Transactive Memory: How Groups Think Better Together

Authored by

mohammad looti

June 14, 2026

Transactive memory is a psychological hypothesis first proposed by Daniel Wegner in 1985 as a response to earlier theories of "group mind" such as groupthink. A transactive memory system is a system through which groups collectively encode, store, and retrieve knowledge. Transactive memory suggests an analysis not only of how couples and families in close relationships coordinate memory and tasks at home, but how teams, larger groups and organizations come to develop a "group mind", a memory system that is more complex and potentially more effective than that of any of the individuals that comprise it.

According to Wegner, a transactive memory system consists of the knowledge stored in each individual's memory combined with metamemory containing information regarding the different teammate's domains of expertise. Just as the individual's metamemory allows him to be aware of what information is available for retrieval, so does the transactive memory system provide teammates with information regarding the knowledge they have access to within the team. Group members learn who knowledge experts are and how to access expertise through communicative processes. In this way, a transactive memory system can provide the group members with more and better knowledge than any individual could access on his own.

The Basic Units of Transactive Memory

Most researchers agree that the basic components of transactive memory system consist of specialization, coordination and credibility .

Specialization

A strong transactive memory system is achieved once an individual gains information about the knowledge repertoire that other teammates hold and uses this information in order to acquire different complementary knowledge .The first component, specialization is the product of this process. Once a transactive memory system is developed each of the different teammates holds different and distinguished domains of knowledge. Specialization is an important dimension of the transactive memory system, it allows the team to make a more efficient use in the collective knowledge, when each team member can deepen his knowledge in the lacking areas (as opposed to acquiring congruent knowledge) and therefore enlarge the total of the teams' collective knowledge . Hollingshead (1998a), had demonstrated that specialization lead to a more efficient and organized effort investment in information retrieval, prevention of information redundancy and supplied accessibility to larger range of expertise .

Coordination

The second component, task coordination, refers to the extent of necessity in explicit revealed planning and coordinating efforts during teamwork. When a group possesses a strong transactive memory system, the need for explicit coordination efforts reduces since teammates are aware of

other teammates strengths and weaknesses, can anticipate their behavior and responds, and make quick adjustments of their own behavior in return .

Credibility

The third component is the result of the other two components. Credibility reflects the extent to which the team members believe that the relevant task knowledge possessed by any of the other team members is correct and accurate.

Transactive Memory and Team Performance

It has been found that transactive memory allows a quicker access to a larger amount of knowledge, improves information integration processes , improves decision making processes, and even influences the efficiency perception of the teammates, their satisfaction and sense of identification with the team and the organization .

Transactive memory may enhance performance through three major mechanisms :

Division of the responsibility on different kinds of knowledge across the teammates allows each one of them to broaden his own knowledge in a specific area while maintaining access to relevant required task knowledge possessed by others.
Developing transactive memory system will shorten the time needed for seeking the appropriate knowledge: when each team member knows who to turn to for the required information, less time is wasted in search for relevant task knowledge .
The shared understanding of the teammates regarding the interpersonal relations in the team and the different expertise domains, enables them to better predict and anticipate how their team colleagues would behave, leading to well coordinated and efficient interactions .

Prerequisite Conditions for Transactive Memory Development

Just like human memory, the transactive memory system involves three stages: encoding, storage and retrieval.

Encoding

In the encoding stage, the teammates gain information on the other team members domains of knowledge and categorize it by ascribing each knowledge domain to the corresponding team member . Sometimes, this acquaintance emerge through "who did what" conversation.

The encoding process is highly important to the development of transactive memory, since it lays the basis for an effective transactive memory system . Encoding occurs through interaction between teammates: through sharing knowledge and seeking information from other team

members teammates learn on the expertise of each team member as a first essential step towards specialization.

Storage

In the storage stage, the relevant information is stored in the possession of the team member owning the corresponding expertise; once the experts have been identified, new information is being transmitted directly to the relevant team member, a process which improves the learning process and reduces the load on the memory of individual teammate.

Retrieval

During the retrieval stage, the team identifies the team member specializing in the required knowledge area and turn to him to receive the knowledge.

The Development of Transactive Memory

Many researches have shown that the transactive memory system is built through interactions between team members. In a series of researches, it has been found that group training supports the development of transactive memory. When the training was conducted jointly to all group members, the team developed a stronger and better transactive memory system, recalled more information about the process, and made less errors, compared to teams that their teammates were trained separately .The reaserchers concluded that the interactions that took place during the joint training allowed the team members to be aware of other teammates' skills, assisted them to search the relevant information at the corresponding teammate, asses the accuracy and reliability of this information and as a result perform better in the task. At the first stages in a group's life cycle, knowing each of the team members' expertise allows them to distribute the work in a more efficient way and allocate the different assignments to team members that are most qualified for these assignments. The existence of many interactions in the early stages of group formation provides each of the teammates the opportunity to get to know other team members' training, level of expertise or the lack of knowledge in certain areas , and develop a shared understanding of the task's requirements and the way that the total of the teammates knowledge combines together

Hence, it seems that communication serves as a crucial component in the development of transactive memory. Yet, it seems that not any kind of communication and interaction between team members will bring to the construction of transactive memory. Communication, in general serves as a way of transferring information from one person to another , but for the purpose of transactive memory construction this communication must deal with information regarding the knowledge, expertise and relevant experience of other individuals in the system .

Moreland & Myaskovsky (2000) have shown that transactive memory can be developed without

any interaction between teammates. As a substitute to teammates' communication they used a feedback summarizing team members' skills in the relevant task and team members' domains of expertise, which was given to each team member by the researches, before they started performing the task. Although the feedback and the information regarding teammates knowledge was provided by the researches and teammates did not communicate with each other in the encoding stage, a strong transactive memory system was formed and affected positively the team's performance. The decisive component in the formation of transactive memory is sharing specific information regarding team members' knowledge and domains of expertise, which is achieved whether by interactions taking place during shared learning, or by any other means of information transformation.