Problems with authority: the role of law as a barrier to authoritative VGI

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Introduction

This research examines the quality and credibility of volunteered geographic information (VGI) from a legal perspective. The first stage, described here, identifies and categorizes the ways in which law may confer authoritativeness on geospatial information products. A second stage will examine the extent to which these norms operate as barriers to the adoption and use of VGI. The research will consider the extent to which these norms may be adapted (or are in the process of adapting) to the VGI context.

The creation of data sets using VGI, or the incorporation of VGI into established data sets, can raise issues of data quality and credibility. The term VGI covers a wide range of crowd-sourcing activities involving a diversity of actors, data types and data formats. Volunteered data may include GPS co-ordinates, geo-referenced photographs, observations, or opinions. Contributions may be in data, text, image, audio or video-formats. In this sense, VGI is a subset of the broader category of user-generated content (Coleman et al. 2009; Goodchild 2007). There is no uniform way in which VGI is incorporated into data products. In some cases, VGI is used to improve the quality of 'authoritative' data sets (Coleman et al, 2009; Goodchild 2008). In other cases, VGI may be used to gather information that might otherwise be difficult or impossible to collect or verify. (Tulloch, 2008; Elwood 2008). VGI may also be used to present information about political upheavals, natural disasters or even local problems.

Data sets are typically considered authoritative because they originate with a reputable source (e.g., a government or established industry actor) or because they meet measurable standards for quality and credibility. Assessments of quality examine how data is collected, processed and represented, and determine the fitness of the data for its anticipated purpose. Flanagin and Metzger (2008) argue that the credibility of VGI can be assessed both in terms of its accuracy and on the basis of perception. In this sense, the identity of the data sources may lend credibility to data sets. The legal norms identified in this research relate either to establishing credibility (authority) or quality (authoritativeness).

Legal Authority Systems:

For the purposes of this paper, five categories of legal norms are identified as playing a role in establishing the credibility and quality of VGI.

1. Intellectual Property

Trademarks are used to indicate the source or quality of wares, including information-based products such as maps or data sets. Certification marks, can be used to designate products produced according to prescribed standards (e.g., the ISO mark). Copyright can be used to establish and maintain the authoritativeness of maps or data sets. Copyright owners have the right to control how those works are used, reproduced or disseminated. This control can be used to maintain authoritativeness. A copyright owner may stipulate in a licence how their contribution to any product or work that makes use of their data is to be attributed (or not). They may insist on being identified as the source of the data; they may also prohibit users from suggesting that they endorse any derivative product. The copyright owner may also limit the creation or commercial exploitation of derivative works.

2. Civil Liability

Creators of data sets that are considered to be authoritative face a greater risk of being held liable for damage that flows from reliance upon those data sets (Chandler & Levitt 2011). The principles of negligence law thus serve both as a motivator to ensure a certain level of quality and also as an incentive to identify and explain the fitness of the data sets for specific purposes. The enhanced quality and reliability encouraged by the threat of legal liability may in turn support the authoritativeness of the information.

3. Land Titles

Governments are the source of rights to land, and set the rules for tenure, usage and transactions involving land. This function is typically supported by a framework of laws, and includes the creation of land titles registry systems. Governments determine what information will appear in the registry and the terms and conditions under which it may be amended. The information in these registries is authoritative in a truly legal sense: it may be relied upon to establish or extinguish legal rights.

Courts adjudicate disputes over land titles, adverse possession claims, and in some countries, aboriginal claims either to sovereignty over particular territories or to usage rights within those territories. In these contexts, courts set rules around what records or documents are admissible as evidence of rights in relation to land, and the weight to be given to them.

4. Professional Regulation

Certain professions are regulated by laws that define the functions that only certified professionals may perform. A governing body may also be charged with defining the necessary professional credentials, ensuring that all practitioners hold those credentials and establishing and administering a code of professional conduct. Professional regulation of land surveyors invests their work with authority. It also renders similar work by non-regulated individuals non-authoritative.

5. Review and Approval Systems

"Soft law" processes may create normative structures that give a degree of authority to certain types of works. For example, although the peer review method of assuring quality in academic research is not a formal legal process, government granting agencies establish norms for the review of research proposals, and for research ethics. By providing a level of quality assurance, such systems may therefore play a role in rendering certain types of research output more authoritative than others (Flanagin & Metzger 2008).

Research Directions

Further inquiry is necessary to determine the extent to which these different legal tools operate as barriers to the adoption or use of VGI. Research questions include: Which systems are most easily adaptable to supporting the use of VGI by providing indicators of credibility and quality? To what extent, and in what ways, do these normative systems entrench power and authority structures which operate as a barrier to VGI? Which systems are already under pressure from other developments in the information society? Is there already evidence of such systems adapting to non-traditional information sources, or supporting the entry of new players in the information economy?

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