J. Eng. Technol. Manage. 28 (2011) 268–282

Contents lists available at ScienceDirect

Journal of Engineering and Technology Management

journal homepage: www.elsevier.com/locate/jengtecman

New organizational designs for promoting creativity: A case study of virtual teams with anonymity and structured interactions

C.M. Chang

Department of Industrial and Systems Engineering, State University of New York at Buffalo, Buffalo, NY 14260, USA

ARTICLE INFO

JEL classification:
O31

Keywords:
Creativity
Virtual organizational design
Delphi brainstorming process
VTASI teams

ABSTRACT

Companies organize teams to enhance creativity and innovation. Creativity refers to the generation of new and novel ideas, whereas innovation encompasses both idea generation and the commercialization of these ideas to add value to the enterprises. Standard teams are those, wherein participants meet face-to-face to develop new ideas and/or to commercialize them. Asynchronous virtual teams are those which allow participants to interact via digital means without face-to-face meetings. Asynchronous virtual teams are especially convenient for participants at global locations.

The objective of this paper is to outline a third kind of teams, the virtual teams with anonymity and structured interactions (VTASIs), in which participants remain anonymous, follow a modified Delphi brainstorming process, communicate with one another asynchronously via electronic means, apply a set of streamlined idea generation strategies (the Combinatorial Heuristic and Normatively Generic Method), and conduct multiple rounds of structured interactions under the guidance of a knowledgeable team leader. Individual team member works alone, yet interacts indirectly with all others in a group setting.

After having briefly reviewed the factors that are known to constraint the performance of both the standard and asynchronous virtual teams, this paper describes a study conducted in Spring 2009 Semester at University at Buffalo, involving eight VTASI teams of a total of 72 graduate engineering students who worked on generating new ideas for improving four specific projects. Key results are discussed.

E-mail address: cmchang@buffalo.edu.

0923-4748/$ – see front matter © 2011 Elsevier B.V. All rights reserved.
doi:10.1016/j.jengtecman.2011.06.004

For global operations, the asynchronous virtual teams represent an improvement over the standard teams in terms of reach, costs, and execution. The VTASI teams advocated in this paper represent yet a further improvement over the Asynchronous virtual teams, and hold promise to be the most effective among the three types of teams in promoting creativity.

© 2011 Elsevier B.V. All rights reserved.

Introduction

Teams are well-known organizational designs employed by many enterprises to pursue creativity and innovation, solve problems, optimize operations, and attend to other important business/engineering activities. Most of these teams are of the standard type, in which participants meet face-to-face to suggest, evaluate, plan and implement specific ideas and actions. It is known that the performance of such standard teams is negatively affected by factors such as production blocking, evaluation apprehensions and social loafing (Furnham, 2000).

A second type of teams, the asynchronous virtual teams, goes one step further in promoting the electronic interactions between participants, without face-to-face meetings. As many enterprises pursue globalization at an ever increasing intensity, the asynchronous virtual teams gain more traction to become the preferred organizational form of conducting global business, wherein regional perspective and topical expertise are becoming increasingly important. However, the asynchronous virtual teams suffer from the negative impact of factors such as unstructured interactions, coordination difficulties if team size is large, and dominance of high-statue members (Ocker, 2005, 2007a,b).

This paper suggests a third type of teams, the "Virtual Teams with Anonymity and Structured Interactions" (VTASIs), which retain the benefits of the Asynchronous Virtual teams but without being negatively affected by some of the afore-mentioned factors. An experimental study was conducted in Spring 2009 semester at University at Buffalo, involving eight (8) VTASI teams of a total of 72 graduate engineering students, who worked on the generation of new ideas in four (4) specific projects.

Described briefly below are the standard and asynchronous virtual teams. Presented thereafter are the new design features of the VTASI teams, its operational procedure, the specific idea generation strategies, which form a major part of the team design, the results of the team study, and general conclusions which are drawn from this study.

For promoting creativity, the VTASI teams appear to be not affected by the negative factors indicated above and are thus superior to the asynchronous virtual teams particularly suitable for global companies.

Organizational designs for teams

Not all team designs are equally effective, insofar as the promotion of creativity is concerned. Described below are standard teams, asynchronous virtual teams and the proposed "Virtual Teams with Anonymity and Structured Interactions" (VTASIs). Also delineated are various factors which affect the performance of these teams with regard to the promotion of creativity.

Standard teams

Standard teams are those in which participants are usually collocated, meet face-to-face for generating new ideas, and see to it that the ideas are implemented to add value to the company. The literature offers many studies regarding the factors affecting the performance of such teams.

Both team members and the team leader have important roles to play. Belbin (1996) had recommended that a successful team should include members who play nine specific roles:

1. Problem solving – being creative, imaginative, and unorthodox.
2. Resource investigating – developing explorative and developing contacts.

دریافت فوری ← متن کامل مقاله

ISIArticles
مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات