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# **EXPANDING ORGANIZATIONAL TRANSACTIVE MEMORY ASYNCHRONOUSLY: THE EFFECT OF EXPERTISE**

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## **INTRODUCTION**

Organizations learn by sharing information. While filtering may exclude potentially valuable information, information overload may prevent the adequate identification of important information. Lee and Brooks [1993] report on the introduction of a document classification and information dissemination system for "soft information." There was an initial concern that "users would use "high" priority categories excessively within the grapeVINE system, thereby reducing the effectiveness of the filtering process." In fact, Lee and Brook found "that people tended to undervalue their contributions and not put a high enough priority on their contribution." A large percent of the information in the grapeVINE system was added at low priority, causing the information not to be shared.

A major advantage touted of groups is the potential for pooling unshared information and thereby improving task accomplishment. Stasser found that groups tend to discuss topics that they have in common (shared information) more than their unique knowledge (unshared information) [Stewart, 1992]. Based on social validation theory, Stewart [1992] predicted and found evidence that telling someone he or she is an expert, separately and in front of the other members of a group, increased the proportion of unshared information.

This paper explores the affect of expertise on organizational transactive memory with respect to the filtering and sharing of information. First transactive organizational memory is briefly discussed, followed by relevant aspects of social validation theory and a description of the filtering and sharing model embodied in Brook's classification and dissemination system. We then describe the experimental design used to isolate the effects of expertise on the filtering and sharing of information, present results, and discuss their implications.

## **TRANSACTIVE ORGANIZATIONAL MEMORY**

Transactive organizational memory is an extension to Wegner's transactive memory system. While he was concerned with small group memories, he proposed powerful concepts which offer a way to view organizational memory [Wegner, 1986]:

- the transactive memory system begins when individuals learn something about each other's domains of expertise.
- personal expertise may arise from
  - a member coming into the group with specialized knowledge, or
  - explicit or implicit assignment of responsibility for gathering and retaining specific types of information
- The expert subsequently serves as the other members' external memory for this type of information
- Human artifacts (documents, disks,...) are part of the group's external memory

## **SOCIAL VALIDATION THEORY RELEVANT TO INFORMATION FILTERING AND SHARING OF "SOFT INFORMATION"**

Social validation occurs when the goodness of the information introduced by one member is confirmed by other group members. Social comparison occurs when no objective, physical comparison can be found. "Soft information" includes imprecise but vital categories, such as news, ideas, opinions, forecasts, rumors and explanations; managers seem to "cherish" it [Mintzberg, 1975]; and, because of its imprecise, non-objective nature, dissemination of it should be subject to social comparison. "The use of unshared information and the manipulation of expertise in a group provides one way of examining the social validation process. [Stewart, 1992]."

The designation of expert implies a higher degree of knowledge or ability in a given domain. If experts offer information in their domains, then social validation may occur because of their designation as experts. Therefore, it is predicted that social validation of information will be less important when personal expertise is explicitly assigned than when it is not [Stewart, 1992]. By extension, the individuals designated as experts should feel less inhibited to bring forward information and feel more confident in what they share.

## **MODEL OF FILTERING AND SHARING EMBEDDED IN GRAPEVINE**

grapeVINE, is able to index, prioritize, and selectively disseminate and store for retrieval a wide variety of information in text or document form. In addition, it supports commenting and other forms of added-value items such as ideas, opinions and rumors. A multi-threaded database, or corporate memory is created.

When information is added, a priority level (high, medium, low) is assigned by the individual adding the information. Each member within the grapeVINE system creates a profile which contains a list of the categories and priorities of the information they want

to receive. When a comment is added into the grapeVINE system, it is distributed to all individuals whose profile is set to receive the information, based on the information type and priority level. The individual entering the system is not concerned with identifying who should get the information, only with storing useful information about a particular topic. When others receive this information, they can add their interpretation to the message or re-assess the importance of the message by changing the message priority level. This will automatically increase the alerting list for this information, and therefore widen the awareness of the issue.

## **EXPERIMENTAL DESIGN**

As discussed above, the value of a filtering system like grapeVINE to add to organizational transactive memory depends upon information being added to the system at the appropriate priority level. In grapeVINE, those entering information into the system are aware that it may be shared, but are not necessarily aware of all those who will ultimately share this information. Also, those receiving the information based on their profiles, may not necessarily know who in the organization would have this expertise. In fact, grapeVINE was developed to overcome the problem of those who may need certain information not being aware of others in the organization who may have it.

In Stewart's experiment, the experts were designated both individually and in front of other members of the group. What was not clear from his experiment was how much increase in information sharing was due to individuals being designated expert and therefore more willing and confident to share unique information, and how much was due to others eliciting information from these designated experts. The experiment was designed to isolate the first effect. If designating people "experts" overcome their tendency to undervalue their contributions, then this could be a way to improve the filtering and sharing of information in systems such as grapeVINE.

## **Hypotheses**

**H1.** Expert assignment will cause an individual to contribute more information (particularly unshared information) into the filtering system.

**H2.** Expert assignment will cause an individual to add information into a filtering system at the appropriate priority level (high, medium, low).

## **RESEARCH PROGRESS**

An initial experiment with 62 undergraduate students showed that the difference between expert and non-expert assignment was significant. To test H1, the high, medium and low responses were combined and compared with the non-responses for the expert, non-expert assignment. The result was significant, however, the effect was in the opposite direction predicted. Those individuals designated as experts shared less information.

To test H2, the high, medium and low responses from the expert assignment were compared to the high, medium and low responses of the non-expert assignment. The result was not significant. This indicates that expert assignment did not have an effect on the assignment of the priority levels.

The designation of expert may make one more responsible and cautious as to what information one shares. Social validation would explain this caution when one is identified. However, in this experiment, the designated expert was anonymous and there was no chance of others knowing who made the evaluation. The designated expert may have a sense of responsibility to the group. From, informal comments, this does appear to have happened.

It is too early in the research to make conclusions. We intend to carry out a similar experiment with executives this Spring to see if these results will be consistent.

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