

Essay on the importance of virtual team management in software development

[Business](#), [Management](#)



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DISSERTATION PROPOSAL:

Introduction

With the increase in globalization across various industries, the world seems to be getting smaller, especially with organizations having a presence in many areas of the world. This can be largely attributed to the creation of virtual teams, which enable people to work together despite being separated by distance.

A study conducted by American Business Collaborative found that more than 80% of the workers surveyed were “involved in some way with virtual work teams” (Brown, Huettner and James-Tanny, 2007, p. 1). These teams included those who worked across the world, across the country, across town, in offices, at a customer site, or from home.

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This type of team environment comes with certain challenges and as such, it is important for the employees' work habits and the organization's processes to be tailored in a way that they don't hamper -- and instead improve -- productivity and teamwork in the virtual team environment.

Literature Review

Johnson (2001, p. 143) described successful virtual team management as requiring the team manager's understanding of "the significance and interaction of the ingredients that make virtual teams productive," namely the "Six T's of Virtual Teams: team formation, training, task definition, telecommunication, tools and trust" (Johnson, 2001, p. 143). It also requires the manager's skills in determining "the most effective course of action in particular situations" (Brown, Huettner and James-Tanny, 2007, p. 7), enabling them to proactively manage the natural stress points that occur during the team lifecycle, which consists of the following stages: "forming, storming, norming, performing, testing, and adjourning" (Brown, Huettner and James-Tanny, 2007, p. 6). In addition, Dreo, Kunkel and Mitchell (2002) asserted that virtual team management involves keeping the team moving, keeping it on track, holding the team members accountable, and ensuring that it is productive.

According to Lipnack and Stamps (2002 cited in Vance, 2004), virtual teams are considered the fourth great socio-economic technological threshold of humanity, with the first consisting of hunters and gathers; the second being the agricultural era; the third being the industrial age; and fourth being the information age.

More and more companies are adapting the virtual team environment as it promotes time efficiency, better internal communication, more informed decisions, smaller thinking, greater permeability, better overall efficiency, efficient use of training resources, and increased productivity (Grimes and Whitmyer, 2009).

Virtual teams allow the organization to have a competitive edge against their competitors (Serrat, 2009) as it allows them to market their product as quickly as possible (Dreo, Kunkel and Mitchell, 2002). It also allows employees from different business units to work together in the event of a spin-off, a strategic alliance, an acquisition, or an organizational merger, as well as allowing some of the organization's business units to make use of human resources that may not be needed in another business unit. It also leads to increased profits due to reduced costs.

For the virtual team members, they are provided with greater autonomy, better use of individual time, greater sense of connectedness, greater equality, greater sense of accomplishment, and greater accountability (Grimes and Whitmyer, 2009).

On the other hand, some of the challenges with managing a virtual team are cultural differences, logistics, and communication, as well as challenges in project management and personnel management (Brown, Huettner and James-Tanny, 2007).

Handling the cultural differences requires having a genuine desire to understand and work with each other, as well as a friendly attitude, and an open mind. In the same manner, virtual team members should maintain a

sense of humor, establish a clear escalation path, avoid jumping to conclusions, and be proactive about communication. They should also be more explicit when providing information on their schedule and availability and have backup resources to prevent or address logistics issues.

Technology is the “ driving force behind the existence of pure virtual teams” (Arnison and Miller, 2002) and it’s also critical to its existence. As such, organizations should be able to provide employees with sufficient resources such as software, hardware, technical equipment, communication channels, proper training, facilities, time, and financial resources (Pauleen, 2004). Some of the necessary infrastructures include the Internet, VPN or Virtual Private Network, and the Intranet (Seilheimer, 2005).

On the other hand, some of the necessary communication tools include an e-mail system, fax capability, voice mail, audio conferencing equipment, and phone (Duarte and Snyder, 2006). If intensive collaborative work is necessary and sufficient information resources are available, other collaborative tools that can be used include whiteboards, instant messaging, team Web sites, personal computing devices, collaborative writing tools, electronic meeting systems, real-time data conferencing, calendar scheduling, and video conferencing (Duarte and Snyder, 2006).

Unlike face to face communication, written communication lacks the element of nonverbal communication such as gestures or facial expressions, which can either soften the message or help the sender of the information further emphasize a point being made. The same is true for voice-enabled communication, but it at least provides the recipient of the information with

more clues or hints as to how the other person means the message through the tone of the voice and through the voice inflections. Video conferencing tools, on the other hand, are more capable of getting nonverbal messages across. However, the quality of the interaction is still not as good as in a face to face meeting.

Software development is one of the industries that the virtual team concept. It is the “ process of developing software through successive phases in an orderly way” (Anon., What is Software Development?, n. d.). With the increasing complexity of the software applications being developed today, it has become necessary to develop methodologies, which have now been classified as either traditional or agile. Traditional methodologies tend to follow a sequential process whereas agile methodologies focus on “ incorporating testing as early as possible” (Indika, 2011). Requirements gathering and definition for traditional methodologies are performed at the beginning, making communication critical at this stage. In the same manner, communication in agile methodologies becomes crucial at every iteration where requirements can be modified. As well, communication is important in the daily or regular meetings conducted in scrum, JAD, XP, and JAW methodologies. These meetings are usually short and quick; hence, a face-to-face communication becomes helpful, if not necessary.

Objective

The main objective of this paper is to investigate the importance of virtual team management in the software development industry by evaluating the

virtual team management being conducted in two software development companies.

Research Question

In what ways does effective virtual team management contribute to the success of the organization?

The Context

The scope of this research is to identify the ways in which virtual teams and their management contribute to the effectiveness of an organization's operations. Both the advantages and disadvantages of this type of environment will be explored. The different challenges encountered by these organizations will also be investigated in an effort to determine whether the benefits that the organization gets outweigh the issues that the challenges pose and in order to enable the author to make recommendations on how to further improve virtual management practices.

Methodology

The methodologies that will be employed by this study include an extensive literature review on virtual team management, as well as an analysis of two published case studies on two software development companies that employ the virtual team environment. One of these companies will be using a traditional software development methodology while the other will be using an agile methodology.

The author will make comparisons of the companies in terms of how they manage the virtual teams, how they perform their work in this kind of

environment, and how having a virtual team contributes to the success of the company.

All of the information gathered will then be consolidated and analyzed, from which a conclusion will be drawn and recommendations will be made.

Ethical Issues

In conducting this research, the author will ensure that no ethical violation will be made. The author will ensure that all sources of information will be properly cited and that the findings from the case studies will be analyzed and presented in their original context and will not be tampered with.

Special Resources Required

Since the study will rely mainly on qualitative data, this will require extensive use of peer-reviewed journal articles, books, and other scholarly sources that will be accessed via the Internet, online and university libraries, as well as academic databases.

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