Evidence Based Library and Information Practice

Commentary

Toward Collaborative Evidence Based Information Practices: Organisation and Leadership Essentials

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This commentary is based on my keynote address for the EBLIP conference held in 2009 in Stockholm, Sweden. The title was: *Bridging the gap between users and systems – the potential contribution of Social Informatics to Evidence Based Library and Information Practice*. In the following commentary, I focus on the application of social informatics principles to develop a collaborative evidence based approach grounded in shared workplace leadership. My remarks highlight some main contributions from the field of library and information science and social informatics[1] and conclude with implications for practice, including further research.

Introduction

Booth states "EBLIP (Evidence Based Library and Information Practice) appeals to the scientific rationality that underpins much of our day-to-day work" (2006, p.51). This formulation is well suited as a rationale for the library leadership approach that is the focus of this paper. Lyons provides additional affirmation of using evidence based practice for leadership and management (2009). He argues that in the field of business management, it is well known that verifiable and valid data, including feedback processes, are essential for company improvement and, thus, ought to be part of any decision-making process. Toward that end, I propose building on theories and models which clarify best available evidence through social learning processes that promote 'learning the way' through a systemic process of finding out, modelling, assessing and evaluating.

The leadership model presented in this paper has been tested and refined through action research and participatory action research fortified mainly by theories and models from Information and Library Science (e.g., Bruce, 1997, 2008) and Systems Thinking (e.g.,

[1] The research area Social Informatics is in this research equivalent to Information Systems.

Checkland 1981, 2000; Checkland & Poulter, 2006). It has been applied in three university library organisations in the United States; an account of the work at the first site at California Polytechnic State University in San Luis Obispo, California is given in Somerville (2009), and Somerville, Rogers, Mirijamdotter, and Partridge (2007). The philosophical underpinnings of the work are based on the assumption that organisations are constructed and therefore can be reconstructed (Norum, 2001). Thus, leaders are responsible for the design of organisations, processes, and learning environments to further individual and organisational learning.

The model and application process have been guided by a social informatics design orientation, i.e., user-centred ICT system design principles are also applied to (re)designing organisations, as well as systems and processes. This orientation has further benefited from Scandinavian participatory design philosophy which acknowledges that inclusive design processes can cultivate organisational learning which changes workplace assumptions, fosters 'shared leadership', and enables democratic decision-making (Somerville, Howard & Mirijamdotter, 2009).

In the following paper, two models are presented which together provide a framework for organisational leadership activities aimed at cultivating collaborative evidence based information practices. Theories guiding implementation are highlighted and suggested ways ahead are given.

Activity Model for Library Leadership

Figure 1, below, illustrates a process-oriented and systems thinking based leadership model. The model is conceptualised as numbered activities for which organisational leaders are responsible. It is depicted in layers to increase readability.

At the very centre of the figure, 'Activity 1' represents activities that are aimed at encouraging creativity and collectivity to foster a robust learning environment. Its inclusion in the model underscores the belief that knowledge and information-based organisations, such as libraries, cannot be managed in the traditional sense. Rather, organisational members should be encouraged to actively and dynamically engage in information exchange, guided by evidence based practice and relevant models and theories.

Next, 'Activity 2' signifies our belief that active learning environments are based in systems thinking which advances understanding of organisational parts and their interrelations. Thereby we cultivate a 'big picture' understanding which bridges organisational functions. Systems thinking and organisational learning is linked to the creation of a shared organisational vision and mission. 'Activity 3' represents such processes fortified by systems thinking principles, tools, and models. The final activity in this layer, 'Activity 4', illustrates the significance of organising information and communication strategies for 'sense-making' opportunities as well as for information sharing activities related to day-to-day work practice.

For the sake of model completeness, 'Activity 5' acknowledges the importance of leading operational-level work. Its counterpart, 'Activity 6', refers to engaging in collegial relationship building activities, both inside and outside organisational boundaries. 'Activity 7' represents understanding how and why the present situation has come into being. Knowing history gives a relational context for envisioning the future ('Activity 8') including anticipating service and system refinements.

Finally, central to systems thinking, processes and outcomes need to be appreciated and evaluated in light of organisational purpose and vision ('Activity 9'). In the case of the leadership model, assessment involves how well these activities contribute to nourishing an active learning environment, which supports developing and sustaining a learning organisation.

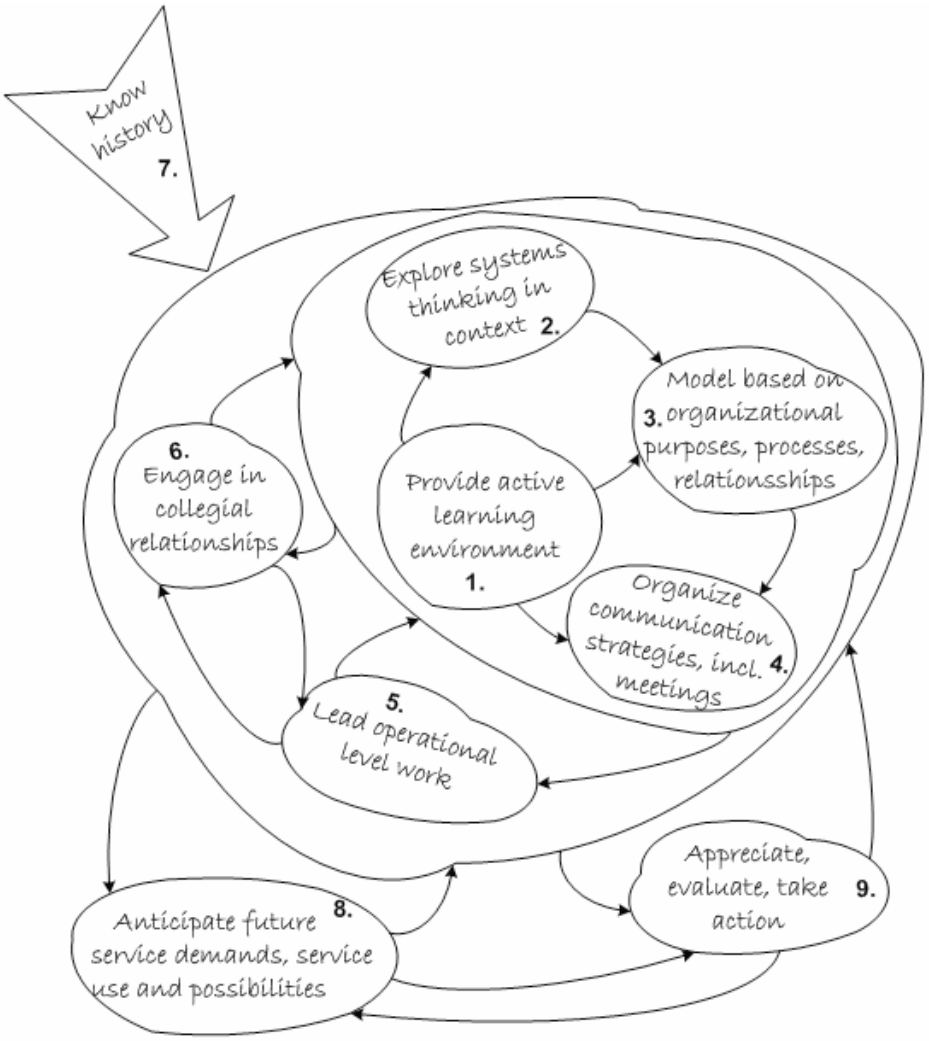

Fig. 1. Process Model for Library Organisation Leadership (Somerville, 2009, p. 56).

The modelling technique of Figure 1 is based on soft systems methodology guidance for action research (Checkland & Holwell, 1998) and it has additionally been used for practical transformative processes (Mirijamdotter & Somerville, 2009).

Organisational Leadership Priorities

Reflective evaluation of this participatory, outcome-oriented model for library leadership, as depicted in Figure 1, has raised awareness of the importance of 'Activity 4', organising communication strategies to enable organisational learning. This essential leadership component requires the design of effective organisational communication strategies that allow collegial information access and exchange and enable reflective settings.

Effective communication strategies which enable collegial information access and exchange are important because our belief is that active participation in decision-making and action taking – as expressed in the concept of shared leadership – enriches organisational life and workplace effectiveness. Therefore, we strive to create tailored workplace environments that enable ongoing dialogue, reflection, and learning. These evidence based conclusions emerge from the results of a study conducted from 2003 to 2006 (Mirijamdotter & Somerville, 2004, 2005, 2008, 2009; Somerville, 2009; Somerville, Mirijamdotter & Collins, 2006; Somerville et al., 2007).

To enable effective information practices, we build on informed workplace learning theories (e.g., Bruce 1997, 2008). Bruce states that for learning to occur, information encounters must be experienced as sufficiently 'contextualized' to activate and extend prior understanding. In addition, dialogue and reflection should be encouraged to promote learning and the transfer of insights to novel conditions. For shared leadership, this means that members must appreciatively inquire and examine experiences of information use and information content on organisational as well as individual levels. Heightened engagement with and learning from these experiences can then be purposively incorporated into organisational learning processes. As staff members experience the efficacy of 'information in context' usage, they develop an appreciation for its practical application in furthering organisational purposes (Somerville et al., 2009).

To 'contextualize' information experiences, we draw insights from the work of Stafford Beer (1979, 1985 and 1989). He proposed an organising model, the Viable System Model (VSM) represented in Figure 2 below. The model provides a generic systems framework that can be used as a diagnostic device to explain, analyse, and plan for organisational sustainability. It includes five subsystems, numbered as S1-S5, which depict organisational structures, roles, and functions.

System One (S1) is illustrated to the right as a circle in the figure. It represents the subsystems in which operational work is carried out. For instance, in a library, learning materials are acquired and organised, discovery and access systems are implemented and refined, research services are delivered and evaluated, and facilities spaces are configured and maintained.

The model assumes that there are several operational systems (i.e. several S1s) – although in the main of the figure only one is represented – and therefore there is a need for oversight and coordination. This is the function of System Two (S2), illustrated as a triangle to the right. By providing infrastructure and processes aimed at coordinating operational work, operational systems (S1s) can perform more smoothly. In the case of a traditional library, this function is often not made explicit and is traditionally assigned to senior administration and/or to groups or committees. In a shared leadership environment, the coordinating function becomes explicit and is a vital part of co-managing.

The square boxes at the right top represent the meta-system of the operational system(s). System Three's (S3) function is to govern the internal stability of the organisation by, for instance, planning operational strategies, strategically allocating resources, and monitoring and controlling operations. This function is also referred to as 'here-and-now'. Closely related to S3 is the auditing function, illustrated in the figure as a triangle to the left. This function includes sporadic audits, in addition to formal assessments and reviews that are regularly made through explicit S3 functions. In traditional organisations, senior administrators hold authority; when accountability for planning and finances are shared, authority is decentralised.

The concerns of System Four (S4) are related to organisational developmental issues aimed at 'there-and-then', including strategic planning for long-term survival. Activities of this function also include environmental scans and futurist scenarios. Once again, these responsibilities can be 'closely held' or shared, depending on leadership philosophy.

Finally, System Five (S5) focuses on policy making and organisational direction. It furthers coherence among the interacting sub-systems represented by S1 through S4. Vision, values, and initiatives are examples of this function, which informs the organisation's purposes, policies, and decisions. Within a shared leadership environment, development of vision, values, and goals create the 'glue' for evolving workplace relationships based in perpetual learning.

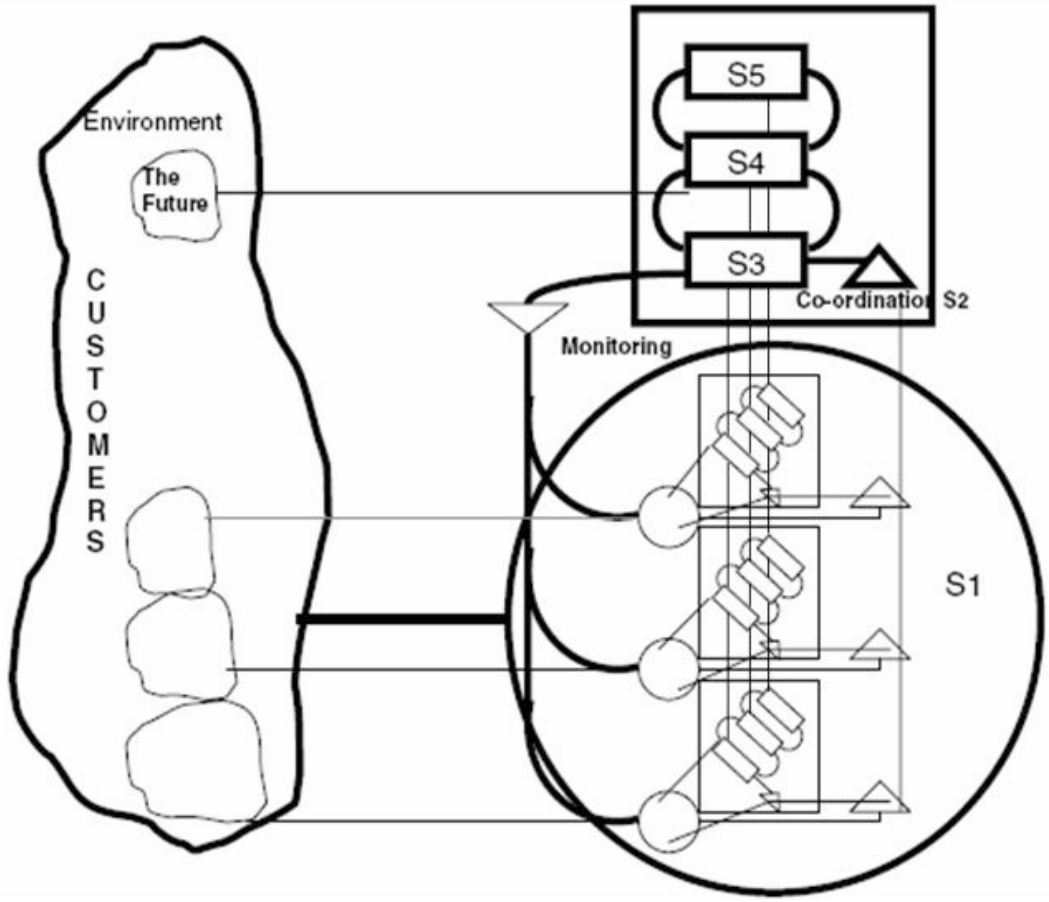

Fig. 2. Viable Systems Model (VSM) with two embedded levels (Nyström, 2006).

The thicker and thinner lines between the functions represent information and communication channels that are important for the whole system's viability. The main channels between the meta-system and the operational system(s) support resource allocation, accountability, and legal and corporate requirements. Additional channels represent interaction, negotiation and dialogue. Although not illustrated in this figure, channels should also enable interaction between equivalent functions in embedded levels. This embedment is illustrated in System One (S1) of the figure by showing an identical structure for the five functions, including interrelated information flows. In the figure we find three systems on the embedded level of S1.

One important concept in systems thinking is Environment and the 'disturbances' and constraints that it imposes upon the system. In Figure 2, cloud shapes on the left represent the environmental concerns. Each operational system has its own environment; though they may be overlapping, they are not identical. Additionally, the importance of looking 'outside', an S4 function, is specially emphasized.

In fulfilling the roles and responsibilities of the leadership model depicted in Figure 1, leaders must not only mindfully enable process intensive learning activities that promote organisational learning but also attentively advance (re)design of the larger organisational structures depicted in Figure 2. This will provide the infrastructure in which to carry out insights generated by dialogue and reflection activities. Such a framework for conceptualising organisational leadership recognizes the efficacy of generating collaborative 'evidence' for decision-making

and action taking through the social processes of purposeful workplace learning.

Evidence Based Model for Information and Communication Practices

Most managers struggle to keep their organisations viable amidst relentlessly changing internal and external circumstances. One promising application informed by this leadership model (Figure 1) uses collaborative evidence based information practices (EBIP) (Pan and Howard, 2009) at the Auraria Library in Denver, Colorado, U.S. In this instance, organisational members gather their collective knowledge and experience for analysis and synthesis within relevant contexts formulated in communities of practice. The collaborative EBIP activities are not limited to organisational boundaries; they also include stakeholders that are affected by the organisation's activities, processes, and vision.

The participants in this particular example apply the theoretical frameworks discussed in the Process Model for Library Organisation Leadership (Figure 1) and the Viable System Model (Figure 2) which provide the infrastructure and approach for contextualising information seeking and use. Together these two models permit thoughtful, contextualised consideration of questions. The organisation is thereby conceptualized as an information processing system in which the leader's role involves clarifying sustainable information flows, activities, and functions needed for perpetual workplace learning. This is no easy task, as the following discussion of more high level, nuanced aspects of the VSM illustrates.

The key principles of VSM are recursion, variety, and autonomy. Recursion means that there exists an identical structure for the five functions, including interrelated information flows, embedded in each level S1 – see Figure 2 for an illustration of how this structure is embedded in S1. In the Auraria Library example, this kind of embedded structure is visible in the organisational chart's four divisions, headed by an associate director, and containing subunits within each division. However, the implications are that each and every VSM function should be exercised in every division and in each of its subunits. Further, to enable communication and interaction between subordinate units and subunits, the identical information and communication infrastructure should be in place. Some of these complex information and interaction needs have been met by re-organising work in various teams and committees. Further exploration of information use and content needs will enable analysing and diagnosing how best to more adequately fulfil all of the VSM functions, channels and flows.

Variety is a term used to indicate diversity and complexity. It can be exemplified by information created in subsystems on embedded levels and forwarded upwards in the structure. To use a metaphor, consider that information in subsystems is like streams that flow into the river, eventually increasing the variety. However, the systems on higher recursive levels do not have superior variety; rather their ability to manage that kind of generated variety is inadequate. The same ideas are valid for information flows in the opposite direction. Therefore, it is important to examine experiences of information use for each function and level to avoid information overload or information inadequacy and to enable appropriate content, delivery method, and channel. In the Auraria Library example, this principle allows additional focus for investigation of organisational members' experiences of information use and information content. Such an investigation could enable one to analyse and diagnose the handling of ordinary requests presented by internal and external clients and, perhaps more importantly, the effects of unexpected opportunities and requests – why they were unexpected and, if they were dealt with, in what way and with which effects? For instance, did the organisation change its operations and processes, did the opportunity/request affect the objective, or was the decision to 'ignore', i.e. do nothing?

The third principle – autonomy – emphasizes freedom and the authority to manage one's own affairs. This indicates that people have work tasks related to functions at embedded levels for which they have, or should have, autonomy. In exchange, individuals are expected to be responsible and accountable for their autonomous work tasks. This principle is aligned with the philosophical underpinnings of the leadership model discussed above. However, to take responsibility for autonomous work necessitates well-functioning vertical information flows on, for instance, rules and policies. Additionally, to continually refine individuals' capacity to make appropriate interpretations when faced with novel circumstances, they must be afforded ongoing dialogue, reflection, and learning opportunities, rather than relying merely on formal reporting. Thus, information flows need to be robust and ensure that issues and resolutions are widely transmitted horizontally and vertically throughout the workplace. In the Auraria Library example, the principle of autonomy is explored through appreciative inquiry and shared leadership (Pan & Howard, 2009). To support shared leadership and autonomy, strategies of (re)organising for information dissemination and two-way communication flows are being explored using both push and pull IT as well as in face-to-face meetings. However, more exploration and experience is needed to clarify 'best practices'.

It follows that library organisation leadership practice should cultivate a continuous participatory research, implementation, and evaluation culture supported by the allocation of financial and human resources to 'incentivize' collaborative innovation and creativity. This organisational outcome emerges from a continuing emphasis on organising effective information and communication flows. It implies that members of the organisation appreciatively examine experiences of information use and information content on organisational as well as individual levels. For instance, work to date at the Auraria Library suggests the importance of attending to:

- the autonomy and scope for decision-making in relation to function and embedded level,
- the collective process of gathering evidence for decision-making,
- methods for sharing knowledge within the organisation, and
- methods for implementing collective workplace learning.

Additionally, attention must be directed toward enhancing individual and collective capacity to better understand: how to package information, what to filter out, what to emphasize, to which function, to which functional level, and with which frequency.

And finally, central to systems thinking, organisational members must elaborate: criteria and methods for evaluating performance in different functions and embedded levels (Mirijamdotter, 2009).

Implications for Practice

These models guide an intrinsically participatory and action-oriented research approach. Key elements of implementation involve learning with and for beneficiaries, evaluating frame of references, and using systems thinking for collaborative EBIP. The approach has proven to be a fruitful way forward for professional and organisational development in three increasingly ambitious examples of implementation in North America. In each instance, because the same water never flows under the same bridge, specifics of the workplace circumstances and culture encouraged variations in the expression and outcomes of these evidence-producing leadership models.

Implications for Research

Library, information, and knowledge professionals are increasingly confronted with novel circumstances requiring nimble and agile organisational responsiveness grounded in sound evidence based practices and processes. Therefore, there is much to gain by researching the efficacy of organisational

learning approaches which conceptualize the organisation as an information processing system. The potential of harnessing collective wisdom among communities of practice is an argument for continued research into the effectiveness of the systems approach for fostering collaborative evidence based information practices.

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