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Spontaneous virtual teams: Improving organizational performance through information and communication technology

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Abstract   This article aims to scrutinize an emerging and prominent type of work team in organizations: the spontaneous virtual team (SVT). Despite the promising benefits an SVT can provide, it is confronted with great challenges throughout its lifecycle. In this article, we first highlight the unique structure and characteristics of SVTs as compared to other conventional types of work teams. Furthermore, we decompose the lifecycle of an SVT into three stages. We then use interview data among SVT managers and participants across several industries to analyze the challenges, corresponding solutions, and the role of information and communication technologies in each of the three stages. Understanding the emerging SVTs will be of salient value to professionals and corporate executives who are interested in finding effective technology-enabled means and work patterns to improve organizational work performance. The current work can also serve as a basis for future academic research on exploring the SVT phenomenon.

''Our global service department encourages employees to initiate valuable projects and collaborate with globally dispersed internal and external experts. This exciting task is

definitely not easy.'' ∼ *A manager of a large global IT company, speaking anonymously*

1. The emergence of spontaneous virtual teams

A large web service company, ABC, encourages its employees to initiate and develop their individual ideas during office hours. Bearing in mind its vision

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of promoting grassroots innovation, the company has implemented a corporate social network system that facilitates employee interactions and is embedded with detailed employee profiles and expertise. A software engineer, Ben, initiated the idea of creating a software extension to the company's main service. To achieve his mission, Ben searched the company's social network system. From this extensive pool of geographically dispersed colleagues, Ben identified two individuals who matched the essential expertise he required for this particular project. Ben approached them and fortunately received very positive responses. Thus motivated, Ben formed a team and began a virtual work relationship. The three members communicated with each other mainly through video conferencing and online text messaging tools. They shared project codes and versions through the online server. Two weeks later, the extension was successfully developed and released for public use.

Another large IT consulting company, XYZ, has a different management philosophy than ABC. XYZ's management exerts tight control over the company's projects. Although an online community is available at the corporate level, employee participation is minimal. Jack, an active employee, wanted to improve a particular service process within the company but had no idea who he could work with. A week after he had posted his plan and requirements on the company's online community, two colleagues from different departments expressed interest. Their self-reported expertise was apparently satisfactory. Jack accepted the two colleagues though he was unable to seek further verification of their expertise. Unlike Ben, Jack endured a negative collaboration experience with the two colleagues. During the collaboration, one member proved to be incompetent for the assigned tasks and failed to complete them on time. The other member, being preoccupied with his routine duties, failed either to respond promptly to emails or to be present at either their online or offline meetings. Frequently, the few discussions they did manage to hold were neither efficient nor effective. They failed to reach decisions promptly and progress was thus greatly hampered. After a month, Jack felt compelled to disband the team without completing the project.

The two scenarios above illustrate an emergent type of work teams known as *spontaneous virtual teams* (SVTs). In an SVT setting, geographically and/ or temporally dispersed team members assume responsibility for the initiation, formation, and management of a virtual team. Organizational managers, who often assume supervisory roles in conventional work team settings, exercise minimal intervention and control over SVT activities. With rapid changes in technology and the increasing demand for product and service innovation, many companies are surging embracing SVTs to foster innovation development, internal process optimization, and product improvements (Bick, 2007; Cao, 2011; Mayer, 2006; Siegler, 2010).

Despite the huge potential that SVTs can provide, they are confronted with great challenges throughout their lifecycles. It is evident from the second scenario that Jack, despite being the team initiator, lacked sufficient organizational resources or legitimate power in comparison to a team leader in a conventional work team setting. Consequently, Jack encountered difficulties in both managing his team and enforcing task execution. To the best of our knowledge, the extant literature provides very few insights on SVTs. Given the significant differences between SVTs and conventional work teams, prior knowledge on ensuring the success of conventional work teams may not be applicable in an SVT context (Frese, Kring, Soose, & Zempel, 1996). Here, it is our objective to explore effective solutions for solving the challenges inherent in SVT management. Specifically, we aim to address the following key questions:

- What is the unique structure of SVTs compared to other types of work teams in organizations?

- When and under what conditions (e.g., organizational environment/task nature) are SVTs appropriate?

- What are the unique characteristics and key challenges throughout the SVT lifecycle (from initiation to completion)?

- What managerial and IT-related factors are critical for SVTs' success?

To enhance our understanding of these issues, we first describe the underlying structure and lifecycle of a typical SVT. Next, we conduct in-depth interviews among several early SVT adopters. We then use the responses from the interviewees to support our analyses of SVT functions and offer some valuable suggestions on how to resolve potential problems in an SVT lifecycle.

2. The unique structure of SVTs

SVTs are endowed with high degrees of 'spontaneity' and 'virtualness.' The concept of spontaneity generally refers to the degree to which individual