

Chapter 17

VARIOUS COMMUNICATION MODALITIES IN ORGANIZATIONS WITH FOCUS ON VIRTUAL FIRMS

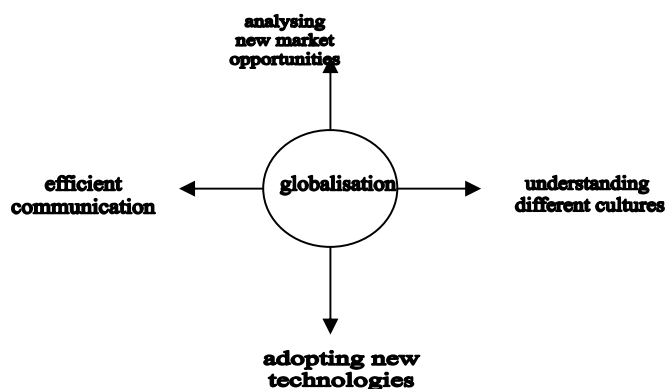
Dušan Marković, Mirjana Radović-Marković, & Žarko Spasić

17.1 Introduction

Virtual organizations are becoming increasingly important in modern economies. The cause for the increasing popularity lies in the need to disperse jobs to reduce the costs of business operations as well as to improve the organizations' competitive competencies in the global marketplace.

In order to achieve these goals, virtual organizations are forced to formulate a business strategy that would include all the preconditions of an efficient business enterprise under the ever changing global conditions (Radović-Markovic, 2011a), (Figure 1).

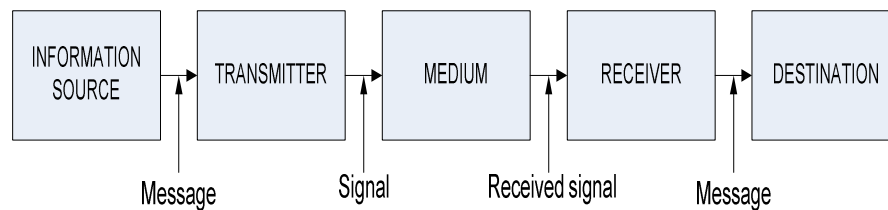
Figure 1. Globalization requirements facing virtual firms under new and changing business conditions (Radović-Marković, 2011a)



17.2 Theoretical background

Communications can be viewed as consisting of three dimensions: technical, contextual, and contractual. The technical view is based on the information theory. Shannon, Claude E., & Warren Weaver (1949) defined communication as a mechanical information transmitting system (see figure 2).

Figure 2. Communication as a Shannon and Weaver mechanical system (1949)



The Shannon and Weaver system transmits information from the source to the destination with minimum distortion and error. The implementation of a mechanical approach to communications is identical today. This technical view of communication persists as a common basis for the discussion about communication in any organization.

The contextual approach to communication does not focus only on the contents (e.g., the accuracy of exchanged information or the adequacy of the conveyed meaning). This information theory approach has a broader communication context as it focuses on both the verbal contents and the non-verbal signals. Further, the contextual approach takes into consideration the relationships between the sender and the recipient within social, organizational and cultural explanations. For example, conversation analysis observes the entire communication process including formal and informal communication and any type of verbal and written communication. The goal of such an analysis is to establish relationships between a model of conversation and a model of social relationships. Such an analysis can help explain how social relationships are created and maintained through conversation (Mening, 1992; Pirs, 1994, 1995; and Cronen, 1991, 1995). The organization can use the analysis to define, shape, determine and mark the boundaries of actual communication processes.

Lazega (1992) studied the manner in which the context of conversation is self-adjusting, rather than the manner in which conversation create and maintain social relationships. The assessment of appropriateness of information and the knowledge of technically satisfactory requirements are crucial in virtual organizations. The contextual approach is employed in elaborating and understanding the interactive

components of feedback information. The exchange of feedback information can be viewed as a process of conversation among people.

17.3 Different aspects of communication

The communication in the organization can be observed in several different dimensions:

1. Communication levels
2. Formal and informal communication
3. Communication flows (vertical, horizontal and diagonal)
4. Internal and external communication

- ***Communication levels***

Communication can be categorized into the following levels:

- a) Communication between individuals
- b) Communication at the group level
- c) Communication at the organizational level
- d) Inter-organizational communication
- e) Mass communication

Research supports the conclusion that frequency of communication occur mainly at lower levels between individuals. Thus the initial attention in communication research in organizations focuses on the communication between individuals (e.g. the managers) in their speech and writings. As organizations over time became increasingly dependent on communication, more attention was paid to improve the communication skills between individuals and indeed between all the members of the organization (Rogers and Roethlisberger, 1952, Argiris, 1986, Kiesler, 1986).

- ***Modalities of communication between individuals***

- Sending and receiving messages
- Verbal, in writing primarily through electronic messaging.

Over time communication studies within organizations focuses increasingly on higher level communications at the group level, at the organizational level and inter-organizational communication. Shifting from lower level to higher level communications results in messages that can be further differentiated such as formal, informal, vertical, horizontal, diagonal (as well as internal messaging as related to external communication).

- ***Formal vs. informal communication***

In the past communication studies focused mainly on formal top-down communications. Informal communication refers to communication between

individuals also called horizontal communication that in the past was viewed as a likely obstacle to efficient organizational performance. However, that view is no longer accepted as in modern society dynamic and informal messaging along with formal communication is necessary to ensure that the job is done efficiently (D'Aprix 1996).

- ***Vertical, horizontal and diagonal communication***

Vertical communication. Vertical communication is between hierarchically positioned individuals and may include bottom-up as well as top-down information flows. As might be expected the top-down information flow occurs more frequently. Larkin and Larkin (1994) noted that the top-down information flow is most effective if managers communicate directly with immediate supervisors, and the supervisors in turn communicate directly with their staff. Such direct communication results in improved satisfaction and performances among employees. Since this was first noted by Donald Pelz (1952) it is called the Pelz effect.

Horizontal communication. Horizontal communication refers to communication between individuals not in a hierarchical relationship. Communication horizontally contributes to a high level of satisfaction among the human resource managers (Frank, 1984). The current horizontal tendencies are primarily communication between the team members focussing on team assembling and team work. Horizontal communication between the dislocated workers and geographically dispersed work groups engaging in similar types of job is oriented towards learning and knowledge exchange.

Diagonal communication. Diagonal communication is communication between managers and employees in different functional divisions (Wilson, 1992). While vertical and the horizontal communication continue in modern organizations, they do not entirely reflect the communication needs and flows in a majority of organizations. The concept of diagonal communication is introduced to describe other forms of communication in new organizational types, e.g. the matrix and project organizations. Similarly, with the spread of the organizational network, the communication flows can no longer be limited to only vertical, horizontal and diagonal as other modalities are also introduced.

- ***Internal and external communication***

Internal communication is within the organization and includes cross-level communication among employees. External communication consists of messages that are sent beyond the organizational framework. Externally oriented communication becomes especially important when the organization extends its activity from information developed by interaction with customers, with suppliers, as well as with students, teachers and other sources.

17.4 Virtual firms, virtual culture and communication

Information systems play a vital role in the e-business and e-commerce operations, in enterprise collaboration and management, and in the strategic success of businesses that must operate in the global environment. Internet services, in conjunction with the existing and more widely used communication media, provide the broadest enhancement of information and communication resources (Radović Marković, 2011b).

17.4.1 The concept of virtuality

The term “virtuality” was first used by Venkatraman & Henderson (1996) in their definition of organizational enterprise. They defined virtuality as follows:

“Virtuality is the organizational ability to consistently obtain and coordinate critical competencies through its design of business processes and governance mechanisms involving external and internal constituency to deliver differential products in the marketplace“.

This definition shows that the organization cannot declare itself virtual solely on the basis that it uses information and communication technologies, but that virtuality also includes the very manner in which the organization is managed.

Different definitions of virtual organization include the major attributes of every virtual organization that can be considered different attributes of virtuality (Grimshaw, Kwok & Sandy, 1998) as follows:

1. Uniting to achieve mutual goals
2. Implementation of information and communication technologies
3. Vertical integration
4. Globalization
5. Collaboration

These attributes provided the basis for the most widely adopted and quoted concept of virtual organization in the literature (Byrne, 1993):

“Virtual organization is a temporary network of independent business units – suppliers, customers, and even rivals – linked by information and communication technology to share skills, costs and access to different markets. This organizational model is flexible – groups of collaborators quickly unite to exploit a specific opportunity. In its most elementary form, the concept depicts any organization that interacts with other organizations to create a virtual corporation and that contributes only within the scope of its core competence. Central in the development of virtual organization is technology. Teams of people in different companies work together, via a computer network in real time“(Byrne, 1993)

This definition provides a clear structural perspective and a detailed picture of what makes a virtual organization.

17.4.2 Characteristics of virtual organizations

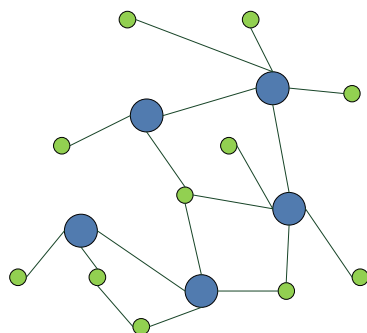
Virtual organizations are characterized by (a) highly dynamic processes, (b) contractual relationships among entities, (c) edgeless, permeable boundaries, and (d) reconfigurable structures (DeSanctis & Monge, 1998).

A virtual organization can consist of a network of independent companies each contributing core competencies to the common effort. The organization initiating the cooperation defines the most relevant business processes that are complementary with the business skills of other participating firms. Combining all the core competences creates a synergy effect that meets the customer requirements in a flexible manner.

According to Aken Aken, Hop and Post (1998), a virtual organization has to have its own identity. A “loosely coupled virtual organization” is present when the identity of a partner organization remains visible alongside the identity of the virtual organization. On the other hand a “tightly coupled virtual organization” would appear to customers as an integrated joint organization. The development of information and communication technologies permits differences between component virtual organizations to be solved so they can work together efficiently.

The partners in a virtual organization are often equal on important dimensions and hence without hierarchy. A favorable effect of such an architecture is improved organizational efficiency and responsibility (Bultje & van Wijk, 1998). The organization consists of a network of autonomous companies and also known as network architecture. It differs in communication from hierarchical architecture by a large number of lateral messages that make this organizational structure highly coordination-intensive (Figure 3).

Figure 3. Matrix structure (Mowshowitz, 1999)



There are different virtual organizational networking modalities that depend on the needs of participants and the possibilities for creating collaboration and management, and hence also different types of information to be shared.

Essential information to be shared in a manageable virtual organization on an e-level is as follows:

- **Planning (P):** information used in defining a common purpose, in determining the scope and orientation of work of the entire virtual organization.
- **Operational (O):** information on the activities to be performed on a daily basis for each member.
- **Coordinating (C):** information flows to ensure that operational activities achieve their goal effectively.

17.4.3 Virtual culture as a basis for effective communication in virtual organizations

An organization that has a large proportion of employees working in the virtual workplace faces distinct challenges related to building an organizational culture. However, when building a culture within a virtual firm, managers have numerous tools at their disposal to compensate for the lack of social context, geographical proximity, and the normal supportive behaviors of a non-virtual firm. Managers are faced with special conditions and responsibilities in virtual companies. In virtual firms managers need to focus on the results since they are not able to see all of the work being done. They also need to be able to delegate and keep track of projects and work. Managers of a virtual firm should not be micro-managers as this style will most likely not be effective for employees that work independently.

Another requirement for a manager in a virtual organization is that he or she needs to be able to motivate his or her employees to go online for information and communication. Since the majority of the firm's work is online it is important that employees have the necessary competencies to access information required to perform their jobs. This can be facilitated by managers placing important news and updated online information in a location where the employees will also find other job-related information. If the majority of the firm's work is online it is important to have an easy-to-use computer system as employees will be reluctant to go online or use systems that are difficult and absorb too much time. Therefore, when building an online system it is important to get opinions about its utility from the people who will be using it.

In addition, with all of the tools and systems in place for a virtual firm, it is important that the employees have the "know how" of when and how to use these assets. Sometimes it makes better business sense to meet a contact face-to-face rather than try to communicate via e-mail. This fact needs to be understood by everyone in a

virtual firm especially when dealing with clients. Managers also need ability to communicate through multiple channels at both formal and informal levels.

There are a number of features essential to a virtual firm. Trust is a component that must be considered a central value in the culture of successfully run and managed firms (Van de Bunt-Kokhuis, 2000). Since a manager cannot always directly observe employees at work they must be able to trust in their performance. However, it should be noted that since the majority of work is done online, this work can be easily monitored. Another salient feature of a virtual firm is leadership. It is important that a company's leaders model the behavior that they want their employees to exhibit. The leaders of virtual organizations are role models who will set the tone for the entire company. Tolerance and acceptance in a virtual company are important values which mean that it is OK to be different and to do things differently. Virtual companies operating online will always be different from the traditional company and the organizational culture needs to accept that reality.

In a virtual company employees are often required to do boring work, for example working in a call center or at a help desk (Van de Bunt-Kokhuis, 2000). Rewards and incentives for such work must be considered in order to reduce turnover and increase efficiency since these employees typically receive low pay. All employees of a virtual company also need to have good communication skills, including in upper level management. In a virtual company, employees do not have the possibility of stopping by a coworker's office to quickly discuss a project. Instead, employees will need to pick up the phone or send an e-mail that will not communicate with the same effect as in a face-to-face meeting. It is particularly difficult to communicate emotions with e-mail or over the phone since facial and bodily gestures are absent. Because of this deficit, employees need to learn to express themselves effectively and listen carefully to the message conveyed.

A virtual company has a special need to establish connections between employees within the organization. Since employees do not see each other regularly as they would in a traditional company, it is important to find ways of integrating workers. Organizational culture that promotes the sharing of values may improve motivation. This is even more important in a virtual company since the company's values cannot be reinforced on a daily basis as in the traditional company due to the lack of physical proximity. Also in virtual companies different jobs exist in comparison to the traditional firms. For example, the traditional secretary may be replaced by a virtual online assistant. In addition larger number and more varied IT responsibilities may be required and employees may be needed to command knowledge in more areas.

17.4.4 Communication in virtual organizations

Communication plays a key role in the work of virtual organizations. Without communication, the boundaries of operations of a virtual entity would be impossible to determine at any level (DeSanctis and Monge, 1998). Electronic communication

allows for the connectedness of employees regardless of geographical distance, time, culture or language differences contrary to traditional organizations where all the jobs are performed at the same place and at the same time (Figure 4).

Electronic communication facilitates fast and easy flow of information between distant organizational entities, and among different stakeholders in the business chain including distributors and customers. Furthermore electronic communication contributes significantly to the business enterprise through its varied modalities and by innovation processes in the virtual firms operations (DeSanctis & Fulk, 1999; Karsten, 1995, Lucas, 1996; Orlikowski & Robey, 1991; Wheeler & Valacich, 1996).

17.4.5 Implications of electronic communication upon virtual organizations

Research into the six areas of electronic communication (see table 1) has ensured better insight into the four major aspects of the virtual organization: (a) as a highly dynamic process, (b) in contractual relationships between entities, (c) with permeable boundaries, (d) in reconfigurable structures (DeSanctis, G. and Monge, P., 1998).

Figure 4. Communication at any place and at any time

O'Hara-Devereaux and Johansen (1994).

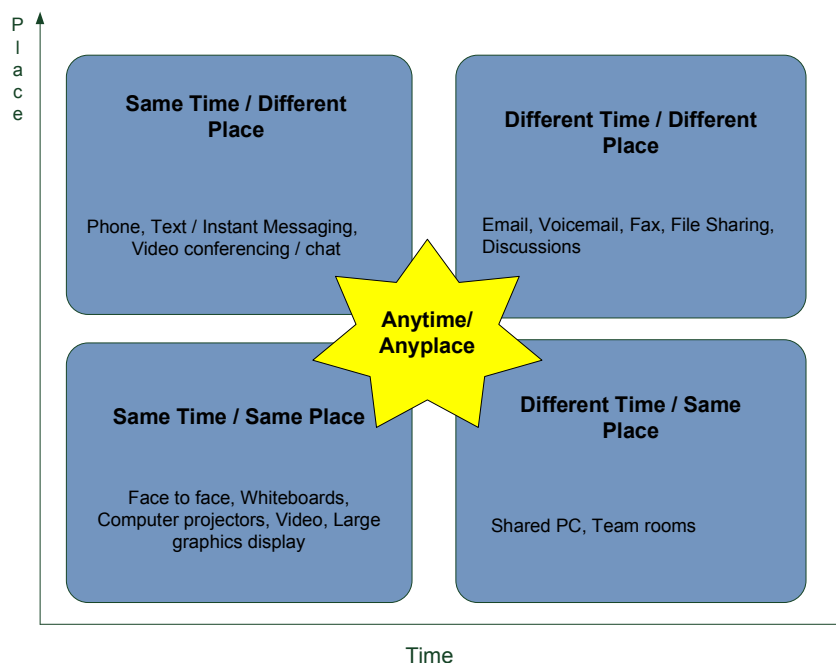


Table 1. Major aspects of the implications of electronic communication upon virtual organizations

Research into electronic communications	Impact of electronic communication upon virtual firms
<p>1. Scope of communication and effectiveness: In electronic communication the scope tends to increase continually, whereas effectiveness tends to decrease.</p> <p>2. Understanding message: It takes longer time to get an impression of the message since the social context is critical.</p>	<p>Highly dynamic process: Managing communications become more complex and difficult under conditions of rapid changes in business processes. Understanding messages may therefore become less accurate.</p>
<p>3. Virtual tasks: Certain tasks are accomplished less efficiently when performed in an electronic manner. One example is reaching consensus.</p>	<p>Contractual relations among entities: Certain tasks cannot be performed randomly and without constraints set by the manager; each new task requires a new contract; contracts are task dependent.</p>
<p>4. Lateral communication. A larger number of participants in communication where the hierarchical structure is less present.</p> <p>5. Norms governing the implementation of electronic communication and new technologies: Manners in which electronic communication is used by individuals, by groups and by organizations.</p>	<p>Permeable boundaries: Broader opportunities of communications among various groups of people. Conflicts may arise if norms of communication among various localities are not harmonized.</p>
<p>6. Developmental effects on interpersonal relations: the norms of use of new technologies change and develop over time.</p>	<p>Reconfigurable structure: It is difficult to develop norms for implementing modern technologies in the conditions of rapid changes in the business processes.</p>

Source: DeSanctis, G. and Monge, P., 1998

A majority of the findings reported in table 1 were obtained from the study of electronic mail and e-conferencing. Other forms of electronic communication including group voting, documentation management systems, or electronic data exchange were not included. Furthermore, a large amount of research compares the modalities of electronic communication with oral speech, especially with direct, face-

to-face communication, despite the fact that electronic communications have more in common with written forms of communication (Ferrara, Brunner and Whittemore, 1990). However, electronic communication is also interactive in a way similar to face-to-face communication. The result is that behavior in electronic communication takes on the characteristics of both written documents and informal speech (Wilkins, 1991).

For the communication to be successful, it is necessary that the communicators possess roughly equal levels of knowledge which is difficult to achieve without a physical and linguistic context. The lack of face-to-face contact in electronic communication may have a negative impact upon message comprehension although the literature is ambiguous. The research on electronic communication comprehension has identified a number of difficulties in understanding the meaning of information as well as in managing feedback information in the course of a discussion. Further despite the advantages of speed in the exchange of information and communication across larger geographical distances, electronic communication does not always solve tasks more rapidly. On the other hand Marshall and Novick (1995) found that the lack of visualization did not significantly reduce the control of conversation or its comprehensibility in synchronous communication via discussion groups. Visualization is necessary, however, in resolving certain conflicting situations and complex activities, as well as in overcoming certain social and cultural differences.

The inter-organizational communication among virtual organizations assumes that the major portion of communication is conducted through transaction exchange within the network, which allows for a faster and larger information flow, especially in task setting, whereas a smaller amount of information is related to hierarchal flows. The communication among the departments of equal rank within the organization is conducted via synchronous technologies. In case more consensus among the participants are required on different levels, and in case non-synchronous communication is pursued, the result may be a highly intensive exchange of messages in order that a more detailed harmonization and understanding should be achieved.

17.4.6 Differences in the control of employees between traditional and virtual firms

In some traditional firms employees learn to trust one another through direct personal contact while managers control and supervise their work from proximate offices. Supervision means most frequently checking whether employees spend their assigned hours in their offices and whether they perform their duties correctly and on time. In virtual firms, however, the classical model of control and governance by managers is discarded. The managers' task in virtual firms is to supervise projects performed by geographically dispersed employees. Several ways of supervision is available. Managers can require that employees be permanently accessible during their working hours, either via telephone or via the Internet (e.g., from 9 o'clock in the morning till 5 o'clock in the afternoon). Alternatively supervision can be by

contractual deadlines for employees to complete assigned projects and other tasks (Radović-Marković, 2007).

17.5 Conclusion

Communication is fundamental to any form of organizing, however, it is especially central in virtual organizations. Virtual communication processes are expected to be rapid, customized, temporary, larger in volume, more formal, and more relationship-based when compared to traditional organizations (DeSanctis & Monge, 1998). While technology is an important aspect of a virtual firm, there is still a vital human component essential for appropriate judgment and decision-making. With these components there is definitely a shift in the structure of a virtual firm that varies somewhat from traditional companies since there is less middle management within a virtual firm by comparison with a traditional firm. Some virtual firms have developed employee orientation tools to guide them through the virtual work. These instructions can include written guidelines, training, and networks for colleagues. Virtual firms should consider establishing a computer-based chat room, where employees can work on projects with other team members and obtain the necessary information. Further, virtual firms should develop a social protocol for employees and teams with information on common cultural values. In addition to email, a virtual firm needs access to video and audio conferencing. This allows employees and managers to work with one another from large geographical distances and have the effect of working from the same location.

A virtual firm needs to be able to balance the virtual with face-to-face communication. Managers need to ensure that the organization can manage schedules online and require employees to work as scheduled on time even though they are not physically proximate. In addition to attendance, it is important to ensure that employees participate in meetings and in the work in virtual settings. Many virtual firms share important corporate and financial information with their workers. Such transparency facilitates trust and ensures a better relationship between the upper level management and employees. Virtual firms also encourage a more even division of power linked to the virtual culture of empowerment and self-control. While a virtual company needs a technology infrastructure, a solid cultural infrastructure is also essential for survival.

With the development of new technologies communication in virtual enterprises will continue to be modified by radical changes within modalities of communication. It is not possible to predict in advance the direction of these changes, however change will occur not only in technology but require also change in employee awareness. In particular change depends on the ability to overcome the present differences (gender, language, emotional, cultural, perceptual and other) and create efficient communication in a globalized world. The human factor will play an important role in improving communication in virtual firms certainly as important as the development and improvement of the present technologies.

REFERENCES

- Aken, J. van, Hop, L., and Post, G.J.J.** (1998). The Virtual Organization: a special mode of strong interorganizational cooperation, In Hitt, M.A., Ricart I Costa, J.E., Nixon, D. (Eds), *Managing Strategically in an Interconnected World*, Chicester, John Wiley & Sons.
- Argyris, C.** (1986). Skilled Incompetence. *Harvard Business Review* 64(5):74-80.
- Bultje, R. and Van W. J.** (1998). Taxonomy of Virtual Organisations, based on definitions, characteristics and typology. VoNet: The Newsletter <http://www.virtual-organization.net>, 2(3), 7-20.
- Byrne J. A.** (1993). The virtual corporation, *Business Week*. Feb.8, 98-102.
- D'Aprix, R.** (1996). *Communicating for Change – Connecting the Workplace with the Marketplace*. San Francisco: Jossey-Bass Publishers
- DeSanctis G. & Monge P.** (1998) Communication Processes for Virtual Organizations, *JCMS* 3(4). <http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.1998.tb00083.x/full>, Last access April 9, 2013.
- DeSanctis, G., and Fulk, J. (Eds.)** (1999). *Shaping organization form: Communication, connection, and community*. Newbury Park, CA: Sage.
- Frank, A. D.** (1984). Trends in Communication: Who Talks to Whom? *Personnel* December, pp. 41-47.
- Grimshaw, D. J.& Kwok, F. T.** (1998). The Business Benefits of the Virtual Organization, In: *The Virtual Workplace*, Idea Group Publishing.
- Karsten, H.** (1995). Converging Paths to Notes: in search of computer-based information systems in a networked company, *Information Technology and People*, 8(1), 7-34.
- Kiesler, S.** (1986). The Hidden Messages in Computer Networks. *Harvard Business Review* 64 (1):46-52.
- Larkin, T.J., and S. Larkin.** (1994). *Communicating Change – How to Win Employee Support for New Business Directions*. New York: McGraw-Hill, Inc.
- Lucas, H.C., Jr.** (1996). *The T-form organization: Using technology to design organizations for the 21st century*. San Francisco: Jossey-Bass.
- Marshall, C., and Novick , D.** (1995). Conversational effectiveness and multi-media communications. *Information Technology and People*, 8 (1), 54-79.

Mowshowitz, A. (1999). The Switching Principle in Virtual Organization, *Electronic Journal of Organizational Virtualness*.

O'Hara-Devereaux, M. & Johansen, R. (1994). *Global Work: Bridging Distance, Culture and Time*. Jossey-Bass, San Francisco.

Orlikowski, W. J., and Robey, D. (1991). Information technology and the structuring of organizations. *Information Systems Research*, 2(2), 143-169.

Pelz, Donald C. (1952). Influence: A Key to Effective Leadership in the First-Line Supervisor. *Personnel*, 29, 209-17.

Radovic- Markovic, M. (2011a). *Impact of Globalization on Organizational Culture and Gender role*, IAP, Charlotte, US.

Radović-Marković, M. (2011b). *Organizational behaviour and culture: globalization and the changing environment of organizations*. VDM Verlag Dr. Muller, p. 348.

Radović-Marković, M. (2007). *Samozapošljavanje*, Magnus, Belgrade.

Rogers, Carl R., and F.J. Roethlisberger. (1952). Barriers and Gateways to Communication. *Harvard Business Review* 30(4):46-52.

Shannon, C. E., and Warren W. (1949). *The Mathematical Theory of Communication*. Urbana, IL: University of Illinois Press.

Wilkins, H. (1991). Computer talk: Long-distance conversations by computer. *Written Communication*, 8, 56-78.

Valacich, J. S., and Schwenk, C. (1995). Devils advocacy and dialectical inquiry effects on face-to-face and computer-mediated group decision making. *Organizational Behavior and Human Decision Processes*, 63(2), 158-173.

Van de Bunt-Kokhuis, S. (2000). The virtual workplace and the company culture Employee oriented tools to build a corporate web culture. Available on the Internet: <http://www.managementsite.com/261/The-virtual-workplace-and-the-company-culture.aspx>

Venkatraman, N. and Henderson, C. (1996). The architecture of virtual organizing: leveraging three independent vectors. Discussion Paper. Systems Research Center. Boston University, School of Management