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The Facilitation of Externalization in Knowledge Conversion Process: From gender viewpoint

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The purpose and background of this study

The purpose of this study is investigation about facilitation factor of externalization in SECI model in organizational knowledge creation theory (Nonaka, Takeuchi 1996). Externalization is By making tacit knowledge explicit knowledge, knowledge becomes crystallized, thus allowing it to be shared by others, and becomes the basis of new knowledge (Nonaka, Byosiére & Toyama, 1999). In this process, it is said to be used conversation and collective reflection as methods.

The method of this research is as follows.

- The analysis by using questionnaire about externalization from gender viewpoint
- The test by conversation experiment

The signification of this study is to approach from gender study to knowledge creation theory, and experimental study about externalization. This research might be a first research about roles of male and female in knowledge creation theory. And there are few research academic experimental study about externalization or create concept process which is same meaning as externalization, and it is also hardly made clear about the mechanism of externalization and the facilitation factor. So, in this study, I try to clear facilitation factor by comparing male s and female s behavior in what happens in externalization process.

The analysis by questionnaire

The data used for the analysis were collected by the done questionnaire investigation toward the non-supervisory workers and management workers in a Japanese transport vessel manufacturer. This investigation was carried out in 1994, and the number of the samples to use by this research is male 834, female 140. The questionnaire is composed about 300 heads questions of the intellectual behavior in the daily business, and a part of these questions is used in this research.

The result that the data on the questionnaire were analyzed is as the following.

1. Female employees allocate significantly more time to all tacit knowledge converting behavior than male, and female employees recognize significantly higher importance to all tacit knowledge converting behavior than male.
2. Female takes externalizing behavior with unconscious, but male needs high motivation to externalizing behavior.
3. Externalizing is a series of processes for the woman, but for the man, it separates in two kinds of the grade, "tacit knowledge becomes explicit" and "concept creation".
4. Female prefer externalization by using language.

It has possibilities that these results showed that females were superior to males in externalization. Females are superior to males in verbal and non-verbal communication by nature, and they also have the behavioral pattern that they attach a high value about relationship with others. So Females might be deferent from males in externalization behavior. It is also said that the structure of the brain of female can deal with the multitasking. So females feel that externalization process is one series, because they can do "to hear = input", "to tell = output", "to think = concept creation" at the same time. The character of females is called femininity shows the possibilities that it can become some advantage in the externalization process.

The analysis by conversation experiment

Next, a conversation experiment was carried out to test for a woman whether to be really excellent in externalization. This experiment carried out toward 23 students (11 males and 12 females) in Japan Advanced Institute of Science and Technology as experimental subject in November 2000. The task of the experiment is "to solve the trick of three-fold locked room in a mystery novel", and thought possibility of many answers, it means hardly to decide only one. It had 30-minute conversation in total 6 group, in which are every 2 groups of only male, only female, and mixed. Video camera

and M.D recorded it. And, questionnaire investigation was carried out with the purpose of the survey of attitude in experimental subject. Conversation data were written, and analyzed in detail, and the appearance of the conversation taken pictures in the video was observed.

The result of the conversation experiment were analyzed is as the following.

1. The creativity of conversation correlates closely with interaction among group members
2. There are two kinds of the acting in response, which an interaction with the conversation between the members is shown in. One of them is the female style that new idea is taken out based on the contents told before, and other is the male style is that the contents told before are repeated.
3. The number of times of the transition of the topic in monosexual conversation is smaller than the group of the male and female mixture.
4. Female is comparatively flexible, and shows a tendency to make many elements the target of the examination. Male show a tendency to focus on the one direction at every scene of the conversation, for example, the condition given to it, and the topic talked in the place, awareness of the issues of him.
5. Female s conversation is seems to be just chattering without any rules, but an important examination item is narrowed down. The rule of the definite conversation should be necessary for male, and they show a tendency to advance a dialog with fixed a point of view.

Conclusion

A conversation in externalization has different meaning for the male and female, and a difference is thought therefore to appear for the conversation behavior. Conversation for the man is the second step of the externalization process, and it considers the place of the examination of the knowledge, which is externalized. A conversation for the woman is an externalization process itself, and it considers that a conversation is the place to create knowledge. If the establishment of the problem that examining the knowledge, which is externalized activates a conversation, is made, both sexes mutual complement in externalized process is thought to function effectively.

It came to be cleared by the research of the externalizing behavior in the male and female, by making the most of each behavior and the character of the thinking pattern without losing each characteristic. The implication of this study suggests that the

"femininity" rather becomes competitive advantage, which has been thought that is inferiority and disadvantage as a human being concerned with the business, in the intellectual activities in the enterprise organization.