Business models for Linked Open Government Data

What lies beneath?

pwc

About this work...

A study delivered under Action 1.1 on Semantic Interoperability of the ISA Programme of the European Commission

Delivered by

- Phil Archer, W3C

- Makx Dekkers

- Stijn Goedertier, Nikolaos Loutas, Nicolas Hazard PwC EU Services

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Outline

1. Linked Data vs Open Data

2. The methodology

3. Main findings

Linked data versus Open data

Open data

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is data that can be freely used, reused, redistributed by anyone and subject only, at most, to the requirement to attribute and share alike.

Data can be published and be publicly available under an open licence without linking to data sources.

Linked data

is about publishing and connecting structured data on the Web, using standard web technologies to make the connections machine-readable. Linked data can be seen as "data as-a-service".

Data are published as URIs and connected to other data, using open standards such as RDF without necessarily being publicly available.
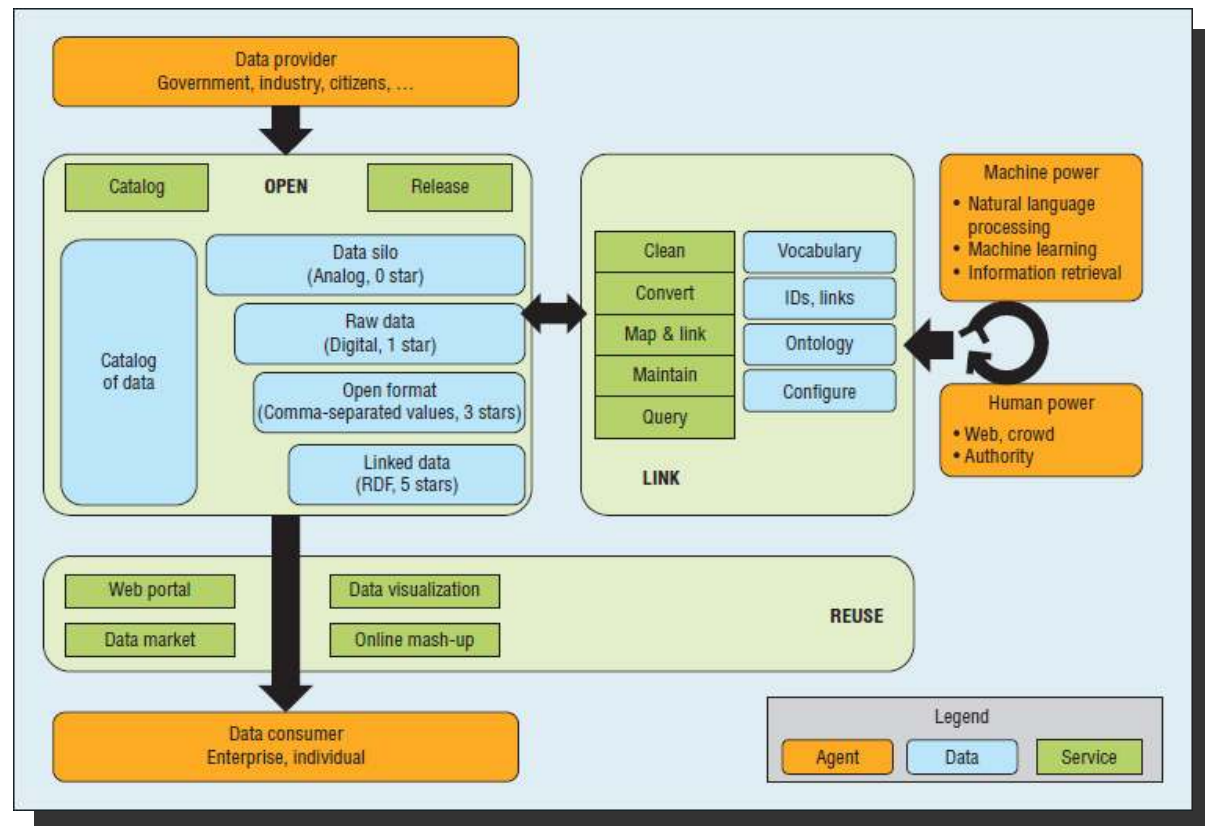
Definition from OpenDefinition.org

See also: Cobden et al. A research agenda for Linked Closed Data

http://ceur-ws.org/Vol-782/CobdenEtAl_COLD2011.pdf

The LOGD ecosystem

The key stakeholders:

- Data providers

- Data consumers
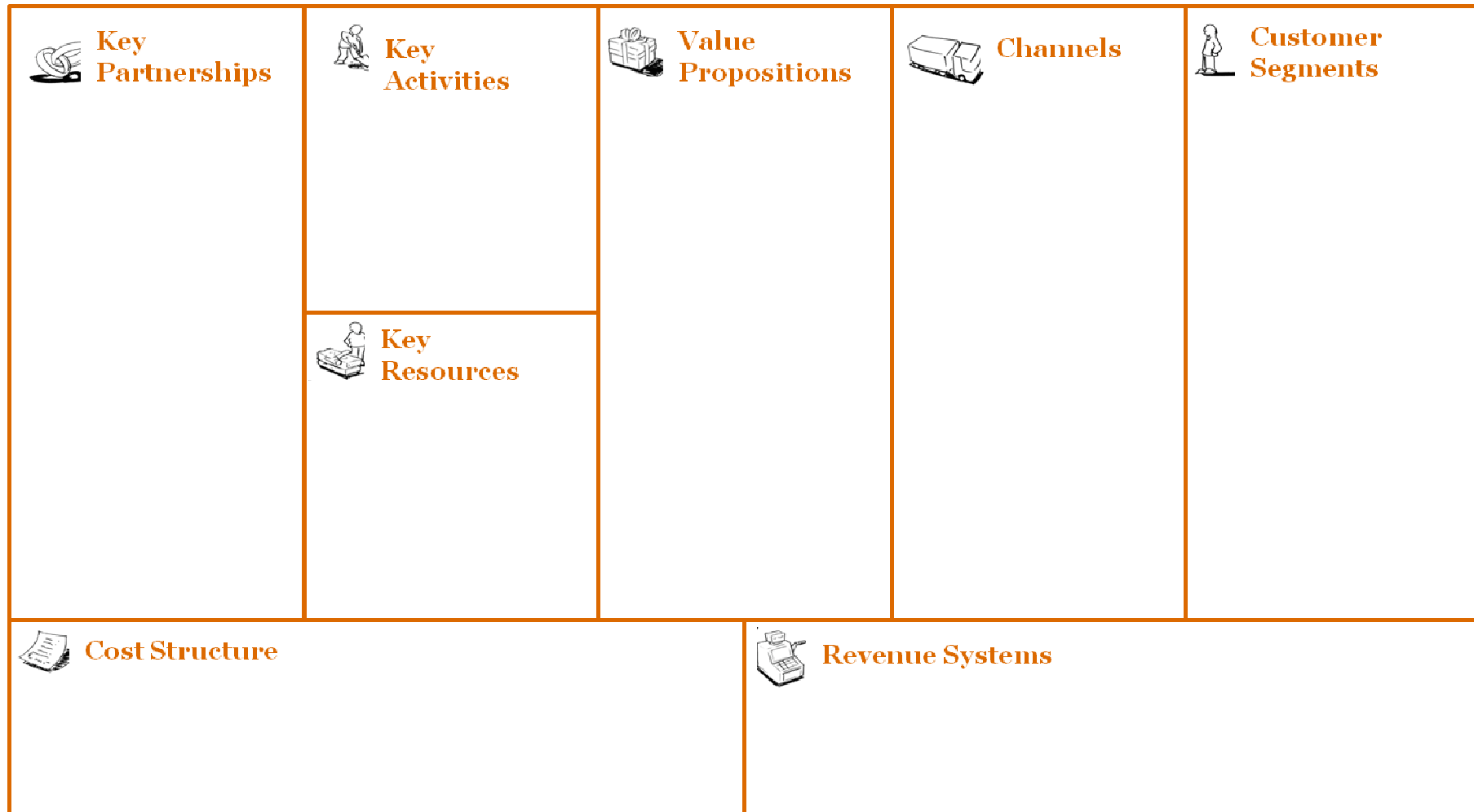
- Data brokers

- Regulatory entities

Li Ding, Vassilios Peristeras, Michael Hausenblas: Linked Open Government Data [Guest editors' introduction]. IEEE Intelligent Systems 27(3): 11-15 (2012) Roadmap of linked open government data from our editorial in IEEE IS [1].
http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6237454

The methodology
...the Business Model Canvas

Key Partnerships	Key Activities	Value Propositions	Channels	Customer Segments
	Key Resources			

Cost Structure	Revenue Systems

All credits to businessmodelgeneration.com

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The methodology
...the case studies

32 Identified LOGD cases

11 Cases selected & interviewed

AT: Renewable Energy and Energy Efficiency Partnership;

DE: German National Library;

EU: Europeana;

EU: European Commission Directorate-General Health and Consumers;

EU: European Environment Agency;

EU: Publications Office of the European Union;

IT: Agenzia per l'Italia Digitale;

UK: BBC;

UK: Companies House;

UK: Department of Environment, Food and Rural Affairs;

UK: National Archives;

UK: OpenCorporates;

UK: Ordnance Survey;

Food and Agriculture Organization of the United Nations.

Our findings
...value proposition

- **Flexible linking:** LOGD facilitates data integration and enables the interconnection of previously disparate government datasets.

- **Increase in data quality:** The increased (re)use of LOGD triggers a growing demand to improve data quality. Through crowd-sourcing and self-service mechanisms, errors are progressively corrected.

- **New (business) services:** The availability of LOGD gives rise to new services offered by the public and/or private sector. Nonetheless, there is currently **little use** of LOGD **outside** of **peer networks** or by businesses.

- **Cost reduction:** The reuse of LOGD in e-Government applications leads to considerable cost reductions (e.g. less further developments, easy of extending the data model)

Our findings
... Revenue streams

- The predominant revenue model is **public fundin**g, as part of the normal budgets.

- The **data** is provided **free of charge**.

...Cost structure

- Many providers consider LOGD activities as part of their **core business**

- **No separate cost structure** of the LOGD activities is available

- **Total cost** depends on approach taken

Our findings
... Key resources

- **URI design policies** are generally in place, while persistence is not often made explicit.

- Many organisations cite a **lack of tools** that meet their specific need in their specific context.

- **Skill and competencies** are mostly acquired in-house with some help from external consultants.

... Channels

- **Direct URI resolution** and **SPARQL endpoints**.

- **Bulk downloads** available , but sometimes not extracted from live database.

- Proprietary apps and Web applications are less common.

Our findings
...key activities & customer relationships

- Providers consider the **development** and **maintenance** of LOGD services as **part of** their **normal system maintenance** and **operational activities**.

- Only **few** invest in **promotional activities**, such as branding or advertisement of LOGD services.

- There is **little user support**. **Feedback** is typically through **informal communications** as part of institutional collaborations.

Conclusions
...LOGD enablers

- Efficiency gains in data integration – the network effect

- Forward-looking strategies

- Increased linking and integrated services

- Ease of model updates

- Ease of navigation

- Open licensing and free access

- Enthusiasm from 'champions'

- Emerging best practice guidance
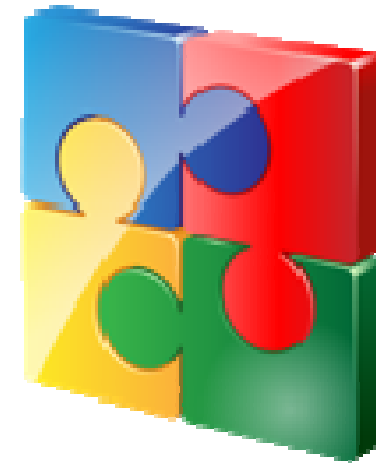
Conclusions
...LOGD roadblocks

- Necessary investments

- Lack of necessary competencies

- Perceived lack of tools

- Lack of service level guarantees

- Missing, restrictive, or incompatible licences

- Surfeit of standard vocabularies

- The inertia of the status quo

Conclusions
...LOGD outlook

- LOGD is becoming increasingly adopted but it is still early days for this concept. It is particularly important in the provision and management of reference data.

- It is used to increase efficiency of internal data integration, or to support data exchange in existing collaborations.

- Providers will have to develop a clear view of their customers, as value lies in reuse.

Your questions

Thank you!

ISA Programme Action 1.1
Semantic Interoperability

Project Officer   Vassilios.Peristeras@ec.europa.eu

Contractors   Stijn.Goedertier@be.pwc.com

                        Nikolaos.Loutas@be.pwc.com

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