

As the amount of linked data increases, so too does the diversity of data. While standards, procedures, and classification schemes are fundamental to sharing across organisational and institutional boundaries, a collaborative information management system needs more to support collaboration. It needs to afford negotiation between the various stakeholders' goals, interests and concerns, and to support the identification of the key overarching goals of the collaboration. As such, the system needs to provide a flexible, ever changing, yet self-evident standard of classification and meta-data to accommodate for the increase in data without abstracting and erasing the diversity.

### **Guiding Questions**

*What goals do you have that others might not share? What goals are interrelated?*

*How are goals, interests, concerns communicated?*

*How can the collaborative information management system help clarify shared or divergent interests and concerns?*

*How can the system support collaboration amongst actors with competing goals?*

*How can the system encourage the articulation/translation of these goals?*

*How can these articulations be tied to data as it is gathered for, and used within, the collaborative information management system?*

### **Further Information**

As the amount of linked data increases, so too does the diversity of data. Stakeholders often find it difficult to make sense of the various data coming their way, since they do not have the same focus in their engagements with the information as those who entered it into the system. This is because collaborative information management systems put into conversation information gathered using several different methods and put together information that is intended to achieve different goals by the various actors involved.

While standards, procedures, and classification schemes are fundamental to sharing across organisational and institutional boundaries, a collaborative information management system needs more to support collaboration. To be useful, such systems need to afford negotiation between the various stakeholders' goals, interests and concerns. Specifically, participants should be supported in taking one user's specific way of knowing risks or incidents and translating it to be understood by fellow users with different backgrounds and experiences.

Furthermore, collaborative information management systems should support the identification of the key overarching goals of the system itself, as well as of the governing bodies, organisations, and individual users of the system. In other words, a system needs to provide a flexible, ever changing, yet self-evident standard of classification and meta-data to accommodate for the increase in data without abstracting and erasing the diversity.

### **Examples**

In a study entitled 'Understanding Complex Information Environments', Van House, Butler, and Schiff (1998) explore the working patterns around information sharing and collaboration in relation to California watershed planning. There the authors examine how these ideas might play out in a watershed planning Common Information Space (CIS) which they describe as "distributed physically in time and space, and logically in terms of control; and with no omniscient agents organizing the work" (p. 336). During their study, the authors observed the engagements of a range of stakeholders, from government agencies, resource-based industries such as agriculture and timber, environmentally-based industries such as recreation, landowners and non-government environmental groups, and community groups. The planning took place at state, regional and local levels, often with the need to manage competing interests while the goal for these interactions in relation to watershed planning were for these stakeholders to come to as much of a shared understanding of the current state of their watershed regions as possible. From this they hoped to produce a common set of expectations from future actions and agreements for overarching goals.

However, Van House et al. found that the shared information was not just used for decision-making but equally "for defending points of view and persuading and educating others" (1998, p. 337), hence illustrating the qualities of information as a 'boundary object' (i.e. information that can be used in different ways by different communities). In doing so, the different stakeholders used different data and privileged different uses of the data.

#### Concerns:

- Fear of losing the legitimacy of their communities of practice that would limit their authoritative voice.
- Fear of the use of their data in unintended ways because the data were disassociated from their site of production and thus made to mean new things without consideration for the specifics from which they derive.

#### Practical solutions:

- Using descriptive meta-data that coomade it possible to calibrate measurements, terminology and data elements across the range of information provided within the system.
- Using established mapping or reporting structures supported stakeholders in knowing they were appropriately combining different data from different sources. Van House et al. do note that, “whether such detail can be sufficiently specified is, however, debatable” (p. 340)

## Resources

Cooper, A., Reimann, R., Cronin, D., & Noessel, C. (2014). *About face: the essentials of interaction design*. John Wiley & Sons.

Joshi, A. Usability Goals Setting Tool [[Link](#)]

Star, S. L., and Griesemer, J. R. (1989). Institutional ecology, translations and boundary objects: Amateurs and professionals in Berkeley’s Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science* 19(3): 387 [[Link](#)]

Tognazzini, B. (2003). First principles of interaction design. *Interaction Design Solutions for the Real World* [[Link](#)]

usability.gov Project team roles and responsibilities [[Link](#)]

Van House, N. A., Butler, M. H., & Schiff, L. R. (1998). Cooperative Knowledge Work and Practices of Trust : Sharing Environmental Planning Data Sets. In *Proceedings of the 1998 ACM conference on Computer supported cooperative work (CSCW '98)*. ACM, New York, NY, USA, 335-343. . [[DOI](#)]

Wolbers, J., & Boersma, K. (2013). The Common Operational Picture as Collective Sensemaking. *Journal of Contingencies and Crisis Management* 21(4): 186-199. [[DOI](#)]