

ICT Processes for Virtual Academic Research Teams (VART) in Academia

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INTRODUCTION

In recent years, there has been increasing interest among managerial researchers in the phenomenon of *virtual teams*. The growth of the Internet along with other forms of information communications technology (ICT) have resulted in the adoption of geographically dispersed networks by businesses in an effort to maximize the utilization of expertise within organizations. Academics have been quick to notice this trend. Thus, a large number of written articles examine the impacts of these new teams on organizational structure, technology utilization, and team processes. However, academics have been slower to notice the changes that ICT have had on the way research is performed. While some work has been done describing the emergence of large formalized electronic networks of international scholars, these studies tend to dismiss the formation of small groups of scholars as irrelevant (Milliman & Glinow, 1998a, 1998b; Teagarden, Von Glinow, Bowen, Frayne, et al., 1995).

The purpose of this chapter is to bring these smaller self-forming, informal academic research teams into focus to understand the effects of ICT and associated processes which have emerged to support such formations. In addition, the identification of different traits within the small teams will be noted. This chapter will provide insight about *virtual academic research teams (VART)* based on the literature to date in this area as well as some insights about VARTs from two recent exploratory empirical studies (Carroll & Lecoure, 2005; Lecoure & Carroll, 2004). Specifically, it will address questions relating to the ways in which these teams come about, the different types of virtual research teams that exist, and the possible practices which result in the success these teams.

THE EVOLUTION OF VARTs

Understanding Virtual Teams

Advances in information technology over the past decades have increased the number of teams in various settings working across time and space. This new organizational formation has heightened interest by both academics and practitioners to explore virtual work teams. Although there is an increasing emphasis in the literature relating to the study of virtual teams, the work is still in its early stages of development (Powell, Piccoli, & Ives, 2004). The most prominent theme in the literature to date has focused on the challenges experienced by virtual teams, especially as relates to *media richness* and information communication technology tools (Andres, 2002; Maznevski & DiStefano, 2000; Powell et al., 2004). Specifically, this research has focused on the ways in which a business deals with the opportunities and challenges that are associated with the development of virtual teams and its effective use of information mediated technology. Studies have provided insights regarding the use of various communication channels from collaborative such as face to face, telephone, video conferencing, and instant messaging to asynchronous such as letters and e-mail (Majchrzak, Rice, Malhotra, King, & Ba, 2000; Pauleen, 2003; Townsend, DeMarie, & Hendrickson, 1996; Watson-Manheim, Chudoba, & Crowston, 2002). More recent works have begun to focus on areas such as team design, culture, training, relationship building, trust, communication, coordination, and task/technology structure fit.

Numerous definitions of a virtual team have been posited in the literature to date. Although variations exist between the definitions, most researchers agree in general terms that a virtual team is a group that is distributed and works across time and space using information communication technology (see Ahuja,

Galletta, & Carley, 2003; Bell & Kozlowski, 2002; Jarvenpaa & Leidner, 1999; Lipnack & Stamps, 1999; Manzevski & Chudoba, 2000; Powell et al., 2004; Wong & Burton, 2000). One issue that has arisen with respect to definitions and terms in this area is the semantics concerning the words “team” and “group.” Both terms are used interchangeably. However, it has been noted by some researchers that the term team “should be reserved for those groups that display high levels of interdependency and integration among members” (Powell et al., 2004). Considering this distinction, this article will define a virtual team as a “group of people who interact through interdependent tasks guided by a common purpose that work across space, time and organizational boundaries with links strengthened by webs of communication technologies” (Lipnack & Stamps, 1997, p. 7).

Academic Research Teams

For the most part, past research on the academic research process predominantly focused on areas such as individual author, multiple authorship, interdisciplinary research, academic/practitioner research, academic journal, and topics. It has been speculated that the number of authors on a per article basis has increased in recent times due to the enablement of ICT and the development of associated processes (Milliman & Glinow, 1998a, 1998b; Nason & Pillutla, 1998). However, while it is generally believed that academics have begun to work virtually with colleagues using various forms of ICT, there is to date limited empirical evidence to support this assumption. Further, a closer examination of the effects of ICT on the academic research process is driven by two trends. First, with the globalization of business, the challenge in management research has become heightened to create a more international focus when addressing research questions around cross-cultural dimensions, team effectiveness, and other new topics as they emerge (Turati, Usai, & Ravagnani, 1998). Second, the vast developments in information communication technology have also changed the ways in which academics exchange, access, and compute information (Koku, Nazer, & Wellman, 2001). These two factors combined have provided both the ability and need for academics to work virtually. Although some academics have worked in *distributed groups* in the past, there are few studies examining the

virtual academic research team (Milliman & Glinow, 1998a; Nason & Pillutla, 1998).

DYNAMICS OF VARTs

It must be acknowledged that an emerging stream of literature focuses on the *academic international research team (AIRT)*. Current published works around AIRT are limited and are aimed mainly at issues surrounding the planning and development of a model for large, organized, and funded consortiums (Nason & Pillutla, 1998; Teagarden et al., 1995). A review of the literature identified that most work was theoretical, case based, and speculative. Furthermore, in current research, the terms used to describe this phenomenon have not been consistent among authors in either description and/or definition. The overall review of the literature also identified that the individual virtual academic researchers have not been observed or studied to provide more general insights with respect to the VART experience.

A recent study attempted to address some of these gaps to provide more insights about VARTs. The following is an overview of the findings relating to both the increase in VARTs since the early 1990s as well as characteristics of VARTs identified through a qualitative case study with virtual academic researchers.

VART Trends

The rising trend in authors per article is unsurprising in light of the technological advances adopted within business and society over the last several decades. Even for researchers that work in single university teams, the ability to communicate outside of traditional office hours while having the use of asynchronous communication technologies allows for an even closer coordination of team tasks and the inclusion of additional researchers.

In a recent study of five leading academic organizational studies journals¹ (Lecoure & Carroll, 2004), there was a clear indication that multi-authorship has increased during the period between 1992–2001 (Figure 1). The rise in VART ratio appears to cut across both theoretical and quantitative works (see Figure 2). Significant trends in VART ratios were found in both the *Academy of Management Review*, which publishes theory pieces almost exclusively, and the *Academy of*

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