Informational uses of information: a theoretical synthesis

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Introduction

Information use is practically synonymous with applying information (Meyer, 2003): if one does not apply information to anything (at most digests it), then s/he does not use it, either. Among the basic dimensions of information use is the idea of informationality: whether using information happens informationally or in practice. Practical use centres on tangible - material or energetic - activities of the real world, such as “caring for a patient” (Leckie & Pettigrew, 1997, p. 107). Informational use, in turn, entails activity that focuses on representations of the perceived existence, like “expressing one’s regret” (Kari, 2001, p. 120). The division of practical vs. informational uses of information has a few close antecedents in earlier research:

- acting vs. thinking (Todd, 1999)
- “knowledge for action” vs. “knowledge for understanding” (Rich, 1977)
- technical vs. discursive utilization (Knorr, 1977).

This paper focuses on informational use of information (IUI), because it is an easier first topic to tackle than practical use of information (PUI). The cause of this may be that there appears to have been less research on PUI than IUI. Conceptually, IUI involves two kinds of information (or knowledge): source information and target information. Source information means the information which is used, whereas target information refers to the information on which the source information is used. In a given study, both source and target information can be just about any sort of information, but usually it is sensible to delimit one or both to a specific variety of information. The source information in my current research, for instance, is spiritual information, while the target information has been left open.

The article at hand presents a theoretical synthesis of the informational uses of information. It does so by first reviewing central scientific literature relevant to the subject. Only easily available publications were obtained, so one or more core sources could have been missed. Then a new, combined typology of IUIs is constructed by means of tabular comparison.

An analysis of informational uses of information

In Kari’s study on information seeking related to the paranormal, 16 paranormalists were interviewed. One of the findings was a typology of generic uses of information, consisting of three categories. Among these, two can be viewed as informational: communicating (e.g. telling other people about a matter) and thinking (e.g. analysing something in one’s mind). (Kari, 2001.) Maybee interviewed a number of students about how they perceive information use. The analysis revealed three conceptions of use, all of which are clearly informational:

- Sources - Information use is seen as finding information located in information sources.
- Processes - Information use is seen as initiating [an information] process [which is located anywhere between formulating an information need and applying the found information to practice].
Knowledge base - Information use is seen as building a personal knowledge base for various purposes. (Maybee, 2006, p. 81.)

A monograph by Choo (2006) is about “how organizations use information to construct meaning, create knowledge, and make decisions”. That makes another set of three IUIs. By interviewing nine nurses, Leckie and Pettigrew discovered five ways in which they used information. Four of these uses can be classified as informational: “providing information and referral”, processing messages, sharing information, and revising search strategies. (Leckie & Pettigrew, 1997, p. 107.) Meyer investigated information usage in the context of rural development. Based on reviewing the literature, four types of information use could be discerned in oral cultures:

- The concretization and storage of knowledge
- The interpretation and processing of information
- Accessing indigenous information
- Communication in the oral tradition

(Meyer, 2003, pp. 110-116.)

Those are, once again, information uses of the informational sort. Ironically, the most systematical typology of IUIs to date can be found outside the field of information science, from the work of Nonaka and his colleagues (who represent business administration):

1. Socialization: from tacit knowledge to tacit knowledge;
2. Externalization: from tacit knowledge to explicit knowledge;
3. Combination: from explicit knowledge to explicit knowledge;
4. Internalization: from explicit knowledge to tacit knowledge. (Nonaka et al., 2001, p. 16.)

Nonaka and the others (ibid.) actually call those “the four modes of knowledge conversion”, but their affinity with the other classifications above is so obvious that they can easily be seen as IUIs, too. The different outlines above describe the informational uses of information in quite disparate terms, making it seemingly difficult to reconcile them.

A synthesis of informational uses of information

There is a definite need to unify the various views concerning the informational uses of information, and such an attempt is made in the Table below. The columns list the uses presented by each author, and the rows set side by side those uses which resemble each other across the different sources. As one can see, the various typologies do not nearly match one-to-one: in some publications, a category of information use is

*missing;* e.g. Kari (2001) does not include information acquisition in his classification *split* (into two parts); e.g. Leckie and Pettigrew (1997) divide communication into “providing” and “sharing” information

*bloated;* Maybee’s (2006) type “processes” covers the whole spectrum.
However, the commonalities between the various categorizations clearly outweigh their differences, and thus it was not so hard to integrate them, after all. It is quite interesting, albeit somewhat surprising, to discover that IUIs apparently boil down to just three basic types: internalizing information, processing information/knowledge and externalizing knowledge. When internalizing, the actor (e.g. individual) incorporates outside information into itself. Processing entails considering or transforming either information objects (e.g. texts) or one's own knowledge (what one knows). Finally, externalizing means that the actor distributes some of its information objects to other entities, or expresses some of its knowledge to them.

**Conclusion**

The current paper briefly examined the informational uses of information (IUIs). This seems to be a new concept in information science, although the phenomenon itself has been studied at least since the 1970's. As a result of synthesizing earlier research, three fundamental varieties of IUI emerged: internalizing information, processing information/knowledge and externalizing knowledge. This set of activities provides coherence and rigor to analysing information use, and its validity is supported by the fact that it is echoed in more general theories:

- information science: information seeking vs. information sharing (information behavior)
- semiotics: decoding vs. encoding
- computing & economics: input vs. output.

In theoretically understanding the informational uses of information better, it would be beneficial to draw on those conceptualizations. There is a need to examine the relationship between IUI and information behavior in particular, as they are the closest concepts. Of course, the details and dynamics of IUIs as such should be studied, as well. One logical step would be to also analyse and synthesize practical uses of information in the same manner as the informational
uses in this article. To summarize, the concept and typology of informational information use looks like a promising ‘seed crystal’ for truly systematic and holistic research on information use which has long suffered from theoretical obscurity.

**Poster presentation**

At the conference, the main content of this paper is presented as a cross-shaped poster consisting of five parts or pages. The center, which forms the core of the exhibit, describes the three synthesized types of informational uses of information. The horizontal dimension of the poster depicts the process of developing the concepts, so that the earlier categorizations are positioned on the left side of the center piece, and the possible future directions are on the right. The vertical dimension represents the various levels of abstraction, so that the higher-level constructs lie above the center piece, and the more concrete classes of use are below. Therefore, the whole constitutes a chart with two dimensions. This kind of simple but efficient presentation should help the audience quickly grasp the major points.

**References**


Todd, R.J. (1999). Back to our beginnings: information utilization, Bertram Brookes and the
fundamental equation of information science. *Information Processing and Management, 35*(6), 851-870.