



Ross School of Business at the University of Michigan

Independent Study Project Report

TERM : Winter 1998

COURSE : OB 750

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STUDENT : Raman Sinch

TITLE : Global leadership program : summary of model area research

GLOBAL LEADERSHIP PROGRAM

SUMMARY OF MODEL AREA RESEARCH

For Prof. Noel Tichv

SUBMITTED BY

RAMAN SINCH

April 30.1998

INDEPENDENT STUDY PROFESSOR COMMENTS

STUDENT NAME: Raman Singh

The work represented in this paper is more than adequate to fulfill the requirements of the independent study proposed.

Mr Singh has done a very solid job of conceptually laying out ways of stimulating creativity in the strategic decision-making process.

Of particular importance is the review of the literature on brainstorming techniques. The literature review and his synthesis of this are solid pieces of work.

He reviews a number of techniques and shows how they can apply.

In addition, Mr. Singh participated on a team project which resulted in both a solid research report by the students and a video presentation.

Noel Tichy
Noel Tichy,

IDEA GENERATION AND IDEA CAPTURE

NEED FOR NEW PRODUCTS

Companies operating in today's competitive markets are compelled to develop new products that accomplish several objectives simultaneously. The products should be competitive in global markets, offer good value to customers, be environment friendly, enhance the strategic position of the company, and be introduced at the right time. To meet this formidable set of objectives, companies are embracing new concepts and techniques to support changes in the new product development (NPD) process. These new approaches include techniques such as quality function deployment and stage-gate reviews, measures such as cycle time, and organizational mechanisms such as cross-functional teams.

CREATIVITY

Creativity in NPD requires both divergent thinking (lateral thinking) and convergent thinking. Divergent thinking results in the generation of a large number of ideas, whereas convergent thinking helps a person to converge toward the most promising ideas. Research suggests that in face-to-face brainstorming, non-interacting persons working separately generate more ideas and more creative ideas than an interactive group with the same number of persons (McGrath 1984).

IDEA GENERATION TECHNIQUES

The literature lists a large number of group, oral idea generation techniques, but in general, these methods can be divided into brainstorming and brainwriting variations (VanGundy, 1992). In general, brainstorming is used to indicate oral generation of ideas by a group; whereas, brainwriting refers to group methods that emphasize the silent generation of ideas in writing. In a broader sense, brainstorming has been used to refer to any procedure in which spoken interaction is the primary method.

Brainstorming

In a brainstorming meeting, individuals in a group take turns contributing comments which are written down on a blackboard at the front of the room for all to see (Geschka, 1980). Individuals are encouraged not to criticize ideas, but simply to generate as many innovative ideas as possible which will contribute to the solution of the problem. Advantages of this technique are that it accommodates social interaction and encourages a high level of group cohesion. However, disadvantages occur because people must take turns (this is a major problem with large groups), only a short summary of the comments may be written on the board, and the comments are not anonymous (shy people may not contribute or the group may not express what they really think). Therefore, brainstorming groups may have disruptive interpersonal conflicts and unequal participation. Because of the various limitations, oral brainstorming has been recommended for small groups (typically six or less) while brainwriting has been recommended for larger groups (Aiken, Kropf, Shirani, & Martin, 1994).

Brainwriting

To overcome these problems with oral meetings, new written techniques called "brainwriting" were introduced. Brainwriting can be categorized as either interactive

(face-to-face idea generation) or nominal (no face-to-face idea generation), and it is characterized by silent, handwritten communication. The advantages of this technique over brainstorming are that individuals do not need to wait to speak (everyone can be writing at the same time), all ideas are recorded, and a high degree of anonymity usually is preserved (depending on the system). Brainwriting may be preferred over oral brainstorming when a skilled facilitator or leader is not available, group members are not skilled or trained in brainstorming, one or a few group members may dominate a brainstorming discussion, or conflict exists among two or more members. Because group members using brainwriting can generate ideas simultaneously (no turn-taking is necessary), they often participate more and produce a greater number of ideas than when using brainstorming. However, brainwriting may not satisfy social interaction needs as well as brainstorming techniques. Several versions of brainwriting have been proposed, such as poolwriting and Hie gallery writing techniques.

IDEA GENERATION

To respond effectively in today's quickly changing, highly complex business environment, management must depend on organizational members' mental capacities to generate new and meaningful ideas (Beckett, 1992; Herrmann, 1993; Johnson, 1992). Consequently, creativity has evolved into a fundamental organizational resource useful in establishing and maintaining competitive advantage (Gillam, 1993). Organizations such as Microsoft and Minnesota Mining and Manufacturing, for example, claim that cultivating creativity within their members has led to innovations otherwise not possible (LaBarre, 1994; Morgan, 1993). Moreover, between 1988 and 1992, the number of firms offering creativity training programs has increased eightfold to 33 percent (Thierauf, 1993). With industry leaders such as International Business Machines, Banc One, and Exxon Corporation regularly expending corporate dollars to nurture the creative spirit of their members, techniques aimed at enhancing creativity are flourishing.

BUSINESS GENERATING CONCEPTS

Structured Idea Management System

The consulting firm Arthur D. Little has come up with a business generating concept called SIMS (Structured Idea Management) that takes the b.s. out of brainstorming by adding some structure to the concept of idea generation. Their idea is that people ought to prepare for these sessions. The process, as they outline it, is a seven-step program that guarantees rationality. Now, rational behavior is an intrinsically good thing, but it's so rare that it may pass unnoticed in the night unless we take care to look for it ADL's steps require team members and team managers to develop an agenda, criteria for success, and evaluation steps to determine whether the exercise is useful and to capture the ideas and keep them alive-

ADL rather openly stressed team selection and the need to avoid putting people on teams for political reasons. Another point is that of selecting and calibrating criteria for success. These two steps tie in well to successful teams. Another thing that SIMS does is to use brainstorming as a single step of a complex process. The structure insures - as well as possible - that the results of brainstorming wMl still be considered important the day after me session. Brainstorming is a step in the process, not the whole big deal.

ADL has experienced some criticism for taking the dynamism out of the process, stifling creativity and making the project cumbersome. But there are few things as cumbersome as trying to take a project through a recalcitrant organization, and few things less dynamic than attempting to get around the "We tried that in '09 and it didn't work" gambit.

If your interactive teams don't interact, and the team members act more like gang members, a program like SIMS just might help. Highlighting expectations and giving teams the tools to improve their outcomes may help keep the process on track. ADL discussed the problems of the old chestnuts, ideas that were discarded out of hand whenever they came up but were found to be of value when they were run through the SIMS program. Making it mandatory to consider ideas in a format, and using external criteria, can help to avoid missing a good bet.

Instead of choosing team members from various levels, with uncertain results that could include various functions being overlooked in the activity of the team, there seems to be a trend toward using people with similar clout on the same team. At the same time, a counteracting wave, the "find your own road," "you're your own dog" message is coming through, and the number of firms that act through entrepreneurs may be increasing.

Creativity Support Systems

One relatively new set of tools intended to augment the creative process is Creativity Support Systems (CSS) (Abraham and Boone, 1994). These computer-based tools are generally aimed at enhancing boundary-breaking, insightful thought during problem solving. For example, some CSSs provide open-ended question-and-answer options for generating new points of view, while others provide more focused structures for exploring ideas. In addition, some packages are designed to support individuals, while others are intended for group-oriented use.

The popularity of CSSs for individual use appears to be growing. Proctor (1989) found that of 170 subjects using Individual-Level Creativity Support Systems (ICSS), over 50 percent claimed to have generated at least one useful insight not considered prior to using the ICSS. In addition, research by Watson (1989) and Roberts (1989) determined that students using an ICSS were able to generate more ideas faster than students brainstorming without software.

Nominal Group Technique

The Nominal Group Technique (NGT) is designed to maximize the number of ideas generated by a group and to balance participation of all group members. NGT combines some of the best characteristics of group procedures. The first step requires group members to independently generate ideas. The second step involves recording ideas in a round-robin manner. Critical evaluation of the ideas is not allowed until the process reaches the third step—discussion. Finally, members vote by secret ballot to determine the best ideas. The independent generation of ideas and round-robin recording encourage equal participation while the secret voting prevents a few individuals from dominating the meeting. The entire process takes place in a face-to-face meeting that increases the level of satisfaction of group members.

NGT tends to generate more high quality ideas than interacting groups. NGT group members are also more confident that their ideas will work once a decision is reached. This is particularly important since groups with high levels of confidence are more likely to engage in action to implement their ideas. Finally, NGT group members are more satisfied with the meeting process than members of other groups (Roth, 1995)

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