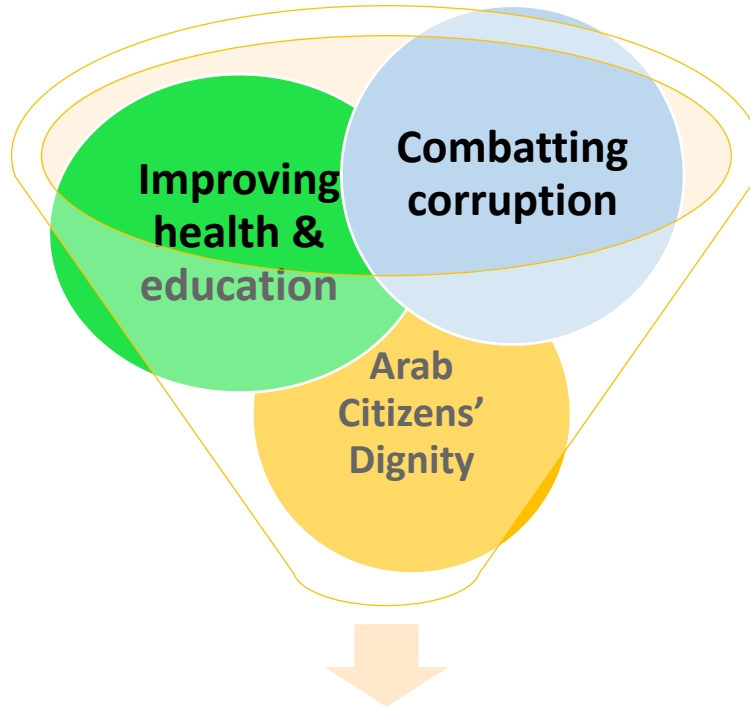
**No Open Data  
Model fits all**



## 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**

Saleem Zoughbi  
Bethlehem, Palestine

**United Nations**  
Economic and Social Commission  
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UNITED NATIONS

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*Thank You*

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