EXPERIMENTING GEOINFORMATION PRICES

OVERVIEW

Research-in-progress on:
- Anchoring processes
- Relative thinking
In geoinformation price setting

Addressing a middle ground between:
- SDI as one big thing and
- Geoinfo as individual products/services

FOCUS ON INTER-ORGANIZATIONAL RELATIONS

EXISTING DICHOTOMY

Quarrel between:
- micro level (focused on individual geo products and services)
- macro level (considering spatial data infrastructures as wholes)

It matches with:
- Market view: geo-information as object of trade (value uncertainty at the bottom of the organization, where customers stay and choose)
- a hierarchy/bureaucratic perspective (geo-information as part of protocols/procedures, value uncertainty at the top of the organization, where political/administrative decisions are taken)

OUR (DIFFERENT) VIEWPOINT

SDI crystallize along inter-organizational relations (DeVries and Miscione 2010)

We look at those inter-organizational relations as basis for anchoring prices for products and services expected to be used within and beyond the geoIT sector

FRAMEWORK: 1) ANCHORING MECHANISMS...

Ariely's (2009) experiments on relative thinking and anchoring prices

Anchoring mechanisms: linking the price of a new product or service to other products or services which have accepted prices
Prices get accepted through anchoring mechanisms (IOR perspective) rather than through national regulations (hierarchy perspective) or supply/demand mechanisms (market perspective)

...AND 2) TRANSACTION COST

Krek (2009): high transaction costs of geodata are typical of geoIT sector

If transaction costs are high
Then existing IORs become central as it is expensive to move out of them.

OR: high transaction costs make IORs central in anchoring prices
HYPOTHESIS
ANCHORING MECHANISMS (slides 5 and 6) ARE EXPLAINED BY INFRASTRUCTURAL RELATIONS (slide 4)

The variety of elements constituting spatial data infrastructures (i.e. databases, standards, gateways, interfaces, formats, procedures, users' skills, etc):
- facilitate data sharing and, at the same time
- constitute a barrier for easily moving to different geodata suppliers and users (high transaction cost)

INITIAL CONFIRMATION

Our hypothesis seems confirmed by a case from the IOR between the Dutch Cadastre and Dutch municipalities:

It relies on fees to balance organizational budgets (so cost recovery condition cannot be labelled as market-oriented because there is no competition on those fees)

Municipalities are organizationally independent but have to meet the requirements of the Cadastre

Therefore, these requirements costs are indicator of prices as costs

THE CRISIS SHOWED...

Following 2008 financial crisis, real estate trade decreased substantially, so the revenues for the cost recovery of the cadastre, which, therefore, increased its data prices

As those prices are paid by cadastre’s partner organizations, cost recovery cannot be explained in terms of market nor bureaucratic relations

OPERATIONAL HYPOTHESES

Normal process of price setting is:
1- Initial anchoring price with people and organizations with whom relations are in place, already
2- Existing data sharing activities become routinized (which also implies a consolidation of an SDI)
3- Alternative possibilities (with the trade-offs they bring in) disappear from decision making processes
4- Stable infrastructural relations, embedding value chains, become:
   a) Normal, therefore
   b) accepted = stable

These stances contrast with what would derive both from free-market economic theory (free fluctuation of prices) and centralized decisions on prices.

RESEARCH QUESTIONS

1) Which inter-organizational conditions define or affect the process of geo-information price setting?

2) How are prices set and inscribed into/by the IORs?

HOW - EXPERIMENT 1

Road network data and travel time are the varying factor in the value of geodata (because it includes traffic lights, road quality etc).

We expect low use from the health care sector because of scarce or no budget allocated to geodata.

Because of low budget (and high utility to organize prevention campaigns and emergency transport for example) we expect high demand elasticity depending on price (lowering prices generate quite high rise of consumption). Reversely, with high and routinized use like in the municipalities we expect low demand elasticity (high formalized dependency).
EXPERIMENT 1 (CONTINUED)

Two experiments (one for the control group)
each of them with two sub groups (one from the municipality and one from the health sector)
to test their willingness to pay different prices (for road network related data)

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HOW - EXPERIMENT 2

Through Woningwizard, people can retrieve through SMS text messaging the purchasing price of a newly purchased privately owned house purchased after 1992. The data originate from the Kadaster. In addition, one receives a second SMS text message of the current estimated value of the privately owned house, relying on a valuation model calculation (detailed procedure in annex). Steps of the experiment:
1) If respondents/test people could choose between testing SMS info via Woningwizard and internet based info via enormo.nl what would they choose (and why)?
2) If respondents/test people could choose between the specific information of Woningwizard and the extensive information of the Kadaster, what would they choose (and why)?
3) The additional information of Kadaster includes the maps, and third party information. If the same information would be available through mobile phones (for example with a (Google) map via MMS or SMS, or another mobile application) what would be a reasonable price for the SMS/MMS? How would that price compare to the Kadaster price?

EXPECTED OUTCOME

Experiment 1: confirmation (or falsification) that the accepted price does not depend on use but on the actual budget allocated across IORs (quite low or null between health sector and municipalities in spite of utility)
Experiment 2: we expect to know if individual users (rather than organization) accept a price by thinking in relative rather than absolute terms

THREE DIMENSIONS TO CONSIDER

if hypotheses are confirmed, then we will continue looking at:

1. Accreditation, which actors can guarantee access, and what mechanisms can allow the use of information,
2. Interoperability/Integration, establishing couplings between data and related activities and organizations,
3. Standardization, data and organizational processes' compliance to common guidelines.

OPEN METHODOLOGICAL ISSUES

• How to select users/potential respondents and data to collect?
• What is the generizability of findings?
• Could this type of experiment also be replicated using other cases? If so, which in EU? And beyond?

RELEVANCE

A positive confirmation of our hypotheses would support a model which contrasts with both free market models and top-down (bureaucratic) price setting
Stabilized infrastructural relations (like integrated datasets in the case of health and municipality), geodata wide accessibility in the case of mobile phone users would give centrality to information infrastructures, specifically in terms of integration and accessibility
REFERENCES


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