

Coordination in Virtual Organization: A Strategic Solution for Sustainable Development

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Abstract: Contemporary enterprises are coordinating in the form of network and virtual organization as a result of a paradigm shift in their organizational and relationship structure. Virtual structures, developed in response to certain specific market opportunities are the temporary arrangements of parties suitable for the sustainable development of enterprise. This study introduces the role of coordination in virtual organization, taking the case of SMEs which are rapidly emerging in Pakistan. The research suggests that coordination is a key determinant of effectiveness for the SMEs joining together to form a virtual organization. This is due to the fact that in virtual organization coordination establishes trust and mutual understanding among parties. Therefore, it strengthens the bond between parties developing a virtual relationship. Effective coordination could also overcome the resource limitations of SMEs; hence ensuring sustainable development and qualifying the firms to compete in the complex global environment of today. This study discusses an initial outline for advance level research in the area of coordination in virtual organization. It highlights the fact that trust, communication and social forces have an important role in establishing coordination among parties. SMEs in Pakistan as well as in the other countries can ensure better coordination in the form of virtual organization to overcome their resource constraints and to gain a sustainable competitive advantage.

Key words: Communication, coordination, Small and Medium Enterprises (SMEs), social forces, sustainable development, trust, virtual organization

INTRODUCTION

The notion of paradigm shift signifies that one conceptual view of the world is replaced by another as a result of an intellectually violent revolution (Kuhn, 1962). Paradigm shift thus involves the redefinition of realities and the development of new knowledge. Introduction of postmodern perspective in organization theory is one such example which changed the way organization was viewed by the researchers. Against the established perspectives of organization, advocates of this new paradigm of postmodernism believe in subjectivity over objectivity and logic, which may help in avoiding the human physical and emotional errors (Carter and Jackson, 1990; Hatch, 2006).

The key to understanding postmodern organization, according to Cooper and Burrell (1988), is the concept of 'difference'. This difference has resulted in the emergence of new paradigms in organizational structure and design. Moreover, the factors like globalization, increasing competition and heightened awareness of consumers have provided grounds for a wider application of the paradigm of postmodernism. Consequently, new organizational forms which are based on flexibility, efficiency and market competitiveness are surfacing.

Virtual organization is one such paradigm based on the postmodernism. It is a group of independent firms or teams which temporarily link together to attain a common objective (Davidow and Malone, 1992). Although the formation of virtual organization does not depend on the size of enterprise, taking the case of Pakistan this research focuses only on the small and medium scale enterprises (SMEs), which constitute the majority of enterprises in Pakistan. Secondly, the virtual organization is specifically important for SMEs as it helps in overcoming their resource constraints and makes them better able to remain competitive in the market. This competitiveness in turn ensures a sustainable development of SMEs.

Coordination among parties in a virtual organization manages the dependencies between their activities (Malone and Crowston, 1994). It plays a significant role in ensuring efficiency and performance by bringing the parties together at an optimal equilibrium point. Hence, it is a key determinant of effectiveness in a virtual organization which provides a strategic solution for sustainable development of individual enterprise. Coordination also establishes trust and mutual understanding among parties. Due to its importance for virtual organization, this study provides a framework of coordination taking the case of SMEs in Pakistan.

This is an exploratory research employing qualitative strategy. It is only an initial part of a larger research on virtual organization in the industrial clusters of Pakistan. Therefore, the in-depth interviews conducted in five industrial units in the Cutlery Cluster of Wazirabad, Pakistan, became the basis for this study. These five units constitute a group called Pak Cutlery Consortium which exhibits significant characteristics of virtual organization. The results of this study reveal that coordination affects and is strongly affected by the level of trust among parties, the nature and form of communication among them and the social forces working in a society. This study also highlights that effective coordination can provide a strategic solution for sustainable development of parties joining together to form virtual organization. We have studied these factors to provide a framework for coordination which can be used by future researchers working on the formation of virtual organization in the SMEs.

VIRTUAL ORGANIZATION

Researchers define the term virtual in several ways depending on the contexts of their studies. According to the Concise Oxford dictionary of Current English the term is usually used as an adjective which means, "that is such for practical purposes though not in name or according to strict definition" whereas, in computing it means "an entity not physically existing as such but made by software to appear to do so" (Allen, 1990). To define a virtual organization Bultje and Wijk (1998) identify four connotations of 'virtual' i.e., unreal, looking real; immaterial, supported by ICTs; potentially present; and existing but changing. Organization according to the postmodern perspective is a defensive reaction to forces intrinsic to the social bodies instead of planned thought and calculative action (Cooper and Burrell, 1988).

Virtual organization is a result of collaborative relationship among parties having different core competencies to exploit the emerging market opportunities (Davidow and Malone, 1992; Hughes *et al.* 2000; Badrinarayanan and Arnett, 2008). Hence, it is based on the concept of postmodernism as it is mostly a temporary arrangement between parties made as a defensive reaction to the market forces. Hans (2008) defines virtual organization as a short-term, order-based organization which is dissolved once the business purpose is achieved. In their widely accepted definition, Lipnack and Stamps (1997) define virtual organization as "groups of people interacting through interdependent tasks guided by common purpose that work across space, time, and organizational boundaries with links strengthened by webs of communication technologies".

Other more specific definitions identify the Information and Communication Technology (ICTs),

geographical dispersion of parties, joint performance of tasks, trust, customer orientation and coordination as the key characteristics of virtual organization. Travica (1997) and Webster and Wong (2008), for example, emphasize upon the geographical dispersion of parties and the importance of electronic communication and information sharing in virtual organization. Handy (1995) specifically focused upon the importance of trust over control in a virtual organization while Cueni and Seiz (1999) defines it as a very customer oriented organization. The research of Lucas and Baroudi (1994) emphasizes upon the importance of coordination among participants whereas, Ermilova and Afsarmanesh (2007) specifically highlights the significance of joint performance of tasks to satisfy a market opportunity.

As this research provides a framework for coordination, it specifically focuses upon its nature and role in a virtual organization. The role of factors like trust, geographical location, ICTs, and social forces in establishing coordination among SMEs is also discussed. Based on the review of literature on these factors, this research provides a discussion on how coordination can be established in the virtual organization of SMEs in Pakistan and the other developing countries.

COORDINATION

Coordination is an important attribute of virtual organization to ensure the efficiency and effectiveness required to remain competitive in the market. Malone and Crowston (1994) present coordination as "managing dependencies between activities". These dependencies are considerably larger in group activities as, for example, the virtual organization. The association among parties for a limited time period to exploit the market opportunities also requires much stronger patterns of coordination (Abebe, 2007).

Ginsberg and Venkatraman (1995) states that coordination is important to achieve the increased value added to the business processes and organizational mechanisms. It strengthens the bond among independently working parties by enhancing the effectiveness of their relationship and making their activities more reinforcing (Ermilova and Afsarmanesh, 2007; Montoya-Weiss *et al.*, 2001). Coordination among parties in a virtual organization is affected by the level of trust, nature of communication and the use of information technology resources, geographical location of parties and the social forces working in the society.

Trust plays an important role in establishing coordination among parties. It increases coordination in strategic interactions as virtual organization (Ridings *et al.*, 2002; Schoorman *et al.*, 2007). Lack of formal control mechanisms in a virtual organization increases the importance of trust as it serves as a

substitute for control (Handy, 1995; Harrington and Ruppel, 1999). Coordination thus is established among parties using the mechanisms based on trust than on formal control (Handy, 1995). Trust also increases mutual understanding among parties which helps in an effective utilization of resources and better coordination.

Trust among parties and therefore the coordination are difficult to be established in geographically distributed groups, although several authors as for example, Hunsaker and Hunsaker (2008), Lipnack and Stamps (1997) and Mark (2001) present the geographical distribution of parties as a definitive characteristic of virtual organization. Due to the problems of communication and coordination in a virtual organization and the limited scope of virtuality with geographical distribution of parties, some recent researchers have modified their definitions. For example, Bazarova and Walther (2009) argue that virtual groups can work across varying degrees of geographic dispersion. Zornoza *et al.* (2009) broadens the scope of virtual organization by stating that in order to work virtually, workers must be physically isolated but not necessarily geographically dispersed. The collocated parties as those studied in this research can establish better trust and coordination.

Communication among parties in a virtual organization and the use of ICTs depends on their geographical dispersion. Researchers as DeSanctis and Jackson (1994), Palmer and Speier (1997) and Webster and Wong (2008) who present geographical distribution as a primary element of virtual organization state that the virtuality of organization positively depends upon IT supported business processes and computer-mediated technologies for communication. Most of these researchers present advanced ICTs as an integral part of virtual organization required to ensure coordination. Conversely, the researchers as Bazarova and Walther (2009), Fiol and O'Connor (2005) and Gibson and Gibbs (2006) allow the use of face to face contact and argue that virtual groups can differ in the degree of the use of ICTs. These researchers also contend that coordination can be more effective among parties who use face to face contact along with ICTs.

The role of social forces which can ensure better coordination is also effective when parties are collocated and have face to face meetings. The notion of social punishment in group relationships is presented by Cai and Kock (2009) who contend that the costs associated with non-cooperative behavior prevent its happening. This effect of social forces is operative in geographically proximate teams where it can help in ensuring better coordination.

Effective coordination achieved through effective communication and the relationship of trust can ensure sustainable development of SMEs. Romero *et al.* (2009) support this view uttering that coordination among parties

sharing their best possible resources leverages competitiveness and increases the survivability of enterprise in turbulent market condition.

METHODOLOGY

In this research we have used qualitative exploration to study the framework of coordination in virtual SME groups. This is a part of larger research on virtual organization in the SME clusters of Pakistan. We have conducted in-depth interviews of the managers of five industrial units in the Cutlery Cluster of Wazirabad, Pakistan. The units for this study were selected after an initial survey of the industrial units in the Cutlery Manufacturing Industry of Wazirabad. The survey revealed that these five independent units were working in the form of a virtual organization (Pak Cutlery Consortium) to capture the market which was not in reach of the individual parties. The need for more in-depth study about the nature of their relationship became the basis for this research. Detailed responses of each interviewee were recorded and analyzed to explore the nature of coordination among them. The results of responses are presented in this study along with the supporting literature.

DISCUSSION

From the review of literature it is evident that coordination is an important element for virtual organization. Within the virtual organization studied in this research the parties were found to be working without any legally binding agreement and therefore relationship was based solely on trust. This high level of trust considerably improves the coordination among parties and ensures efficiency and effective performance.

Industrial units examined in this research were working within the same city and they could easily stay in contact with each other. Thus geographic proximity appeared to have a key role in the coordination among parties. Communication media like cellular phones fax and email were frequently used but the parties' also maintained regular face to face contact. The results of interviews reveal that face-to-face meetings have a key role in effective coordination. The use of periodic face-to-face meetings also helps in employing social forces to ensure compliance and coordination. A conceptual model showing the role of these variables in establishing coordination among parties is as following:

Strong impact of social forces in a virtual organization was observed in this study of geographically proximate parties. These social forces not only play their role in establishing coordination within virtual organization but also act from the society when parties work in the same locality (Fig. 1). The social and

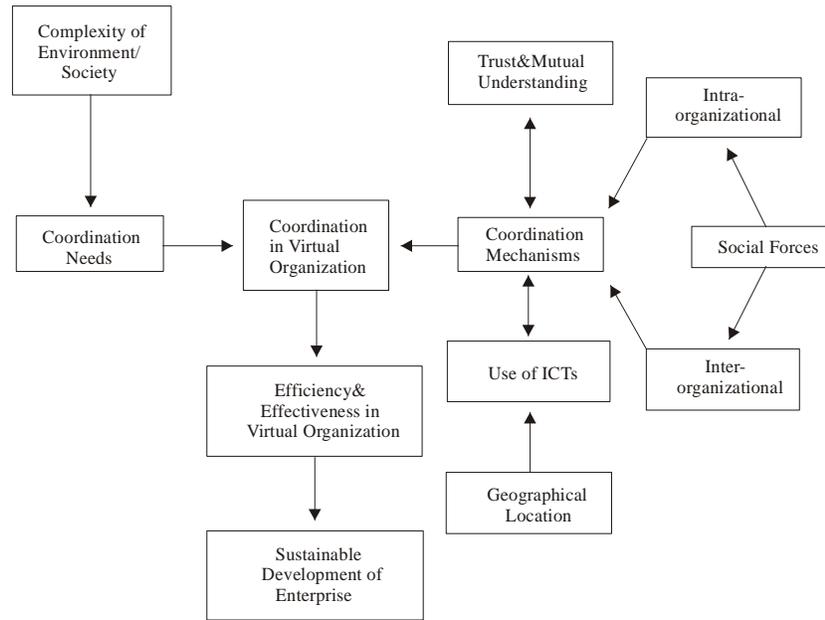


Fig. 1: Framework of coordination in virtual organization

economic costs associated with lack of coordination prevent it from happening. Thus geographically proximate parties coordinate with each other because they cannot work against the will of the society in which they operate.

CONCLUSION

Based on an exploratory qualitative research conducted on the geographically proximate virtual group, this study highlights that coordination among parties in a virtual organization is strongly affected by the level of trust, geographical location, use of ICTs or face to face communication and the intrinsic forces working in the society. This research reveals that coordination is enhanced by high level of trust among parties, their geographical proximity, use of face to face communication and the effective role of social forces.

This research not only identifies the factors creating a framework for coordination in virtual organization but also introduces new areas of research. Especially the role of social forces in building coordination has not been discussed with reference to virtual organization and needs particular attention of researchers. There is also a need for more empirical research on the extent of competitive advantage gained through coordination. The empirical studies of existence and possibility of creating virtual organization in the SME clusters also need particular attention of researchers.

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