Workshop
Sustainable open data business models for NMCAs

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http://www.kcopendata.eu

Program today

10:00	Welcome by the Head of department : Machiel van Dorst
10:05	Introduction to EuroSDR: Joep Crompvoets
10:15	Introduction of the workshop participants: Bastiaan van Loenen
10:30	Thorhildur Jetzek, Director R&D, Activity Stream, Iceland
11:15	Coffee break
11:30	Sustainable open data business models: Bastiaan van Loenen
11:45	Open data at NMCAs: Questionnaire EuroSDR: the results Frederika Welle Donker
12:15	Group picture
12:30	Lunch

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Program cont'd

14:00	Breakout session I: Sustainable open data in the long run
	Breakout session II: From cost recovery to an open data strategy
15:00	Coffee break
15:15	Plenary feedback by session reporters
15:30	Breakout session III: Is open data living up to expectations?
	Breakout session IV: Internal effects of open data – financial and non-financial challenges
16:30	Plenary feedback by session reporters
17:00	Closing of Day 1 & Drinks

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Sustainable **open data business models**: setting the landscape for today

Dr. Bastiaan van Loenen

Definition open data

1. Data Must Be Complete
2. Data Must Be Primary
3. Data Must Be Timely
4. Data Must Be Accessible
5. Data Must Be Machine processable
6. Access Must Be Non-Discriminatory
7. Data Formats Must Be Non-Proprietary
8. Data Must Be License-free
9. Compliance must be reviewable
10. The work shall be available as a whole and at no more than a reasonable reproduction cost

http://opengovernmentdata.org & http://opendefinition.org/okd

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Or simply

Data available for anyone without any restrictions in the (re-)use and provided free of charge

Definition Business Models

'Abstract representation of an organization (in particular a NMCA), be it conceptual, textual, and/or graphical, of all core interrelated architectural, co-operational, and financial arrangements designed and developed by an organization presently and in the future, as well as all core products and/or services the organization offers, or will offer, based on these arrangements that are needed to achieve its strategic goals and objectives'

(Al-Debei, M. M., El-Haddadeh, R., and Avison, D., 2008)

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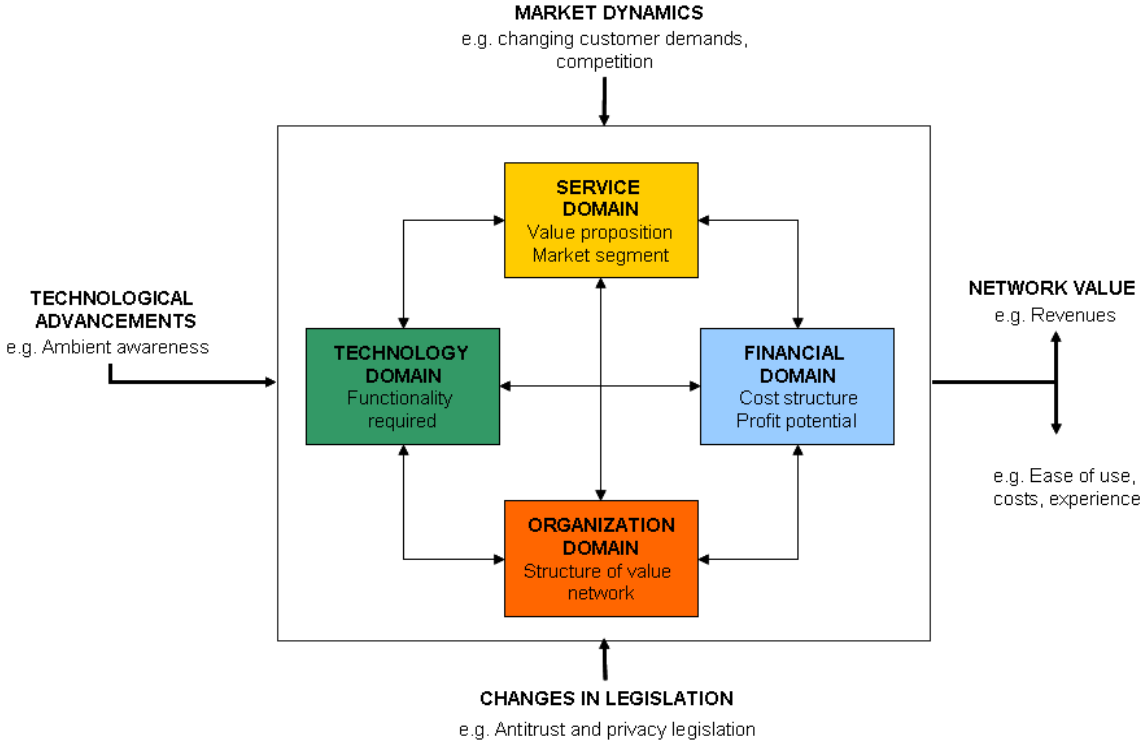
A business model

"A business model describes the rationale of how an organization creates, delivers, and captures value"

Osterwalder and Pigneur (2010, p.14)

Business models



Source: De Reuver et al. 2008; Faber et al. 2004

Financial model

The financial component describes the financial resources required to develop and deliver a service (cost model) and in which way revenue is generated (revenue model).

Revenue models

Revenue Model	Short description / options	Suitable to public sector
Budget financing	No direct revenue raised; indirect benefits	Yes
Legal instruments	Specific levies / taxation	Yes
	Mandatory usage of certified data products	Yes
Subscription model	Fees in advance for a specific period independent of actual usage	Yes
Utility model	Pay-per-use / view	Yes
	Premium	Yes
	Work to order	Yes
Royalty model	Revenue once a derived product is profitable	Yes
Enticement model	(Infrastructural) razor & blades	Yes
	Open Source Like	Yes
	Freemium / premium	Yes
Community model	Street performer	Yes
	Crowd funding	not always
Advertising model	Web / banner advertising	not always
	Affiliation model	not always
	Free as branded advertisement	not always

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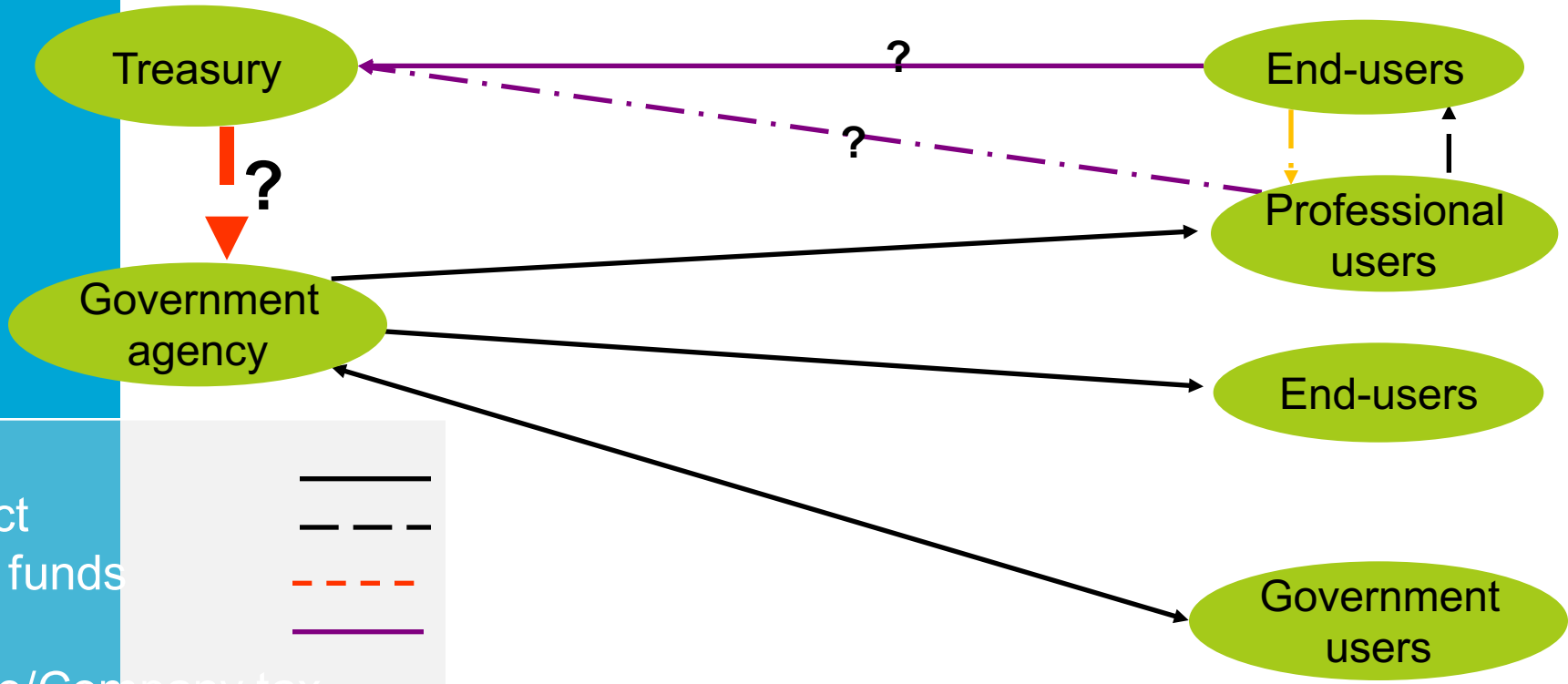
Open data model



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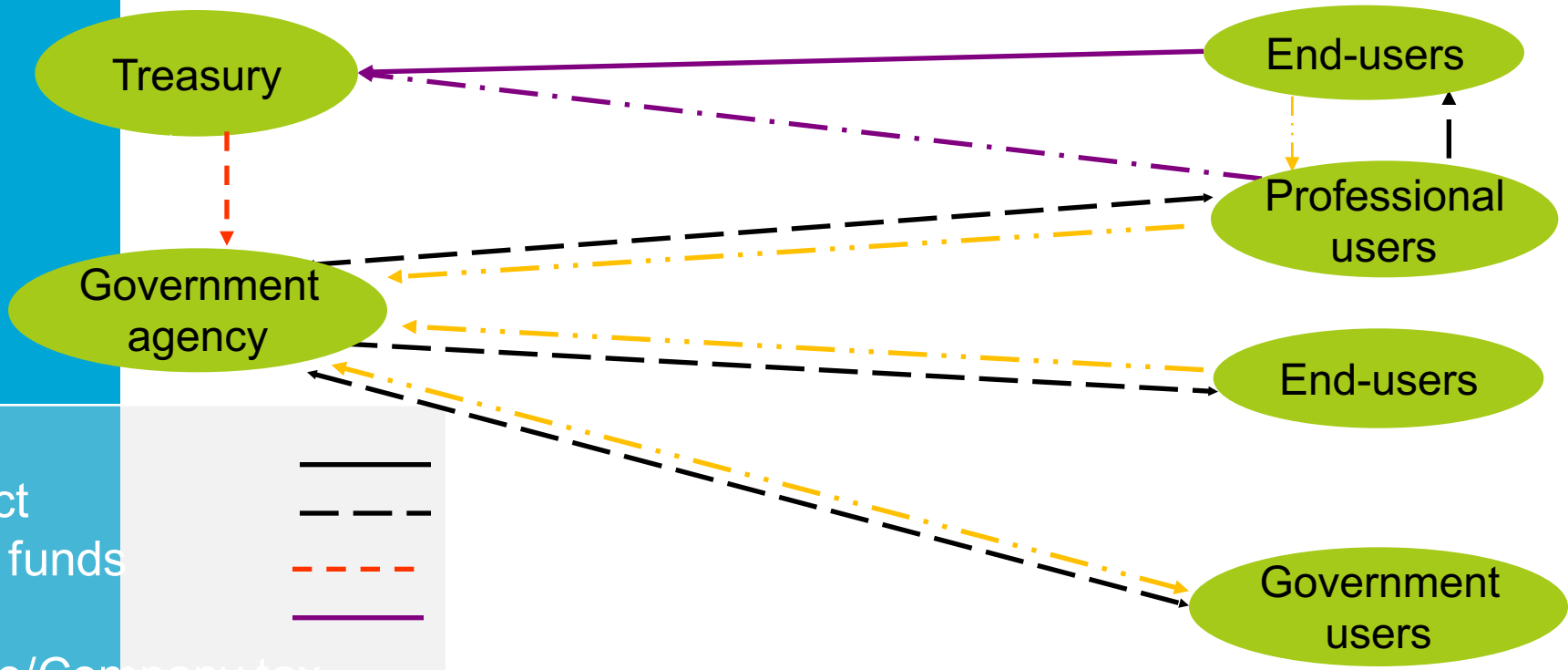
Open data model

- Data provider bears the costs, but does not obtain the financial benefits (directly)

Cost recovery model



Cost recovery model

- Data provider recovers (some of) its cost through financial benefits

How to change?

1. Awareness and commitment at highest administrative and political levels: business case (financial model)

2. To move down the value chain: open data and paid services (financial models and/or services model)

Business case: summary of 50+ studies

- Costs and benefits

Source: Welle Donker, Van Loenen and Korthals Altes (2017)

Costs

- One time investment costs: Adapting to new financial model
- Infrastructural costs
- Structural maintenance costs

Investment costs examples

- Extra quality check data; anonimising/ aggregating data, new formats, digitising data
- Training employees new open data skills
- ..

Infrastructure costs examples

- Establishing open data channel(s)
- Upgrade IT infrastructure (e.g., capacity servers)
- ..

Structural maintenance costs

- Publicity costs
- Helpdesk
- Fighting misuse..

Other

- Missing income from sales of data

How much does it cost? (I)

Per data provider:

- Adaptation costs: ca. €50.000 (once)
- Infrastructure and maintenance: €15.000-45.000 per year.

(Source: De Vries 2014 with cases Royal Met Office, Kadaster, RCE, cities of Enschede and Rotterdam)

How much does it cost? (II)

Or for the entire National government: 0,01% of the total budget

For the Ministery of IenM 0,01% = app. €800.000 per year

(Source Algemene Rekenkamer 2014)

Benefits

- (Expected) Effects:
  - Efficiency gains for data provider
  - Lower transaction costs for provider and user
  - Better level of service provision
  - Better quality data
  - New products and services
  - Increased transparency government

In Denmark

(PwC 2017)

Table 1: Socio-economic value of the open geodata in 2016 and 2012

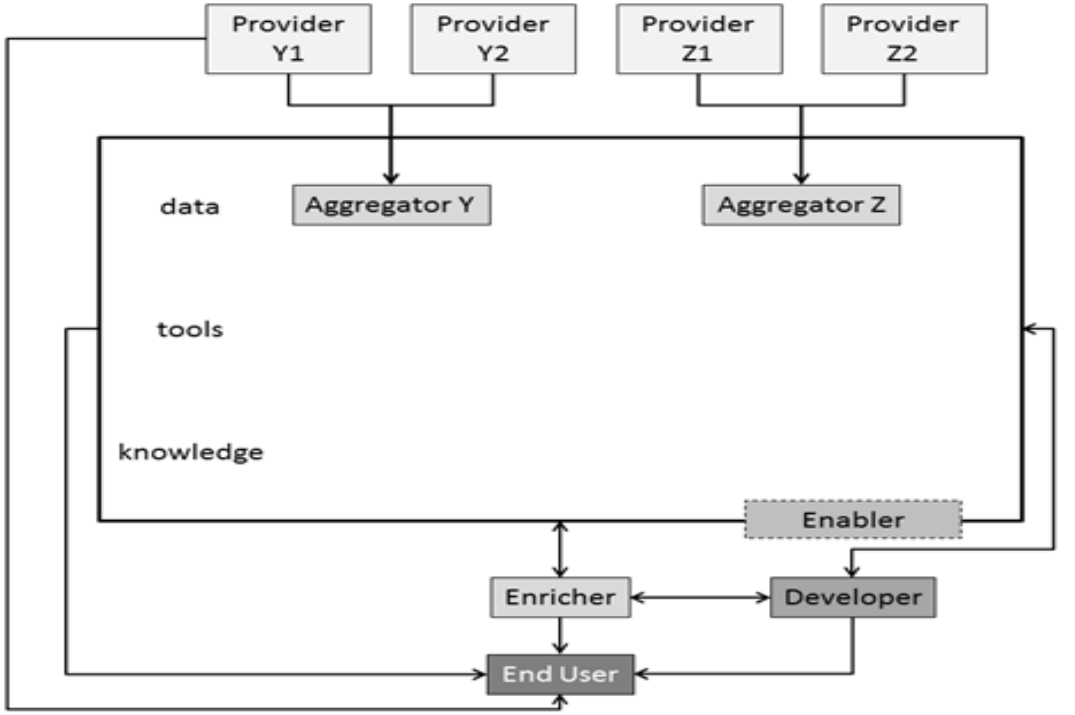
DKK in millions	2012	2016
Production effect of the open geodata	**1.402**	**2,542**
Private enterprises	116	446
Government agencies	321	373
Municipalities	965	1,376
Regions		151
Independent institutions, etc.		196
Efficiency effect of the open geodata	**190**	**999**
Private enterprises	40	726
Utility companies	100	229
Government agencies	50	22
Municipalities		18
Regions		2
Independent institutions, etc.		2
Total socio-economic value of the open geodata	**1.592**	**3,541**

Source: *The questionnaire survey has been performed among private enterprises, utility companies and public authorities and pre-measurement (2012)*

Cost benefits analyses summary

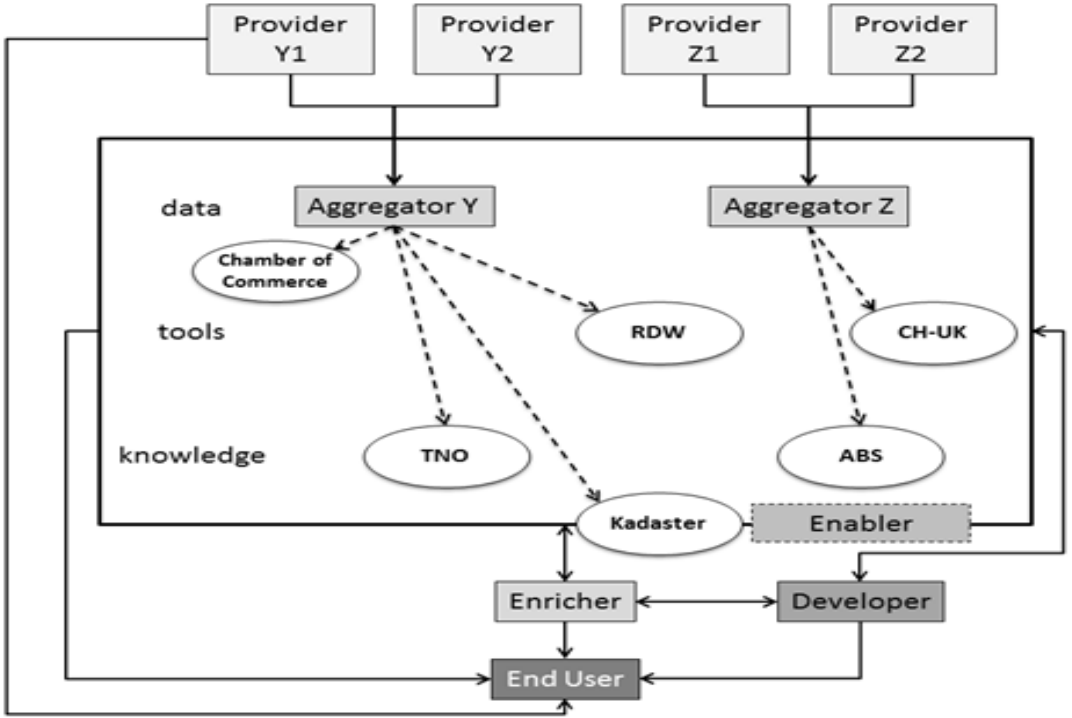
- 1:2 to 1:70 ratio
- Difficult to verify and confirm CBAs
- CBAs based on assumed numbers, extrapolation of limited number of cases
- Key figures (e.g., hourly rates, exchange rate currency) varies among studies
- Lies, damned lies and CBAs ??

Data provider in control: moving down the data value chain



After: Deloitte LLP (2012). *Open Growth: Stimulating demand for open data in the UK.* A briefing note from Deloitte Analytics. London: Deloitte Touche Tohmatsu Limited

Case study research 2016



RDW = Dutch National Transport Agency
Chamber of Commerce = Dutch data holder of Trade Register
TNO = Dutch Geological Survey
Kadaster = Dutch Cadastre, Land Registry and Mapping Agency
CH-UK = Companies House of United Kingdom, Trade Register
ABS = Australian Bureau of Statistics

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However,

A number of barriers, however, have also been identified, which SDFE and other public players should consider working on overcoming. I relation to the private enterprises, the barriers can be divided into four overall types, namely:

1) Technical challenges
2) Uncertainty concerning the future market potential
3) The geographic reach and quality of the open geodata
4) Uncertainty concerning the nature and scope of the role of public authorities

(PwC 2017)

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In conclusion

- Research confirms positive business case open data
- Increasing number of open data providers moving down the value chain
- How is this with the NMCAs in Europe?

=> workshop on sustainable open data business models for NMCA data: theory versus reality

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Reality:
EuroSDR research

NMCAs
&
sustainable open data
business models

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Literature

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- Welle Donker and Van Loenen (2016). Sustainable Business Models for Public Sector Open Data Providers. JeDEM 8(1): 28-61, 2016

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