

## Understanding the Intersections of Paradigm, Meta-Theory, and Theory in Library and Information Science Research: A Social Constructionist perspective

By  
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### Abstract

Researchers rely on theories to guide the research process. Theories provide directions in formulating research questions and in the interpretation of findings. The choice of theory to guide inquiry must relate to research paradigm and corresponding meta-theory. However, many beginning scholars experience difficulty in articulating philosophical paradigmatic assumptions and in identifying meta-theory and theory to guide investigation. The aim of this article is to discuss the relationships between research paradigm, meta-theory, and theory in LIS research and to demystify the differences between paradigm, meta-theory, and theory. The author presents a hierarchical philosophical framework to guide in the choice of theory in research.

### Introduction

Paradigm, meta-theory, and theory guide the research process. There is a relationship between theory and paradigm—analytically every theory has fundamental paradigmatic assumptions and empirically, paradigm guides theory construction (Kuhn, 1970). In many disciplines the use of theory in scholarly inquiry is considered as a hallmark of the discipline's academic maturity (Hauser, 1988). LIS scholars are therefore encouraged to understand the value of applying theoretical perspectives to research inquiries (Leckie, Given, & Buschman, 2010). However, in spite of the importance of theory in directing the research process, many beginning scholars are experiencing difficulty in choosing and applying theory to guide investigations. The aim of this article is to discuss the relationships between research paradigm, meta-theory, and theory in LIS research and to demystify the differences between the concepts. The author presents a hierarchical philosophical framework of paradigm, meta-theory, and theory to guide in the choice of theory in research.

### Paradigm

Paradigm is a belief, values, and assumptions that communities of researchers have in common

regarding the nature and conduct of research (Kuhn, 1977). Robinson & Karamuftuoglu (2010) have explicated the concept of paradigms by tracing Kuhn's work on the history of science. Kuhn (1962) observed that a scholarly discipline has a central paradigm at any particular period, which is referred to as "*normal science*" (Figure 1). This period is preceded by a "prescience" phase (revolutionary science), which is characterized by the existence of alternative frameworks that are competing with the dominant paradigm—it is a stage in which the dominant paradigm encounter *contradictory and conflicting evidences* resulting in the substitute of the dominant paradigm by a new one. This period is considered as the revolutionary science era leading to the replacement of the dominant paradigm or *paradigm shift*". As a result of periodic shift in dominant paradigm, Kuhn observed that science progresses discontinuously rather than in an orderly and continuous way. An example of a paradigm shift in LIS is the shift of emphasis from the study of users categorized and analyzed according to systems features towards a more holistic study of users from the viewpoint of the users (Dervin and Nilan 1986).

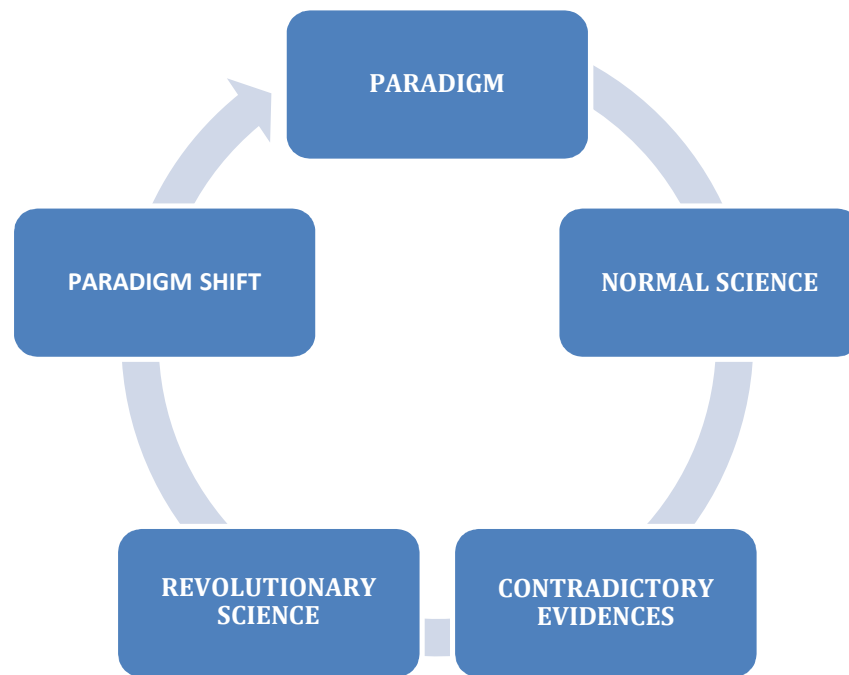


Figure 1: Paradigm

**Paradigm: Ontological and Epistemological Positions**

In choosing a theory for research, scholars should identify the underlying research paradigm and the corresponding ontological and epistemological assumptions. One example of paradigm is the inquiry paradigm. It is an approach to thinking about and doing research. There are three basic beliefs that define inquiry paradigms: ontological question, the epistemological question, and the methodological question (Figure 2)—the first two (ontology and epistemology) deal with social questions in relation to the nature of the world and how it can be explained and understood. They influence the choice of theory that guide inquiry and are therefore discussed.

**The ontological question.** Ontological question deals with the nature of reality and truth. It is concern about the form and nature of reality. Ontological question is either positivists or interpretative. The positivists assumed that a “real” world exists and that the social world can be studied in the same way as the natural world. The positivists collect quantitative data and applied deductive reasoning by testing hypotheses from a theory. Contrary to the positivists, the interpretative

assumed that multiple and dynamic realities exist through inter-subjective relationship. They assumed that reality is socially constructed by every unique individual, from within their own unique contextual interpretation (Joniak, n. d.).

**The epistemic question.** Epistemology deals with knowledge and its justification. It is focused on analyzing the nature of knowledge and the notion of truth, belief, and the means of production of knowledge, as well as doubt about different “knowledge claims” (Soini, Kronqvist, & Huber, 2011). In this sense, the positivists embrace objective epistemology—searching for truth by empirical confirmation of hypotheses. Closely related to objectivity is epistemic absolutism—described as there is only one authoritative standard for assessing epistemic claim. In contrast to the positivists, the interpretativists adopt relativism epistemology described as the individual and group interpretations of reality. Relativists believed that knowledge emerges from achieving a deep understanding of the context it is embedded (Joniak, n. d.). it also implies that all beliefs, or belief systems, are relative to some particular framework or standpoint (Westacott, 2014) situated culturally and historically (Zalta, 2003).

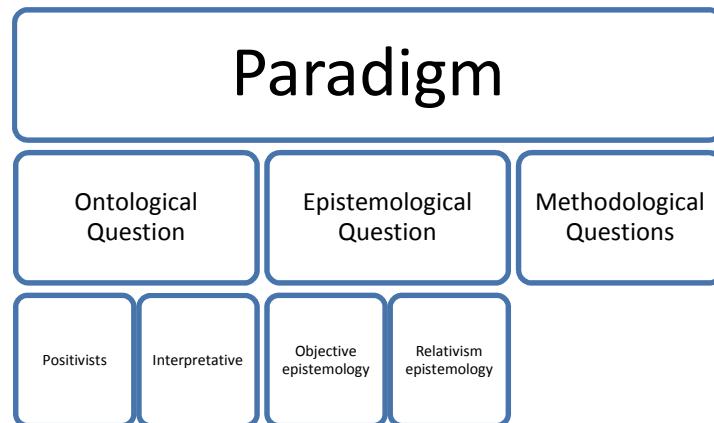


Figure 2: The hierarchy of paradigm: Ontological and epistemological questions

Figure 2 shows ontological and epistemological questions with their associated underlying paradigm perspectives: Positivists and interpretative. Both the two inquiry paradigm have been influential in LIS research. Within the interpretative paradigm lies the constructivist meta-theory.

### Meta-Theory

Meta-theory is assumptions that orient and direct theorizing about a given phenomenon (Lawler & Ford, 1993). Wallis (2010, p. 78) refers to metatheory as “primarily the study of theory, including the development of overarching combinations of theory, as well as the development and application of theorems for analysis that reveal underlying assumptions about theory and theorizing.” Dervin (2003, p.136) defined meta-theory as ...presuppositions which provide general perspectives or ways of looking, based on assumptions about the nature of reality and human beings (ontology), the nature of knowing (epistemology), the purposes of theory and research (teleology); values and ethics (axiology); and the nature of power (ideology) (Figure 3). It is also described as “the philosophy behind the theory, the fundamental set of ideas about how phenomena of interest in a particular field should be thought about and researched” (Bates, 2006, p. 2).

### The role of meta-theory in empirical inquiry.

Articulating meta-theory is critical in scholarly inquiry. It provides a way of thinking and explaining the philosophical approach to research. Library and Information Science (LIS) research is influenced by meta-philosophical assumptions—Hjørland (2000, p. 527) noted: “The deepest understanding of the (LIS) field is provided by the study of underlying philosophical assumptions”. These assumptions are rooted in meta-theory which shapes and governs the way scholars understand reality. It also shapes the actions of the researcher, and guides in the choice of research design (Berger, Wagner, and Zelditch, 1989).

There are several meta-theories that are relevant to qualitative inquiries applicable to LIS discipline: Social constructionism, constructivism, feminism, critical theory, symbolic interactionism, semiotics, phenomenology, ethno-methodology and postmodernism, hermeneutic, ethnographic. Each of these have sets of ontological and epistemological philosophical assumptions that informs and guides inquiry. This article is concerned with social constructionism meta-theory.

### Social constructionism

In LIS social constructionism functions as a meta-theory of knowledge. It focuses on human meaning making as the primary focus of LIS enquiry. Social constructionism is relevant to LIS scholarly inquiries. Many inquiries in LIS were rooted by the social constructionist perspective. Thus, social constructionism influences assumptions of scholars in LIS discipline by explicating the concept of multiple realities—many substantive theories in LIS are rooted on the metatheoretical concept of multiple realities. The concept of multiple realities has redefined empirical investigations in LIS in two ways: First, drawing from the social constructionist perspectives of knowledge, an approach to the study of information in social context emerged (Pettrigrew, Fidel, and Bruce, 2000). The social approach to information focused on understanding the effect of interpersonal relations of information flow in society, especially addressing the “meanings and values associated with social, sociocultural, and sociolinguistics aspects of information behavior” (Pettigrew et al., 2001, p. 54). Second, many substantive theories with origin from social constructionism approach to knowledge were developed in LIS. Example is Chatman’s theory of information poverty (1996). Information poverty theory is used as a frame by LIS scholars to investigate information activities in social context. An explication of the theory of information poverty follows, but first a discourse on theory, and the role of theory in research.

### Theory

Kerlinger's (1979) defined theory as "a set of interrelated constructs (variables), definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explaining natural phenomena" (p. 64). There has been a call "to develop, teach, and apply theory in LIS (Buckland, 2003; Hjørland, 2000; Thompson, 2009). Since the seminal article of Dervin and Nilan (1986) that advocated for the need to use theory in LIS research many useful conceptual frameworks, models, and theories were developed (Pettigrew & McKechnie, 2001; Fisher, Erdelez, & McKechnie, 2005). The choice of theory in research should relate to the research paradigm and meta-theory Figure 4 .

Theory guide in the conduct of research, it help in articulating the research questions, aids analysis and interpretation of data. Theories are used to understand empirical facts. The role of theory in research depends on whether the study is quantitative or qualitative. Creswell (2008) notes:

"In *quantitative* studies, one uses theory deductively and places it toward the beginning of the proposal for a study. With the objective of testing or verifying a theory rather than developing it, the researcher advances a theory, collects data to test it, and reflects on its confirmation or disconfirmation by the results. The theory becomes a framework for the entire study, an organizing model for the research questions or hypotheses and for the data collection procedure....**The researcher tests or verifies a theory by examining hypotheses or questions derived from it**" (p.55). Bold emphasis mine.

In qualitative research, theory can either be generated as the final outcome of a study or it may appear at the beginning of research providing a lens that guides the inquiry. In qualitative study, theory:

"provides an overall orienting lens for the study of questions of gender, class, and race (or other issues of marginalized groups). This lens becomes an advocacy perspective that shapes the types of questions asked, informs how data are collected and analyzed, and provides a

call for action or change." (Creswell, 2008 p. 62).

Generally, research conducted without a theory results in discreet information or data which does not add to the accumulated knowledge of the discipline.

### Theory of information poverty

Many of the theories in LIS are rooted within the meta-theoretical assumptions of social constructionism. An example is Chatman's theory of information poverty. Chatman (1996), was a leading theorist of the social constructionism approach to information. Chatman (2000) explored the ways individuals interact with information in the context of social and cultural perspectives of the "small world" setting. Small world is defined as a social group in which "mutual opinions and concerns are reflected by its members and in which the interests and activities of individual members are largely determined by the normative influences of the small world as a whole" (Chatman, 1999, p. 213).

Information poverty theory identified social barriers as being responsible for why members of the small-world setting do not use information that is potentially useful to them. Social barriers identified by Chatman (1996) are (a) "secrecy and deception" (p. 195) arising from a sense of mistrust regarding the interest or ability of others to provide useful information; (b) membership in a social group inhibit information use because the social group establishes norms that dictate what is right and wrong for members by "[restricting] members from seeking information" outside the group (p. 197); and (c) members of a small world group rejecting information that does not conform to their "shared common sense reality" (p. 203).

IP theory identifies group norms as accounting for barriers to information use. The norms include perception by group members of a dearth of information resources relevant to the needs of the group, suspicion toward information coming from outsiders, and secrecy and deception to maintain a sense of control over everyday life. These group norms are mechanisms of managing relationships within the group and outside the group. Consequently, group norms relate to revealing and hiding information about everyday life practices.

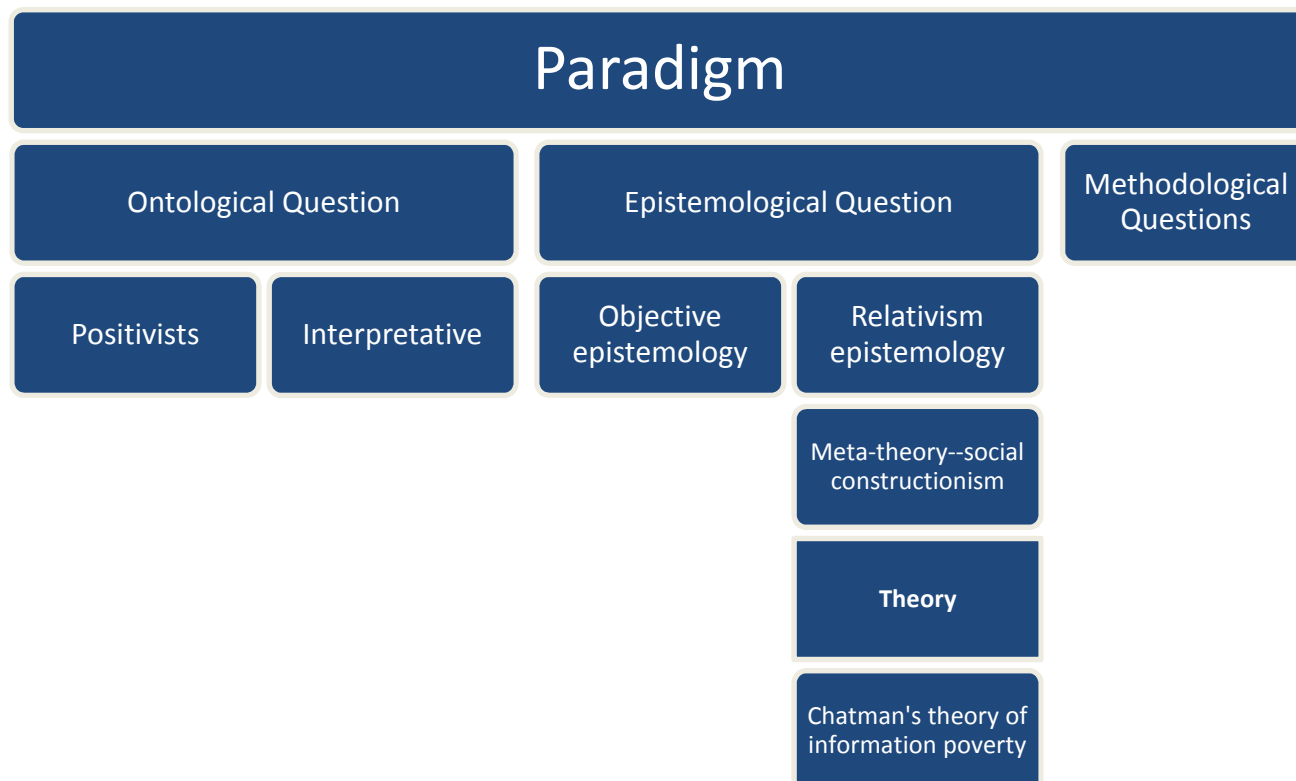


Figure 4: The hierarchy of paradigm, epistemological question, meta-theory and theory

**The Intersection between Paradigm Meta-Theory, and Theory**

The relationship among paradigm, meta-theory, and theory is critical. Paradigms are broad foundational assumptions about nature that are traditionally accepted by the scientific community (Kuhn. 1970). Meta-theories are broader conceptual understandings of situations than theories, and are less expansive than paradigms (Rioux, 2010).

Theories specify relations among variables with the aim of explaining or making predictions about phenomena (Kerlinger. 1986). This paper proposed the following “intersection between paradigm meta-theory, and theory” in research (Figure 5): Paradigm –research paradigm→ Meta-theory—social constructionism→Theory—information poverty theory→Methodology and methods

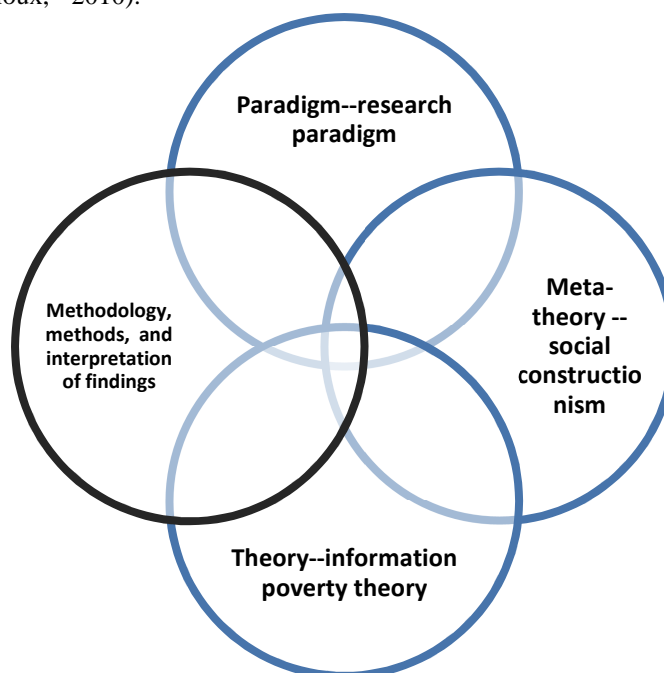


Figure 5: The intersections of paradigm, meta-theory, and theory

In choosing a substantive theory to guide investigations, scholars should clearly identify and articulate research assumptions (paradigm and meta-theory). By clearly articulating research assumptions, scholars can avoid the problem of naïve empiricism—a situation where data is collected and analyzed without being framed theoretically. Under naïve empiricism scholars rely “on theoretical construct or abstractions that are not embedded in a developed theoretical system” (Anyon 1982, p. 32). Empirical studies that are not rooted in theory are difficult to connect with the broader scholarly content areas. Hence, in most disciplines, scholars are “dismissive of research that has no obvious connections with theory” (Bryman, 2012, p. 22).

The choice of theory and research design is rooted in the research paradigm. Consequently, researchers seeking to apply theory to guide scholarly inquiry should be aware of the assumptions of the paradigm to which the theory is linked. Without this understanding it would be difficult to establish and explain the choice of research questions, methodology, and methods using criteria that took into account the basic axioms of the paradigm.

### Conclusion

Paradigm, meta-theory, and theory represent distinct hierarchical level of decision making within the research design process. The use of paradigm, meta-theory, and theory allow researchers to argue and present data from an underlying philosophical perspective. The research design must relate to the research paradigm and the broader fields of knowledge in scholarly content area. Clear articulation of paradigm, meta-theory, and theory allows scholars to clarify & justify research approach. Specifically, paradigm guides research scholars in choices of methodology and methods. Paradigms support theory driven research in LIS which encourages the creation of new or validates/reject existing theories. It also support the creation of theories that explains information behavior practices for designing of information systems and services. Non-use of theory in library and information science research impedes epistemic understandings of issues in the information professions.

### References

- Allen, B. (1996). *Information tasks*. San Diego, CA: Academic Press.
- Anyon, J. (1982), “Adequate social science, curriculum investigations and theory”, *Theory into Practice*, Vol. 21, No. 1, pp. 34-37.
- Attfield, S., Blandford, A. & Dowell, J. (2003). Information seeking in the context of writing: a design psychology interpretation

- of the 'problematic situation'. *Journal of Documentation*. 59(4). 430 - 453.
- Bernstein, Richard J. (1976), *The Restructuring of Social and Political Theory*, Basil Blackwell, Oxford
- Berger, J., Wagner, D. G., & Zelditch, M. (1989). Theory growth, social processes, and metatheory. In J. H. Turner (Ed.). *Theory building in sociology: Assessing theoretical cumulation* (pp. 19-42) Newbury Park, CA: Sage
- Bryman, A. (2012). *Social Research Methods*. Oxford University Press, USA
- Choo, C. Wei. (2002). *Information Management for the Intelligent Organization: The Art of Scanning the Environment*. Medford, NJ: Information Today.
- Corbetta, P. (2003). *Social research, theory, methods and techniques*. London: Sage.
- Creswell, J. W. (2008). *Research design: Qualitative, quantitative and mixed methods approaches*, (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, C.A.: Sage
- Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage
- Denzin, N. K. a. Y. S. L., Ed. (1994). Handbook of Qualitative Research. Thousand Oaks, CA, Sage.
- Dervin, B. (1983). An overview of sense-making research: concepts, methods and results. *International Communication Association Annual Meeting*, Dallas, TX. Available at <http://communication.sbs.ohio-state.edu/sense-aking/art/artdervin83.html>.
- Dervin, B. & Nilan, M. (1986). Information needs and uses. *Annual review of Information Science and Technology*, 21, 3-33.
- Dervin, B. (1992). From the mind's eye of the user: the sense-making Qualitative quantitative methodology. In *Qualitative Research in Information Management*, eds. Jack D. Glazier and Ronald R. Powell. Englewood, CO: Libraries Unlimited: 61-84.
- Dervin, B. (1999). On studying information seeking methodologically: *Information Processing and Management* 35, 727-750.
- Dervin, B. (2004). Sense-Making theory of dialogue: a brief introduction. Available at <http://communication.sbs.ohio-state.edu/sense-making/meet/1999/meet99dervinintro.html>
- Dick, A. L. (1999). Epistemological Positions and Library and Information Science. *The Library*

- Quarterly, 69, (3) p. 305-323.
- Gandy O. H. & Jonathan B. (1998). Inequality: It's all in the way you look at it. *Communication Research*, 25(5), 502-22.
- Godbold, N. (2006). Beyond information seeking: towards a general model of information Behavior. *Information Research*, 11(4) 269 Available at <http://InformationR.net/ir/11-4/paper269.html>]
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Guba, E. G. (Ed.), 1990. *The paradigm dialog*. Newbury Park CA: Sage Publications
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage.
- Herst, M.A. (2009). *Search user interfaces*. Cambridge University Press.
- Joniak, L. (n. d.). *The Qualitative Paradigm: An Overview of some basic Concepts, Assumptions, and Theories of Qualitative Research*
- Kari, J. (1997). Paranormal information seeking in everyday life -part II: An outline of a theory Paper. *INVA Summer School "Theory Construction For Information Seeking Studies"*, Tampere, Finland, 18-22 August 1997. Available at <http://www.southernct.edu/~brownm/eCV/ISI/paranormal.pdf>
- Kelly, G. A. A. (1963). *Theory of personality: The psychology of personal constructs*, Norton, New York.
- Kerlinger F. (1973). *Foundation of behavioral research*. New York: Holt Rinehart and Winston
- Kingrey, K. P. (2002). *Concepts of Information Seeking and Their Presence in the Practical Library Literature*. *Library Philosophy and Practice*, 4, (2) Spring
- Kuhlthau, C. C. (1988). Developing a model of the library search process: investigation of cognitive and affective aspects. *Reference Quarterly*, 28 (2), 232-242.
- Kuhlthau, C.C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science*, 42(5):361-371.
- Kuhlthau, C.C. (1993). *Seeking Meaning: A process approach to library and information services*. New York, NY: Greenwood Publishing
- Kuhlthau, C.C. & Tama, S.L. (2001). Information search process of lawyers, a call for 'just for me' information services, *Journal of Documentation*, Vol. 57, No. 1, pp. 25-43.
- Kuhlthau, C. C. (2004). *Seeking Meaning: A Process Approach to Library and Information Services*, 2nd ed. Libraries Unlimited, Westport, CT.
- Kuhlthau C. (2013). Information search process. Retrieved on July 3, 2013 from [http://comminfo.rutgers.edu/~kuhlthau/information\\_search\\_process.htm](http://comminfo.rutgers.edu/~kuhlthau/information_search_process.htm)
- LABate, L. (2012). *Paradigms in theory construction*. Springer Books.
- Lincoln, Y. a. E. G. (1985). Establishing Trustworthiness. *Naturalist Inquiry*. Newbury Park, CA, Sage.
- Lor, P.J. (2014). Revitalizing comparative library and information science: theory and metatheory. *Journal of documentation*, 70(1):25-51
- Pickard, A.J. (2002). Access to electronic information resources: their role in the provision of learning opportunities to young people. A constructivist inquiry. Unpublished doctoral dissertation, Northumbria University, Newcastle upon Tyne, U.K.
- Russell, D.M., Stefik, M.J., Pirolli, P., & Card,S.K. (1993). The cost structure of Sense making. In *Proceedings of the INTERCHI Conference on Human Factors in Computing Systems (CHI'93), Conceptual Analysis of Users and Activity*, 269-276.
- Soini, H, Kronqvist, E, & Huber, G. L. (2011). *Epistemologies for Qualitative Research*. Qualitative Psychology Nexus: Vol. 8. Center for Qualitative Psychology
- 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.
- Spurgin, K. M. (2006). The sense-making approach and the study of personal information management. *Personal Information Management - A SIGIR 2006 Workshop*
- Vakkari, P. (1999). Task complexity, problem structure and information actions: Integrating studies on information seeking and retrieval. *Information Processing and Management*, 35, 819-837.
- Vakkari, P. (2001). A theory of the task-based information retrieval process: a summary and generalization of a longitudinal study", *Journal of Documentation*, Vol. 57, No. 1, pp. 44-60.
- Vasquez, J. A. (1999). Theory construction as a paradigm-directed activity. In *The Power of Power Politics: From Classical Realism to Neotraditionalism* pp. 60-76 Cambridge University Press
- Westacott, E. (2014). Internet Encyclopedia of Philosophy. <http://www.iep.utm.edu/>,

- Wilson, T.D. (1999). Models in information behaviour research" *Journal of Documentation* 55 (3) 249-270 [Available at <http://informationr.net/tdw/publ/papers/1999JDoc.html>]
- Warren, B. (1991). Concepts, constructs, cognitive psychology, and personal construct theory. *Journal of Psychology*. 125 (5), 525-36.
- Wallis, S. 2010. Towards a Science of Metatheory. In *Integral Review*, vol.6, no. 3. Foundation for the Advancement of Social Theory. Available: <http://www.integralreview.org/documents/Wallis,%20Toward%20a%20Science%20of%20Metatheory,%20Vol.%206,%20No.%203.pdf> (31/05/2011)
- Wilson, T.D. (1999). Models in information behavior research. *Journal of Documentation*, 55(3) 249-270 . Available at <http://informationr.net/tdw/publ/papers/1999JDoc.html>]
- Robinson, L. & Karamuftuoglu, M. (2010). "The nature of information science: changing models" *Information Research*, 15(4) colis717. [Available at <http://InformationR.net/ir/15-colis717.html>]
- Taljaa,S., Kesob, H., Pietilainen, T. (1999). The production of `context' in information seeking research: a metatheoretical view. *Information Processing and Management*, 35 (1999) 751-763
- Torraco, R. J. (1997). Theory-Building Research Methods." In Swanson R. A. and E. F. Holton III , editors. *Human Resource Development Handbook: Linking Research and Practice*. (San Francisco, CA: Berrett-Koehler, 1997): pp. 114-137.
- Johnson, S. D. (1995, Spring). Will our research hold up under scrutiny? *Journal of Industrial Teacher Education*, 32(3), 3-6
- Hipps, J. A. (1993). Trustworthiness and authenticity: Alternate ways to judge authentic assessments. Paper presented at the annual meeting of the American Educational Research Association. Atlanta, GA.
- Zalta, E. N. (2003). Relativism The Stanford Encyclopedia of Philosophy. <http://plato.stanford.edu/entries/relativism/>
- Wagner, D. G., & Berger, J. (1985). Do sociological theories grow? *The American Journal of Sociology* 90(4), 697-728.