Access to Government InformationUnnecessary Remains a Case of Professional Elite

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Key words: access policy, spatial information management, geographic information infrastructure, GII, SDI, spatial data infrastructure

SUMMARY

Value–added use of geographic information is important in the development of geographic information infrastructures. In spite of the European directive "Reuse of public sector information", the market for value-added geographic information products and services based on government information hardly develops in Europe under current circumstances. The value-added business community uses the information to a limited extent because of the high price and the restrictive use conditions. As a consequence the use of these public datasets remains limited to a stable group of professional users; the mass is not reached. However, this paper argues that the barriers can be levelled through an alternative to current access policies. The alternative access policy may be a first step towards the widespread availability of value-added geographic information services satisfying the needs of the public data providers, the value-added businesses, and the citizen.

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1. INTRODUCTION

Value–added use of geographic information is important in the development of geographic information infrastructures. In spite of the European directive "Reuse of public sector information", the market for value-added geographic information products and services based on government information hardly develops in Europe under current circumstances. The value-added business community uses the information to a limited extent because of the high price and the restrictive use conditions. As a consequence the use of these public datasets remains limited to a stable group of professional users; the mass is not reached. However, this paper argues that the barriers can be levelled through an alternative to current access policies. First, general theory about two poles in access policy discussions is provided. Then, the difficulty of changing one policy option into another is being addressed. Finally, alternatives to existing access policies are provided, of which one is assessed to be a potential first step towards the widespread availability of value-added geographic information services satisfying the needs of the public data providers, the value-added businesses, and the citizen.

2. ACCESS POLICIES[i]

Two access policies are dominating access policy discussions: open access policies and cost recovery policies. Here, we provide an overview of the core characteristics of both.

2.1 Open Access

The open access approach assumes that government agencies, responsible for the collection and creation of government spatial data, are fully funded with public funds to accomplish their public tasks. These public tasks may vary among jurisdictions. Some jurisdictions may choose to minimise the tasks of government while others may choose for more comprehensive tasks to be accomplished by government. A minimal role for government in achieving a societal objective may result in a minimal quality or quantity requirement within government for needed data.

In the open access model, data within governments are accessible by those outside of government for a price not exceeding the cost of reproduction and distribution (marginal cost of dissemination) with the imposition of as few restrictions as possible. The data are available to all (non-exclusive) on a non-discriminatory basis (see also NRC 1997, 15). Accepted restrictions include data concerning national security, trade secrets, and data relating to an individual's privacy. Under open access principles, spatial data suppliers in the public domain do not compete with the commercial sector. When government adds value to their data in order to respond to a mandate or obligation of government as defined by law making bodies,

they may opt to do the value adding through the efforts of their own employees but more typically they hire private commercial firms to supply the data or service for government. All public and private entities have access to the resulting data on equal terms, typically with no restrictions, at the cost of dissemination.

Although the open access model may initially have been enacted to control government, "[it] fosters a process for adding value to raw government information resources" (Lopez 1998, 58). This spin-off effect promotes the use of the data, which results in higher quantities of (income, company, or value added) taxes going towards government (see figure 1).
The economic reasoning behind the open access model is presented in Figure 1. Government agencies, responsible for collecting government geographic information, are funded with public funds to accomplish their public tasks. Government information is a valuable source for others to create new information products. Especially geographic information is of value (BDO, 1998, p. x). The use of these government datasets is promoted through a limited fee of a maximum of the marginal cost of dissemination, and lack of restrictions in the use. As a result, it is supposed that enterprises initiate a wide variety of value-adding activities (see also Krek, 2000). This information or customised products are used by a variety of end-users, who can choose between providers of similar products. The revenue and jobs the private sector generates will partly flow into the treasury of the state through income tax and company tax. Further, end-users will pay value-added tax (VAT) when they buy information or a product.

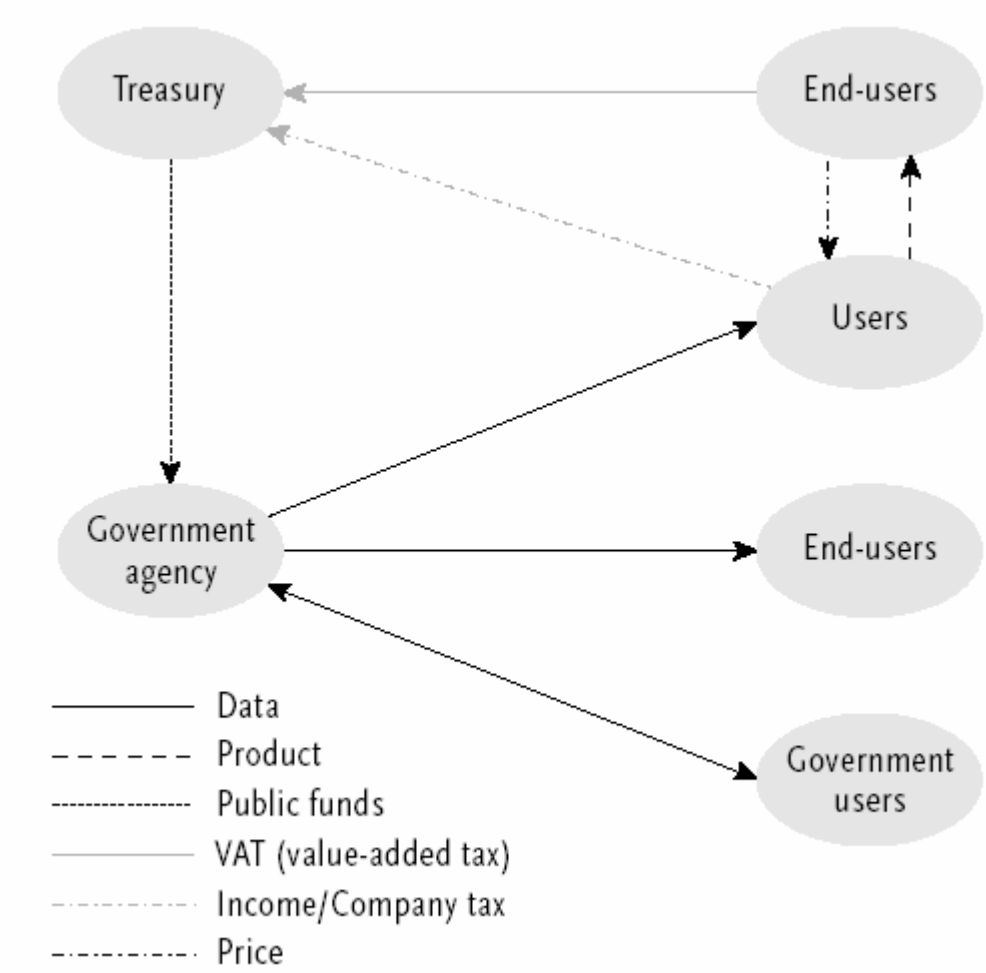

Figure 1 Economic reasoning behind the open access model (after Weiss and Pluijmers 2002)

2.2 Cost Recovery

Cost recovery approaches seek profits from the sale of data to support the development and maintenance of the datasets (Lopez 1998, 43, Onsrud 1992). Data collection, maintenance, and dissemination are not fully provided by public funds and the costs must be covered through other means. The agency needs to generate income from the sales of data or products or through the provision of services. As a consequence, access to data may be restricted in order to cope with the financial conditions established by the amount of government funding provided. In practice this implies a charge for the data at more than the marginal costs of dissemination and restrictions are imposed on the use of the government data through the action of copyright law and database rights. Further use restrictions are often imposed through contractual or licensing provisions. The cost recovery approach may also result in government agencies competing with private sector entities either on a level playing field basis or not. The expertise within government may be used to respond to private requests for specific spatial products.

The cost recovery model may be summarised as " [it] benefits end-users who are interested and able to acquire high-quality geographic information, directly from government" (Lopez 1998, 58). The cost recovery model may be found where high-quality data is used for the execution of the public task. The use of high-quality data within government may be the result of comprehensive public tasks, or from the demanding requirements of the government users. Further, the cost recovery model is typically found in jurisdictions where the provision of geo-information has been (semi-) privatised, or where requested geo-information services are not provided for in the public tasks.

Figure 2 shows the economic reasoning behind the cost recovery model. Government agencies creating geographic datasets generate income from the sales of information. In addition, they add value to the information and create information (products), which are sold on the information market. The cost recovery model comes with legislation that allows government to control the use of the information. In most existing cost recovery models, individual government agencies are in control of their budget, making them independent of fluctuating budgets in national government (see also Onsrud, 1998, p. 146). They thus may allow for the advantage of having (access to) accurate, consistent, standardized databases that provide national coverage (Aslesen, 2002). The cost recovery model provides sustainable funding to individual government agencies, allowing them to maintain their information collection activities overtime (Onsrud, 1992).

In the worse-case cost recovery model government agencies are required to recover their cost through the sales of their information, but the income directly flows into the treasurer's pocket. In this scenario the government agency still depends on the fluctuating budgets in government. Guarantees on the quality of the information are lacking, and only few users can afford the price of the information.

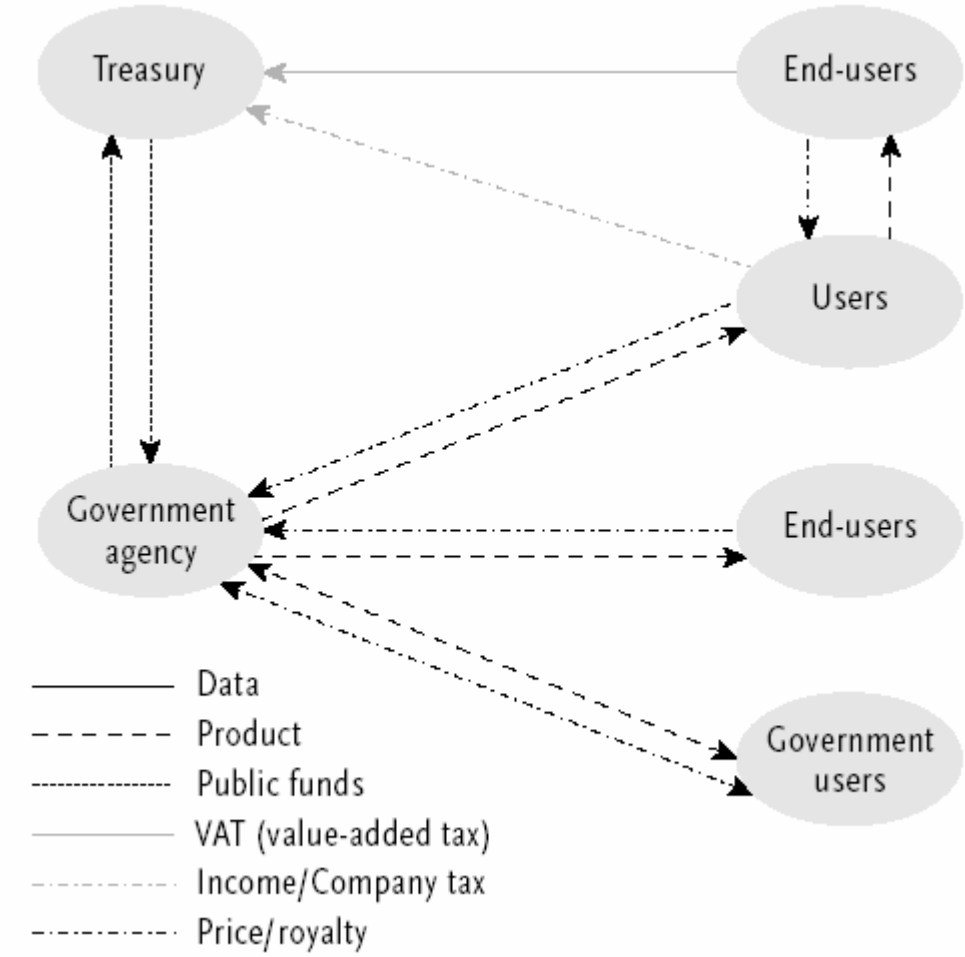

Figure 2 Economic reasoning behind the one cost recovery model (after Weiss and Pluijmers 2002)

At least one leading legal scholar argues that to realise the potential of geographic information systems, federal, state and local governments should promote government practices that (1) make electronic formats available, and (2) allow and promote a diversity of channels and sources of public information (Perritt 1995, 455). This is only possible if governments "resist the temptation" of selling off data to generate revenues. Therefore, they should avoid asserting copyright or database rights in their public records. Further, research involving local and state government GIS practitioners in the US reports that experiences to date indicate that few if any local jurisdictions in the US have made money, and many have lost money, by imposing cost recovery arrangements (see Joffe 2005). The same research found that most local jurisdictions currently selling geographic data would prefer to give it away if there were realistic alternatives for gaining political credibility with high-level budget approvers or funding their GIS operations (see Joffe 2005).

3. VALUE ADDED PRODUCT DEVELOPMENT IN EUROPE

The value added market for geographic information is in its beginning stages of development. The basis for these value added geographic information products is likely to be within government. One of the causes for the limited number of value-added products in Europe is the borders within government should operate. Developing value-added products is typically outside these borders and not considered a task of government. Government agencies are only allowed to enter the market under strict conditions. The Dutch Cadastre, for example, is only allowed to make its own data accessible and to sell them, but not to combine its' information with data of third parties. Here the private sector can give surplus value, because especially of geometric and administrative data interesting value-added products and services can be made. However, in many instances government does not allow others, i.e., the private sector, to add value to the public information. This may be directly by forbidding this in user conditions accompanying government information or indirectly by setting a cost recovery price for their information.

Key is that not all users value a dataset at its production cost (see Krek and Frank, 2000). Value-added users do not value the framework dataset at current cost recovery prices. They assess the price as too high to make it worthwhile to develop viable commercial value-added products based on the framework information. Therefore, these users will not use the framework dataset.
Thus, in instances of sufficient data quality but restrictive use conditions including cost recovery prices, value-added users will not use the dataset: the value-added market that would be based on framework datasets will not develop.
In summary:

- Public parties own commercial potential interesting information;
- This information is used by a limited group of professional users;
- Public parties only are allowed to enrich their own information and make no combination with information of third parties;
- The price and user conditions of the public information is such, that the private sector is unable to create profitable value-added products and/or services, and
- A potential value-added market remains unexplored.

4. CHANGING POLICIES

4.1 The Dilemma of the Public Enterprise

It has been suggested that a change from cost recovery to open access policies would be beneficial, as it would encourage the information economy (Pira et al., 2000; Weiss and Pluimers, 2002). Provided that gaining political credibility with high-level budget approvers is difficult, it is unlikely that an organisation that has sacrificed some of its income to further the information economy would be financially compensated. This uncertainty is one of the reasons why public entities are reluctant to provide their information through open access (see, for example, the EU directive re-use of public sector information, EU, 2003). Since open policies make government entities fully dependent on national budgets, they are in a

fragile position. This is what we call 'the dilemma of the public enterprise': although a policy change would benefit the public enterprise (society) macro-economically, micro-economically, it is assumed that a public information provider (such as a public enterprise) loses part of its income. Important value-added products and services are not developed because public information producers are not guaranteed benefits in creating these products, as there is a shift in policy from cost recovery towards open access. Continuing the battle between advocates of the two funding models will not abolish the status quo. A model that takes the best of both types may be a viable future option. Understanding the value particular information has for different users should be a critical ingredient in an alternative funding model.

4.2 Alternative Access Policies

Guaranteed public funding for information with infrastructural characteristics is one option for reaching the potential. Ideally, if legislation required collection of framework datasets, the open access model would be able to promote GII development and its macro-economic potential. It is difficult or impossible to guarantee public funding for the GII, however; this is outside the control of the geographic information sector.

Several alternatives to current practices for large-scale framework data may promote value-added use. One example may be that described in the US Federal Technology Transfer Act (FTTA), which allows the public sector to withhold datasets for five years from the public domain that were produced together with private companies (see also Pluijmers, 1998, p. 54). The disadvantage of such an approach is that the dataset is relatively old before value-added users can use it. Large-scale information requires current information to be most useful (see, for example, Van Loenen, 2006). Therefore, this option may not be feasible for value-added products for large-scale geographic framework datasets.

A more promising model may be found in the Data Lending Facility in Finland (see Toivonen et al. 2006). After subscribing to the facility (and agreeing to the terms of use), users can freely download data for a one year period. After this one year in which the user can test the data, he is asked to buy the data, delete the data, or to extend the subscription for another year. This model allows value adding companies to use the data without cost, for example, to test the software and to assess the dataset.

Another option is an alternative funding model that respects the needs of the information provider but promotes value-added use for the most current information. Such an alternative funding model promotes value-added use by providing free access to framework datasets for those willing to add value to the framework data, either in a product or a service, and maintains cost recovery policies for other users. Free access implies only access at no cost. The value-adding company compensates the information provider through royalties based on a small percentage of the turnover of the new product or service (see Figure 3) or through the return of improved information quality. Intellectual property rights remain with the information provider, and additional use restrictions should guarantee that the dataset is only used for specific value-adding activities, and not for other purposes.

Through this hybrid access policy approach, the alternative funding model bridges the open access and cost recovery models. If successful, this alternative model can resolve the 'dilemma of the public enterprise'. It will result in a win-win situation, with new products, and new users. This model may also generate new revenues for the information producers. National government benefits from increased employment in the value-added sector, and it collects more income tax, value-added tax, and company tax.

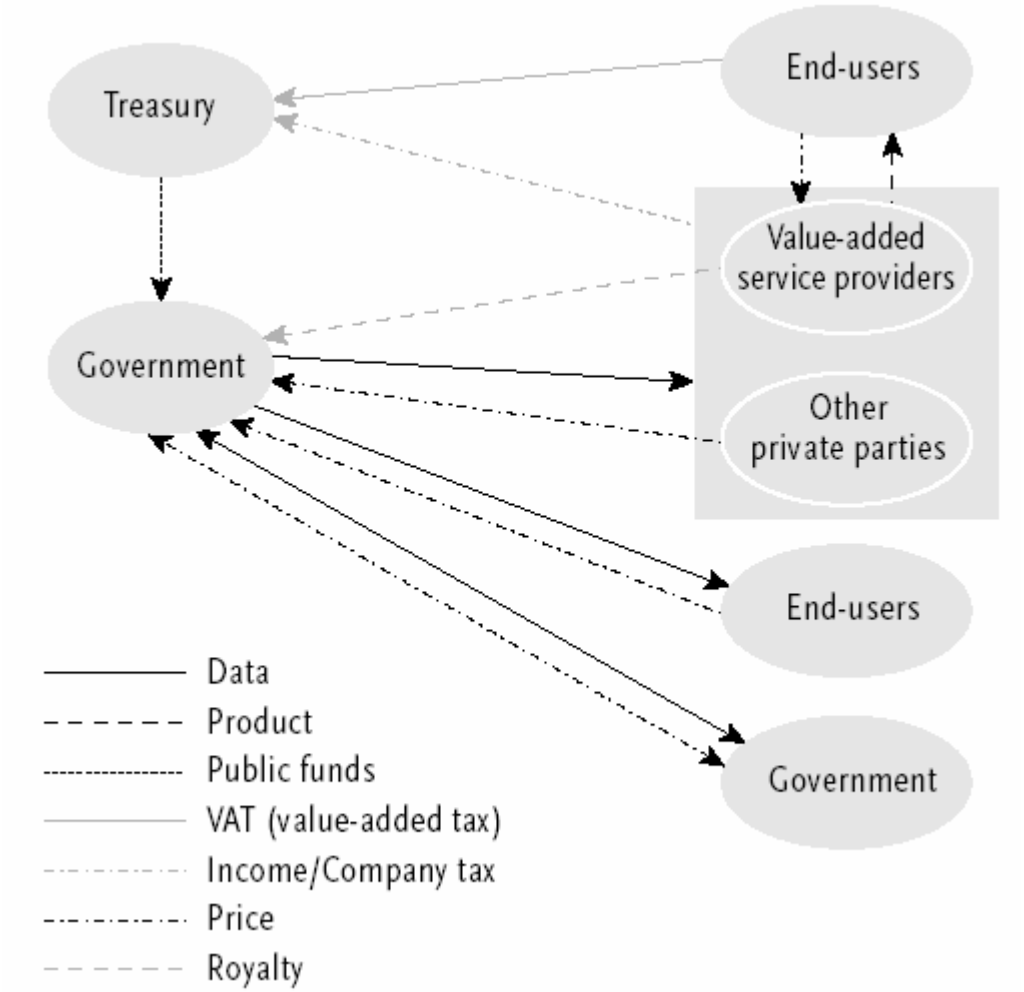

Figure 3: an alternative access policy model

4.3 Potential Roadblocks to the Alternative

But there may be several roadblocks to the alternative model. For example, the European directive on re-use of public sector information states: "Any applicable conditions for the re-use of documents shall be non-discriminatory for comparable categories of re-use" (article 10.1). Re-use is defined as reasons for using the public sector information other than what the public sector bodies had in fulfilling their public tasks. It is not clear whether using framework datasets for value-added use, for example, as a basis for value-added services, and using the framework datasets for secondary use as a background map are comparable categories of re-use. If the two re-uses are not considered comparable, the public information

supplier can continue to enjoy significant payments from secondary users, while it promotes value-added use that returns some income from royalties. If the two re-uses are considered comparable, however, then the alternative model disintegrates.

European jurisdictions may be able to benefit from the alternative model, which advances geographic large-scale framework datasets by making guaranteed funding available for all, at almost no cost for value-added users, with as few restrictions as possible.

5. CONCLUSION

This paper introduces an alternative access policy that promotes the development of value-added geographic information products. Currently, the development of value-added products based on public sector geographic information is limited. Restrictive use conditions and cost recovery prices are main causes. An alternative access policy, which provides free access to value-added resellers is expected to stimulate value-added product development. The value-adding company compensates the information provider through royalties based on a small percentage of the turnover of the new product or service or through the return of improved information quality. The alternative access policy may be a first step towards the widespread availability of value-added geographic information services satisfying the needs of the public data providers, the value-added businesses, and the citizen.

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BIOGRAPHICAL NOTES

Bastiaan van Loenen holds a PhD. from Delft University of Technology, the Netherlands (2006). His thesis concerned 'Developing geographic information infrastructures; the role of information policies'. His further research interest include location privacy, geo-portals, and land administration throughout Europe. He is co-editor of the GSDI publication "Spatial data infrastructure and policy development in Europe and the United States" and has published and presented on a variety of other legal and policy related topics including: the role of access policies in the development of GIIs, the impact of data policies for scientific research, and development of spatial data infrastructures. He has a special research interest in the harmonisation of geographic information infrastructures in general and land administration more specifically.

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[i] This section builds on Van Loenen and Kok, 2004 and Van Loenen, 2006