ABSTRACT

The essay is a discussion of the use of the information landscape (ecology) model for analysis of information use and design. An infoscape (information landscape) model consists of frames of information use. These frames are sociocultural in nature. The frames of informational use bound and structure four aspects of an information system or informational situation. These aspects are people, content, processes, and relationships. The frames of information use of the infoscape model are discussed as ways of understanding information use and design. The model provides a set of categories (the frames) for raising and describing analytical questions and design solutions.

Keywords: information landscape, infoscape, information ecology, frames of information use, information systems, information use and design.

INTRODUCTION

The best use of information (along with best practices) organizationally is important to the life of any organization. People stand in the midst of information flows, usually overwhelmed (25). Questions of governance and ownership abound. The creation or acquisition, and distribution or sharing of information affect performance. The problem is that organizational relationships among people, content (meaning), and processes depend a great deal on information flows organizationally. Such information flows are surrounded by frames of information use. The design and redesign of information systems attempt to configure, in the most utilitarian way, information flows and use. The essay discusses a model of informational landscape (infoscape) as a basis for framing the analysis and design (or reanalysis and redesign) of information systems. The model is a means of understanding information use and design within an organization, at any organizational level.

AN EXAMPLE OF AN INFOSCAPE

An example of applying the model is a meeting of an enterprise-wide committee ABC at X organization (the names of the committee and the organization have been changed). The committee meets once a month. Its charge is about process control, quality management, and some personnel decisions that are made as recommendations to a higher committee. Membership in the committee consists of only non managerial personnel; they cannot be managers at any level in the organization. Their recommendations, which result from their deliberations, are sent to a committee of mid-level managers. Eventually, the recommendations may arrive at a top-level manager’s desk. The ABC committee, being enterprise-wide, acquires or has things to do...
only if committees, departments, or groups, that are not enterprise-wide, bring affairs to them for decisions. Enterprise rules in terms of an employee contract and procedure manuals, structure these flows of information. A flow of information may be a request for change of personnel status. Another example of an information flow may be a document that presents a new set of procedures, a structured plan, for accomplishing a specific set of objectives. These are just two examples. In either case, ABC committee requires information. In the case of the status change, documents accompany the request. The documents are information used by the committee in its deliberation and decision-making. The committee is a situation for decision-making. It defines the requirements for what information is needed; by acting or deciding on a recommendation, it defines how it uses the information. The committee members bring to the deliberations, frames of information use for how a committee functions in the life of the organization. The committee members also bring to the discussions conceptual frames based on organizational roles and situations. Their conversations and language use reflect these frames of use. The committee, its charge, and its work, is contextualized or framed in its performance.

**INFORMATION LANDSCAPE MODEL**

The idea of informational landscape (what I sometimes will call “infoscape”) is a way of viewing the corporate ecology or environment of information use. An informational landscape is an informational ecology. An information ecology is a holistic approach to understanding information use and creation from the enterprise level to the personal level (15; 3, pp. 3-6; 21; 4; 16, pp. 49, 50-51; 13, pp. 1, 18). Information ecology is about the circumstances and situations of information design and use. Information ecology or infoscape is a conception for analyzing and designing organizational information systems and flows, and personal information use. The conception of informational landscape is a model that pictures people, content, processes as they constitute a holistic and dynamic multidimensional system. Frames of information use bound and structure this landscape or ecology. The information landscape conception is a way of modeling the frames of information use. The frames reflect why, how, for what end, to what results, and with what consequences information is used.

The metaphor of informational landscape models the circumstances and situations surrounding an information system, or any set of information flows (23, pp. 68-69, 73). An information landscape is a place of framed information use. Frames of information use define situations by structuring the processes constituting the how, where, when, and the why of information use (6, pp. 69, 86-87, 90; 5, pp. 39, 41-44). Frames shape and structure the informational situation. An informational situation is a nexus of informational flows; it is the locale of information usage (6, pp. 10-11, 45; 5, pp. 13-14, 41-42). An information environment (landscape) consists of circumstances and situations of information systems. Frames of information use are the circumstances and situations environing information systems. Circumstances are situations made up of external entities, organizations, processes, and events. Situations are any place, location and time, of information use. Situations begin in the immediate vicinity of information use and work their way outward.

Every information system has its contextualizing frames of information use. A framed information system is a response to things and events in the world. An information system is a
situational definition; it defines a situation of information usage (1, pp. 50-51; 23, pp. 43-44). An information system is a local informational situation (16, p. 55; 23, p. 287; 10). Information systems are ecological mechanisms; they create the infoscape. The infoscape model includes information use frames surrounding people, content and processes, and their relationships of the organization, an organization’s information systems.

FRAMES OF INFORMATION USE

Frames (11; 22) of information use or informational contexts are another element of the model. Frames of information use are the most varied and complex component of the model. They are organizing structures of experience that define situations of information use (11, pp. 1, 10-11; 22, p. 134). The informational contexts range from the enterprise level to the personal level. Some frames of use are circumstances that impose external structural constraints upon organizational information flows. Other frames of information use are internal structural constraints within corporate informational situations. Some frames act as assumptive structures of situations by organizing informational flows. Frames of use are inclusive of one’s corporate department, role, or meetings, formal or informal (4). Frames of information use are enduring patterns of meaning shared by an organization’s information users. A frame is a presentation of a perspective or worldview (22, p. 133). Frames of information use are also mental models (17; 22, p. 134). As subjective understandings of how things work (and have worked), frames of information use are interpretative models of the infoscape (11, p. 26; 9, p. 9).

Frames of information use are multidimensional cultural scenes (14; p. 24). As cultural phenomena, frames of use represent enduring patterns of meaning and common senses underlying information behavior and use. They represent the knowledge people use in their everyday informational situations (24, pp. 7-8). They structure organizational and personal situations of information use: creating, acquiring, working with, storing, retrieving, and presenting (3, pp. 32, 87-95).

Frames of information use, as cultural phenomena, have dimensionalities. The cultural dimensions of any frame of use are power distance, masculinity and femininity, individualism and collectivism, uncertainty avoidance, and short-term and long-term orientations (14). The power distance dimension has to do with power distribution and the acceptance of unequal distributions of power (14, pp. 23, 27-28). The masculinity and femininity dimension has to do with a frame’s support of an aggressive information culture or a nurturing information culture (14, p. 82). The dimension of individualism and collectivism is about information use and behavior being articulated personally or structured by group preferences (14, pp. 51-52). The dimensionality of uncertainty avoidance is a frame’s use of information to deal with information overload and risk taking (14, pp. 109-113). The long-term and short-term orientation dimension is a frame’s focus on “bottom-line” thinking versus corporate view of longevity (14, pp. 165-169).

Frames of use structure information behavior. They provide the information architecture of situations. Information architectures are taxonomic categories of information behavior and culture (3, pp. 83-84, 156). They are the subsumed conceptual and interpretative structures of information behavior (9, p. 27). Informational architectures (19; 20) are structures of
informational contexts. Each frame of information use presents a classification. Each has its own
taxonomy of meanings (18, p. 44). A frame of informational use presents an ontology; it is a
conceptual specification of interpretative sensibility that organizes experience (11, p. 13).
Consequently, shared meanings or common ontologies are entangled and complex. Much
organizational effort goes into maintaining common senses (7, pp. 11,13) across frames of use.
Transactions are sometimes nothing more than negotiating a shared language about information
usage.

Frames of information use are communicative processes and spaces, where shared senses are
implicit to the frame or shared meanings are explicit within the frame (12). An implicit
communicative frame of use is a tacit frame; the frame presents common sensibilities intuitively.
An explicitly communicative frame always presents articulated and specified details because of
its lack of commonly shared meanings (12, pp. 67, 86, 91, 101-102).

Political frames of use are about authority and responsibility over information flows and
information behavior (8). Information ownership creates power (some would argue to the
contrary that power creates knowledge or information). Some contexts frame information use
politically with rules of information governance and control. Technological complexities are
woven together with the political perspective of an informational landscape. In the political
sphere, whoever has the power controls the flow of information (13, p. 195; 23, p. 273).

In the political frame of information use, there are several modes of information governance.
They are the monarchical, feudal, federal, and the anarchical (3). In the monarchical mode of
information use, information ownership or control is invested in one person or in one functional
area of an organization. One individual designates significance and meaning of informational
items and manages the interpretive models of information application (3, p. 74). In the federal
mode of information use, information control is shared across organizational boundaries of
functional areas. Within this kind of political frame of information use, corporate interest groups
define and interpret informational flows according to their situations (3, pp. 68-72). The feudal
mode of information use suggests that the separate corporate entities control and manage their
own information culture and behavior. A senior manager is “lord of the information” (3, pp. 72-
74). In the anarchical mode, control over meaning and the significance of information is personal
and individualistic. There is no common sensibility of information use (3, pp. 75-76). Political
frames of information use are managerial structures of informational flows for the distribution
and sharing of information from a centralized to a decentralized perspective.

Financial frames of information use are an aspect of any infoscape. In most organizational
circumstances and situations, the financial frame appears to be the most dominant. The idea of
infoscape places this type of frame in relationship to other frames. As a part of a system, this
frame works with the others on an equal basis.

Legal frames of information use are a part of any informational landscape. This frame is about
compliance with local, state, national, and international laws. The legal frame is also a dominant
frame of reference. Organizational behavior is constrained or liberated by corporate policies
reflective of the many laws promulgated by various levels of government. This frame is an
explicit frame of social and organizational rights and obligations.
Ethical frames of information use are also a characteristic of any infoscape. Ethical frames are not merely about conforming to ethical codes. It is about those intangibles of trust, loyalty, integrity, and social responsibility. Ethical frames are formal articulations of corporate customs and mores that justify corporate behavior. These are articulated in codes of conduct/

Moral frames of information use are representative of everyday tacit corporate and personal rituals of interaction among individuals. Moral frames are covert contexts. They are hidden in everyday actions of information use. They are more personal than corporate, and are constrained by the legal and ethical frames.

Psychological frames of information use are representative of personal styles of information behavior in corporate settings. These frames are representative of managerial and decision making styles, and attitudes.

Historical frames of information use are about enduring and even stable informational situations (1, pp. 59-61). Some infoscape contexts are historical, especially where the immediate situation such as a committee has endured through time. Such endurance maps change. Such situations are about change and identity maintenance.

Technological frames of information use are important as a component of any infoscape. But, the idea of an infoscape is a method of focusing upon the personal human aspect of informational situations and information use. The hardware and software of information systems are logical and physical structural elements of any infoscape (13, pp. 140, 151-152; 3, pp. 5, 37-38, 186).

The frames presented previously are perhaps only some of the many frames of reference in play within an organization. Frames of information use surround the four aspects of an infoscape: relationships, people, content, and processes. They form boundaries and structures for information analysis and design. They contextualize the following brief discussion of an infoscape’s aspects.

**RELATIONSHIPS**

Relationships consist of assumptions and constraints at play among the components of the model. Relationships are possible and actual transactions among the model’s components (13, pp. 213; 3, 40, 157). Relationships are comprised of how and where and when people, content, processes, and contexts interact (21, p. 30; 16, p. 27). Relationships are representative of corporate social capital (2). Relationships are a basis for possible and actual informational events within an organization. Informational events happen at the intersections of people, content, processes, and contexts (16, p. 50).

**PEOPLE**

Using the idea of infoscape to imagine the environment of information use helps an analyst to see people as the focal point of any information system (23; 16, p. 49; 13, p. 1; 1, p. 83). As information users, people have informational needs and informational requirements. People need
to know and require information to act appropriately within their various situations. Information users are both origins and destinations of information flows or pathways (3, pp. 29-32).

Information flows from sources to destinations are about informational responsibilities and authority. These information pathways trace a form of social network, or a web of informational dependency (3, p. 32; 8). People who are information sources are also information filters. People, employees at any level of the organization, are situationalized, that is, they develop mental models, perspectives, resulting from their frames in use (17; 11; 22). These frames are their departments, their roles, even their longevity in the organization, their educational and professional backgrounds (16, pp. 68, 206).

CONTENT

Informational content shows up in the things used to manage any organization. These could be reports, conversations, budgets, emails, discussions, and project timelines, to name a few. Content is data to some, information and knowledge to others (3, pp. 8-10; 1, pp. 39-42; 5, pp. 14-15; 6, p. 39). It is situational (1, p. 50), no matter what you call it. Information is what people need to know to do their jobs (24, pp. 7-8). Content is the information defined by the information requirements of use (15). Information requirements are the results of users having to do things, accomplish goals and objectives, and finish tasks. Content shows up in information use to accomplish the ends-in-view of people within any situation (3).

PROCESSES

Processes are the ways and means of acquiring, manipulating, representing, and presenting information contextually, or within situations. Processes are information use and interactions. Information use is applied procedures (3, pp. 136-137; 13, pp. 154-156). Processes show up in conversations, discussions, decisions made, and actions taken. Processes are rules and methods of acting. Processes are tacit and articulated, implicit and explicit, in situations (4).

CONCLUSION

The information landscape model is about the frames of information use. Frames of information use surround the four aspects of an infoscape: relationships, people, content, and processes. They form boundaries and structures for information analysis and design. These frames of use are analytic and design concepts. The frames present a set of categories for describing informational states-of-affairs. The infoscape model is a description of the frames surrounding interactions of people, content, processes, and relationships organizationally. The essay has presented a framework for raising research questions for the study of informational flows (information systems) within corporate settings. Each frame of information use is a category from which a series of research questions can be asked and situations investigated.
REFERENCES