

# A METHODOICAL STUDY OF THE ROLE OF TRUST AT VARIOUS DEVELOPMENT STAGES OF VIRTUAL ORGANIZATIONS

Muhammad Yasir<sup>1</sup>  
Abdul Majid<sup>2</sup>

## ABSTRACT

*Virtual organization (VO) is an outcome of technological advancements and the introduction of structural flexibilities in organizations. It is a temporary combination of internally independent parties to exploit the emerging market opportunities. The need to demonstrate extra efficiency in its limited life-span, geographical distribution of parties, lack of face-to-face communication, and the absence of complete information about partners working at a distance call for establishing trust-based relationship in virtual organizations. Almost all the researchers agree upon the importance of trust for virtual organization but its nature and role at various development stages of these organizations is still unexplored. Therefore, in this research we have conducted a methodical investigation to propose the models explaining nature and role of trust at various development stages of virtual organizations. The result of this research would help the members to formulate effective trust-based relationship that could ultimately increase the efficiency and performance of virtual organizations.*

**Key Words:** Virtual organization, trust, development stages of virtual organizations

## 1. INTRODUCTION

Virtual organization (VO), is a contemporary organizational form with its most significant features being: the use of information and communication technologies (ICTs) for information sharing and communication; inter-agency collaboration; geographical distribution and the inability to maintain frequent face-to-face interactions; and depending more on trust than on control (Davidow & Malone, 1992; Travica, 1997). All these characteristics developed among virtual organizations as a result of advancements in ICTs and the need for flexible structures; but for maintaining virtuality and ensuring its benefits for members, trust is the most crucial element.

Researchers have explained several forms of trust related to VOs but a comprehensive model that might explain the differences in the need for trust at various stages of development of VOs has not been proposed. In this research, we have identified the nature and forms of trust as described by researchers with respect to virtual organizations and have proposed the types of trust that could fit at a particular development stage of VO. The proposed model will help the researchers and practitioners in designing a relationship structure based on optimum trust for ensuring an effective virtual organization.

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<sup>1</sup> Department of Management Sciences, Hazara University Mansehra, Pakistan, Email Address: muhammadyasir@hu.edu.pk

<sup>2</sup> Department of Management Sciences, Hazara University Mansehra, Pakistan, Email Address: abdulmajid@hu.edu.pk

## **2. LITERATURE REVIEW**

### **2.1. Virtual Organization**

Virtual organizations emerged as a result of advancement in technology (DeSanctis & Jackson, 1994) and the need for managerial and structural flexibility (Wang, 2000). Bultje & Wijk (1998) explains that the concept of virtuality entails a state or condition that includes any or all of these phenomena: unreal but looks real; immaterial and supported by ICTs; potentially present; existing but changing. In the light of these characteristics the concept of VOs could be defined as the groups comprising of independent parties that link together temporarily by means of ICTs to accomplish common objectives (Davidow & Malone, 1992; Grenier & Metes). Travica (1997) claims that parties in VOs are geographically distributed which makes it impossible for them to maintain face-to-face communication hence, there is a greater need to rely on ICTs. Moreover, there is an increased significance of developing trust among parties as identified by the pioneering researchers on the notion of trust in VOs. Craven and Piercy (1994) explain that establishing trust is significant because parties have to share their core competencies with the others while collaborating towards the accomplishment of common objectives. While, Handy (1995) claims that the key to establish an effective VO is to determine the mechanisms to run the systems based more on trust than on control.

### **2.2. Alternative Forms of Virtual Organizations**

Virtuality with respect to organizations has several connotations, as explained by Bultje and Wijk (1998). The relationship structure of parties, lifespan of organization, reliance on ICTs or face-to-face communication, and the decision to employ trust or control are all the factors that define the nature and alternative forms of virtuality in organizations. Some of the variations in it as identified and discussed by the researchers include:

- a. Network structures (Miles & Snow, 1995; Crossman & Lee-Kelley, 2004);
- b. virtual teams (Jarvenpaa & Leidner, 1999; Lee-Kelley, Crossman & Cannings, 2004; Kimble, 2011)
- c. collaborative networked organizations (Msanjila & Afsarmanesh, 2007; Afsarmanesh & Analide, 2009);
- d. virtual organization breeding environments (Camarinha-matos & Afsarmanesh, 2007; Msanjila & Afsarmanesh, 2008)
- e. virtual project teams (Oertig & Buergi, 2006);
- f. virtual corporation (Davidow & Malone, 1992);
- g. virtual enterprise (Mun et al. 2009);
- h. virtual collaborative relationship (Paul & McDaniel, 2004);
- i. virtual organization (Mowshowitz, 1997; Mun, Shin & Jung, 2011);

The forms of virtuality in organizations identified above could demonstrate different characteristics and development stages which have not been covered here as they do not come under the scope of this research. However, 'virtual organization' is taken as an inclusive term to explain all the other forms of virtuality in organizations. Furthermore, for the purpose of this research, we have identified the standard stages of team development and studied the relevance of alternative forms of trust with each of these stages.

### 2.3. Development Stages of Virtual Organizations

Virtual organizations, although widely varying in their nature and form, demonstrate several similar characteristics. Therefore, we have employed a standard model of group development introduced by Tuckman (1965) to identify the development stages of VOs. This model has also been used by Furst et al. (2004) as a standard for their study on managing the lifecycle of virtual organizations.

According to Tuckman (1965) there are four stages of group development: forming, storming, norming, and performing, as shown in Figure I. Forming, according to him, is the first stage at which group/ team members implicitly or explicitly share information about themselves and the tasks. In the second stage of storming, conflicts emerge among group members as they attempt to clarify the goals as well tasks assigned to each of the group members. The third stage of group development is norming in which groups successfully resolve conflicts and develop group norms to be followed by group members. While the final stage in many groups is performing at which the members of the group collaborate towards the accomplishment of joint objectives. However, the temporary or project-based structures, as virtual organizations usually are, have also a final stage of adjourning at which the group activities come to a close after completing the tasks.

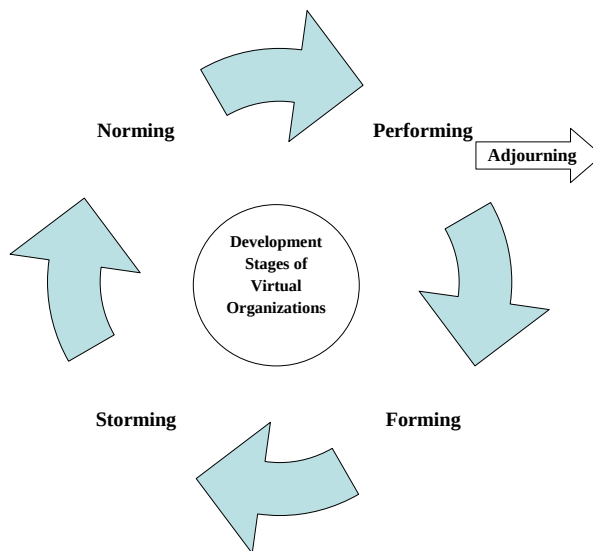


Figure I. Development Stages of Virtual Organization

Furst et al. (2004) argue that establishing trust is very important at the forming stage of virtual organizations to develop inter-personal relationships, as well as at all the later stages to coordinate the activities of all the parties. These arguments have been further explained in the following sections with the help of a review of literature on trust in virtual organizations.

## 2.4. Trust in Virtual Organizations

The discussion on significance of trust for virtual organizations started with the work of Charles Handy (1995). Handy observes that establishing trust among members is pivotal for the success of a virtual organization. However, he emphasizes that trust requires face-to-face communication among parties hence, is limited by boundaries. This notion of trust, although still popular among virtual organization researchers, has subsequently given way to the other researches such as by Jarvenpaa and Leidner (1999), Panteli and Duncan (2004), and Prasert and Yoo (2007) that advocate the presence of trust even at the start of a virtual relationship and in global teams linked by ICTs. They argue that information technology mediated formal and informal communication could also help in developing effective trust among parties. Regardless of the nature and form of organization, it is now an established fact that trust among parties is extremely important for a successful virtual relationship. Important for this research, however, is an understanding of the types of trust in VOs.

Meyerson, Weick, and Kramer (1996) introduced the notion of swift trust in relation to VOs. They explain that swift trust is a fragile form of trust that develops among parties as soon as they come closer to each other for the accomplishment of joint objectives. The concept was further advocated by Jarvenpaa, Knoll and Leidner (1998) and Jarvenpaa and Leidner (1999) who argue that swift trust could develop even among parties in a global virtual organization. Others researchers such as McInerney (2002); Ramo (2004); Oertig and Buergi (2006); Prasert and Yoo (2007); Webster and Wong (2008); Lambrechts et al (2009); Altschuller and Benbunan-Fich (2010) and Al-Ani (2011) have also supported the development of swift trust among parties in VOs. However, these researchers have a variety of views on the emergence and role of swift trust. Whereas, many of them consider its presence even at the time of starting a relationship, others such as Ramo (2004) and Oertig and Buergi (2006) argue that it is very fragile and requires right communication at the right time. Webster and Wong (2008) attribute its development to the clarity of roles of all the parties while Al-Ani et al (2011) argue that swift trust would develop only in short-term VOs when there is no time for trust development.

Paul and McDaniel (2004) present three forms of trust related to VOs i.e. calculative, competence and relational trust. Calculative trust, according to them, is based on perceiving trust as a system of economic exchange. Panteli and Sockalingam (2005) name it as calculus based trust while Hsu et al. (2007) have used the term economy-based trust to explain the same phenomenon. Panteli and Sockalingam (2005) explain that it is based on the rewards or punishment attached with pursuing or violating the conditions of trust. All these researchers agree that calculus/economy based trust should be developed at the early stages of VO development. The second form of trust in VOs, as identified Paul and McDaniel (2004) is competence trust which is based on the belief that the other party is competent enough to perform its part of the joint activity. It is also termed as knowledge based (Panteli and Sockalingam, 2005) or information based (Hsu et al. 2007) trust. Third type of trust i.e. relational or benevolence or identification based trust is based on the feelings and personal attachments of a party towards the other/s which operates irrespective of the business motives. Pantelli and Sockalingam (2005) argue that it is very unusual for short-term VOs to develop identification based trust.

Radin (2006) classifies trust into thin, thick and deep trust. She explains that deep trust develops in organizations when parties work together to achieve a certain goal while thick trust develops among individuals with their strengthening interpersonal relationships. Thin trust on the other hand, is generalized like swift trust, which Peter and Manz (2007) proclaim as stereotype based trust. Prasert and Yoo (2007) and berry (2011) claim that there are only two fundamental classifications of trust in VOs i.e. cognitive based that is developed with information technology mediated communication and affect based trust that depends on social and emotional skills of people. Lambrechts et al (2009) also divide trust in VOs into two forms claiming that there are only swift trust and institutional trust.

According to Msanjila and Afsarmaensh (2010) trust in VOs could be classified in four types: role based trust which develops to facilitate the adoption of responsibilities related to the role of parties in collaborative relationship; reputation based trust that depends on the opinion and judgment of people in a community; interaction based trust that depends on the past experiences of working with a party; and risk based trust that parties develop among each other on the basis of the reduced number of risks involved in a particular relationship. However, in a recent study Hardwick et al (2013) present a simplified classification of trust in VOs, suggesting that it has only two forms i.e. social based trust that depends on goodwill and social relationships among parties, and technical based trust which depends on work-related competences.

### 3. ROLE OF TRUST AT INDIVIDUAL DEVELOPMENT STAGES OF VIRTUAL ORGANIZATIONS: A DISCUSSION

This section explains the role of trust at various stages of the development of VOs. We take standard models to identify the development stages of VOs and trust and examine the relevance of alternative forms of trust with each of these stages. As mentioned above, Tuckman (1965) identified four fundamental stages of group development i.e. forming, storming, norming, and performing which are followed by adjourning in the temporary groups. Almost all the researchers on trust in VOs agree that trust is lower at the initial stages of relationship but it exists in the form of swift trust. As the organization moves to next stages of development, trust starts building among parties, reaching the highest levels as the relationships are fully developed. The trend of trust at various stages of VO development is shown in Figure II.

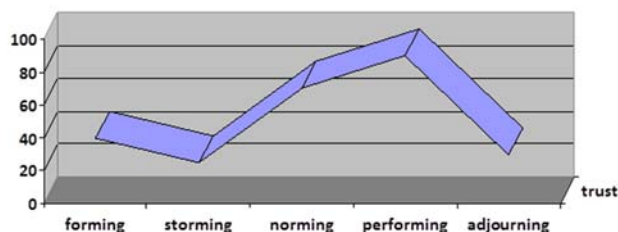


Figure II. Level of trust at various stages of virtual organization development

### **3.1. Forms of Trust at Each Stage of VO Development**

As a result of the review of literature we were able to identify the following forms of trust in VOs. Many of these forms could be categorized as different terminologies to represent the same phenomenon. However, they can be sorted on the basis of their relevance and impact on each of the development stages of VOs.

#### **3.1.1. Trust at Forming Stage**

As explained in the review of literature and indicated in Figure II, parties approach each other with an initial trust at the commencement of a virtual relationship. This is a fragile form of trust variously termed as swift trust, stereotype based trust, or thin trust. Although trust at this stage is extremely weak, it is considered as necessary for VOs to initiate their collaboration. This trust is usually based on personal judgments or past experiences of working with similar parties.

#### **3.1.2. Trust at Storming Stage**

At the stage of storming conflicts start arising among parties as they try to reach agreements on the distribution of tasks and the terms and conditions of virtual collaboration. Trust is also shaken at this stage of development, although momentarily, as the parties negotiate to reach an agreement among them and move on to the next stage of development. Swift trust might play its role at the stage of storming too, but more important at this stage is the development of calculus based trust. Calculative, calculus based, or economy based trust is significant at the stage of storming as parties attempt to reach agreement while resolving their conflicts, based on the belief that the resulting collaboration would be rewarding for them.

#### **3.1.3. Trust at Norming Stage**

At the stage of norming, parties usually have well-developed norms and work procedures to guide their collaboration. Therefore, as indicated in Figure II, trust is high and growing at this stage of VO development. The forms of trust that define relationship of parties at this stage are technical, cognitive, competence, information, or knowledge based trust. This trust is based on the cognitive information and knowledge that parties receive about each other as a result of their relationship. Furthermore at the stage of norming, managerial and technical skills as well as competencies to perform the tasks effectively are the factors that positively affect trusting relationship among parties; as is signified by competence based and technical based trust.

#### **3.1.4. Trust at Performing Stage**

As indicated in Figure II, trust is at its highest level at the stage of performing in VO development. This is mainly because performing is the final stage of development at which all the factors contributing towards the formation of effective trust relationships are fully functional. Moreover, with the passage of time in VO lifecycle, interpersonal relationships based on identification and benevolence start developing among parties. Therefore, the types of trust which become more active particularly at this stage of development are thick trust, social based trust, relational, benevolence or identification based trust.

However, our research supports the argument of researchers such as Pantelli and Sockalingam (2005) who claim that identification based trust occurs very rarely in temporary virtual organizations. Therefore, identification based trust and deep trust that develop with the development of personal relationships among individuals are uncommon in VOs. These types of trust would become effective only in the case of long-term projects or the situations in which parties continue their collaboration for a new task after successfully accomplishing their objective attached with the previous one. Furthermore, Figure II also indicates that at the stage of adjourning in temporary VOs, trust does not suddenly disappear but there is a rapid decline in it. As the parties usually are geographically distributed with no face-to-face communication among members, stability of trust could be ensured only if the parties continue to work on another collaborative task. The resulting model identifying the types of trust at each stage of development of VOs is given out in Figure III.

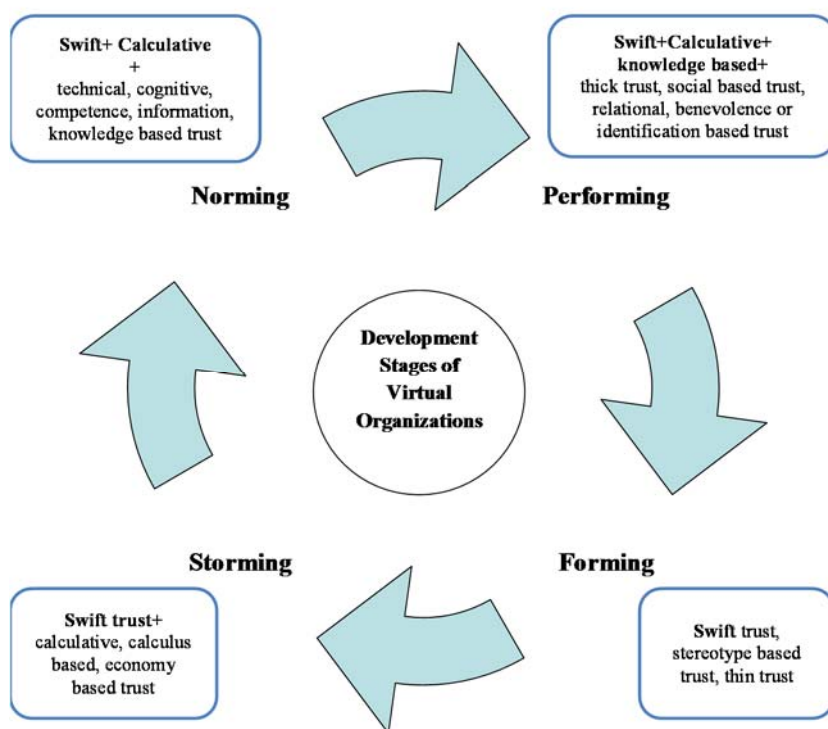


Figure III. Forms of trust at individual development stages of virtual organizations

#### 4. CONCLUSION

This paper is based on a methodical study of the role of trust at each development stage of virtual organization. As a result of the review of relevant literature, we have identified the type of trust in virtual organizations. These have been further analyzed to investigate the role of each type of trust and its significance for a particular development stage of VOs. The resulting model indicates that swift trust is important at the stage of forming while at the storming stage although the effects of swift trust are there but more important is to

develop calculus based trust. The effects of both swift and calculus based trust help the parties in developing technical and knowledge based trust whereas, swift, calculus, and knowledge based trust combine to build relational trust at the stage of performing in VOs. Finally, we propose that identification based and deep trust among individual workers are developed only if the organizations continue to work for long-term but are not very effective in temporary virtual relationships.

The results of this research would help in providing better understanding of the role of trust at each of the development stages of VO. The same could also be investigated empirically in the future endeavors of researchers.

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