TRUST AND VIRTUAL ORGANIZATIONS

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Abstract: The notion of trust in virtual organizations, VO's, is an oxymoron. Inherently, virtual organizations arouse concerns about security and trustworthiness. Those with an E-customer focus further exacerbate the demands and requirements for trustworthy environments. Trust in virtual organizations is a poignant and timely issue in organizational science and the management of information systems. In the last decade, the topic of trust and virtual teams has been the subject of a scarce and rapidly expanding body of literature, which intersects Human Resource Development, HRD, and Management of Information Systems, MIS. (Nandhakumar & Baskerville, 2001; Ishaya and Macauley, 2000; Galvin, 2000; Hugli, 2000, Jarvenpaa, Knoll and Leidner, 1998; Jarvenpaa and Leidner, 1998; Iacona and Weisband, 1997; Meyerson, Weick and Kramer, 1996).

Entering the 21st century, the velocity of organizational change driven by IT advancements and globalization was already ferocious. However, in the last six months since 9-11, major budget cuts, drastic travel restrictions and sudden geographic distribution have become the norm in many organization to cope with the dire circumstances brought about by the terrorist attacks in the United States on September 11, 2001 in the United States. Virtual organizations with critical missions and compressed time-frames have virtually been spawned overnight since then, to respond to these unexpected and drastic conditions effecting both industry and government worldwide. Developing a just-in-time mechanism for building trust in virtual organizations has become more important than ever.

Key words: 9-11, Virtual Teams, Virtual Organizations, Imaginary Organizations, Networks, Swift Trust, Just-in-Time Trust, Critical Mission, Time Constraints, Digital Divide, Computer Mediated Communication, (CMC), E-collaboration, Networks, Videoconferencing, Blended Learning, Leadership Training.

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1. BACKGROUND

Building upon an article by the same author published in the Proceedings of the World Multiconference on Systemics, Cybernetics and Informatics (Rossen, 2001), this paper explores a range of issues relating the developing of trust in virtual environments. This is an important area of contemporary research that is unfortunately lacking in-depth studies and rigorous theoretical development.

Furthermore, this paper points to major shortcomings in the available empirical work, which is that it is limited, emerging and primarily consists of contrived lab experiments performed on student participants (Iacona & Weisband, 1997; Jarvenpaa, Knoll & Leidner, 1998a; Jarvenpaa & Leidner, 1998b; Ishaya & Macaulay, 2000). One in-depth study has been conducted on training and virtual organizations (Hugli, 2000). While it provides valuable insights on the successful development of trust in virtual organizations in the military sector, it points to the need for further research in business organizations. Specifically, Hugli (2000) found that inferences about trust in virtual teams in the military sector could not be applied to the business sector.

Research on virtual organizations quickly becomes outdated as technology quickly advances and late adopters of technology gain literacy. Important research on virtual organizations sometimes gets delayed or canceled because of the inadequacies of research institutions in accommodating its accelerated requirements and other emerging needs. While two organizational case studies do exist (Nandhakumar & Baskerville, 2001; Ruhleder, Jordan & Elmes, 1996), underlying the research agenda of trust and virtual organizations, is a plethora of critical needs related to globalization, security, and overcoming digital divide.

While this paper extends the critical review of the literature on trust and virtual organizations, it calls for accelerated forms of empirical research to be conducted in real organizational contexts with blended learning solutions including the most up-to-date synchronous and asynchronous e-collaboration tools. Furthermore, as a first step towards an action research agenda, this paper is written to be delivered in conjunction with a virtual organization leadership exercise designed by its author.

2. ORGANIZATION

The organization of this paper follows. In the following section, traditional organizations are situated in the changing landscape of the 21st century. Following, the differences between traditional organizations and

virtual organizations are examined. Then, the author defines trust and evaluates the challenges confronted by virtual organizations in establishing trust. In the next section, the importance of trust for virtual organizational success is addressed. Next, the issue of how a virtual organization develops trust is discussed. Following, the specific issues of trust in E-Commerce and on-line purchasing activities are briefly addressed. Subsequently, the author discusses the notion of swift trust in virtual organizations. Moving towards a model of just-in-time trust, 10 core research issues are presented. Following, key research questions are given. The concluding section, presents directions for future research and theoretical development. This paper is written to be simultaneously presented with the authors just-in-time virtual leadership training.

3. INTRODUCTION

In the late 20th century, globalization and an accelerated rate of change accompanying the information age brought about major changes in organizational form and team characteristics. Simultaneously, numerous social scientists in the late 1900's advanced the belief that when studying human behavior that trust is important.

Boundaries of organizations stretched exponentially. Consequently, traditional organizations and their constricted boundaries have been replaced with networks of virtual teams and organizations. Co-location has been replaced with synchronous and asynchronous electronic communication. Increasingly, there will be more virtual organizations as well as other forms of networked and electronic collaboration, even wireless.

Based upon Meyerson, Weick, and Kramer's theory of "swift trust" (1996) and looking towards the framework for a model of just-in-time trust in start up virtual teams, a number of conditions are taken into consideration. The presence of well-respected and trustworthy leaders, clear roles, establishment of strong norms and face-to-face orientation meetings are suggested for creating trust in virtual organizations. The combination of leading edge video conferencing tools with dynamic e-meeting training is suggested as a close substitute for face-to-face meetings at the early stages of virtual collaboration.

Fundamental issues surrounding organizational development and team building are in crisis. Traditional team building and management development strategies are ill-suited to meet these demanding challenges.

4. TRADITIONAL ORGANIZATIONS

Historically, organizations have been based on the “bricks and mortar” concept where physical buildings defined the official boundaries of organizations. These organizations were made up of employees who commuted from their homes to the office on a daily basis.

As organizations grew in size and scope, organizations had a central headquarters building as well as field operations. Key employees physically traveled from location to location as part of their strategic activities. Other physical locations became known as the “foreign offices”, outside of the country where the organization was headquartered. People worked in the company as employees for a long period of time, even a lifetime.

Trust historically has been considered an essential ingredient developed over time in lasting relationships and overlapping social circles. It was assumed that in these common social networks, there are explicit and implicit ground rules that define the shared expectations of obligation and responsibility (Jarvenpaa & Leidner, 1998).

Consequently, trust in traditional organizations was established around a hub of an ongoing physical community and long-term relationships. Then the world drastically changed. Experienced managers, who are neophytes in leading virtual organizations, now require updated skills and continuous training to adapt to the changing landscape of organizations in the 21st century, including virtual organizations.

5. WHAT IS A VIRTUAL ORGANIZATION?

Proximity is a major distinction between virtual organizations and traditional organizations. Virtual team members are usually separated from one another in space or time or both of these dimensions.

Because of the emerging nature of virtual organizations, frequently members have never had the opportunity to work together. Often, they have not even had the occasion to even meet once before suddenly finding themselves forced together to solve a critical problem in a compressed time frame.

According to Lipnack and Stamps, virtual teams are teams with a common purpose that use technology to cross time zones, distance, and the boundaries of organizations with three facets; purpose, people, and links” (Lipnack & Stamps, 2000). Moreover, the concept of virtual implies permeable interfaces and boundaries, project teams that rapidly form, reorganize and dissolve when the needs of the dynamic marketplace change,

and individuals with differing competencies who are located across time, space, and cultures” (Jarvenpaa & Leidner, 1998, p. 2).

When virtual organizations of “clicks” suddenly emerged in the late 20th century, gone were the water cooler, the coffee machine, and colleagues in offices in the same building. Even gone at times was the harrowing commute to the office.

In the early days of virtual organizations, this new organizational structure was seen by some to be so fictional that the term “imaginary organizations” was coined”. (Hedberg, Dahlgren, Hansson & Olve, 1997, p. ix.). In 1992, the School of Business at Stockholm University embarked upon a research program in Imaginary Organizations; this was one of the first major research projects in a management institute anywhere in the world on virtual organizations.

Later this concept reappeared defined as “virtual organizations” in the international management literature. Nonetheless, virtual organizations continue to embody the powers of imagination, information technology, alliances, and other networks that organize and sustain boundary-transcending activities. (Hedberg, Dahlgren, Hansson & Olve, 1997). The terms virtual team, imaginary organization, networks and virtual organization are sometimes used interchangeably.

6. WHAT ARE THE SPECIAL CHALLENGES OF VIRTUAL ORGANIZATIONS?

Limited face-to-face contact can rapidly breed highly dysfunctional communications in virtual settings. In addition, the isolation, lack of shared contexts and miscommunication can exacerbate the challenges of virtual organizations.

In addition to the special challenges associated with virtual organizations, there are others indigenous to E-Commerce. Those are addressed separately in the section, specific issues of trust in e-commerce.

However, the paradoxical nature of virtual organizations leads them to serve as task forces to resolve crises. The sudden tragic and unforeseen events of terrorism in the United States on September 11, 2001 have exacerbated the challenges of developing and maintaining trust in virtual organizations. Simultaneously, video-conferencing as an alternative for face-to-face meetings has greatly increased. In referring to trust within the context of this paper, it refers to optimal start-up conditions for a well functioning virtual team.

7. WHAT IS THE IMPORTANCE OF TRUST FOR VIRTUAL ORGANIZATIONAL SUCCESS?

Trust is the defining feature of a virtual collaboration. (Ishaya and Macaulay, 2000). In a list of top competencies for managing networks, virtual organizations and virtual teams, within and across boundaries, trust has been listed as paramount (Lewick & Bunker, 1996). Moreover, although trust is important in any type of team, trust is pivotal in preventing geographical distance from leading to psychological distance in a global team, trust has been referred to as the glue of the global workplace. (Snow, Snell and Davison, 1996). Virtual organizations are frequently geographically distributed.

There is no universally accepted scholarly definition of trust. In the 1994 summer special issue of the Strategic Management Journal, which is oriented towards discovering new paradigms in corporate strategy, Ghoshal and Bartlett contend that trust is one of the four primary dimensions of organizational context and it influences the actions of those involved in a company.

“Trust is regarded as crucial since its roles or functions for the well being of business relationships are cardinal” (Huemer, von Krogh and Roos, 1996). The most fundamental origin of trust in the literature refers to expectations. Two conditions appear to be essential to trust: interdependence and risk. (Rousseau, Sitkin, & Burt, 1998). Trust is the foundation of successful virtual collaboration.

8. HOW DOES A VIRTUAL ORGANIZATION DEVELOP TRUST?

Researchers are in their infancy in understanding virtual organizations and how they develop trust. There is an established school of thought based upon the media richness theory which supports that there are things you can do face-to-face that you can't do at a distance, such as build trust quickly” (Lipnack & Stamps, 2000; Jarvenpaa et al, 1998).

“Several factors, such as shared social norms, repeated interactions, and shared experiences, have been suggested to facilitate the development of trust” (Jarvenpaa & Leidner, 1998, p. 4). “One way of building trust is to establish structures such as role assignments, reporting mechanisms, management procedures and member involvement plans. Accomplishing tasks greatly improves co-operation and trust.” (Ishaya & Macauley, 2000, p. 147). This process is particularly important in a virtual environment

where members not only cannot see how other people work but perhaps never met the team members with whom they have suddenly been thrown together to work on a time constrained and critical mission.

The constrained and often compressed time that a virtual team has to work together to accomplish an objective can contribute to the quick building of trust. This speed requires relentless concentration on the task at hand (Meyerson et al, 1996). The author of this paper asserts that virtual teams and virtual organizations require just-in-time trust. The development of a just-in-time trust model is addressed in the conclusion section at the end of this paper.

9. SPECIFIC ISSUES OF TRUST IN E-COMMERCE?

Aside from the numerous challenges of establishing and maintaining trust in virtual organizations overall, other hurdles exist in creating and building an environment of trust in E-Commerce. When customers submit information and purchase merchandise or services over the Internet they need to feel confident that they can entrust confidential information like credit card numbers. Underlying trustworthy E-Commerce is an entire infrastructure of E-Trust. This topic is outside the scope of this paper. However, it is briefly addressed below.

Like the issue of trust in work relationships, in e-commerce and credit card transactions on-line, a sense of security and trust is often based upon physical cues found only in face-to-face contact. Customers generally feel better about seeing, touching, and trying on clothing before buying it. In addition, the credibility of a physical store and its ongoing hub of activity is visible to customers while concerns about illegitimate sites on-line and illegal credit card transactions lead many customers to feel hesitant about purchasing on-line.

Special issues of trust in E-Commerce encompass: unauthorized disclosure, data alteration, and spoofing. Unauthorized disclosure is when hackers are able to intercept data transmissions online in order to obtain confidential information about customers. Data alteration is when the content of an interaction such as customer identity, credit card numbers, and pricing information can be both intercepted and altered in route.

Spoofing is when con artists create illegitimate sites that appear to be credible and established organizations. Ease of copying web pages and the affordable cost of web site creation contribute to the proliferation of spoofing.

In order for E-businesses to win customer's trust in a corrupt and fiercely competitive marketplace, those businesses need to completely address the

indigenous security threats of the Internet and aggressively combat them with visible and reputable technology that secures them as well as the constant surveillance of electronic commerce security measures. This is a major and pressing topic for another paper. Whereas, the focus of this paper is on the concept of “swift trust” and just-in-time trust in virtual organizations.

10. SWIFT TRUST

A paucity of literature exists that suggests that trust, which is critical to a team’s existence, can be built quickly. (Meyerson et al, 1996; Jarvenpaa, Knoll & Leidner, 1998; Maznevski & Chudoba, 2000). The same literature indicates that swift trust is built rapidly or not at all.

“Swift trust occurs when team members assume that, like themselves, the other team members have been filtered for reliability. This process of trust is immediate, based on stereotyping of past experiences and roles” (Ishaya and Macaulay, 2000, p. 147).

The concept of “swift trust” was developed by Meyerson, Weick and Kramer (1996) to account for the emergence of trust relations in situations where the individuals have a limited history of working together, have limited prospects of working together in the future, and are involved in tasks that are “often complex, have a deadline, are non-routine and not well-understood.” Furthermore, these task groups require continuous interrelating with others in the group, interdependence, to produce an outcome. (Meyerson et al., 1996).

Certain antecedents of swift trust appear to be the existence of reputable and highly credible leader/coordinator, strict role definition and adherence to set norms. (Meyerson et al, 1996). Numerous researchers have started to address the notion of virtual teams and “swift trust” (Iacona and Weisband, 1997; Jarvenpaa, Knoll and Leidner, 1998; Maznevski and Chudoba, 2000; Ishaya and Macauley, 2000). Either “swift trust” culminates quickly or never at all.

Huemer, von Krogh and Roos refer to the type of trust mechanism found in virtual organizations as, impersonal trust. (1996). “An impersonal trust exists when formal mechanisms induce individuals to place confidence in the viability of agreements and the calculability of others behavior” (Huemer, von Krogh and Roos, 1996). “Swift trust” and just-in-time trust are impersonal trust mechanisms. These notions of trust are more about doing than relating.

Meyerson et al claim this type of trust facilitates the rapid development of “ad hoc groups”. Meyerson, Weick, and Kramer developed the notion of

“swift trust” in their seminal article, Swift Trust and Temporary Groups (1996). The notion of “swift trust” specifically refers to temporary groups as they often represent the anthesis of behavior of ongoing and conventional groups. (Meyerson et al, 1996).

While dozens of types of trust have been cited in the literature, the focus of this paper is on situational trust and specifically “swift trust” or just-in-time trust. This can be classified as a type of situational trust. It is an illusion of trust, with little depth in terms of personal relationships. Just-in-time trust responds to the creation of sufficient conditions of trust within electronic collaboration teamwork for a project to have special parameters of identity that lend themselves to high performance. Moreover, just-in-time trust provides a mechanism for effective transformational leadership of virtual organizations.

11. TOWARDS A MODEL OF *JUST-IN-TIME TRUST*

Moving towards building a model of *just-in-time trust*, a number of research issues must first be addressed in future empirical work. Underlying the importance of trust in virtual organizations are 10 core research issues that build a framework for the establishment of trust in virtual organizations. These have been addressed previously in the propositions section. These core research issues of virtual organizations include:

1. Trust is the building block of all successful virtual organizations
2. The presence of credible and well respected leaders helps build trust in virtual organizations
3. Proactive behavior on the part of the team leaders and team members contributes to trust in virtual organizations
4. Strong ground rules with clear role definitions established at the onset of e-collaboration contribute to trust in virtual organizations
5. Rich communication build trust in virtual organizations
 - a. Initially, face-to-face, F2F, communication is best
 - b. Video-conferencing can be a close substitute for F2F
6. Establishing management structures and clear protocols contribute to trust in virtual organizations
7. Training contributes to trust in virtual organizations
8. Effective knowledge management practices contribute to trust in virtual organizations
9. Blended learning builds trust in virtual organizations

The above core research topics lend themselves to future theoretical development as well as empirical research focusing on the following

research questions. Moreover, the following specific research questions need to be addressed in future research.

Key Research Questions to be Addressed

1. How and why do strong work arrangements established before the onset of virtual collaboration contribute to trust in virtual organizations?
2. What behaviors on the part of the managers and the employees contribute to the development of trust in virtual teams?
3. What is the role of F2F contact in establishing trust virtually?
4. How does face-to-face contact compare with advanced videoconferencing equipment for establishing trust during the start-up phase of a virtual organization?
5. What role does blended learning play in establishing trust in virtual organizations?

In the conclusions section that follows, various fertile directions to proceed in future research are mapped out.

12. CONCLUSIONS

The global initiative to diminish digital divide has set the stage for the increase of virtual collaboration. Moreover, the rising importance of responding to pressing and accelerated needs of emerging virtual organizations has exacerbated the need for developing effective leadership mechanisms for start-up virtual organizations. In this paper, the author has strived to synthesize the relevant literature from multiple disciplines that contribute to the body of understanding of the development of *just-in-time trust* in virtual organizations.

The accelerated speed of virtual communication as well as the tremendous growth of these new organizational forms requires crisis intervention. In virtual environments the potential for miscommunication appears much greater than in traditional environments. Once fragile swift trust is established, practitioners need to find ways to maintain it. *Just-in-time trust* models and mechanisms need to be developed. Video conferencing as a close substitute for face-to-face contact requires further exploration.

Specifically, future research needs to better understand the role of clear ground rules, early face-to-face meetings, the importance of a strong leader/coordinator, clear role definition, common language and training in developing conditions of *just-in-time trust* in virtual teams. Moreover, multiple case studies in virtual organizations are needed to develop the theory to necessary to integrate leading edge videoconferencing technology with effective and rapid electronic meeting training. This type of research call

lends itself particular well to critical ethnographic and action research of a compressed timeframe.

Best practices in virtual team building and leadership need to be developed and implemented at the practitioner level; action research studies are an appropriate channel for this endeavor. Future empirical work also needs to focus on the profile and needs of the executive education learner in virtual organizations. Consistent with Baskerville and Meyer's 2001 call for action research studies in actual organizational contexts, the executive education learner operates under stringent *just-in-time* requirements in the midst of ever changing conditions.

Moreover, new paradigms of organizational development deliverable through electronic media need to be created to meet the challenges of dynamic and evolving virtual organizations. These need to be tailored to the requirements of likely prospects for emerging virtual organization leadership positions; those professionals currently in management roles and executive education programs.

Consequently, both research and management development strategies for executive education participants in the globally driven, fiercely competitive, information driven society of the 21st century, need to be situated in the actual work contexts of the executive learner in order to meet the demanding, complex and evolving needs of virtual organization leadership.

Furthermore, it would be particularly valuable if the practical applications of these future studies were immediately funneled back into management development through effective blended learning solutions integrated into enterprise wide IT infrastructure.

As a first step towards this major research agenda of developing just-in-time management mechanisms for effective leadership of virtual organizations, the author will lead an interactive exercise within the context of the delivery of this paper in Track 5 of the World Computer Conference in Montreal during August 2002.

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