

The Influence of Uncertainty on the Information Seeking Behavior of a Securities Analyst

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BACKGROUND

Building on the theoretical approach to information seeking as a process of construction with stages of increasing and decreasing uncertainty (Kuhlthau 1993), this research investigates perceptions of information seeking and use as a person enters the workplace and becomes established in a recognized role. This study explores the relationship of uncertainty to the user's perception of the complexity of task, formulation of focus, and use of sources.

Research into the information seeking behavior in the workplace (Auster and Choo 1993) reveals that information seeking related to decision making in the 1990's may be quite different from the previous decade when managers made decisions based on accessibility rather than quality. Baldwin and Rice (1996) provide an extensive review of user studies related specifically to securities analysts noting recent trends that are changing analysts' information seeking and use, such as sector specialization, globalization of markets, and new electronic systems that increase the quality of information and the speed of dissemination. Recent studies also indicate that business performance is related to the information culture of an organization (Ginman 1987, 1990; Baldwin and Rice 1996).

Baldwin and Rice (1996) use the measures of ranking and productivity to determine analyst's outcome. Ranking by the *Institutional Investor* is a standard evaluation of the effectiveness of individual analysts. They explain that within industry categories and investment specialities, individual securities analysts are rated on their performance in each of the following areas: stock selection, earnings estimates, service and accessibility, and written reports. The All-American Research Team for each industry category is comprised of first, second and third place, and runners-up.

While ranking is a fairly straightforward measure of outcome, there seems to be some confusion as to what constitutes productivity. The responses of the analysts surveyed by Baldwin were "all across the board" in answer to the question of whether they were writing shorter or longer reports and the number

of reports they were producing (Baldwin and Rice 1996). A closer look at what is involved in the task of producing research reports of varying length and complexity seems necessary.

Baldwin and Rice (1996) also found that the only characteristic to influence an analyst's effectiveness was the number of years working as an analyst. The importance of experience suggests investigation and analysis of the differences between the entry level employee and the recognized expert.

Other important work in this area indicates that task complexity and accompanying uncertainty are important factors in information seeking behavior in work situations (Byström and Järvelin 1995; Pinelli et al. 1993).

This paper presents a case study of one employee as he moves from a career-entry position to an industry expert. The work context of the case study subject (C) is the investment industry on Wall Street where he has been employed as a research analyst for the past eight years. The longitudinal study was initiated in 1983 when C was a secondary school student and has continued at four to five year intervals (Kuhlthau 1988). This five year segment studies the subject from entry into a career shortly after college to his present position as an industry authority. In-depth interviews conducted in 1990 and again in 1995 were taped, transcribed, and analyzed for evidence of uncertainty within the information search process in relation to perceptions of task, formulation, and sources. Perceptions of the analyst in the early years of his career were compared with those when he had become a recognized expert five years later. The following is a summary of those comparisons.

INTRODUCTION TO CASE STUDY SUBJECT

In 1990, C described his work as, "doing research papers for a living." As an undergraduate major in economics and Spanish language, he had written a number of research papers on economies in Latin America and spent a semester studying in Mexico. After graduation, C was employed in the research department of a major stock brokerage firm on Wall Street. For approximately three years, he worked as an assistant research analyst concentrating on the defense and aerospace industry and later on the pollution control industry. By the time of the second interview he had moved to another firm focusing on emerging markets in Latin America, specifically Mexican companies. As time passed he specialized in the food and beverage sector, eventually moving to firm that handles a large number of Latin American stocks. He has been in his present position for two years as a research analyst in a 14 member research team. His current title is associate director with an assistant analyst assigned to him and a secretary. He reported that he had been ranked third by *Institutional Investment* the first year in his present position, second the next year, and soon expected to be ranked first.

COMPARISON OF PERCEPTION OF COMPLEXITY OF TASK

The primary task identified by C is to provide information for others to use. He differentiates between complex and simple or routine tasks. Perception of task complexity increases uncertainty. However, the perception of what constitutes a complex task changes somewhat with expertise.

As a novice, C identifies two levels of tasks, one where he is doing routine monitoring, what he calls "very traditional Wall Street research". He says that he has issued about 60 reports over three years and may be working on as many as 12 "mini" reports at a time. These tasks are not perceived of as complex and there is little uncertainty associated with them. On the other hand, he identifies about six reports that were much more complex and in which he experienced a high level of uncertainty. He explains that these tasks called for drastic change in his understanding of the industry. He described these as really time consuming and anxiety producing because "you are changing your whole view of the world." He admits to being "overwhelmed" at the beginning of these more complex tasks. As a novice he is particularly concerned with coming up with the "right" conclusion. He explains that he experiences anxiety over whether his scenario will prove correct.

As an expert, C is very clear about his task. He explains that he has gone from being a data gather to being a data provider. His mission is to stay abreast of what is happening in the industry and to analyze trends. He explains that he is in a value-added business that moves very fast. Overtime he has developed a sense of the dynamics of the industry that he refers to as a "big chess board".

As he did when a novice, C clearly distinguishes between less complex and more complex tasks. He refers to the less complex tasks as the "daily product to keep people abreast of fast changes". He identifies 5 or 6 large reports a year as more complex. But the tasks with the highest level of complexity are ones in which he is required to write a "major industry piece" that lays the ground work for his ongoing daily research. These may come up once a year and elicit considerable uncertainty. He confides that complex tasks take him "out of his element" and "into new territory".

An important change in the perception of task related to uncertainty is the change from being concerned with being right or wrong to the need to add some new knowledge. C explains the difference in this way, "The young analyst who is not confident in his industry knows that he doesn't understand the industry yet and is worried that he is missing a big piece out there and anxiety goes with that. Did I get the story right? Did I understand it properly?" He states that now, as an expert, his attention is on adding value for the client. "My job is not to tell the client to buy or sell but to provide intelligent, insightful information to add value to his knowledge base...So it is a bit of a different focus...Even if it is completely wrong, at least it gets people thinking about an issue that they should

be thinking about and they may not agree with you but they may be thankful that you made them think about it and address that issue with other analysts on the street." As an expert, C approaches his job differently and emphasis shifts from being "right" to adding value to the client's knowledge.

COMPARISON OF PERCEPTION OF USE OF SOURCES

Uncertainty related to perception of task complexity promotes use of a variety of information sources, personal and impersonal, internal and external. More complex tasks seem to require use of impersonal sources, such as journals and newspapers as well as personal sources, such as direct contact with CFO's and managers. C explains that he has to have the most recent information in order to be competitive. Therefore, he considers his personal sources to be most important and what is in print to be dated and not "leading edge" information.

As a novice, C explains that first he needed to get the history of a company. In the beginning he uses trade journals and newspaper articles on the industry to get background information, even something like a scandal in management. He looks over any relevant notes from the information meetings for analysts held by various companies which he attends on a regular basis. He reviews the companies annual reports, particularly the financials, ie. balance sheet and income statements. He also reads other analysts' reports. Then he is ready to visit the company to talk to the CFO, engineers, and industrial relations people with a list of prepared questions. He notes the importance of feedback from the company and holds teleconferences for this purpose. Other sources he mentions at this point in his career are his boss, the director of research for the investment firm, other sector specialists in his firm, technicians, and friends in the investment business. He also notes that he refers to his financial textbooks on occasion.

C shows evidence of building a knowledge base and explains that although he comes across information that he may not use for this report he may use it in the future.

As an expert C uses the same sources that he did as a novice but he has become quite discriminating in his use of these sources and has developed an ongoing interactive approach to his sources of information. He explains that "ramping up" on an industry takes a couple of years during which time he uses the library for learning about such things as the "political scheme" of the country.

C uses newspapers and trade journals to review industry-wide information. He has identified "a few good" trade journals that keep him informed on what is happening on the U.S. side of the business but no journals that are useful for learning about the Latin American side. However, he explains that for the most part, he needs to be ahead of what is reported in these sources. "To a large degree we are on the leading edge of the information flow so what you see in the press is really stemming from our research."

Another important source of continuing importance is financial reports of companies under review. Over the past three years, C has developed an inhouse database of financial information including balance sheets, income statements, cash flow and other important indicators with updates published quarterly in hard copy.

In addition to his general knowledge of the industry, he makes extensive preparations for a company visit. He may look at competitor analysts' reports but discriminatingly. He explains, that although sometimes a competitor comes out with a very important piece he is cautious about relying on other analysts' information. "I don't trust anyone else's information. If I were a younger analyst coming up, I would read it but now it is not as useful."

An important source for the expert is clients who own the stock. From them he gains a sense of how the stock moves overtime. He refers to his clients as a "hugh" information source and describes engaging in two way conversations about what is worrying them and what issues they are focusing on.

Once he has gotten a fairly good picture of the industry and the company within the industry, he needs to go directly to the company to talk with senior and middle management. He has built up relationships overtime based on a sense of trust with the officers of the companies he covers. He explains that he is "viewed as one of them and not as just some gringo banker." He relates, "I go to Mexico about once every two weeks and have a lot of phone conversations in between."

As an expert C has developed two distinct patterns in his use of sources. First, he prepares for his visits to interview company officers by using a wide range of sources to gain a broad understanding of the company and the industry in which it operates. He does not go to the company without extensive preparation. Second, he applies an ongoing, interactive approach to the use of sources. This is particularly evident in the relationships he has built with clients and company officers.

But is also apparent in the database of financials that he has developed, in his selective use of trade journals, and in his discriminating use of other analysts' research.

COMPARISON OF PERCEPTION OF FORMULATION

Formulation is clearly understood as a primary task in providing information for the audience. This analyst's task involves not just gathering information but presenting a point of view or "pitching an angle". However, the perception of formulation is perceived as quite different at the entry level than it is for the expert. At the entry level, this person is concerned about being right or wrong. At the more experienced level, he is not concerned so much with being right as with presenting something new that is of value to the client. Uncertainty is associated with presentation in both instances but for somewhat different reasons.

As a novice, C had a clear idea that he was not just reporting what he finds but presenting his point of view. He explains that the content of a report depends on the perspective of the researcher and his sources. He describes his process as putting together what he has learned from conversations with company officers with his own understanding of how the stocks work.

C explains that he is looking for an interesting story that he can "pitch" that has some "new angles". He describes his report as telling a story but notes that he also must provide several options for the reader; the simplified story with general conclusions or the complete, detailed report with "every little point".

As a novice C uses writing, reflecting, and talking as strategies for formulating his ideas. He explains that his thought processes develop as he takes notes and as he rereads and thinks about them, he makes connections. He talks to "everyone who will listen." As he describes it, "I talk my heart out". He asserts that after he has been working on an idea for a while he is not easily swayed in his conclusions.

As an expert, C has extended the concept of formulation to an understanding that "the best way I can help, particularly my more sophisticated clients, is by adding value to their knowledge base." He is in search of "a piece of information that is critical to understanding this company that is not reflected in stock prices yet." He says that he is ready to put out a report when he has a different interpretation of a company than that of other people in the business.

SUMMARY AND IMPLICATIONS FOR FURTHER RESEARCH

This case study comparing perceptions of a person at the beginning of a career with those held five years later suggests that uncertainty in the information search process is an important influence in the workplace. Uncertainty, manifested by heightened anxiety and a sense of being overwhelmed, was related to more complex tasks for the expert as well as the novice. However, the expert encountered fewer tasks that he considered truly complex. Tasks identified as complex prompted a comprehensive approach to the use of sources in order to build an understanding of "new territory". More complex tasks required extensive formulation for both the novice and the expert. However, uncertainty related to formulation shifted for the expert from centering on coming up with the correct answer to providing value-added information.

Formulation involving adding value to information gathered is at the center of an information providers work. The information environment represented by the accessibility of quality information was found to be considered an important factor in productivity. As an expert, this case study subject continued to improve his information environment, specifically by building a database of factual information and a network of ongoing relationships with personal information sources.

In summary, evidence of uncertainty was found to be related to complex tasks, use of a wide range of sources, and extensive formulation. This longitudinal study of one case provides an inside view of the information search process in the workplace from the user's perspective on which to build further research.

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