



Valuing the Invaluable – a Geoinformation Conundrum

Roger Longhorn

Principal Consultant (SDI), Compass Informatics Ltd
vice-Chair, Communication, GSDI Assoc. Outreach Committee
Editor, SDI Magazine

ral@alum.mit.edu / ral@sdimag.com

Conundrum: an “intricate and difficult problem to resolve.”

Questions, questions, questions – not too many answers - yet!

Topics

- Does 'data' have value by itself?
- Can one set of data ever have 'one' value?
- Do we value the data or the services it supports or underpins? or the decisions made using the data? or?
- Some recent geodata value assessments.

Valuing Geodata – Observation #1

- **Data (including geodata),**
- **and Information (including geoinformation),**
- **and Services (to deliver that data and information),**
- **have different Value(s) (monetary and non-monetary),**
- **to different User(s) (types of users),**
- **at different Times,**
- **for different Uses (purposes & applications),**
- **as either Primary information products (the ‘content’),**
- **or as Secondary contributions, participating in, and adding to, a complex (added) Value Chain,**
- **generating different Impacts upon the economy & society.**

Valuing Geodata

- **Given these many attributes for geodata, are we ever going to be able to assign a meaningful ‘value’ to data alone, without taking into account the purpose for which the data is being used, by whom and when?**
- **Or to meaningfully separate the ‘value’ of the data from the ‘value’ of the service delivering that data or the more complex information product of which it is part?**
- **Or the value of the result? Some very expensive data can be used for some very trivial applications!**

Why Value Geodata?

To Inform Decision Makers

- a) to be able to perform cost-benefit analyses that inform investment decisions (which create value), but...
- b) rarely is the data (alone) the single contributing factor leading to the benefit that is being compared to the cost, unless...
- c) that cost relates only to the data (acquisition & dissemination?), and ...
- d) the benefit is derived solely from the content itself ...
- e) which is a pretty rare occurrence (in my opinion, but the research still needs to be done on that).

Why Value Geodata?

To Inform the Information Market

- a) to arrive at a price at which to sell data or geodata-based services to someone – usually in a specific market, i.e. for specific uses or applications, by specific users, except...
- b) in this case, different users will perceive different values (willingness to pay) even for the same use.

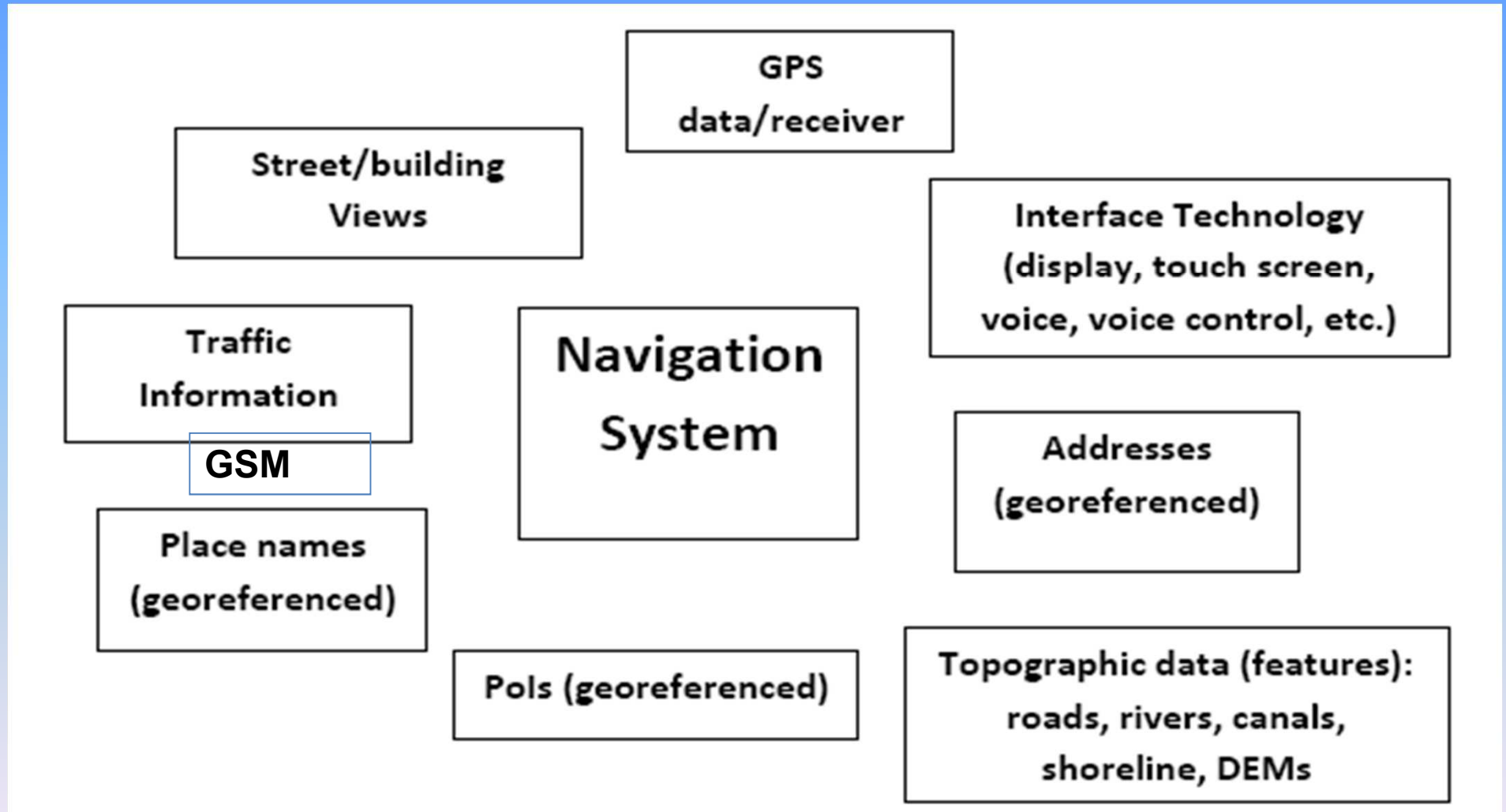
Are we valuing Geodata or Services?

- How to assign value to geodata, when the trend (location-based services, location intelligence, “location-aware everywhere”) is for that data to contribute to a more complex, multipart product, value chain or service?
- Make better use of our time trying to assess value of geo-based services rather than the data itself ?
- Users (and funders) are more interested in what the data can do for them rather than in the data *per se*.
- Or is that simply pushing the problem further down the value chain?

Are we valuing Geodata or Services?

- Can you attach value to Geodata or Services given the widely varying uses to which data and services can be put?
- The multiple uses of the same data lead to different levels of uptake of both the data and the services or systems using or delivering that data.
- The same data can be used in several different information products and services (applications), in contributory or supporting roles.
- But as with data, the same geo-based service can also have serious (very valuable!) and trivial uses. Take for example navigation systems.

What is the 'Value' of the Geodata in a Navigation System?



Geodata in Value Chains

Figure X.1 MIVC Value Chain according to Phillips (2001)

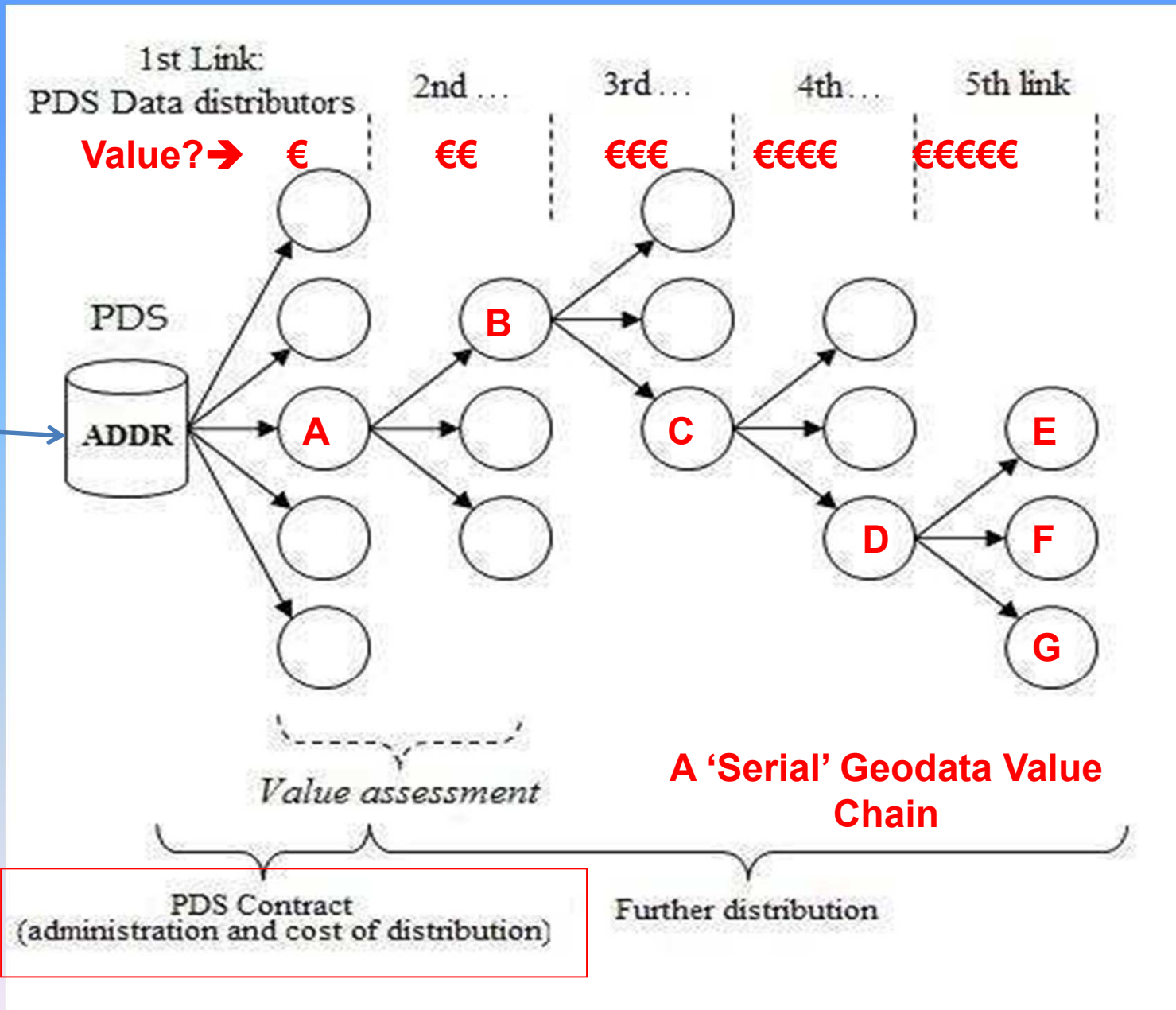
Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
<i>Data Acquisition</i>	<i>Initial Transformation</i>	<i>Dissemination</i>	<i>Modelling Tools & Presentation</i>	<i>Decisions</i>	<i>Actions</i>
IT Actions				Management Activities	

Least Value → → → → → → → → → → → Highest Value

The Management Information Value Chain (MIVC) (Phillips)

Note: What may have the ‘least’ value is often the most costly part of the chain!

Raw Data



Valuing Geospatial Data

- Danish study “**Value of Danish Address Data**” (July 2010) - to analyse the benefits associated with the 2002 Danish agreement that ‘government data is free-of-charge’ (for any use).
- “...direct financial **benefits** from the agreement, for society ... **2005-2009** amount to around **62 million euro** ... Until 2009, the total **costs** of the agreement have been around **2 million euro.**” (**Benefit:Cost ratio = 31:1**)
- “**2010** estimated social **benefits** will be about **14 million euro**...while **costs** will total **0.2 million euro.**” (**Benefit:Cost ratio = 70:1**)
- “... **30%** of the benefits will be in the **public** sector and around **70%** in the **private** sector.”

LGA (ACIL Tasman) Study

- **“Efficiency savings represent real, identifiable, quantifiable cash benefits to government” – Discuss!**
- **Productivity benefits (increases in productivity) can arise from:**
 - **“better sharing of data and services”**
 - **“more intelligent use of data”**
 - **opening up data (to innovators, to create new uses, etc.)**

LGA (ACIL Tasman) Study

- **“Cash efficiency savings” = (cost without ‘geo’) minus (cost when using ‘geo’)**
- **Are ‘cash efficiency savings’ the same as ‘value’?**
- **What about the “ability to deliver more or better services with the same resources” (because of ‘geo’)?**
 - **Is there a quantifiable ‘cash savings’ here?**
 - **or measurable added value?**

Some more Questions!

- **How far can traditional economic modelling or more recent attempts at information economics theory really take us in investigating Geodata value?**
- **How do we differentiate the value of the decision from the value of the data or service (application) underpinning or supporting that decision making process?**
- **How does the value of data change when we apply new technology to process the same data in new ways? (e.g. 'cloud computing' & 4G broadband bringing spatial analysis to the future smartphone)**

Why do we look for 'Value'?

- **Are these examples useful measures of 'value' for the types of Geodata or Geodata-based services examined?**
- **Did they serve a purpose, e.g. support a decision maker on an investment decision or inform a new data policy with an impact on society or the economy?**
- **How far do we have to go in proving the 'value' of geodata to someone?**
 - depends upon who wants to know – and why?

Creating a Value Framework?

- Can we construct a meaningful framework of ‘classes’ of ‘value’ that would, for example, convince a decision maker to proceed with the investment?
 - ‘direct’ content value
 - ‘underpinning’ content value
 - content + services value
- No one current economic model seems able to help answer the ‘what is the value of geodata’ question.

Conclusion & Recommendation

- **When trying to assign value to geodata or related services – talk to the funding body to see what is of most importance to them.**
- **The ‘frame of reference’ of a decision maker will have a direct impact on how they perceive the value of geodata or services.**
- **If trying to satisfy a mandatory requirement, use traditional CBA methodologies (of which there are many!) to investigate the least costly approach.**



Thank you for your attention !

Roger Longhorn

Principal Consultant (SDI), Compass Informatics Ltd
vice-Chair, Communication, GSDI Assoc. Outreach Committee

Editor, SDI Magazine

ral@alum.mit.edu / ral@sdimag.com