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# THE IMPACT OF TASK ON TRUST BUILDING AND PERFORMANCE IN GLOBAL VIRTUAL TEAMS

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## Abstract

*While a lot of research has been conducted on computer-supported groupwork, only a few studies have focused on global virtual teams, which are becoming a reality of organizational life. Past research has shown that task and trust are key elements that affect both group interaction processes and outcomes. Therefore, the overall objective of this study is to evaluate the impact of task on trust building and performance in global virtual teams.*

## Objectives

Many organizational activities are pursued with people working in groups to accomplish specific *tasks* (McGrath, 1984) in which they are expected to exhibit trust to achieve effective outcomes (Gabarro, 1978). So, task and trust are key elements that affect both group interaction processes and outcomes. Over the last decade, members of organizational groups have had new ways of interacting with each other due to technological developments such as the Internet, Web-based systems, and wireless tools. Such technological advances have facilitated the transition to virtual teams in many organizations.

In this virtual world, participants, geographically dispersed, can work and share information through electronic means such as email, videoconferencing, group support systems, and other collaborative tools (Chidambaram and Zigers, 2001). Specifically, a global virtual team has been defined as "... a temporary, culturally diverse, geographically dispersed, electronically communicating work group ..." (Jarvenpaa and Leidner, 1999 p. 792). While a lot of research has been conducted on computer-supported groupwork, only a few studies have focused on global virtual teams (Powell, 2000).

So, questions regarding global virtual teams are just beginning to be addressed. For example: Is there any difference in the interaction processes and outcomes of global virtual teams working on different tasks? Do global virtual teams build trust over time? Does trust development affect group outcomes? The overall objective of this study is to evaluate the impact of task on trust building and performance in global virtual teams.

## Research Background

Even though trust is acknowledged as an important and positive interpersonal variable (Lewis and Weigert, 1985), the literature presents different concepts according to specific areas of study (McKnight and Chervany, 2000). In the study of temporary teams, for example, Meyerson and Kraemer (1996) have proposed the concept of swift trust. Similarly, Jarvenpaa and Leidner (1999) have suggested that in global virtual teams trust might take on a form of swift trust but some variations related to other main effects such as task requirements can occur.

Theories such as Social Presence Theory (Short et al., 1976) and Media Richness Theory (Daft and Lengel, 1984) have been used by others (e.g., Daft et al., 1987) who propose that communication media can affect group social interaction. So, team outcomes and processes are a result of the technological capacities of the medium. In general, this view is based on rational decision assumptions.

However, a growing number of studies (e.g., Carlson and Zmud, 1999; Chidambaram, 1996; Powell, 2000; Wei, 1997), drawing on a relational developmental perspective, have suggested that over time groups can overcome the limitations imposed by the media. This research stream argues that if more time is given for electronic groups to interact, they will overcome initial technological barriers (Walther, 1996). For example, Chidambaram (1996) has demonstrated that over time computer-supported groups can and do exhibit relational development. Similarly, Wei (1997) argues that after a shared social construction is built up among the group members, rich information can be conveyed and relational development can be enhanced even in a lean medium. In addition, Zmud and Carlson (1999) have proposed Channel Expansion Theory, which suggests that the 'barriers' of media can be overcome via different types of knowledge.

## Research Model

Based on the relational development stream, the research model of this study (figure 1) is grounded in Adaptive Structuration Theory (DeSanctis and Poole, 1994). According to AST, technology, task, group characteristics, and other contextual variables are considered sources of structure

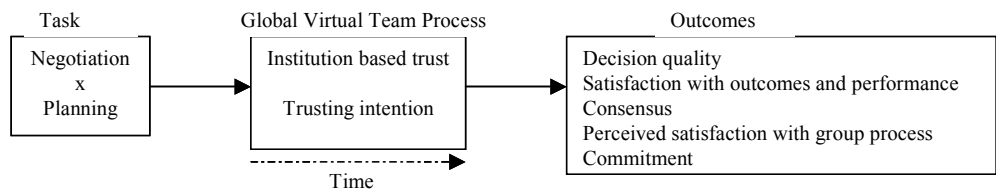


Figure 1. Research Model

that are provided to computer-supported groups both allowing and limiting their interaction in the workspace. Nonetheless, the group can moderate these structures, through a process called appropriation. Thus, groups collectively can to some extent control some of the social interaction variables of its members.

The task can have a significant impact on team performance and processes (Benbasat and Lim, 1992). However, its effects on global virtual teams have not been studied. In this model, two task types are examined. Because they belong to opposite dimensions in McGrath's taxonomy, it is expected that different degrees of trust will unfold across treatments. One is a negotiation task (Type 5), which generates high conflict among the members and the other is a planning task (Type 1) wherein members operate in a cooperative mode. In the former, members strive to maintain their points of view, even though they may differ. In the latter, group members share their knowledge and expertise to achieve a shared goal, usually in a cooperative mode.

The main group process variable that will be measured is trust. Other variables include group cohesion, conflict management, group collaboration, social presence, group consensus, and communication effectiveness.

From the four trust dimensions proposed by (McKnight and Chervany, 2000), two dimensions that are related to the environment and to the task are considered. The first is institution-based trust. This dimension relates to one's belief that the needed conditions (or structures) are in place to achieve successful outcomes. The second is trusting intention which represents one's willingness or intention to depend on other people in a given task or situation.

The outcome variables are the result of the group-task interaction process. These variables include measures related to the task (satisfaction with outcomes and performance) and to the group process (consensus, perceived satisfaction with group process and commitment). Group performance such as decision quality will be measured through objective criteria.

*We expect that trust will vary across treatments overtime. Thus, teams will present different trust measures according to the task being used.*

## Methodology

The research method used in this study will be a longitudinal controlled experiment (Campbell, 1963). While task will be manipulated, the other sources of structure will be either controlled or randomly assigned. Each of the two tasks – negotiation and planning - will be composed of four different but inter-related sub-tasks that will last one week each.

The main group characteristics are group size, members' previous experience, cultural background, and country of residence. The individuals will be randomly assigned to groups of five; each group will be composed of members located in different countries. The subjects will be graduate students with no prior experience with global virtual meetings.

All groups will use the same web-based groupware system, groups.yahoo.com®. This is a very interactive system and can be accessed from any computer in any location around the globe. Also, it provides various means for the experimenter to control the main functions that group members can access.

Half of the groups will perform task type 1 and the other half, task type 5. One week before working on the task, web-based training will be provided for all subjects. The program will explain all the system features and functions during their meetings and all the instructions necessary to perform their work will be posted on the experimenters' web site.

Considering that groups evolve over time, the research model includes time as a controlled variable. Each group will meet in a four-week period and dependent variables will be measured at the end of each week. All the communication among group members will be collected during each meeting on groups@yahoo.com®.

## Conclusion

Adaptive Structuration Theory argues that over time virtual groups will appropriate technological structures to suit their own needs. In addition, the Relational Development perspective proposes that electronic groups, given enough time, can develop relational characteristics such as trust even though they communicate through a lean medium. As a result, this study expects that global virtual teams will exhibit trust in varying degrees based on task and time.

For researchers, these results can provide a better comprehension of the relationship among tasks types, trust development and group processes and outcomes in global virtual teams. For business professionals the results will highlight task issues that they have to take into account when managing such globally distributed teams.

At the conference we expect to present some of our findings related to the pilot study that will be conducted this summer.

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