

Shaping Network Ties in Global Virtual Teams: The Antecedents That Mold Connectedness

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Abstract. The paper uses a sample of 109 students from four universities, each from a different continent, working in multiple virtual teams on projects for Asian or Latin American businesses, to investigate the determinants of network ties developed by team members and ways to help transform those ties in long-lasting relationships. Global identity, collective mind and knowledge sharing are included together with networking ties into a theoretical model that is tested using SEM in AMOS. The results are analyzed in the context provided by the project-based learning approach. While global identity is found to be the cornerstone for establishing a collective mind and encouraging knowledge sharing, strong networking ties depend on the development of team collective mind and the willingness to share knowledge. Implications for designing project-based courses intended for virtual student teamwork and avenues for further research are discussed.

Keywords: global identity, collective mind, knowledge sharing, network ties, virtual teamwork, project-based learning.

1. Introduction

To a larger degree than co-located teams, virtual teams tend to be formed and developed with members who have not been acquainted before and have different backgrounds. The increased popularity of virtual teams hints to the importance of building, in these teams, high-quality connections (Dutton & Heaphy 2003) that are recognized for their psychological intimacy and resilience. These connections facilitate network ties and good interpersonal relationships between team members.

Network ties have been frequently described as social resources that are instrumental for building human and social capital and offer support, acquaintances, and information (e.g., Stadtfeld & Pentland 2015; Bapna, Gupta, Rice, & Sundararajan 2017; Hasan & Koning 2020). Although greater network

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ties are undoubtedly important, not least because they enhance team performance through a sense of social connection and acceptance and opportunities for collaboration, the broader range of network ties has not yet been specifically explored in virtual teams. Arguably, many network ties can be developed to meet the criteria of high-quality relationship in these teams. Identifying individual and interpersonal characteristics of virtual team members that can provide connected team members with valuable resources and positively impact their network ties provides valuable insights and is a worthwhile research endeavor.

We explore factors that can influence network ties relevant to global virtual teams. Team members' individual and interpersonal factors can pinpoint to actions that educators can take to develop connectedness. In the context of global virtual teamwork, network ties tend to be elevated by experiential instructional activities that address the level of global identification, development of collective mind, and willingness to share knowledge.

We begin by describing the concepts of global identity, collective mind, knowledge sharing, and network ties. Based on previous research findings, we develop a theoretical model and hypotheses that summarize the proposed relationships between the four constructs. Then, we analyze the hypotheses to assess the empirical support for the proposed model, discuss findings and draw conclusions that are relevant to educators and actual participants in global virtual teamworking.

The above discussion helps to place in context the scope and goals of the present paper. An innovative international business and entrepreneurship experience course has been developed to offer students an opportunity for transformational experience and self-efficacy growth (Bandura 1986) in an international environment by merging business, entrepreneurship and cultural experiences. Self-efficacy is achieved through both a mastery experience (i.e., mastering a task and controlling the environment) and a vicarious experience (i.e., observation of people and activities) as described by Srinivasan *et al.* (2007) and later by Jimenez and De La Fuente (2016).

A virtual team, less expensive but very effective, with a strong cultural component, can provide the transformational experience needed to thrive in a multicultural environment (Lee *et al.* 2020). Four universities from Asia, Europe, Latin America and the USA have joined efforts to offer a common field case experience to their students within the framework of the international business experience course mentioned above. Students from each university work in mixed teams to solve problems for clients, businesses in China or Brazil. A pool of companies willing to participate as clients have been set up, in time, by the universities. From this pool, student teams select their clients and problems to be solved (usually, a marketing strategy issue). Each team works in a virtual environment for the length of the semester, interviewing the client, dividing work, conducting research, analyzing the markets and the companies' strategies, and making recommendations in the form of action plans. Student teams aggregate

their findings into a final project that is defended in a virtual workshop where they support their results and action plans. Faculty, students and businesses interact virtually and feedback is provided to each team.

This approach brings a bundle of benefits to the participating students. They learn to conduct research in an international business environment, investigate international business opportunities, work on a complex project and defend their results. Students think and act both globally and locally, given the pressure for, both, global integration and local responsiveness. They get to know and work with students from different continents. Tremendous networking opportunities are offered with colleagues and instructors from other universities, as well as managers and employees from a multitude of companies. The cultural experiences are meaningful. Growth of self-efficacy is obtained through a combination of numerous experiences in virtual international settings.

Teamwork encourages students to develop a collective mind, share information and knowledge and develop networking ties (Cattani, Ferriani, Negro, & Perretti 2008). That helps them build team cohesiveness and deliver good quality projects. Students are encouraged to build ties outside the activities related to the project and beyond the end of the course, thus creating long-lasting friendships. The research question for this paper is: What are the best ways to increase networking ties among students working in virtual teams for common projects? The paper discusses constructs that might contribute to an increase in network ties among participating students. A theoretical model is developed and tested using SEM with AMOS 26. The method and data analysis sections are followed by an examination of the results, their implications, as well as the limitations and opportunities for further research.

2. Constructs and the Theoretical Model

2.1. Global Identity

Globalization is permanently influencing the world economy and the relationships between nations and individuals. People around the world are impacted by the flow of economic activities, ideas and capital. The process of identity formation is influenced by both interactions at home and interactions with individuals and entities from other cultures and countries (Gonzales-Fuentes 2019). Identity represents an important construct and is used in the literature as an antecedent in many studies that refer to customers' product evaluation and choice as well as in research related to work settings in an international environment. Indeed, the impact of identity on consumer purchase is significant (Saint Clair and Forehand 2020). The collection of identities determines their self-definition (Magnusson *et al.* 2015).

Global identity represents the emotional and psychological investment in the world (Arnett 2002). Global identity is related to working for global organizations or in multicultural teams and living in more than one country. Strong global identity has a significant impact on buyer behavior, since an individual holding such a strong identity wants to purchase brands that reinforce that identity (Erez *et al.* 2013). Therefore, global identity is advanced as a key factor that drives the value of global brands (Steenkamp *et al.* 2003) or determines the response of the individual to different pricing strategies (Gao *et al.* 2020).

As mentioned, global identity importance goes beyond consumer behavior and is ubiquitous in the workplace in international settings. Work in multicultural teams, in situ or virtually, adds to the complexity individuals have to deal with at different levels of global identities. Certainly, global identity influences the willingness of team participants to share knowledge and to engage in networking. Global identity extends the range of inclusiveness; as such, team members could see beyond their own national dissimilarities and sense culturally diverse team members as belonging to one group (Shokef and Erez 2006). Global identity may also enable innovation. Celik *et al.* (2016) indicate that individual work-related curiosity is a positive predictor of innovation. The level of curiosity increases in a global setting, when individuals engage in interactions with the other team members.

Increased involvement with their work partners leads to the increased acceptance of the team identity by individual members (Jarvenpaa and Leidner 1999). Therefore, an individual with a higher level of global identity is predisposed to engage in networking with the other team members and to show the willingness of knowledge sharing (Ariely 2017). Strong global identity helps develop a collective mind perception for the team members. Indeed, Renger and Reese (2017) postulate that global identity reflects social identification with the world and thus, implicitly, helps develop a collective mind for the individual. Lomi *et al.* (2014) propose and test relationship formation based on strengths of organizational members' identification. They find that organizational members who strongly identify with local foci tend to seek local advice in contrast with the members who identify with a global focus who seek and give cross-boundary advice. While investigating Millennials' multiple identities, Gonzales-Fuentes (2019) finds that global identity generates shared mentality, which is referred to as collective mind.

2.2. Collective Mind

Weick and Roberts (1993) coin the term collective mind as a pattern of heedful interrelations of actions in a social system, thus opening a rich field for research in the realm of mindful coordination of behavior. When interrelations are heedful,