Exploring the State of Discipline on the Formation of Swift Trust within Global Virtual Teams

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Abstract
The study of global virtual teams (GVTs) is important in the Information System (IS) field because GVTs employ a work structure that is heavily dependent on information communication technology. Besides the use of technology, GVTs are also composed of people from different cultural backgrounds. As such, GVTs are challenged not only to collaborate and coordinate projects in a virtual environment, but also to promote a trusting working relationship among culturally diverse members. In this meta-synthesis research, we sampled 3239 documents spanning fifteen (15) years, from 1995-2010 in seven (N=7) top IS journals. Trained coders read through all the articles systematically and coded the contents manually; only 55 useable articles were found that matched three or four of the codes (i.e., GVTs, virtual teams, trust, and swift trust). In the 15-year period, we found a startling result: less than 2% of articles published in the selected top IS journals have discussed this crucial topic. Hence, many more studies are warranted in order for the topic to be fully understood by IS scholars. We present the findings based on two thematic analyses: 1) GVTs vs. virtual teams and 2) GVT and trust and swift trust.

1. Introduction
In years past, team members might have had the luxury of developing a trusting relationship between members, learning about each other’s behaviors, and building historical shared work experiences over a span of time. Now, as organizations have begun to introduce a new working structure with the use of global virtual teams (GVTs), such luxury is much less practical, and less common. More and more often, team members need to cooperate on projects without a personal knowledge of who they are working with. All they know is that the projects need to be completed within the time frame agreed upon, and yet the members they are collaborating with may be thousands of miles away.

To make this work, organizations need to ensure that their employees are equipped with the competencies necessary to effectively build swift trust. Swift trust is defined as a high level of trust, developed in the initial stages of working together (Meyerson, Weick & Kramer, 1996) over a short period of time (Jarvenpaa, 1999). In support of this, Robert Jr., Dennis and Hung (2009) further argue that this form of trust can occur under temporary teamwork conditions such as virtual teams, in particular when members do not have any history of working together. As such, organizations need to realize that without a trusting relationship between team members in a distributed work environment, members will be unable to contribute and perform at their best within a short period of time; this is especially critical for complex and rapid-turnaround projects. The virtual trust built between members enables them to collaborate effectively and efficiently in order to achieve the goals of the organization.

In this paper, we discuss the ability of GVT members to develop swift trust. A common element when establishing a working environment among team members is the question of ‘Can we count on you?’ In this new working structure of GVTs, the question would shift to ‘Can we count on you at a distance and how do we achieve that?’ These obviously have important implications for organizations that continue to seek for novel work structures or aim at changing the traditional form of organization to a virtual organization. Hence, the overarching research question is, "What is the current state of literature that addresses the formation of swift trust in GVTs?"
swift trust in GVTs over the span time of fifteen (15) years? We conducted a meta-synthesis, also known as a qualitative meta-analytic review, with two specific objectives:

a. To provide an understanding of two key concepts — global virtual teams vs. virtual teams (VTs) — and their differences;

b. To explore the formation of trust and/or swift trust within GVTs.

2. Methodology

We carried out a meta-synthesis which is a qualitative meta-analytic review to fully understand the topic of interest in terms of what has been published in the top IS journals (see Table 1.0). The purpose of employing meta-synthesis is to build a concrete foundation on previous studies that have looked at GVTs. We undertook our thematic analysis by reviewing journal articles as our dataset. The purpose of the review was to obtain a rich understanding of the topic of interest based on the sampled articles (n=55). The method is interpretive (known as meta-synthesis), rather than aggregative (known as meta-analysis). We sampled 3239 documents spanning a period of fifteen (15) years, from 1995-2010, in seven (7) top IS journals (see Table 1.0) as ranked and rated by the Association of Information Systems (AIS)*, an international organization whose membership includes more than 4,000 IS scholars from 90 countries.

Two trained reviewers coded the documents based on four keywords we selected as the criteria of search: GVTs, virtual teams, trust, and swift trust (refer to Figure 2.0). The reviewers manually and systematically screened each year, volume, and issue of each journal in order to completely categorize every single article. Based on these reviews, we selected fifty five (n=55) articles for in-depth analysis which matched three or four of the codes. In the 15-year period under review we found a startling result: less than 2% of articles published in the seven top IS journals discussed this crucial topic. In fact if we were to entirely single out articles simply on the issue of GVTs and swift trust, the result is more astonishingly unexpected, resulting to only thirteen (n=13) usable articles (see the result in Table 2.0).

In the following sections, we first briefly describe our research methodology based on meta-synthesis. Next, we present our thematic findings in the form of in-depth descriptions based on the top IS journal articles (n=55). In the final section, we outline some implications for multinational companies (MNCs) followed by concluding remarks on the future direction of carrying out an empirical study of building swift trust for GVTs, warranting many more studies in order to be fully understood by IS scholars.

We went through the documents with a deductive approach and then continuously developed and refined the codes with the coders as we went along. We grouped the documents into two thematic categories, depending on their significance to the study based on the codes we developed. The codes were developed based on a hierarchical and relational structure, beginning with VTs and/or GVTs followed by trust and lastly swift trust.

3. Overview of Thematic Findings

At present, very few studies have conducted meta-analysis or meta-synthesis on the topic of GVTs. So far, the existing work has only looked at a meta-analysis of literature on virtual teams (Lin, Standing & Liu, 2008; Hertel, Geister & Konradt, 2005), without the global aspect. We found that our 15 years of review was effective in encapsulating the development of the topic of GVTs in the IS field. Most importantly, we found evidence of the historical understanding of and the progress in GVT studies entirely based on trust effects. As such, we were able to determine whether or not this topic provides a fertile area of study for further exploration and examination. The findings, detailed below, shed light on how and why GVTs face challenges in achieving effectiveness due to the difficulty of forming swift trust given the novelty of the GVT work structure and the diverse cultural backgrounds of team members.

The analyzed documents clustered around two themes, revealing the substance of how GVTs work. The first theme covered the fifty five (n=55) articles that comprise of VTs and GVTs. The theme relates to the conceptualization of GVTs vs. VTs in which we will provide the definition between VTs vs. GVTs. Hence, it is important to know whether or not the virtual teamwork concept is inclusive of cultural heterogeneity vs. cultural homogeneity, or what is termed "national boundaries." Under the second theme, we focused on the articles that only specifically looked into the issue of trust and swift trust—thus only critically reviewing and analyzing thirteen (n=13) articles. The aim is to examine the effectiveness of GVTs based on trust. It has been
established that a team requires the element of trust among and within its members in order to be cohesive, effective and sustainable over a short time span of collaborating and working together while geographically apart. Hence, the detailed descriptions provide insights into how trust is conceptualized and measured in GVTs. More important, however, is the genesis and development of the concept of swift trust, a new unit of measurement for the evaluation of trust in the GVT environment.

### Table 1. Selected documents based on 'A' ranked IS journals

<table>
<thead>
<tr>
<th>No</th>
<th>Journals</th>
<th>Documents Collected &amp; Examined</th>
<th>Documents Coded &amp; Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Journal of Management Information Systems (JMIS)</td>
<td>607</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>Information Systems Journal (ISJ)</td>
<td>254</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Information Systems Research (ISR)</td>
<td>358</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>MIS Quarterly (MISQ)</td>
<td>759</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Information &amp; Management (IM)</td>
<td>420</td>
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</tr>
<tr>
<td>6</td>
<td>Journal of Information Technology (JoIT)</td>
<td>460</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>European Journal of Information Systems (EJIS)</td>
<td>381</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>3239</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>% of documents usable for analysis</td>
<td></td>
<td>1.7%</td>
</tr>
</tbody>
</table>

#### 3.1 Theme One: Defining and Differentiating Virtual Teams vs. Global Virtual Teams

In our meta-synthesis analysis, we found that the concept "virtual team" (VT) was used far more often (81%--n=45) than the concept "global virtual team" (19%--n=10 articles). Therefore, we will first review the definition of VTs and GVTs and present their similarities and differences to seek for consensus of definition, if any. We will also look at the definitions from both the macro level—the rising phenomenon of virtual organizations (VOs) at the organizational level—and the micro level, which is how the term was originally conceptualized at the individual and team level.

First, let us look at the meaning of VT at the macro level, as it is embedded in the context of VOs. Riemer and Klein (2008) began their conceptual paper by highlighting that a VO is an emergent organizational innovation in response to a turbulent and competitive environment as well as to changes in customer demands. They defined VO from two standpoints: organizational and technological. In the technological view, a VO is seen as an ICT-enabled corporation in which ICT facilitates the creation of new forms of work structure and workforces such as virtual teams. On the other hand, in the organizational view, a VO is conceptualized as a network organization. People are seen as interdependent partners, with each of them offering his or her own independent resources and expertise to reach common goals through shared common ground. Riemer and Klein further flesh out the concept of a VO by identifying three types of virtualization: (1) organizational, (2) technological, and (3) temporal. All three types of virtuality illustrate the essence of culture, space, and time boundaries, hence are meaningful for understanding the emergence of VTs in organizations.

The types of virtualization are briefly described as follows. First, organizations need to create a conducive climate or culture which rests upon the relevant structure, vital resources, flexible arrangements, and appropriate mechanisms in order to create an effective VO. In turn, the organizational culture needs to be compatible with the existence of virtual teams. Second, there is technological virtualization: Riemer and Klein describe organizations as geographically or spatially dispersed set-ups which need technical support for new work structures such as virtual teams. Finally, the third type of virtualization, temporal, refers to the way tasks are structured over a short period, meaning that team members must have the flexibility to adapt to changes such as working from afar because they need to achieve goals within a shorter period of time than normal.

In a similar vein, Chudoba, Wynn, Lu and Watson-Manheim (2005) also examined the differences between VOs and VTs based on their summary of IS researchers' findings. For instance, according to Kraut et al. (1999), the function of a VO...
is to outsource key components for production, whereas the purpose of a VT is to develop temporary or ad hoc teams to solve specific problems, and usually the team members are non-collocated (Jarvenpaa, Knoll & Leidner, 1998). Looking at a VO from the macro level provides a holistic view of the kinds and nature of the tasks and work structures involved when team members operate in a virtual organization. If organizations want to build VOIs to keep pace with the latest competitive markets, Riemer and Klein seem to be optimistic about virtual teams as a new way of accomplishing this.

When we advance to a more in-depth definition of VTs, we need to examine the varying degrees of virtualization as suggested by Chudoba et al. (2005). Such knowledge can provide further insights into VT effectiveness and impact in a global organization. For example, Schweitzer and Duxbury (2010) found that the more virtual the team members are, the less effective they are. They assert that the degree of virtuality is inversely related to team performance. In support of this, Chudoba et al. (2005) argued that teams experience discontinuities based on factors such as geography, time zone, organizational culture, national culture, work practices, and technology. All those factors can be classified into the three categories of team distribution, workplace mobility, and diverse work practices. They found that it is not the physical remoteness or dispersion of the members that affects team performance. Instead, what matters more is team members’ availability, reliability and sociability in the workplace, a question of how easily a person shifts from one place to another—i.e. from home to office or to another work location. The more mobile they are, the more positively it will affect their performance.

Another aspect of virtuality that influences team performance is the individual work practices that are aggregated when members team up or work together. This challenge surfaces when people have different ways of doing things, particularly routine tasks. For example, when virtual teams encompass members from different organizations, functionalities, or nationalities, their work practices differ. What is common in one organizational culture may not be sustainable, or even acceptable, in another and thus team members need to change to accommodate their differences in work processes and practices. It is these missing commonalities that pose new forms of discontinuities to the team members. As a consequence, the abovementioned factors stated by Chudoba et al. (2005) affect team performance.

Although Reimer and Klein presented the concept of virtual teams in light of the three types of virtualization, they did not discuss the degree of virtuality. Filling this gap, Chudoba et al. (2005) provided a specific understanding of VTs based on the degree of virtualization. They felt that, although other studies had found it difficult to define virtual work, by using the concept of discontinuities they were able to measure ‘virtualness’ which in turn enhances the explanation of degree of virtualness in virtual work.

We further analyzed other IS articles and found that only some of them clearly articulated a definition of VTs (key papers here include Sarker, Sarker & Jana, 2010; Lionel, Dennis, Hung, 2009; Wakefield, Leidner & Garrison, 2008; O’Leary & Cummings, 2007; Griffith, Sawyer & Neale, 2003). These scholars share a consistent four-part definition of VT: that its members:

1) are non-collocated and thus can work dispersedly across different organizational boundaries, functionalities, and/or geographical locations;
2) use information communication technology (asynchronous and/or synchronous) to collaborate and communicate for work purposes;
3) experience time differences when they work remotely; and
4) are assigned tasks or projects based on temporally flexible schedules.

The network view of organizations that exemplifies VOs also appears to support the idea of cross-border team collaboration in light of cultural aspects. Scholars who have researched this perspective begin to define VTs exclusively with cultural conditions (refer to studies from Seetharaman, Samarah, Mykytyn & Paul, 2004; Jarvenpaa, Knoll & Leidner, 1998), meaning that the composition of the members is heterogeneous in nature instead of homogeneous. As increasing numbers of multinational corporations (MNCs) are using VTs as a common form of work structure, the cultural boundaries among members need to be managed due to their complexity, which includes national, organizational and functional parameters.

Given such differences, we summarize that for VT studies, one need to look at the context of the virtual setting and whether or not it includes different geographical locations and nationalities to ensure that it addresses the cultural dimension. For the GVT concept, the cultural component is the crucial aspect that sets apart the definition of GVT and VT. This is because team members consist of people from varied nationalities and different organizational cultures. Without doubt, when a study uses the concept of GVT, it is clearly an investigation of cultural complexities within or across teams, whereas for VT studies, it may or may not be such a clear-cut case. Although some of the later studies that use the concept of VT acknowledge the cultural component
in teams, they still use the term VT in their work rather than GVT (see Reimer & Klein, 2008; Kanawattanachai, et al., 2008; Chudoba et. al 2005; Seetharaman, et al. 2004, Paul, et al., 2004; Jackson, 1999). If we were to synthesize our findings based on organizational trends (i.e., virtual and network organization) and cross-border collaboration around the globe, along with the progress in the past 15 years in the research of VTs and GVTs, we feel with certainty that both terms can be used interchangeably, particularly in today’s work context.

3.2 Theme Two: Exploring Trust and Swift Trust within GVTs

Based on the fifty five (n=55) articles we reviewed on VTs and GVTs, there were only thirteen (n=13) articles that specifically addressed the issues of trust and swift trust. As illustrated under Table 2.0, our findings showed that out of the thirteen documents reviewed, eleven articles looked at the issue of trust in the GVT or VT setting while only two articles looked at swift trust. Interestingly, the first article that looked at GVTs in 1998 also explored the possibility of developing swift trust. Yet, only after a decade—in year 2009, the issue was revisited. Although this issue is thus exceptionally limited in its contribution to the topic of GVT, we noted that the issue of trust in general appeared to have been extensively discussed in the top IS journals as well as in other fields such as management, organizational behavior, human resource management, etc. (Beranek, 2000; Ishaya & Macaulay, 1999; Kriffin-Peterson & Cordery, 2003; Kramer, 1999; McAllister, 1995; Zeffane & Connell, 2003).

The main argument in all articles is that trust matters greatly in the distributed organizational and team context for knowledge sharing (Robert, Dennis & Hung, 2009; Staples & Webster, 2008; Kanawattanachai & Yoo, 2007), coordination and communication (David, Chand, Newell & Resende-Santos, 2008; Stewart and Sanjay, 2006), team process (Larsen & Mc Inerney, 2002), relationship building (Paul & McDaniel, 2004), and how dispositional characteristics such as Internet anxiety and personal traits (Thatcher, Loughy, Lim & McKnight, 2007; Brown, Poole & Rodgers, 2004), behavior control mechanisms (Piccoli & Ives, 2003), leadership, and relationship building (Pauleen, 2003) affect trust formation among team members.

Table 2. Studies on ‘trust’ and ‘swift trust’ issues over 12 years

<table>
<thead>
<tr>
<th>NO</th>
<th>YEAR</th>
<th>AUTHOR</th>
<th>JOURNAL</th>
<th>ISSUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>Dubé, Robey</td>
<td>Information Systems Journal (ISJ)</td>
<td>Trust</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>- Robert Jr., Dennis &amp; Hung</td>
<td>Journal of Management Information Systems (JMIS)</td>
<td>Trust</td>
</tr>
<tr>
<td>3</td>
<td>2008</td>
<td>Staples &amp; Webster</td>
<td>Information Systems Journal (ISJ)</td>
<td>Trust</td>
</tr>
<tr>
<td>4</td>
<td>2007</td>
<td>Kanawattanachai &amp; Yoo</td>
<td>Management Information System Quarterly (MISQ)</td>
<td>Trust</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>- Thatcher, Loughy, Lim &amp; McKnight</td>
<td>Information &amp; Management (IM)</td>
<td>Trust</td>
</tr>
<tr>
<td>6</td>
<td>2006</td>
<td>Stewart &amp; Sanjay</td>
<td>Management Information System Quarterly (MISQ)</td>
<td>Trust</td>
</tr>
<tr>
<td>7</td>
<td>2004</td>
<td>Paul &amp; McDaniel</td>
<td>Management Information System Quarterly (MISQ)</td>
<td>Trust</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>- Jarvenpaa, Shaw &amp; Sandy</td>
<td>Information Systems Research (ISR)</td>
<td>Trust</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>- Piccoli &amp; Ives</td>
<td>Management Information System Quarterly (MISQ)</td>
<td>Trust</td>
</tr>
<tr>
<td>12</td>
<td>2002</td>
<td>Larsen &amp; McInerney</td>
<td>Information &amp; Management (IM)</td>
<td>Trust</td>
</tr>
</tbody>
</table>

Although our meta-synthesis was conducted within the duration of 15 years (1995-2010), but the first article that discussed on trust (i.e. swift trust) was published only in 1998, hence capturing only 12 years of analysis.
Teams rely on trust most significantly when working together both in the physical face-to-face setting as well as the virtual setting. In the small group or organizational literature it was clearly noted that teams obtain their cohesiveness when trust is present (Handy, 1995; Webster & Wong, 2008). According to Meyerson et al, (1996), teams can also develop another form of trust called ‘swift trust’ which is defined as an outcome of an ad-hoc or temporary team that collaborates on important and complex tasks. Trust in this form cannot be developed at a normal pace since the length of time a team will be together may vary and usually is developed over a much relatively shorter period of time. Moreover, Adler (2007) argued that ‘swift trust’ is normally established at the inception stage. Yet it is challenging to do so because team members lack a shared historical background, are composed of culturally diverse individuals, and operate on complex, non-routine tasks and interdependent projects. It is further suggested that swift trust will enable members to initially look for external sources and perhaps create a conducive condition for working together at a distance if the project needs to be completed in a rather short time (Greenberg, Greenberg & Antonucci, 2007).

Out of those thirteen articles, the first article on GVTs was published by Jarvenpaa, Knoll and Leidner (1998), who established the existence of swift trust. In the past, studies that looked at the phenomenon of small group or team work have established that trust is most crucial when working together because a group achieves cohesiveness only when trust is present. Similarly, in the context of GVTs, Jarvenpaa, et al. found that teams can be differentiated along a continuum from highest trust teams to lowest trust teams. They also found that the same antecedents—such as trustor’s perceived ability, benevolence, integrity, and trustee’s propensity to trust—can be applied in the virtual team context and hence can provide the same predictions as in the face-to-face dyadic interactional situation. As a conclusion, they affirmed that the taxonomy of trust indicates the existence of swift trust.

Previous studies (see Dabbish & Kraut, 2006; Hinds & Bailey, 2003; Powell et al., 2004; Kraut, Egigo & Galegher, 1990; Cramton, 2001; Olson & Olson, 2000) have clearly shown that when teams are physically distributed, they face work challenges because communication is inhibited by the barriers of distance and the low level of contextual information received. For example, Dabbish and Kraut examined issues related to team members’ awareness of their tasks, roles, activities, availability, process, and perspective in order to design better information displays on the computer. The results showed that people value abstract information displays rather than high information displays. The goal is to ensure that team members can communicate more effectively even when they are located remotely.

Trust takes on a new dimension because teams need to develop ‘swift trust’ in order to optimize cross-organizational team performance and to provide management with reduced costs. Our current study aims at exploring the question, “What is the current state of literature that addresses the formation of swift trust in GVTs over the span time of fifteen (15) years?” We argue that team members frequently encounter challenges in developing swift trust because their diverse cultural backgrounds give rise to different, sometimes conflicting, approaches to trust formation as well as different time requirements for developing such trust. Not only the conception of trust building will differ among multicultural team members, but such trust building will also be challenged when members do not have the capacity to initially understand basic information such as who, why, what, and how others will operate in a virtual environment.

Without doubt, the lack of trust-oriented studies has been clearly noted by other researchers (Shachaf, 2008; Kanawattanachai & Yoo, 2007; Cousins, Daniel, Zigurs, 2007; Jackson, 1999) but we have yet to understand to what extent it is insufficient. Hence, our research goal to gauge the extent to which such topics have been examined by IS scholars was accomplished when we analyzed the thirteen articles. There was severely lack of studies that looked into the issue of swift trust in the top IS journals. Yet, we recognize the value of GVTs is particularly important in the IS field because the work structure is heavily dependent on information communication technology.

4. Conclusion and Future Research Directions

In essence, we propose that swift trust formation is more challenging for individuals who operate in a virtual work structure than in a face-to-face work environment. Such challenges are further intensified when the team members possess heterogeneous cultural backgrounds. Thus, we suggest several key questions for shaping the direction of future work in understanding swift trust formation in global virtual teams, as follows:

- What are the challenges team members faces in developing swift trust in a virtual work structure?
What are the antecedents to, and consequences of, the success or failure of swift trust development?

Based on our meta-synthesis, we can to some extent conclude that there is lack of studies on swift trust formation within GVTs. Yet, GVTs offer new ways of managing team effectiveness which have so far hardly been recognized, much less understood, in the field of IS, as evident from our meta analytic review. Therefore, as a recommendation for future study, similar reviews need to be done with their scope expanded to include top management journals as well as scholarly databases so as to obtain articles from a wider spectrum of interdisciplinary fields such as management, sociology, psychology, organizational behavior, and many others that have strong connections to trust formation and the use of GVTs.

5. References