

The Role of Social Networks in Information Behavior

Social networks play an essential, but often undervalued role in information behavior. Most theories related to social networks are focusing on individuals' information behavior and devoting little attention to the influence of social networks on one's information behavior. I will show that social networks play a central role in every phase of the process they are information researchers theorizing about. I will devote special attention to Chatman's "Impoverished Life" and "Small World" and to Savolainen's "Everyday Life Information Seeking" theories, because these are theorists who give due attention to social. They attempt with some success to base and integrate social network theory into their work, but I believe their efforts in this regard is not focused enough. They use the generic concept of social networks in their theories, but do not attempt to incorporate its particular concepts.

According to its simplest definition, "the network of relationships comprises the social network." (Johnson, 2004) A more complete picture of social networks would include its attributes and metrics, such as, "degree, betweenness, or closeness centrality and network reach, boundary spanners, peripheral players," (Krebs, 2006) to list just a few. The question is how are these relevant to information behavior? No matter what topic we turn to in the realm of information science, social networks appear in one form or another. Buckland's understanding of information as process, "refers to the act of informing" (Case, 2002, p. 44), which by definition is between two or more people. These participants are part of a network, although their degree of closeness maybe large, placing them far from each other in the network. The information process itself is influenced by the nature of their relationships to each other. Considering Taylor's four

stages of development of information needs, I pose the question: how does the visceral need arise and become a conscious, formalized and compromised need? The answer has to be placed in the context of the individual's environment including the social network. From another angle information needs are divided between self needs, and proxy needs. The latter is generated by others people, who are part of the person's social network in some capacity. The same applies if we look at the various levels of purpose and strategies of information seeking. These are all happening on the social level, not in a vacuum, and thus can all be viewed from a social network analytic perspective.

Another reason why this topic is important in today's research is demonstrated by Dervin's interdisciplinary research, indicating that "most of us said we want to make a difference" and at the same time "most of us agreed that user research is not doing the job." (Dervin, 2006, p. 286). Examinations of immensely popular social network websites, like MySpace and FaceBook, undertaken by an information science perspective could reveal how they act as catalysts in shaping information behavior. Since the goal of science is to understand causations and turn that understanding into usable applications for the common good, I maintain that mainstream science could benefit from information science directly. This is the reason I selected this topic as the focus of this paper.

Dervin pointed out that "users have been thought of traditionally as individuals [...] In contrast, audiences have traditionally been defined as amorphous groups of individuals." (Dervin et al, 2006, p. 286) Her scholarship creates a bridge between researchers and practitioners by encouraging techniques that break down the barriers between them and the different fields. One result of her research is that the concepts of users and audiences have been diffused. However she does not mention that a main reason for this is the widespread acceptance and interest in

social network analysis. The topic of research has shifted towards networks from individuals and groups. Dervin suggests, that in order to remedy the widening gaps between "the isolated silos of academic disciplines", it is necessary to design "our communications dialogically, reflexively and critically both inside our research communities and between us and others." (Dervin et al, 2006, p. 287) In other words, utilizing and expanding our social networks.

Of all the information behavior theories I have examined Chatman's is the most inclusive of social networks. In her study of information impoverished life she is explicit about her reliance on social network theory. (Chatman, 1996, p. 193) Her intertwining theories on information poverty and life in the round build on each other and on a specific utilization of social networks. As I will show, each of the four elements of the former are embedded in social network concepts. However, I believe, the elements of the framework are not included to their fullest potential.

A key concept in Chatman's view of the information world of the poor is framed in terms of insiders and outsiders. While she describes in detail how the members of her target population consider themselves simultaneously outsiders (and how this affects their information behavior) and insiders of their own isolated small world. However Chatman is not using the nuanced understanding made possible by the taxonomies of modern social network analysis. Her rigid usage of Merton's sociological terms of insiders and outsiders is appropriate, but not entirely sufficient to provide a holistic world view of even a small world. Dividing the world into black and white in this way is too simplistic of a picture when one could describe the relationships between individuals in terms of "relationship (kin, friend, acquaintance), emotional closeness (close, moderately close, not close), frequency of contact [...], duration of relationship [...], and residential proximity." (Johnson, 2004) Had Chatman surveyed these aspects of the participants

of the information world (and correlated to their behavioral patterns) she could have gained a more complete picture. To her credit she adequately treats the influence of opinion leaders, who "were sought by other respondents because people trusted them." (Chatman, 1996, p.196) At the explication of this and related points however she abandoned the usage of the term "node", that I think could have aided her analysis. Her incomplete usage of social network theory enhanced the model, but only by placing the "trusted sources" within her framework.

Another key concept in Chatman's theory is secrecy, which she defines as "knowledge about our personal experiences." (Chatman, 1996, p. 195) She states "the closer the affinities and involvements people have with each other, the greater their need to protect their secretive life-worlds," and cites the example of hiding financial problems from family members. This is a prime example of how another key concept in information science, "information giving" is related to social networks. Or to be more precise the withholding of information. It would have been more useful to go beyond focusing on secrecy to discuss how relationships, and elements of social networks influence the various possible different strategies of information giving (tailoring to individuals, planting nuggets, pushing, presenting while asking for feedback or not sharing.)

Next we need to examine Chatman's understanding of deception, as "a deliberate attempt to play-act." (Chatman, 1996, p. 196) She describes a few scenarios in which her informants deceived others, always people of the same status, members of the same peer group. The theory would have been more generally applicable if it had included in the deception category self-deception and more importantly deceiving people of different status.

Risk-taking is a closely integrated concept of the impoverished life theory. Chatman recognizes a number of reasons why people living in information poverty do not risk in engaging information sharing with their peers and supervisors, but again, she does not investigate risk-

taking in other kind of relationships; instead she uses a separate concept "situational relevance" to enhance the picture of information behavior. In this context she brings in gratification and alienation theories. Both could be placed in the social network matrix, but Chatman opts not to do so. I found it interesting that when talking about the latter she does not mention any of the levels of the Marxian alienation (from the product, the labor process, each other.) This is interesting because her understanding of class is clearly based on Marx's, when she writes "Information poverty is partially associated with class distinction." (Chatman, 1996, p. 197). A more modern understanding of class identifies income level, education and lifestyle. She emphasizes that economical poverty does not equate with information poverty. Her target groups share lifestyles. But she does not say anything about levels of educational, leaving the representation incomplete.

Similar critiques could be applied to the four concepts (small world, social norms, social types, worldview) upon which Chatman built her "life in the round" theory. Instead of repeating them, I would like to suggest alternates. For example, while it is still true that "in the small world, information shapes collective behavior," (Fulton, 2005, p. 80) But the significance of small worlds are slowly shrinking. When Barabási declared that "our small world is gone" (Barabási, 2002, p. 52), he referred to the observation that more and more people have clusters of relationships, networks made up of people who may be dispersed geographically and socially. I believe that this cannot yet apply universally, but Chatman should certainly consider it within her discussion. "Small worlds" have not ceased to exist, but social norms are transmitted via newer channels in addition to the older ones. These channels are reflections on how the types of social networks grew in numbers.

My main critique of Chatman's theories is a variation on what Hersberger called her "misuse of the term social network theory" (Hersberger, 2005, p. 77) Chatman selectively and homogenously used elements of a family of theories without specifying which particular theory she is applying. At the same time she did not uncover potential linkages between those theories and her own, which would have greatly enriched her theories. Without that the potential for generalized applicability is limited. My second critique is about the scope of her theories. Both are focused on isolated environments, at a time when isolation is disappearing on a global(ized) level. Instead of providing suggestions on how to apply social network theories to information behavior in an open society, she depicts closed worlds only with limited applications.

Both major components of Savoalinen's "Everyday Life Information Seeking" (ELIS) model, "way of life" and "mastery of life" consider the individual as an independent unit, detached from its environment, social network. Savoalinen's "way of life" is defined as "order of things", (Savoalinen, 1995, p. 259) where "things" include activities but not relationships. This is a specialized use of the term, separated from the everyday usage, where way of life includes the patterns of interactions in one interpersonal network. I find this discrepancy significant, because this, everyday life is the very topic Savoalinen's model. Why does alter the meaning of a commonly used expression in a limiting way.

Furthermore at least one of the three factors of his operationalization of the way of life concept is better viewed through the lens of social network theory. Considering that this, "nature of hobbies" is often of communal nature, it is a severe oversight not to examine how hobbies play out socially. I would also argue with his final view of these factors, "taken as a whole, the structure of time budget, models of consumption, and the nature of hobbies are assumed to characterize one's way of life, that is, the order of things which is meaningful or to which one

has to adapt." (Savoalinen, 1995, p. 263) Time, money and leisure time usage would add up only to the external characteristics of one's life. By excluding the internal and social aspects we are shown the every day life of a severely alienated person. Both internal and external communication are integral parts of way of life. I suspect Savoalinen left them out because they may be less easily operationalizable, and would impair the elegance of his simple model.

Savoalinen's "mastery of life" concept, the active care for the way of life, includes ideas taken from sociology, such as socialization. "One is born in a culture within a social class which gives basic models for mastery of life. [...] Along with socialization to a class-based culture, the individual will do things in certain ways." (Savoalinen, 1995, p. 264) With these he acknowledges the importance of the social environment. But in his typology of mastery of life, organized around the optimistic/pessimistic and cognitive/affective dichotomies, he omits to analyze the environment. For example, the pessimistic-affective mastery of life is described as "the expression of learned helplessness" (Savoalinen, 1995, p. 266), but we never learn from whom one learns helplessness.

To round up his theory Savoalinen introduces the ambiguous term "nonwork information seeking." His ELIS model "emphasizes the legitimate nature of nonwork context." (Savoalinen, 1995, p. 266) Considering that most of this information seeking is happening in the social network, I do not understand he why does not cite this. Instead he cites television consumption alone.

The essence of the ELIS model is that "way of life ('order of things') and mastery of life ('keeping things in order') determine each other," (Savoalinen, 1995, p. 267) and how individuals seek information in particular situations. I believe that this model is providing an adequate

framework to be used in limited scenarios, but could be greatly enhanced by the inclusion of social network analysis.

My conclusion is that an encompassing combination of social network and information behavior theory is yet to come. Promising research is beginning to emerge but the general applicability is limited and much more needs to be done. Johnson's examination of the "role of social capital in information seeking behavior" (Johnson, 2004) is a great introductory effort. However she acknowledges that her findings, based on a Mongolian community, "may not be applicable to the general population." (Johnson, 2004) An ideal cross-disciplinary work would map out information behavior of a representative sample of people along the lines of their social networks. From the analysis of this research we could learn how the attributes of the latter influence the patterns in the former.

Works cited

- Barabási, A. (2002). *Linked*, New York, N.Y.: Plume
- Case, D. O. (2002). Looking for information: A survey of research on information seeking, needs, and behavior. New York: *Academic Press*.
- Chatman, E. A. (1996). The impoverished life-world of outsiders. *Journal of the American Society for Information Science*. 47(3), 193-206.
- Dervin, B. & Reinhard, C.D. (2006). Researchers and practitioners talk about users and each other. Making user and audience studies matter—paper 1. *Information Research*, 12(1), paper 286. Retrieved November 12, 2006, from <http://InformationR.net/ir/12-1/paper286.html>
- Dervin, B., Reinhard, C.D. & Shen, F.C. (2006). Beyond communication: research as communicating. Making user and audience studies matter—paper 2. *Information Research*, 12(1) paper 287. Retrieved November 12, 2006, from <http://InformationR.net/ir/12-1/paper287.html>
- Fulton, C. (2005). Chatman's life in the round. In Fisher, K. E., Erdelez, S., & McKechnie, L. (Eds.), *Theories of information behavior* (pp. 79-82), Medford, N.J.: Information Today.
- Hersberger, J. (2005). Chatman's information poverty. In Fisher, K. E., Erdelez, S., & McKechnie, L. (Eds.), *Theories of information behavior* (pp. 75-78), Medford, N.J.: Information Today.
- Johnson, C.A. (2004). Choosing people: The role of social capital in information seeking behaviour. *Information Research*, 10(1), paper 201. Retrieved November 12, 2006, from <http://informationr.net/ir/10-1/paper201.html>

Krebs, V. (2006). Social network analysis, a brief introduction. Retrieved November 12, 2006, from <http://www.orgnet.com/sna.html>

Savolainen, R. (1995). Everyday life information seeking: Approaching information seeking in the context of "way of life". *Library & Information Science Research*, 17(3), 259-294. Retrieved November 12, 2006, from <http://www.sciencedirect.com/science/article/B6W5R-463PRGJ-4/2/70648abc69cd2240a2f275e5609e0c02>

Works consulted

Bates, M. J. (1989). The design of browsing and berrypicking techniques for the online search interface. Retrieved November 12, 2006, from <http://www.gseis.ucla.edu/faculty/bates/berrypicking.html>

Bates, M.J. (2005). Berrypicking. In Fisher, K. E., Erdelez, S., & McKechnie, L. (Eds.), *Theories of information behavior* (pp. 58-62), Medford, N.J.: Information Today.

Chatman, E. (2000). Keynote address: Framing social life in theory and research. *Information Seeking in Context: Proceedings of the 3rd International Conference on Research in Information Needs, Seeking and Use in Different Contexts*; 2000 August 16-18; Goteburg Sweden. L. Hoglund.

Chatman, E. A. (1999). A theory of life in the round. *Journal of the American Society for Information Science*. 50(3), 207-217.

Chatman, E. A. (1991). Life in a small world: Application of gratification theory to information-seeking behavior. *Journal of the American Society for Information Science*. 42(6), 438-449.

Cross, R., & Rice, R. E., Parker, A. (2001). Information seeking in social context: Structural influences and receipt of information benefits. *IEEE Transactions on Systems, Man & Cybernetics: Part C - Applications & Reviews*, 31(4), 438-449.

Dervin, B. (2005). What methodology does to theory: Sense-making methodology as exemplar. In Fisher, K. E., Erdelez, S., & McKechnie, L. (Eds.), *Theories of information behavior* (pp. 25-29), Medford, N.J.: Information Today.

Dervin, B. (1992). From the mind's eye of the user: the sense-making qualitative-quantitative methodology. In J.D. Glazer & R.R. Powell (Eds.), *Qualitative research in information management* (pp. 61-84), Englewood, CO: Libraries Unlimited.

Granovetter, M. (1983). The strength of weak ties: a network theory revisited. *Sociological Theory*, Volume 1 , 201-233. Retrieved November 12, 2006, from http://www-personal.si.umich.edu/~rfrost/courses/SI110/readings/In_Out_and_Beyond/Granovetter.pdf

Hill, R. A. & Dunbar, R.I.M. (2002). Social network size in humans. *Human Nature*, 14(1), 53-72. Retrieved November 12, 2006, from http://www.liv.ac.uk/evolpsyc/Hill_Dunbar_networks.pdf

Huotari, M. & Chatman, E. (2001). Using everyday life information seeking to explain organizational behavior. *Library & Information Science Research*, 23(4), 351-366. Retrieved November 12, 2006, from <http://www.sciencedirect.com/science/article/B6W5R-44NM4CM-5/2/6c40045936d7877c6d36b7c912da4526>

McKenzie, M.L. (2005). Managers look to the social network to seek information, *Information Research*, 10(2), paper 216. Retrieved November 12, 2006, from <http://informationr.net/ir/10-2/paper216.html>

Savolainen, R. & Kari, J. (2004). Conceptions of the Internet in Everyday Life Information Seeking. *Journal of Information Science*, 30, 219-226. Retrieved November 12, 2006, from Library and Information Science Abstracts (LISA) database.