Title: Role of Computer Mediated Communication (CMC) in growing trading organization in Pakistan.

Juniad Khan and Eram Shahzad
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Executive Summary

Communication has vital role in the organization and its development. Development in organizational routines has changed the ways and needs of communication within organizations. Among the basic issues the "challenge facing any growing organization is how to maintain and improve communication to, from, and among its members" Clement (2009, p.67). Introduction of communication technologies within organizations provided great ease and opportunities for improved communication between co-workers. In order to successfully carry out working relationship at organization, communication has got fundamental importance. According to Igbaria et al. (1998), it has been highlighted by various academics for the need and use of computers and information communication technologies, particularly for medium and small organizations. According to Thurlow, et al. (2004) "any human communication achieved through, or with the help of, computer technology" can be defined as computer mediated communication (CMC). The Abuzar Marketing and Trading Company is the organization selected for this particular research work. The studied organization is currently facing communication problems within the organizational members and co-workers. At the moment organization is using the traditional face-to-face communication (FTFC) medium. The current communication system (FTFC) cannot fulfill the communicational requirements of the organization. This research work studies and describes the importance of communication from organizational perspective and how CMC can be used at the Abuzar Marketing and Trading Company to improve the current communication issues. The research was carried out by conducting interviews and distributing questionnaires among different employees, and top level management of the organization. Based on these empirical findings we found that communication can be improved at Abuzar Marketing and Trading Company by the implementation of CMC both in synchronous and/or asynchronous form. In this research study problems of small size Trading and Marketing Company were studied and suggestions were made to overcome these challenges based on organization’s adoptability and affordability.
Abstract

In third world countries like Pakistan, companies are growing their trading business with remarkable pace. Increase in business volume has raised the challenges to keep growth sustainable. Communication is one of the biggest challenges for most of small size trading and marketing companies in the region. Face-to-face communication is only type of communication available in companies for inter departmental and intra departmental communication. Although face-to-face is one of the best type of communication but it is not possible to have face-to-face communication all the time with all employees especially when volume of company is growing with remarkable pace. In result company faces challenges like information delay, information lost or communication handicap. These challenges affect efficiency and effectiveness of company. We performed qualitative survey with directors and employees of Abuzar Marketing and Trading Company to develop deep understanding with communication problem to eliminate it. Analyzing empirical data and literature, it is found that Computer Mediated Communication (CMC) provides synchronous and asynchronous types of communication, which could help the company to overcome communication challenges with several other potential benefits e.g. knowledge sharing, employees training, democracy in batter manners. Since every company in region is facing similar problem, general recommendation and precautions are made to introduce computer mediated communication (CMC).
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Chapter 1. Introduction

Communication has become a very important part of any organization and also very challenging issue to deal with. As stated by Clement (2009, p.67) one of the biggest “challenge facing any growing organization is how to maintain and improve communication to, from, and among its members”. Introduction of technology within organizations as communication tool (e.g. e-mail, computer conferencing, text messages, etc.) has increased the opportunities for cooperation and teamwork. The people working together as a team on same project can cooperate with each other, apart from time restriction and their physical location. Computer mediated communication (CMC) facilitates participation of those group or team members, who may be hesitant to participate in group discussions and express their views when it is conducted in conventional way (Ocker and Yaverbaum, 1999).

Hence, face-to-face (FTF) communication, which for a long time remained standard technique for collaborative communication within organizations, is no longer seen as the only medium of communication. New technologies have changed the communication trends and techniques. Formal postal and telephonic communications are being replaced by computer conferencing and electronic mail. The motivating factor behind the wide spread adaptation of CMC in organizations is decreased costs and time, and increased convenience and flow of information in the shape of electronic messages, databases, and documents. It makes CMC as the essential part of organizational communication. (Baltes et al., 2002).

Generally it is perceived that large or multinational organizations face communication problem. But this is equally true for smaller companies since changes in current business routines and techniques have posed great importance on organizational communication. According to Ongori (2009), small and medium size organizations are considered as the keystone, particularly for the developing countries. But often the growth and performance of such organizations is somehow affected because of poor communication system. Communication is an important issue for small and medium sized organizations. Parida et al. (2010) stated that effective use of information and communication technologies provides a great strategic advantage for small organizations as well as it enables the organizations to effectively use valuable knowledge and information, and improve relationship within and between
organizations. Knowledge is considered as one of the most important assets of any organization in today’s knowledge-intensive economy. Igbaria et al. (1998) stated that many researchers have highlighted the great need of using computers and information and communication technologies (ICTs) for organizational communication, particularly in small and medium size organizations. Such organizations can also use computers to address important issues related to business performance, for example accounting, information sharing, decision-making, etc.

Current organizational structure is greatly influenced by available organizational knowledge, also recognized as the organization’s intellectual capital. According to many scholars (e.g. Hoof and Weenen, 2004) the organization’s knowledge is of great importance from tactical perspective. The next step is sharing this organizational resource across its members (or employees). As stated by Hoof and Ridder (2004, p. 117)

“the sharing of knowledge between the individuals and departments in the organization is considered to be a crucial process and organizational value of individuals’ knowledge increases when it is shared”.

This is true for all organizations regardless of their size (small, medium, large or multinational). In Addition Wakefield (2006) agrees knowledge sharing and its importance has been accepted and addressed (at least to some extent) by the large organizations, but the small and medium sized organizations need to consider and address this issue. Scully and Khosrowshahi (2011) stated that knowledge sharing is a very important process for both small and large organizations and this issue needs to be addressed, since it plays a vital role towards the organization’s ability of innovation and improvement. To achieve the maximum contribution of knowledge as an organizational asset towards competitive competence, it should be shared between each department and individual in the organization.

Moreover, there have been great changes and advancements in information and communication technologies. Use of such technologies has resulted in a large amount of generating knowledge and sharing within almost no time. Fast growing technology has also changed the organizational requirements of employee
competence. Formal school education is not adequate enough to meet these changes and new challenges. Global challenges posed by technological changes have increased the value of intellectual capital (human capital) and their skills and knowledge within organizations. Therefore training of employees has becomes an important part of modern organizations. Employees’ training can lead an organization to better meet the competitive challenges. Innovative organizations have realized that employee learning and training are very important to survive and excel (Vemic, 2007).

Furthermore, we believe that CMC also has effects on the organizational workplace in terms of democracy issues. A common understanding about democracy is that it gives the people equal rights, opportunities, and a role in decision making. There have been great efforts to make the presence of democracy possible in every aspect of society, including at the workplace (or organization), also known as workplace democracy. The organizations following the traditional top-bottom management strategy have faced serious problems to compete and manage their economic downfall. In a democratic workplace (or democratic organization irrespective of size) employees are strengthened by being allowed to participate and share their experiences in decision-making processes (Petersson and Spångs, 2005).

1.1 Research Setting

Abuzar Marketing and Trading Company was established in 2005 and is operational in Lahore, the second largest city of Pakistan with population of nearly 10 million. It is one of the fast growing marketing and trading company in the Lahore region. At start, they were working with one confectionary production company as trading partner with 10 employees. At present they are working with nine companies and distributing more than 50 products. This rise in business volume has also increased the number of employees from 10 to 54.

Abuzar Marketing and Trading Company has six main departments: marketing, sales, logistics, accounts, human resources, and administration. As the company grows, challenges increased accordingly. Communication is one of the biggest challenges being faced by the company. Business was running and growing at satisfactory level when the company was working with a couple of departments and few employees;
employees were at the same geographical location and available at office most of the time. However, business growth increased the number of employees and the company then needed a bigger office. So, recently they shifted to a big multi-floor office to cope with space problems of their office staff and with high stock storage. At one hand shifting in big building eliminated the problem of space for staff and stock storage, on the other hand it increased the challenge of organizational communication; the company is conducting its business in traditional form using manual communication (Face-to-Face) and every department is complaining of late or no reply to queries placed to fellow department. Conversely, each department has excuses of not receiving the query, or that the resource persons are unavailable.

Though the organization is increasing its business circle, yet the means of communication within the organization are same. Face to face communication is the most adopted way to communicate. When this means is not possible, written notes are dropped at the contact person’s desk often by office boys. They also deliver messages of urgency. Finally there are notice boards where information is displayed and intended to reach all employees.

1.2 Aims and Objectives

The objectives of this study are to examine the current information and communication system of a small size trading and marketing organization in a developing country, like Pakistan. This study will help to understand the problems and limitations of the current system and how these problems and limitations can be eliminated or alleviated.

1.3 Research Questions

Q1: Which problems and limitations can be found in the current system?

Q2: What could be potential benefits of CMC in the organization?

1.4 Justification

The development of telecommunication networks globally, mainly Internet and Intranet, has made CMC mediums (electronic messages, bulletin boards, instant
messages, etc) as the most adopted communication tool by organizations. It is used to make the communication among people in the organization easier and more efficient. Among various CMC mediums, e-mail is the most common medium being utilized by organizations. It is of great interest for researchers to conduct studies on CMC’s effectiveness including communication and information flows within organizations (Kettinger and Grover, 1997). CMC has increased the possibility for employees to raise their voice and convey their views and ideas to their colleagues and management as well (Bishop and Levince, 1999).

There is a close relation between organizational culture and CMC used as communication tools. CMC establishes and plays a vital role for the organizational culture’s sustainability among the people working in the organization, particularly in such conditions when they do not have any other medium for communication. Studies conducted to investigate and examine the effectiveness of CMC use, found that CMC has potential to handle the information exchange. It is evident from various studies that CMC can enhance information flow in organization. According to Canesa and Riolo (2003) CMC can enhance information flow in organization with tools, it provides. Research done in the CMC discipline has shown many benefits in terms of costs, and social benefits. Among various social benefits, one can be freedom from social influence and discrimination as compared to traditional face-to-face communication. In this way CMC eliminates such hurdles from everyday life that are unnecessary (Spear et al, 2002).

1.5 Scope and Limitations

The field of computermediate communication is very broad and it is not possible to cover all aspects in a single study. That would require a detailed investigation of the organization and review of extensive literature, which we cannot manage due to our time constraint. Therefore our study focuses on communication problems of small trading and marketing organizations in developing countries (e.g. Pakistan), which we illustrate by our case organization. We also investigate how CMC can make organizational communication more effective and efficient. Since the organization is based in Pakistan, the geographical distance and time difference resulted in delayed response from the contact persons. As interviews were done at telephone, we were
unable to observe body language or facial expressions. A limitation is related to the lack of literature that addresses our specific problem area with similar organizational culture. Most of studies we found were done at large organization in developed countries. To cope up this we have done extensive literature review.

1.6 Disposition

Our thesis consists of six chapters. Chapter 1 introduces the research by giving background to the study including its research setting, research aims and questions. It ends by discussing the justification of the study, its limitations and finally set the disposition for the whole report.

Chapter 2 consists of an extensive literature review to develop understanding of the problem area. It ends by discussing potential benefits of CMC and communication and its benefits and limitation in organization. Literature review consist of studies that address the problem, communication, communication in organization, importance of communication in organization, detail discussion of Computer Mediated Communication (CMC), role of CMC in organization, limitations of CMC, problems facing in CMC implementation and types of communication facilitated by CMC.

Chapter 3 consists of roadmap of research conducted. The chapter explains the grounds of selecting case study as research method, research design, analyzing case study, data collection methods, data collection principles. Chapter 4 is data collection and finding with the help of observation, interviews and questionnaire. Later in chapter we have summarized data gathered through interviews and questionnaires, as we can’t disclose information with employee’s profile. In chapter 5 we have analyzed case study with most appropriate aspects of CMC addressing the problems in our case company. Chapter 6 is conclusion of case study followed by future work. At the end, there are references of books, articles and web sources which we studied during our research.
Chapter 2. Literature Review

This chapter of report consists of an extensive literature review starting with discussion about what communication is? Communication in organization and importance of potential benefits of communication in organization, which will help to built understanding with communication and its importance in organization. Later we will discuss CMC, types of CMC and CMC in organization. It will explain how CMC could affect efficiency and effectiveness of organization by providing several features/tools.

2.1. Communication and Computer Mediated Communication (CMC)

According to Hovland (1948, p.371) communication can be defined as “the process by which an individual (the communicator) transmits stimuli (usually verbal symbols) to modify the behaviour of other individuals”. Organizational communication can be defined as “the process by which information is exchanged and understood by two or more people, usually with the intent to motivate or influence behavior” (Santra and Giri, 2009, p.101).

In any organizational settings, communication and leadership are considered as closely coupled concepts and fundamental to successfully carryout working relationship. The success of any organization cannot be achieved without the presence of perfect communication. Communication is continuous practice of communicating among leadership and employees of the organization. Kelsey and Amant (2008) describe leadership and communication as strongly coupled events, for example: leadership can be not only interactive but dynamic as well.

The development in the computer mediated communication discipline and its implementation in organizational settings can deal with such issues. CMC can provide efficient and effective communication, resulting in overall improved performance of organization by saving time and other resources. Organizational leadership can use different CMC mediums (e.g. electronic mail, video conferencing, tele-conferencing, and computer assisted meetings) depending on the situation and conditions of communication. The important aspect is ‘when’ and ‘which’ medium to
use for communication. Selection of the media depends on the availability and accessibility of selected communicating media to members who are being invited for communication (Kelsey and Amant, 2008).

Computer-Mediated Communication is considered as nascent discipline that uses computers to carry out process of human communication (Turoff and Hiltz, 1998). From technical perspective, Computer-Mediated Communication was initiated with the invention of first computer (more or less at the time of Second World War). Since then people are using computers for communication in different forms. So the history of CMC can be traced back to five decades. At the time when CMC was initiated, computer and its usage was not as common as its being utilized now. It was rather considered as more technical and used by selected persons. The wide spread use of computers by managers, school teachers, students, hospitals, banks, engineers, etc., became apparent by 1990s. Prior to 1990s, computers were used for selective purposes, like to process information, share, transfer, for designing hardware, human computer interaction. Since then increased interest of personal computers’ use for communication (e-mail, chat, instant messaging, web surfing), got attention and recognition as an interesting field to investigate. In 1990s, CMC attracted academies and in a little while they started to classify the subject area of CMC. According to Thurlow, et al. (2004) before talking about CMC in details, first we need to establish how we look or what exactly CMC is?

The term CMC is widely used by academies as well as by the rest of community. According to December (1996), CMC can be defined as “the process by which people create, exchange, and perceive information using networked telecommunications systems (or non-networked computers) that facilitate encoding, transmitting, and decoding messages”. Ferris (1997) argued that “the term computer-mediated communication refers to both task-related and interpersonal communication conducted by computer”. Further Thurlow, et al. (2004) added any kind of communication accomplished by the human assisted by the computers, either completely or partially is known as CMC.

Generally, CMC can be defined as a form of electronic communication by using computers. The communication utilizes computer networks to send or receive messages. The most common network for CMC is Internet/intranet. The spectrum of
those technologies that CMC utilizes to facilitate communication is very broad. Internet also is a combination of networks that are interlinked with each other. The communication through CMC can be categorized as ‘asynchronous’ and ‘synchronous’. Asynchronous means that the communicators don’t need to be online at same time or at same domain. Electronic mail or E-Mail is the most commonly and widely used form of asynchronous communication. The other common forms of asynchrony communication are: discussion list, video clips, newsgroups, web pages, bulletin boards, etc. General types of synchronous communication are chat, teleconferencing, video conferencing, etc (Barnes, 2003)

CMC can be considered as a combination of telecommunication networks and computers’ characteristics. This combination makes it possible to create, process, store, exchange, and retrieve different communicational contents (mostly information) between several people. Organization of communication process through CMC can be formed by designers, managers, and users of the system. It can overcome such communication barriers that are likely to occur in case of traditional communication process. For example, distance can be a major physical barrier in ordinary communication setup, the other possible limitation factors can be time, space, costs, etc. For example, a CMC system user can create, store, process, and share content of information in timely fashion regardless of physical location of the receiver who can store, process, share, or remove the content (Wasserman and Galaskiewicz, 1994).

Shape of communication has been transformed with the development of computers and telecommunication networks. Papers and log books keeping record of postal communication are being replaced by computers and electronic networks. Postal stamps and envelopes are being replaced by various CMC mediums (like E-Mail). Widely acceptance of CMC systems as to increase communication efficiency and reduced time and efforts, required for successful communication. For example, E-mail can be used to communicate with a group of people at the same cost and time that is required to create a message for an individual (Bordia, 1997).

Global computer networks have experienced great increase in the development and growth, changing the communication routines in educational institutes, businesses, and individuals’ lives. It has changed the conventional structure of human interaction and became an exceptional medium enabling interaction in the form of electronic
mails, internet, computer conferencing, intranet, voice mail, etc. Even though each type of communication has unique characteristics and facilitates communication in different ways, but still fulfils the basic characterises of communication through CMC.

2.2. CMC in Organization

Different features of computer-mediated communication like independence from communication constraints make it different from the traditional communication mediums. Communication through CMC can influence organizational information input, processing, and output, which can lead to minimize communication hazards creating uncertainty for overall organizational environment. There is more to be done to analyze the communication needs of people working with organizational information and the way they communicate. Because the organizational communication structure and the way information is communicated and processed plays vital role towards overall performance of organization (Daft and Lengel, 1986).

In general, communication is identified as fundamental or basis for the development and management of the organization. Communication method can effect relations between employees or organization’s members, which in turn may affect different aspect such as motivation and commitment. According to Rowley (1999, p.72) “Despite the extensive technical work on computer mediated communication, and some work on the way in which groups communicate, there has been little work on the effect of CMC, more broadly within organizations”.

Mostly CMC is considered as more productive and important aspect of those organizations which are knowledge based. Implementation of CMC in such organizations should improve the weaken relationships between organization’s members and groups. It is of great importance to identify the way CMC creates its impact in the way ‘how’ organization works. (Rowley, 1999)

CMC as communication tool is being widely adopted by the organizations in order to improve information flow within organization. Improved communication results in increased co-ordination between workers, more reliable communication which saves time and associated costs, decreasing ambiguity, and at the same time connecting many people at very low cost. Basic idea of adapting communication medium like e-
mail, video-conferencing, instant messaging, and computer conferencing is that “these systems will increase the amount and improve the quality of communication among participants relative to their current use of communication media such as face to face meetings” (Jakiela and Orlikowski, (1990, p.2)).

Among one of the apparent characteristic that clearly differentiates offices using CMC than to conventional communication channels is, time and space. For instance, E-mail can be send over anywhere in the world with in few moments. It’s a useful organizational communication medium particularly when there is same message needed to be forwarded to a number of people or a group. Not only text messages, but the E-mail attachment can include more to message (e.g. pictures, different charts, and graphics). Resulting in saving time and efforts required for successful devilry of mail or message through ordinary communication channels like postal service or telephone. According to Sproull and Kielser (1991) cited by Harasim (1993, p.104) “managers are often attracted to [computer] networks by the promise of faster communication and greater efficiency”. Using E-mail as communication medium eliminates time and efforts to track the people looking in their offices. People working at organization can write and read E-Mail and communicate with the other colleagues regardless of their physical location (for example at home, laboratory, public stations, or sitting in the office of a client) (Finholtand Sproull, 1993).

CMC has changed the work shape and organizational routines. Now the employees are not bounded to stay physically at office. They can get connected by using laptop with modem or portable digital assistants (PDAs), regardless of location. CMC has changed the way people interact, communicate, and their social contact within organization. CMC has made the role of management more easy and efficient. Traditionally responsibility of the management is to provide instructions to people or group who will be working on the task. In order to complete the task and attain organizational goals, they need to communicate and coordinate with each other (Barnes, 2003).

According to Malone and Rockart (1991, p.1) “as computers become increasingly connected to one another, people will find many more ways to coordinate their
workers. In short, computers and computer networks may well be remembered not as technology used primarily to compute but as coordination technology”.

Continuous growth in the CMC discipline has made it one of the most important tool for communication, either within organization or between organizations. Among various available communication methods (e.g. chat, instant messaging, video conferencing) through CMC, E-Mail appeared as one of the leading communication medium for internal or external organizational communication.

Groups and group discussions are important part of any organization and play important role in overall performance of organization. Members of these groups needed to interact and communicate with each other, in order to achieve the organizational tasks. According to Baltes, et. al (2002), prior to telecommunication and computer networks, the best available communication medium was face-to-face to communication. In the current organizational settings, group discussions are carried out through CMC instead of face-to-face communication (FTFC), eliminating sole dependency on FTFC. Introduction of CMC in organizations has not only changed the communication trends, but it has transformed the form of group work as well. New trends like working from home or any remote location instead of being physically at work place are becoming more and more common. Exchange and sharing of information for group work through electronic mails and conferencing has overtaken the postal mails and telephonic conversations. Motivational factor for the organizations to adopt CMC is the cost effective communication with improved accessibility, sharing, and exchange of organizational information in efficient manner.

In order to complete any task, it is very important for the group members to work together and share their views and experiences. CMC enables the group members to coordinate regardless of space and time difference. Baltes, et. al (2002, p.157) argued about CMC that “national and local computer networks proliferate, computer-mediated communication (CMC) has become an integral component of organizational communication”. Different business and organizational analysis has portrayed the change in communication and coordination routines among groups at organizations as “self-managed groups”, “computer-supported collaborative work”, “flat organization”, “horizontal corporation”, etc. Precisely describing, role of CMC at
organizations is promoting cooperation and information sharing among groups and teams, instead of controlling them.

At the beginning of computers, visionaries predicted that organizations in future will be equipped with self-driven robotics technology. With the advent and development of CMC technologies, now visionaries foresee organizations as humming with the communicating employees. Computer has changed the organizations’ communicating patterns which are facilitated by CMC. More and more organizations are adopting CMC that facilitates communication in the form of electronic messaging, voice mail, visual conferencing, etc. Besides the reduced cost and improved communication efficiency of CMC, increased reliability and timely accessibility are also important aspects of immense adaptation of CMC (Hinds and Kiesler, 1995). CMC provides improved and flexible interaction for communication as compared to traditional organizational communication methods (Mason and Romiszowski, 1996).

In literature we found many features of CMC which makes its scope larger than our study. Following we will discuss some aspects of CMC which play vital role in increasing effectiveness and efficiency of the company.

2.2.1. CMC and Organizational communication

According to Santra and Giri (2009), in the current organizational settings, communication plays vital role to achieve organization’s effectiveness. Development in communication technologies has led the organizations to rethink and reshape the organizational working routines. Modern organizations heavily rely on effective communication and every single event occurred at the organization, does contain some kind of relation with communication. From this reasoning we can conclude that communication is fundamental element for any organization and basis for all other organizational activities. All organizational routines do utilize communication to some extent. Management theories are well aware of the significance of working environment and organizational communication. For example, prior to wide spread of personal computer, organizations did made efforts to make communication efficient and easy to access. They utilized various communication mediums like telephone, postal mail, memos, and face-to-face communication. No one can deny that face-to-face communication medium, which used to be the most common medium to
communicate, is very rich communication medium, but the fact is that it is not always possible to organize face-to-face communication.

Although, these communication mediums are still in use, but seems to be quite primitive in the age of computers and telecommunication networks. Communication facilitated by computer networks can make the organizational communication and information flow more effective and efficient (Santra and Giri, 2009).

Improvement in technology has made the possibility of efficient creation, sharing, and communication of organizational information. The voyage from cave painting to e-mail is evident of technological development, which has changed the communication approaches. Communication in modern organizations is becoming very complex but at the same time it has become essential to achieve organizational tasks. Adoption of communication technologies for organizational communication is becoming very common approach and CMC has become fundamental aspect of our working life. CMC has changed the state of communication along with changed physical environment, time, space, and communication structure. CMC has provided the variety of communication mediums that were not available in past. Now employees do not need to be physically present for group discussion, presenting their view, and sharing information. They can participate through computer conferencing. According to Culnan and Markus (1987), CMC not only changes the organizational communication techniques but it can also influence the overall organizational routines and processes.

Computer-mediated communication has become an alternative organizational communication media in the form of E-mail, instant messaging, computer conferencing, and chat (Rice and Love, 1987). Communication through computers has significantly revolutionized organizational communication, which was coined as “networked organization” by Kiesler and Sproull (1991). Organization are using CMC for the activities like "group problem solving and forecasting, consensus development, coordination and operation of group projects, sharing ideas and gossip, and mobilizing organizational action within special forums or interest groups" (Siegel, et al. 1986:158). For example, in past memo may require 3 to 7 days to be delivered, which can now be done within few moments (Bordia, 1997).
2.2.2. CMC for business training

The need for the flexible training and learning of new employees at organizations has been indicated by various studies discussed below in this chapter. The problem identified by the studies is that apprentices or beginners must have to accept and learn only what the instructor and organizations wants. The learning process is carried out by an instructor, who provides assistance as well as performs monitoring activities of the whole process. Such learning process does not allow the trainees to be independent and self-directed by choosing their own targets, following the target, and assessing their learning process. According to Smith (2001), findings indicated that participants expressed that they can learn better if it would be possible for them to communicate and share their ideas with other colleagues as well. It has also been identified that the learning places are not well enough equipped with the facilities that allows for flexible training and development processes, policies, and attitudes (Smith, 2001).

Various strategies have been developed to enable flexible learning process, in accordance to workplace that can entertain such training process. But the core issue is the implementation of strategies and processes for the flexible training and learning process, along with the workplace providing enough support. It will allow participants to conduct self-directed learning, resulting in more successful training effects. Besides that, training program should be designed in such way that it recognized all the needs required for self-directed learning. Smith (2001, p.121) argues that CMC can provide “an emerging opportunity to implement these broad strategies in workplace-based flexible training”. CMC makes it possible to develop networks, facilitating learning process and capable of providing communication support for the trainees who have to understand and learn by themselves. Trentin (1999) believes that strength of the CMC is its ability to facilitate collaborative education. CMC enables the apprentice or students (learning organizational knowledge) while learning on their own, to communicate with their associates, trainers, and any external instructors. A five stages (access and motivation, online socialization, information exchange, knowledge construction, and development) CMC model enabling online learning and teaching has been presented by Salmon (2000). As the participants get more familiar with the CMC systems, they experience more ease and
comfort with the environment and use it more frequently to communicate with their colleagues (Smith, 2001).

2.2.3. **CMC as Democratic Tool**

The prevailing, and widely acceptance, and adaptation of information and communication technology is considered as leading factor that has changed the daily life of individuals. This supposition has increased the importance of CMC and its impact on social interaction at organizational level. There are different kinds of CMC systems, each designed for specific purpose to achieve different tasks. Users of the CMC systems can be different based on their gender, position and skills, so there would be different results of CMC’s utilization. Studies are being conducted to evaluate the impact of CMC on social practices. It is believed that CMC has the ability to affect and change not only personal relations, but the relations at organizational level as well. Asynchronous form of CMC is the most commonly adopted and used by the organizations for communication. Sproul and Kiesler (1991) believe that CMC is democratic, since it allows all the organizational members to participate in the communication. They define organizational democracy as “people believe that everyone should be included on equal terms in communication; no one should be excluded from free exchange of information” (Sproul and Kiesler, 1992, p.13). According to Sproul and Kiesler, CMC systems (particularly E-Mail systems) at organizations have been very helpful to promote democratic culture in organizations. CMC system allows every member of the network, to have similar opportunities to communicate and raise their voice. It minimizes the problems regarding to organizational communication that are based on status and power (Mantovani, 1994).

2.2.4. **CMC and Decision Making in Organization**

In the conventional organizational structure, boss is always the last person to receive information about any process or problems. It is evident from this statement that what are pros and cons of traditional way of carrying out communication at organization. It is often perceived that screening the flow of unnecessary information to the boss or decision makers can result in improving organizational efficiency (e.g. O'Reilly 1980). But most of the time this strategy (or myth) is not true and keeps decision makers unaware from the actual situation. Lack of comprehensive information for decision
makers can cause organizational failure. One question that remains as fundamental for any organization is ‘Who has what information’. CMC is considered as of significance from this perspective and how it affects the very important aspect of organizational information and communication that is ‘who has what information’. Various studies have indicated that CMC acts as information accelerator, offering the access and availability of information in efficient manner. Unavailability or delayed access to information can greatly affect the decision making process at any organization. It is evident from many empirical studies that communication and information carried through CMC has improved the decision making process, which resulted in saving time, and improving the overall efficiency of the organization. Sproull and Keisler (1986) argued that CMC has the ability to change the traditional routines of ‘who has what information’.

2.2.5. CMC strengthening organization culture
The development of organizational culture is based on achieving shared or common understanding. Canessa and Riolo (2004, p.150) defined organizational shared understanding as “means that members of the organization recognize a particular feeling, experience or activity as common and are willing to adhere to a set of beliefs, values and norms in acting”. Schein (1982) says that in order to achieve shared understanding, each individual at organization should have access to same communication system and the communication language should have same meanings for everyone. Sharing views and communicating with other members results in forming the organizational culture. Formation of shared communication, taken as a whole is directly proportional to communication medium’s richness. A good communication system can be effective to establish stronger organizational culture. Organizational culture’s sustainability is great indicator of organizational members’ affiliation and an ongoing relation with organization and its culture. To establish and maintain organization’s culture is pretty much persuaded by communication system’s richness (Canessa and Riolo, 2003).

2.2.6. CMC and decentralized decision structure
Use of information and communication technologies is considered as core element for any dynamic environment. It has been found that decision maker(s) at organizations must have to cope with the excess of information in dynamic
environment, caused by ambiguity associated with the task. It has been argued by various academic scholars that communication facilitated by computers can manage the requirements of vertical communication. Vertical communicating makes it possible for the managers and top level management to have a glance lower in the hierarchy. It allows the managers (and employees) at lower and middle level to communicate, and express their views and participate in the decision making process (Andersen, 2005).

2.2.7. CMC and Organizational Relational Aspect

A very common question about communicating at organization is that for what people use ‘communication’ in organizations? The answer to this question varies depending on the nature of the work, organization, and people working at organization. An obvious answer can be that they communicate to achieve organizational goals. Besides organizational formal communication, people do communicate to build, manage, and carry out their personal relations with other people at work. This process has been identified as relation communication (Clark and Delia 1979, Graham et al. 1980).

Then the question arises that what kind of communication media people do use in organization? Various studies have been conducted and they did not come up with a unique answer or solution to this question. Relation communication is considered as one of the important aspects of organization, which needs to be recognized and explored that how it is affected by the introduction of new technologies, like computer-mediated communication. There has been a lot of debate about the CMC as communication media, in particular. Various studies concluded that in some cases (e.g. because of limited bandwidth) it may not perform well as compared to face-to-face communication. But it is evident from various studies that organizational communication carried by CMC encourages relational communication, by enabling greater connectivity and enhancing collaboration between organizational members. It has been indicated by various field research studies that CMC does play important role to form mutual understanding and friendly relations among people at organization (Walther, 1995).
2.2.8. CMC in interorganizational context

According to Kettinger and William (1997) no one can deny the importance of communication in today’s global world, taking place among the people working in different organizations. Various studies have commented for the importance of interorganizational communication as a tool to improve the organizational efficiency. Introduction of new information and communication technologies had changed the communicational routines within and between organizations. Communication between organizations has become more frequent and improved with the introduction of these new technologies. In general, communication facilitated by such technologies is recognized as computer-mediated communication (CMC). CMC comes in different forms like electronic bulletin, electronic mail, instant messages, etc. Interorganizational communication assisted by CMC provides great ease of use and to have reliable communication, as compared to conventional communication mediums like postal mail, telephone, face-to-face meetings, etc. The most popular and adopted communication medium among various CMC’s alternatives is electronic mail (E-Mail). This communication is carried out through intranet and internet. Internet is among those few technologies that are considered as one of the most revolutionary and being used widely. E-mail makes it possible for the users to transfer different kind of information like text, charts, graphic, audio and video.

CMC makes it possible for the organizations to have interorganizational communication across the globe, eliminating the geographical barriers. It helps the organizations to form and maintain interorganizational relationships that affect the overall performance and efficiency of organization. It will not only facilitate to achieve organizational tasks but also improves social interaction between the people, and organizations. As the communication continues to take place between organizations, people do create some informal relationships as well. Persistency of such relations with the trust brings the people more close, which results in cooperative agreements.

Prior to application of any CMC medium for interorganizational communication, it is very important for the managers and decision makers to understand the nature, capabilities, and requirements of CMC system, and organization. Pre-implementation investigation plays vital role to achieve expected level of CMC system’s performance
to accomplish successful interorganizational communication (Kettinger and William, 1997).

2.2.9. **CMC and Knowledge sharing**

Advent of new technologies has changed the business routines. It is believed that in the new emerging world of information and communication technologies, only those organizations will succeed and grow who will be able to recognize, create, maintain, organize, and manage the knowledge. Therefore ‘knowledge management’ is recognized as core strategic issue for any modern organization. Knowing ability of any organizations is recognized as “sensing and understanding an organisation’s dynamic environment, as well as its own purpose, objectives, processes and culture, is essential for the survival, adaptation and sustainable development of the organisation in this environment” (Cecez-Kecmanovic, 2001, p.115). An organization with the ‘knowing’ capabilities is considered as capable of to keep going with organizational innovation and learning. Basis for any ‘knowing’ organization is owed to knowledge management, either at group, individual, or organizational level (Cecez-Kecmanovic, 2001).

Knowledge is generated by the humans and it can be communicated and share among others. After some necessary processing, it can take the form of products, process, and routines. There is no doubt that knowledge is quite different from information and data. Data is captured through different means, takes the form of meaningful information after some processing. Data and the process to form information do not require human agents as they are required for knowledge creation and management. Generally it is believed that knowledge is tacit entity and carried by the individuals, while it is rarely considered that knowledge does exist in organizations and groups also. The knowledge created by the interaction and ideas sharing among group members, is recognized as collective knowledge. Collective knowledge makes it possible for both group members, and organizations to deal with the complex issues (e.g. adaptation of new technology, changes in organizational routines and strategies, etc) that cannot be handled or carried out effectively by the individual or single person. Weick and Poberts (1993) argued that in order to create and maintain collective knowledge, both individuals and groups need to be capable
of developing and maintaining attentive interpersonal relationships (Cecez-Kecmanovic, 2001).

Within current knowledge-intensive economy, knowledge has become an important asset for the organizations. It has become key factor from strategic perspective. Knowledge management is one of the most significant and challenging strategic issue that current world organizations’ are facing. To share, and manage knowledge among different people working at different sections of organization is very tough and critical issue. To create and share organizational knowledge is greatly dependent to the attitude, participation in group discussions, and sincerity of employees to achieve organizational task and objectives. The other influencing factor for organizational knowledge is the communication media, though which it is created, shared, and managed (Hoof and Ridder, 2004).

It has been identified by various researchers that computer-mediated communication can be one of the best possible options for creating, maintaining, sharing, and managing collaborative knowledge (or organizational knowledge). They find CMC as a communication tool facilitating knowledge creation, sharing, and management. Enhanced collaboration and knowledge sharing, improves organizations’ decision making ability and to develop new business strategies. It helps the group members to come up with communal perceptive about specific issues. CMC enables the group members to exchange their experiences and knowledge (in the form of messaging, e-mail, etc), providing a kind of assistance to other members to deal with complex issues (Cecez-Kecmanovic, 2001).

Among the obvious characteristics of CMC, time and space issues are considered as its important aspects. People either working individually or being part of group can communicate in efficient and timely manner, without waiting for response from other member. For example, in the traditional telephonic communication, both parties should be there at the same time to conduct communication successfully. Anonymity, lack of social cues, and equality are those communicating characteristics that differentiate CMC from conventional communication methods. These characteristics are of great importance from knowledge sharing perspective. Group members or individuals, lower in the hierarchy can share knowledge with the people higher in the
hierarchy without considering status difference, which may not be possible in traditional working environment (Hoof and Ridder, 2004).

2.2.10. CMC, empowering employees
Traditional organizations used to be focused on single aspect, and that is profit. The profit still remains as core area of interest for modern organizations as before, but the ways to achieve this task have been significantly changed. Now the organizations are focusing more on the empowerment of employees to achieve organizational tasks and goals. Sachs (1994) views the changing organizational structure from the centralized, hierarchical, pyramid, top down instructions, and diversity in status on the way to decentralization, flat organizational structure focused on commitment, with equal opportunities and status. According to Randolph (1995), now it is not possible for the organizations to compete with their business rivals until top level management does not make it possible for the employees to have access to the strategic information of organization. Having access to critical organizational information like market share, profits, etc, makes the employees to feel about themselves as important part of organization. The implementation of new technologies in the organizations like CMC makes it possible to achieve such organizational structure (Barrett and Turtz, 1998).

2.2.11. CMC as changing organizational forms
Organizational forms are one of the core issues addressed by organizational science. These are based on general structural models, which are common among various organizations. The most common forms identified by organization sciences are: historical (ancient), markets and hierarchies, and bureaucracy. At present, scholars of organizational science discipline have recognized substitute form of conventional organizations, known as networked organizations. The new form has not only changed the organizational routines but it has also changed the communication patterns within, and between organizations. CMC is recognized as one of the widely accepted form of electronic communication technologies. It enables the organizations to overcome the limitations like time and location, which are considered as core issues to distinguish different forms of organizations. Henderson and Venkatraman (1994) have identified some features of communication being affected and affecting organizational forms carried by new technologies, like CMC. First and the most
evident feature of communication carried by CMC is *communication speed*. It enables the organizations to send and receive enormous amount of information at ever reduced time requirement. The second factor is the *cost efficiency*, CMC has enabled the organizations to communicate and exchange the information at very low cost, irrespective of geographical distance. Third is the continuous growth of *communication bandwidth*, making it possible for organizations to transmit huge amount of information in the form of text, graphics, audio and video messages. The next is *vastly expanded connectivity*, billions of people connected with each other at the same time by using their computer and utilizing one or more local networks, wide area networks, intranets and/or internet (Fulk and DeSanctis, 1995).

2.3. Limitations of computer-mediated communication

It has been highlighted by various academics that most of the computer-mediated communication’s limitations are related to the people who are user not the technology. Some of those are presented below:

2.3.1. *Lack of Non-Verbal Communication*

Among the various limitations that can be found in the computer-mediated communication, absence or lack of non-verbal communication is very apparent (Lane, 1994). Since the communication facilitated by CMC is carried out via computers and electronic means, so both the sender and receiver of the message or information do not receive verbal information as compared to face-to-face communication. Devito (2003) believes that verbal communication includes face expression, physical movements, eye contact, distance between the participants, etc which are definitely important part of communication. Holden and Wedman (1993) have presented their views that communication carried out by CMC faces lack of non-verbal communication. Although with the development of technology it’s possible to have video conferencing as an added feature of CMC. But if we view it from the economic perspective particularly for small and medium size organizations, then it may not be feasible for such organizations to offer such facilities for every member at organization because of limited resources.
2.3.2. Complexity leading to errors
It is quite likely that users of the newly adopted communication system can make mistakes because of its complexity. In case if the system design is complex (not user friendly) and making it hard for the faculty members to follow, chances are there that users may face some errors. These errors can also cause delay because the people who are working with the new system may not be familiar with the structure, and tools and which methods to avail exactly (Kiesler, et al., 1984).

2.3.3. Instant Response
Since the communication carried by CMC is done in real time, so normally the sender of message (or information) believes that it has been delivered to the receiver. In many cases, message contains questions mark or kind of information which means that the sender is waiting for an acknowledgement or reply. On the other hand receiver of the message may not be present at the moment or there can be delay because of technical errors. Such issues may affect the co-ordination and working relations between the participants (Kiesler, et al., 1984).

2.3.4. Information Overflow
There is no doubt that in modern organizational culture availability of relevant information in efficient way in timely fashion is considered as key element of success for any organization. As stated by Berge and Collins (1995, p.4-5) “We have entered an information age in which power comes to those who have information and know how to access it”. But this information can result in frustration, and hectic if the user is provided with too much irrelevant information, known as information overflow. Lane (1994) has described information overflow as “frustration and stress due to sensory and data overload”. Availability and access to the relevant information for the specific person in efficient way without extra time consumption is a serious issue and requires great efforts to handle it.

2.3.5. Trust
Communication carried out through CMC can be considered as virtual communication. Most of the times sender and receiver don’t have physical access to each other. In such environments when sender and receiver are located on different places or may be at different levels in same organization, trust is an important part of
whole communication process. There may be hazards on either side of the users that whether or not information or message is generated by the authenticated person. Such reason may result in hesitation from the sender or the receiver to accept the message or information as correct and authenticated (Berge and Collins, 1995).

2.4. Implementation Problems

Implementation of the CMC is one of the important steps of overall process. The most common issues that the organizations face can be one or many of the following:

2.4.1. Resistance, Complexity, Economic Perspective

Resistance against the implementation of new system is one of the very common problems that are found in almost every kind and size of organization, ranging from small size organization to multinational organization. This issue has been raised by various scholars who pointed out various reasons behind this resistance. For instance, according to Rogers (1983) cited by Holden and Wedman (1993) implementation of new system may face resistance because people at the organization have feelings that it is not compatible with current norms. The other major reason of resistance against new system can be that the new system might be complex than the existing.

Among various implementation issues, complexity is one of the common issues that are faced during the implementation process of CMC. Complex routines may cause not only resistance but also requires extra time and resources to make the change successful (Rogers, 1983).

Economic perspective is another important factor which can be of great concern to implement CMC, particularly for small and medium size organization, and to some extent for large (or multinational) organizations as well. Besides the implementation, technical support which is required to keep the system running and working accordingly may appear as a barrier to implement CMC in terms of maintenance costs. Another implementation barrier in terms of economic perspective can be the cost associated with the training sessions for the employees. The learning process for each individual varies depending upon their abilities and experience. Therefore it
is very tricky to know exactly how much funds would be sufficient to make the training programme successful.

2.5. Types of Communication

Communication has following two types

2.5.1 Asynchronous Communication

Muller (2002, p.52) defines the term asynchronous as “bits in the serial data stream are not locked to a specific clock that guides timing of the bits between sender and receiver.”

Asynchronous Communication is a method of sending and receiving information that does not occur in real time. That is to say, you may post a message or web page in the morning and someone can view your posting several hours/days/years later.

By making your information available asynchronously, you allow others to view it at their convenience.

![Figure 2.1: Asynchronous Communication temporal domain](image)

Asynchronous communication held in environment where sender and receiver are not bound to be in same geographical location or real time. There is interval of time of message and it’s receiving or follow-up. For asynchronous communication everyone
has not to be available at the time of transmitting messages or discussion. Most of asynchronous tools are available round the clock and provide flexibility to receiver.

Following are most common tools of asynchronous communication.

- Electronic Mail (E-mail)
- Discussion boards
- Web logs (Blogs)
- Streaming audio
- Streaming video
- Narrated slideshows
- Learning objects (Web-Base training)
- Document libraries
- Databases
- Web Books
- Surveys and polls
- Shared Calendars
- Web site

**a). Electronic Mail (E-Mail)**

As stated by Herring (2002), in the current situation, the most widely adopted and used communication media of computer-mediated communication (CMC) is e-mail (Herring, 2002). Among the various types of CMC, e-mail is considered as the most popular type of communication as compared to its other forms. Organizations have been greatly affected by the introduction and adaptation of e-mail as organizational communication medium. E-mail is the asynchronous form of CMC, which means that communication takes place between individuals without requiring both sender and receiver to be online at the same time. It makes the communication possible without
taking into consideration the time, space, and geographical differences. Development in the CMC discipline has introduced several other means to communicate, one of them is becoming very popular in organizational settings is instant messaging. But still instant messaging and all other forms of CMC are far behind the adoption and use of e-mail in the organizations. Levitt and Mahovald (2002) stated that more than 90% of the people working together select e-mail as a communication tool while communicating through electronic networks. It's almost impossible for any communication medium to claim as error free and ultimate, so is the e-mail. Unlike telephonic or face-to-face communication, it provides freedom for both sender and receiver to read or send messages without pushing the other person to participate simultaneously (Sallis and Kassabova, 2000).

E-mail can be an effective tool to form new strategies, policies, etc. The employees seem to be important and valuable, and can be involved in the process by sending them e-mail requiring their input about particular issues. After the information reviewed by the decision making group (or person, very rarely), they can be updated by new e-mail containing reviewed information (Rudick and O’Flahavan, 2001).

b). World Wide Web (WWW)

Benernes-Lee, a British scientist of CERN (European Organization for Nuclear Research) is considered as the pioneer who introduced the concept of World Wide Web in 1989, which was operational on Internet in 1991. He was inspired by the ideas of Bush’s (1974) “memex” and Nelson’s (1967) “hypertext”, with the aim to provide shared communication platform for both individuals and machines communicating through associative links. But the actual implementation and utilization of the Web as communication tool became reality in 1993, with the introduction of ‘Mosaic graphical Web browser’.

World Wide Web is considered as the fastest-growing branch of the Internet. Since all web pages are based on the same protocol, so these pages can be viewed by using any web browser and computer system connected to Internet (Barnes, 2003). According to Goggin (2000) and McChesney (2000), the increased use of Internet at corporate level has boosted the adaptation of World Wide Web by the organizations. Corporate sector is the major user of the Web, a survey indicated that more than half
of the web sites were registered with .com domain. Another important and unique aspect of the Web is that it can serve as a host for the rest of CMC’s modes. For example, a Web page can be used to facilitate discussion lists, embed chat interface, and the most popular form of organizational communication which is e-mail. The Web can also be used as a tool or platform for the CMC’s multimedia applications. For instance, web pages may consist of organizational information presented in the form graphics, audio, and video (Herring, 2002).

Web as mass communication medium

Web pages are becoming an important medium to communicate not only for interpersonal or organizational communication but also for mass communication. Web pages are updated on regular basis to provide current information to the customers and get feedback from them. In traditional organizational settings, generally customers are approached by post or telephone by the organization and vice versa to communicate and convey messages or feedback. The Web is being utilized widely as the most effective and efficient mass communication medium by the organizations ranging from small size to multinationals. Prior to wide spread of interment and the Web, the only way for the organizations to communicate with their customers was the advertisements, annual reports, news letter, and etc. Now the customers are informed about the new products or services by updating the organization’s web page. It provides great advantage for the organizations from both perspectives: economic and information delivery in timely manner. White and Raman (1999) view the Web as the first managed and controlled communication for the organizations to directly communicate with their customers. They believe that “media hype about the Web has created a gold rush mentality—organizations are rushing to establish an “Internet presence”” White and Raman (1999, p.407).

2.5.2. Synchronous Communication

There are several ways of synchronous communication and some will be presented below.

a). Instant Messaging (IM)

In today’s organizational structure, it is very important to have reliable communication medium to form coordination and collaboration among the people and the group(s)
working within organization. As the communication technologies continue to develop and come up with the advance solutions, so are the efforts being made to capitalized those technologies in best possible way to enhance and make the organizational communication more effective. Although e-mail has been and still considered as one of the dominant forms of CMC at organizations, but with the changing organizational culture and communication technologies, other communication systems are also being recognized and accepted as organizational communication medium. Organizational boundaries are being expanded in the sense that now employees and managers do not like to only stick with single work group within organization. It’s becoming more common to participate and communicate across multiple social networks (Quan-Haase, et al., 2005).

In many organizations, employees tend to use instant messaging to communicate instead of e-mail or other communication systems. Instant messaging is a synchronous form of communication, which means that communication took place in real time, both sender and receiver communicate at the same time (Barnes, 2003). Cameron and Webster (2005, p.87) have defined IM as “users to set up a list of partners who will be able to receive notes that pop up on their screens the moment one of them writes and hits the send button”. It eliminates the time consumed to visit the co-workers to have discussion, who may not be available or busy for the time being (Quan-Haase, et al., 2005). By using instant messaging, employees and/or managers get connected though any specific IM applications. Users can see who is accessible right now by looking at his/her status. Typically or initially, IM was used to communicate by sending and receiving text messages to users who are online. But with the passage of time and development in the communication technologies has significantly influenced the communication facilitated by. Chat is considered as basis for the current form of IM (Cameron and Webster, 2005).

Cameron and Webster (2005, p.86) explained their views about IM “as managers began to recognize this tool’s potential to support informal interactions, more and more corporations began installing IM software on employees’ workstations”. Now communication through IM has crossed the organizational boundaries to enable the interorganizational communication. In this way organization can improve the
coordination and interpersonal relations within and between organizations. IM also enables the organizations to form closer relations with their customers as well.

Quan-Haase, et al. (2005, p.2) presented their view about IM as “IM differs from email primarily in that its focus is on the immediate delivery of messages”. By using IM system messages are sent and received in real-time, not like e-mail which do not requires both participant to be online simultaneously.

b). Teleconferencing (or Audio/Video Conferencing)
Continuous innovation in the communication technologies has made it possible for the individual(s) and/or organization(s) to communicate regardless of the time difference and geographical distance. (Fowler and Wackerbarth, 1980). The development and the rapid growth in the adaptation of new communication technologies have changed the way people use to communicate individually, within groups, and at organizations. Teleconferencing is considered as the most common and widely used form of communication to communicate either individually or at organizational level.

Some people take this as new idea but many scholars have argued that actually it’s not a new concept. They feel it as more close to telephonic communication or the enhanced form of telephonic conferencing. They telephones were also being used for conferencing but teleconferencing emerged with different features like participation of large number of participants, graphics, videos, etc (Egido, 1988). According to Webster (1998) there has been tremendous growth towards the adaptation of teleconferencing technologies, particularly videoconferencing by the organizations to facilitate communication within and/or between organizations. Besides traditional organisational communication, teleconferencing is considered as very effective tool for interviewing, and for training of the employees. In many organisations teleconferencing is referred as videoconferencing that enables audio and video communication among the physically dispersed participants. Such communication can take place between the participants of different sections within the organization or between the participants of physically dispersed organizations.

The development and the increased capabilities of new communication technologies at the very low-cost like videoconferencing has become an attractive tool for
organisational communication. It has eliminated the need for face-to-face communication. People working at the organization do not need to leave their office or working place to attend meeting. They can use their computer systems and the internet to perform exactly the same activities as they would have done in person-to-person meeting. This would result in increased efficiency of the employees to accomplish the task in timely manner at the low cost as compared to cost of conventional meetings. Initially teleconferencing was only used by the corporate sector to facilitate large meetings like annual meetings or for interaction among top-level management. AT&T is considered as one of the pioneers who adopted the videoconferencing for the organizational communication, since they do not have to bear the cost to establish the communication network. But the development of telecommunication networks and computer systems has attracted the organizations to adopt it for the basic level communication as well (Egido, 1988).
Chapter 3. Research Setting and Methodology

The following chapter will present the research setting and the research with a disposition of the company. Chapter will also discuss different data collection methods and principles used in research.

3.1 Case Company Information

Abuzar Marketing and Trading Company is located in Lahore Pakistan, is fast growing marketing and trading company working with 50 products of 9 companies. The company now have 54 employees in 6 departments and company is operational in city with a population of nearly 10 million. Company have changed single floor office, couple of months ago, new office is multi floor building. Sales and marketing departments are at ground floor. Human resource and administration department are at second floor while logistics department is located in separate building beside store, at the back of main office within same premises. Top floor is crowded by directors offices and meeting rooms.

Ground floor is divided in two partitions. One is occupied by sales team and second is marketing department. The division shows, management do understand that sales and marketing teams have to communicate with each other more than other departments. Sitting at same floor will give them better options for communication as face to face is most frequently used communication medium in present communication system.

Second floor is divided in same proportion as ground floor. One part is Human Resource department and second is administration department. Top floor is divided in two portions, one director's offices and second is again divided in two big rooms, meeting and conference room.

Each department is governed by a manager, all team members sit in big hall separated by half wall around there desks. They often communicate by standing by chair and call the relevant colleague. To talk to manager they knock and enter his office. They are very less formal while communicating with colleagues.
Communicating with other department is pretty difficult. They have to leave office physically to pass the information. Sometime several visits make it possible to catch contact person. It was also observed that they hesitate to visiting at different floors and several times they delay upstairs visit till it became urgent to pass the information.

Office has two entries, sales teams most often use back door because they park delivery vehicles in back parking near logistic department. Notice board was placed at main entrance and lot of notices were displayed, at a glance it looks very mess and hard to classify which notice is latest one.

3.2. Research Methodology

Research method can be considered as scientific method that the researcher(s) will follow in order to investigate (or to solve the problem) that has been raised or highlighted in problem description. Yin (2009) has identified five major research methods: case studies, surveys, archival analyses, experiments, and histories. There are three conditions which are considered as basis for all of these research methods, these conditions are: (1) forms of research question, (2) level of control on actual behavioural events, and (3) level of focus on contemporary events. Case study is most appropriate method for this research because it required detail investigation and deep understanding of the phenomena to answer the research question.

3.3. What is case study?

The term ‘case study’ can be defined as "an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" and it "relies on multiple sources of evidence" (Yin, 1994, p. 13).

Case study is conducted by selecting any particular problem or phenomenon in actual environment. There are different data collection techniques that can be combined with case study research to collect evidence and facts about the particular problem or phenomenon. According to Anderson (1993), Yin (2009), and Benbasat, et al., (1987) case study is most appropriate research method when the phenomenon being investigated involves the questions like ‘how’ and ‘why’. Mostly case study is
conducted to investigate only a particular issue or problem area rather than taking into account the whole organization. Particularly it is considered as more appropriate research technique when the problem needed to be studied in great detail. Case study approach is applied with the aim to investigate and collect information from various kinds of evidence. Data collected from different kinds of evidence makes it possible to examine and analyze the complex issues from different perspectives and to develop the better understanding of problem, and proposed solution (Gillham, 2005).

Alavi et al. (1992) cited by Wu (2007) argue that among various research approaches, case study is recognized as one of the most important and commonly adopted research approach in the field of information systems (IS). Benbasat et al., (1987) have presented three factors that have made the case study research as a viable research approach for the IS discipline. First, researcher studies the system in real environment. Second, case study enables the researchers to have deep insight of the processes to identify the characteristics, and complications and answer the questions involving ‘why’ and ‘how’. Third, this approach is suitable to study such problem areas or issues that have not received great attention from the scholarly discipline.

3.3.1. Strengths of Case Study

Case study research approach involves qualitative analysis while collecting data by using different data collection methods like interviews, questionnaires, observation, etc. The case study research approach begins by investigating the problem area followed by careful in-depth investigations, very precisely about the organization, and problem area and the researcher remains neutral without imposing personal experience, and expectation.

Case study research enables the researcher to understand the complexity of the problem in actual environment. It also makes it possible to investigate new findings that became more apparent with rapid shift in the discipline of information systems. Yin (1984) suggested that case study research approach is very suitable in case when the purpose is to investigate ‘contemporary events’ rather than to command ‘behavioural events or variables’. He argued that single case studies research is
suitable if motivating factor or the main reason is, to investigate such problem area which has not been investigated previously. Multiple case studies are effective in terms of theory building and/or testing, and description while Benbasat et al (1987) argued that multiple-case studies are very effective when the purpose of investigation is cross-case analysis and theory expansion (Gable, 1994).

3.4. Research Design

It is very obvious that each kind of empirical research follows a research design. In some cases research design may not be expressed explicitly but it does exist implicitly. Yin (2009) has defined the research design a logical order that creates the coherence among actual research question(s) and empirical findings in such way that leads to the conclusion. In general it can be defined as “logical plan from getting here to there”, here can be described as research question(s) while there can be described as conclusion (answer to research question(s)). There are many other steps involved between here and there like data collection, data analyses, etc. The core reason to develop and follow research design is to make sure that research process addresses the main research question during the whole course. The outcome or conclusion of research is greatly influenced by research design.

In order to conduct a successful case study research, Yin (2009) has indentified five important components that needed to be handled carefully. These are:

1. a study’s questions;
2. its propositions, if any;
3. its unit(s) of analysis;
4. the logic linking the data to propositions; and
5. the criteria for interpreting the findings.

**Study questions.** Study question or the research question(s) is most important component of whole research process. The most common forms of research questions consist of terms like: “who”, “why”, “what”, “how”, and “where”. There are important or valuable in terms of identifying the kind of research method that will be used. The most common form of questions for case study method consists of “how”
and “why” questions. For our case study, research question is potential benefits of CMC in organization?

**Study Propositions.** As the name implies, this component indicated the propositions that are most important for the study. Yin (2009) has described that every proposition directs towards some important issues that must be examined during the research process. Regarding to our case study, the most important propositions will be regarding to communication, different forms of communication, organizational communication, and etc. With the help of literature review, it came into knowledge that CMC provide several tools and features which enhance organizational communication, provide better knowledge sharing platforms, training sessions and better democratic environment. All the tools and features helps to eliminate communication gap in organization and improve communication flow.

**Units of Analysis.** The third component of research design is more focused about defining what exactly case (problem) is about. Our research consist of single case and we will analyze how CMC can affect communication and information flow at Abuzar Marketing and Trading Company. The units of analysis for our research work will be inter-organizational communication. We will analyze how CMC can be utilized in best possible way to improve the information and communication within organization.

**Logical linking of data to proposition.** This component is considered as well developed while doing case studies. According to Yin (2009, p.33) this component “foreshadow the data analysis steps in case study research”. Now talking to more specifically, mainly we will use interviews to analyse our case study. As majority of case studies research, our research will also follow qualitative research approach and interviews will remain as the key source for empirical findings. Interviews and questionnaire are main source of our data gathering process. These will help us to collect data from different aspects that will lead us to make the proposition. For example, ‘educational’ section of the questionnaire will make it possible for us to have information about employees’ academic education, specialization, and computer education. Computer literacy is directly proportional to acceptance level of upcoming proposed change. This information will help us to understand the employee’s computer literacy and importance of training session. ‘Organizational’
section of the questionnaire will gives us information about the communication process within and between the different departments in the organization. In this way we can understand the current communication system.

3.5. Data Collection Sources

There are different alternatives available for data collection to conduct case study. Six different forms of data collection methods have been presented by Yin (2009). These most commonly used forms are: interviews, documentation, physical artefacts, archival records, participant observation, and direct observation. Strengths and weaknesses of these sources have been summarised in the table 3.1 below. It is apparent from the figure that there is no single data collection source that can be claimed as complete (or without any weaknesses). Yin (2009) commented that in order to conduct good a case study, it is better to have as many sources as possible. Keeping in view these comments, the data collection sources specifically for our case study research will be interviews, documentation, and direct observation (or personal observation). The table 3.1 below presents strengths and weaknesses of different data collection sources.
<table>
<thead>
<tr>
<th>Source of Evidence</th>
<th>Strengths</th>
<th>Weaknesses</th>
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| Documentation      | - Stable, it can be reviewed repeatedly   
|                    | - Unobtrusive—not created as a result of the case study  
|                    | - Exact—contains exact names, references, and details of an event  
|                    | - Broad coverage—long span of time, many events, and many settings  | - Retrievability—can be difficult to find  
|                    |                         | - Biased selectively, if collection is incomplete  
|                    |                         | - Reporting bias — reflects (unknown) bias of author  
|                    |                         | - Access—may be deliberately withheld  |
| Archival Records   | - [Same as those for documentation]  
|                    | - Precise and usually quantitative  | - [Same as those for documentation]  
|                    |                         | - Accessibility due to privacy reasons  |
| Interviews         | - Targeted—focuses directly on case study topics  
|                    | - Insightful—provides perceived causal inferences and explanations  | - Bias due to poorly articulated questions  
|                    |                         | - Response bias  
|                    |                         | - Inaccuracies due to poor recall  
|                    |                         | - Reflexivity—Interviewee gives what interviewer wants to hear  |
| Direct Observation | - Reality—covers events in real time  
|                    | - Contextual—covers context of ‘Case’  | - Time—consuming  
|                    |                         | - Selectivity—broad coverage difficult without a team of observers  
|                    |                         | - Reflexivity—event may proceed differently because it is being observed  
|                    |                         | - Cost—hours needed by human observer  |
| Participant Observation | - [Same as above for direct observations]  
|                    | - Insightful into interpersonal behaviour and motives  | - [Same as above for direct observations]  
|                    |                         | - Bias due to participants observer’s manipulation of events  |
| Physical Artifacts | - Insightful into cultural features  
|                    | - Insightful into technical operations  | - Selectivity  
|                    |                         | - Availability  |

Table 3.1: Six data collection sources: Strengths and weaknesses (Yin, 2009, p. 102)

a) **Documentation**: Documentary information is considered as most relevant, particularly for case studies. Documentation can be very useful to authenticate the information collected by other means. Despite of some hazards regarding to biasness
of the documentary information, still it plays very important role to collect data for case study. But it is very important to conduct systematic searches in order to collect relevant information. Abuzar Marketing and Trading Company is small size company and have not enough documents coping all business process. They have one company introductory catalogue consist of couple of pages which update quarterly. Basic information about company, company history, departments, employees, business growth, success stories, partner companies and products is available in the catalogue.

b) Interviews: interviews are considered as the core element of data collection for any case study. (Yin, (2009, p.106)) stated about interviews as an “essential source of case study information”. Interviews are considered as more flexible and guided rather than structured queries. Although interviews are also structured but in a way that allows the interviewee to have more freedom to express in his/her own way rather being pushed to answer specifically. It means that the interviewer has to follow his/her own line of enquiry while asking unbiased questions, which contribute to collect information about actual problem area. According to Becker (1998) it would be much better to ask any ‘why’ question in the form of ‘how’ because he thinks that posing a ‘why’ question “created defensiveness on the informant’s part” (Yin, (2009, p.106)). There are two common types of interview for case studies, in-depth interviews, and focused interviews. Focused interviews are the one which are conducted for a short period of time. Detailed interviews allow the interviewee not only to be informant but also express their own opinion about the events as well. Majority of the case studies involve human affairs or behavioural events which can be better explained by the well-informed interviewee. Recorded interviews can be very helpful to interpret but should not be recorded if: the interviewee does not allow or may feel uncomfortable with recording device.

As the case company is situated in Pakistan so face to face interview was not possible. Two types of techniques were used. Telephonic interviews of directors and managers. Questionnaire was emailed to team members to get their answers. We interviewed all three directors, which are pioneer and owner of organization as well, managers of all departments marketing, sales, logistics, accounts, administration and human resource. We also interviewed employees from different departments. We
have selected employees for interview those have worked in both buildings so we can develop better understanding with problem situation raised after office shifting.

c) Direct observation (or personal observation): As the name implies, the concept of direct observation stands for having opportunity to observe the things directly, that happen in natural settings of the ‘case’ being studied. Observation may involve formal or casual data collection activities. Direct observations can be carried out while making a field visit, and also the observations made at the time of collecting data, for example interviews. These observations may involve working conditions, and environment of the interviewee may indicate his/her position in the organization. Evidences collected through direct observation can be very effective to provide more detailed and supplementary information about the case being studied. Reliability can be improved by involving more than observers during the organizational visit. Regarding to our case specifically, we did visited the organization in person and noticed different events and working routines carried out by different people in natural settings and documented at day end.

3.6. Analyzing Case study

In order to analyze the qualitative data, Miles and Huberman (1994) have presented an analysis model called ‘interactive model’, which is presented in the figure below. To perform the analysis, analysis model is carried out by three simultaneous flows of activities: data reduction, data display, and conclusion drawing/verifying.

![Figure 3.1: Iterative Analysis Model (Miles & Huberman, 1994, p. 12)]
Data reduction activity in the model can be seen as a process to select, focus, simplify, abstract, and transform the data collected by various data collection methods and recorded in the form of notes, filled in questionnaires, etc. This activity remains present during the whole period of qualitative research, even when data collection has been completed. Data reduction can be done in different ways: for instance through selection, through summary or subsumed, etc. It can viewed as a type of analysis to sharpen, discard, sorts, focus, and organizing data so that it can be used to draw conclusion and then verify it. The second analysis activity in the model is display. Normally display is an organized form of information that makes it possible to draw conclusion and take action accordingly. In general, if we view any information displayed to us, makes it possible for us to understand, and process the information and make decision either to make further analysis or to take action. Displays are part of analysis and Miles and Huberman (1994) believed that displays are important component to carry out valid qualitative analysis. The last component of the analysis model is conclusion drawing and verification. Conclusion cannot be drawn until the completion of data collection. In the beginning of data collection, analyst analyses different aspects to be considered like noting regularities, casual flows, patterns, propositions, etc. Any conclusion drawn remains uncompleted until it has been verified by the analyst. For our research specifically, we will analyze the data collected from interviews and questionnaires according to analysis model of Miles and Huberman (1994). We will map employee’s described problem situation with CMC’s potential benefits and will check whether it could be eliminated or not. At end of every potential benefit a summarized table is provided, describing the problem faced by employees and possible solution founded in literature.

3.7. Evaluation of research design quality

Besides the importance of research design itself, it is also of great importance to have evaluation criteria that can be used to evaluate the quality of research design. There are different logical tests that are carried out for quality evaluation, but four tests which are most commonly used to evaluate the quality of any empirical research are: construct validity, internal validity, external validity, and reliability. Since case study is also part of such research group, therefore these four tests can also be used for case studies. These tests are commonly used by various social science
methods and have been explained by different scholars. For example, Kidder and Judd (1986) cited by Yin (2009) have described these aspects as follow:

a) **Construct Validity:** This aspect is considered as very challenging, particularly for case studies research method because many case study critics raised the issue about selection of correct operational measures. They feel that case study researchers may apply “subjective judgements” for empirical findings (or data collection). So it’s important to recognize and select acceptable operational measures regarding to problem being studied. Kidder and Judd (1986) have described this test as “identifying correct operational measures for the concept being studied” (Yin, (2009, p.40)). In order to judge the validity of construct, Yin (2009) has presented three tactics that can be followed while conducting case study research to enhance construct validity. First tactic is using multiple source of evidence, second is establish chain of evidence, and third to have key informants review draft case study report. To apply these tactics during our research work, we will use different sources of evidence like scholarly articles, academic literature, and empirical findings through interviews (mainly).

b) **Internal Validity:** Kidder and Ludd (1986) have described it as “establishing a causal relationship, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relationship” (Yin, (2009, p.40)) (for explanatory studies only). Besides the most commonly raised threats to internal validity, Yin (2009) have raised two different threats: first is when researcher explains how and why, and second is making inferences. All the data collected ends at face validity, question asked to different departments were nearly the same. Data collected from director, manager and team member could be validate by cross matching with data collected from other director, manage or team member. Relation between CMC features discussed in study and the problems in organization is shown for conclusion validity.

c) **External Validity:** External validity has been considered as very challenging and major barrier to conduct case studies. Yin (2009) presented two tactics to overcome the external validity barriers, these tactics are: using theory in single case studies, and replication logic in multiple case studies. Kidder and Ludd (1986) have argued about external validity as “defining the domain to which a study’s findings can be
generalized” (Yin, (2009, p.40)). As external validity is assuring the study generalized beyond the current case, it requires multiple case studies to assure the validity. This research based on single case study (more specifically, single organization), so it is difficult to assure external validity as every company has its own organizational culture, computer literacy, current communication system etc.

d) Reliability: The final test is the most common and well known concept. The core reason is to make sure that the findings and conclusion would be same as presented by earlier investigator, if the research is carried out again by following exactly the same procedures. According to Yin (2009), the basic reason to conduct this test is to reduce the errors and remain unbiased during the study. He believes that reliability can be achieved by making “as many steps as operational as possible and to conduct research as if someone were always looking over your shoulder” (Yin, (2009, p.45)). Kidder and Ludd (1986) have presented more or less similar views regarding to reliability. They have defined reliability as presenting operations of any study, for example data collection process, would present same results if the process is repeated later on by another investigator. The study is based on extensive literature review from different authors, publications and databases. Web sources are well reputed and trustworthy websites. Employees of different level (Directors, managers, team members) were interviewed to collect data to assure the reliability of collected data.

As Junaid khan has relation with one of directors at one hand it helped us to have deeper insight to the company at other hand influence of director’s opinion was threat for our unbiased study. Our prime concern was to be unbiased in research. To make it possible, we have done extensive literature review to strengthen our preposition.

3.8. Ethical Consideration

Ethical consideration is the fundamental part of this research. Ethical considerations can be used as guide lines to follow during the research process and as stated by Hart (2005, p.296) that “ethical issues can arise during all stages of your research, from the design stage through to the reporting stag".
In studying we will approach organization for getting data to make research more effective, organization will provide us some of their internal information about information flow, knowledge processing, etc. and privacy of the organization is at top in considerations. In many cases, this information seems to be general, but in reality, this information may be very critical for the company from their competitors’ perspective. So before using this information, it is very important to have understanding about type and sensitivity of gathered information. In order to have real picture of the organization and to have required critical information, it should be made clear to organization that information which they will reveal to use will be in safe hands. During the data gathering, information security will be assured to organization so that they can provide all information which will be helpful to conduct research work.

We have to assure the organization that the information of their organization will be used in good way to make research and not to be transferred to any other competitor or we are not agents of any of them. In report we will use only data relevant to the report and in way of beneficial for organization too not in way to leaking the information. Not only safe use will be considered but also keep information in safe hand from lost and steal.

While writing the report, it should be considered whether that information can be revealed to the public. Because there are certain laws that every organization have regarding to information sharing. So prior to publishing the company information, it’s better to first have knowledge about the company’s policy regarding to publishing information. Besides the company or organizations, there are some laws set by the state, regarding to publishing data. It may be the case that publishing of particular information or making it public is allowed by one state while same information may not be allowed by other state.

These issues must be considered prior to publishing. There may be different levels of privacy laws, varying from organization to organization. So it is important to respect these laws. In some cases, there may arise condition, when it is necessary to have particular information as part of paper while organization may feel it as risky regarding to their interests. So the approach should be to respect organization’s policy and try to find alternative. A good approach can be to have pause prior to
publishing of the paper and wait for green signal from the organization. The privacy of company or organization should be considered when conducting future research work. The secret information of organization should not be revealed even in later projects. The result of research work should participate to the scientific community.

While supporting our research problem and having literature support, sometimes it will be made sure that copyright are not violated. If there is any material which seems to be very important and must be part of the paper, then it will be clearly mentioned that it belongs to another author. That material will be provided with proper reference, indicating clearly that it’s the contribution of that author. If it seems impossible to skip those statements, then the authentic referencing system will be used. Doing so will help reader to know about that paper, if he/she feels any ambiguity about those statement.

Another important ethical perspective is to make sure that information about organization or company is in safe hands. It will be made sure that the information collected from the organization is safe. Loosing such critical information can created problems both for organization and for us as researcher as well. If it happens, then the lame excuses can never stop the consequences effecting not only the organization but the research work as well. Research work is affected because organization will never be agreed to provide their critical information to irresponsible people.

It will be against ethics if the information provided in paper is not collected from authentic resources. Since reader of paper reads the paper with trust that true information is provided. Therefore, it is ethical duty of researcher to make sure that information as part of the paper either contains a valid reference or must be based on our true findings. If paper contains any information that has no valid reference or findings, it will not be valid.

It is not only sufficient to have true information, but it should be also considered and made sure that information and data are collected in the right way. Only such information will be made part of the paper which was authorized by the owner. Organization does have both type of information, i.e. the one that can be made available for the researcher and other that cannot be. It will be made sure that it’s not
violated, even if in any case, we do find such information, then it should not be made part of the paper or base to support any statement. For instance, if the information about the organization is found from the ambiguous source, better approach is to have permission from authorizing person that whether it can be included in paper or not.

Aims and objectives of research should be clearly mentioned. It will be clearly mentioned that it is not the exact solution to such problems. Rather it should be coined like that these following these steps can help to reduce the chance of failure. Generally it is difficult to define boundaries for ethical issues. Hart (2005, p.279) describes it as “one cannot see what ethical dilemmas will arise in research in any generic sense”. Above mentioned are most common issues that we will consider while conducting research.
Chapter 4. Data collection and Findings

In this chapter the empirical material is presented.

4.1. Documents

Going through the documents, little understanding was developed about the company size, departments and employees. We came to know from the documents that the company has six main departments with 54 employees. Company is working with nine other companies, and marketing and distributing more than 50 products. Documents are one of major source of data collection, absence or lack of documents makes other data collection methods more vital. In documents we found that down coming (or top to bottom) means of communication are not available to everyone in the company. Some of them are classified to higher authorities only such as directors and managers. Following are the detail of available means of communication to employees.

4.2. Means of communication

Means of communication and their availability in organization are discussed in this section.

4.2.1. Face-to-Face

Managers have daily meeting with directors and have good communication to keep them update. Team members either have to tell manager or take an appointment to talk to directors. For face-to-face communication with executive or higher person of other department, one has to take appointment. Other employees communicate with each other most of the time successively.

4.2.2. Written Notes

Written notes are written messages on small piece of paper. It is mostly used for downward communication or among colleagues. Sometime they use within departments when contact person is not at his seat and urgent message should delivered to him as he came back. Some time employee has to go market and drop message at desk for appropriate action such as delivery, stock check, vehicle maintenance or bad debit clients list.
4.2.3 Office Boys
Office boy is a person who works as personal assistant. He assists directors and managers only. They convey important messages and files to the relevant persons and vice versa.

4.2.4 Notice Board
Notice boards are available to everyone for reading. Display of any notice at the board requires permission from higher authorities. Every notice cannot be displayed at the notice board except permission.

4.3. Finding in direct observation
We found many important aspects about organizational cultural and communication system. Team members are comfortable to communicate with colleagues in same department even with manager. Reason behind this is very informal communication among them. They are well aware of everyone’s schedule and miss rarely to catch colleague or manager. Communicating with other department is the most bothering of their day to day communication. They always wish someone came from other department and passed their information as well which cause information delay or even some time lost. Going through stairs is always most unwanted task to perform and employees delayed information even sometime critical information.

Logistic office is situated outside the main building and employees from other departments feel difficulty to exchange information with the logistics department as it is time consuming.

Sales team often use back door while only notice board of the company is placed at main entrance. They never walk to notice board to look if there is any new notice. So information spread by management not passed to all employees although it was for everyone.

4.4 Information of interviewees and data collection
In this section the empirical material collected with interviewed and send questionnaire to the employees, details in appendix. Following are the data collected through interviews of all personals interviewed in the company.
4.4.1. Directors
Directors have daily meeting with managers and got update of day to day business. They have less communication with employees but get update of employee’s problems and progress by managers. Every announcement is displayed at notice board. The directors are well aware of communication problem and willing to fix it. According to Director:

“I know employees are not happy with this office because of multi floor, they have problem in communication. I hope soon we will have good solution for it”.

They are well aware of computer-mediated communication and its effectiveness to improve organizational communication. They are hoping CMC will help the organization to cope with current communication problem. Another Director said

“I am totally convinced CMC has capability to fix the communication problem, we are passing through. I am more concern to see how much it cost to implement.”

4.4.2. Managers
Managers of all departments are facing same problems with current communication system. Marketing Manager said

“Directors are up to date with our reports but the problem is teams are not well synced in respect of communication.”

They have daily meeting with directors and directors are well aware of day-to-day problems and progress. They often get complain of employee’s vacant desk of contact person. He added

“What we do when salesman not found at seat and we have special order or urgent delivery? And it happens nearly every day.”

Even the worst is when several visits to other department came with same result. As Logistic Manager said

“My team is sitting out of the main office, couple of unattended visit is normal to meet any sales or marketing personal.”
Managers are trying to make it possible that employees should remain at their seat in office hours. But it is not possible for all the days as sales manager said

“How a sales man can sit all the day in office when he has to deliver the orders?”

They ask guards and office boy to inform them when contact person came back to office or desk. Every week or 10 days, employees ask for displaying notice for reading notice board daily. Since last few months at least one notice always displayed with same subject. Administration Manager said

“We display notice so often for reading notice board, employees still have causal behaviour for notice board”

4.4.3. Marketing
Marketing team has to visit other departments to communicate. The team is facing problem in communicating with other departments. They feel it headache to visit other departments several times a day and not found concern person, most of the time because of multi floor office. They are not happy with day-to-day updates from logistics. They took order of low stock products because they were unaware of stock level. Sales team not found at desk when marketing persons visit them to handover order list of urgent delivery. Logistic department is outside main building and it always increases stress to think about visiting logistic department. Marketing representative said

“When we visit sales team to hand over order list often contact person is found away, it needs several visits to make it possible. It cause delay in urgent deliveries which ultimately effect company’s reputation in market. He added

“Sometime we took order of that product which is not in stock because we were not updated with stock update. It is painful to even think about that we visit logistic department before taking any order to make sure that product is in stock.”

Employees look at notice board everyday but cannot find new notices at first glance because of several old notices sticking at notice board. They have highlighted the communication problem to directors few times but they inform their manager every time they faced problem. It is easily for them to talk about problem with their manager
but hard to get appointment with other team manager or directors. Marketing personal said

“Our managers and directors are well aware of these problems as we informed them many times. We daily look at notice board but it is impossible to find what is new in it and which part of notice is for our team. We are not happy with this way of working where we have to run more than our work”.

They do not feel current communication system is pretty good to fix their problems. He added

“It looks hard to work in this system, successively. We have no platform to inform our colleagues about trends in market”.

They are well aware of CMC, some of them are using computers at their homes for personal use and some have experienced at previous jobs. Marketing team never has any training session. There is no platform to share their experiences or any important material. Only few documents are documented, new employees have to learn all daily business process by themselves. Employees at company are not familiar with any training session or tutoring lectures. Personal said

“We are not familiar with training session in this company. We have to learn by our own and never get any compliments from management on learning”.

4.4.4. Sales
Face-to-face is the only communication medium available to sales team. Sales team have communication problem with other departments same like marketing. They have to deliver products according to order but sometimes they do not found much stock to meet the demand of order list which cause delay in delivery. Logistics update stock lists but not update them in time, to avoid low stock problem. As sales team member said

“We need stock list at real time to plan our routes of delivery. We came to know about low stock, when we came out of main office for delivery.”

Sometime sales team deliver order to bad debits or over debit limit clients. They have no real time update regarding clients debit status. Sometime this happened inverse,
they stop delivery clients, which made payments and are out of stop delivering list. Sales man added

“Accounts department should update us with every transaction made by bad debts to make sure of delivery or to stop delivering orders but we get updates late. In several cases our team delivered order to customers already declared as bad debts and sometime we stop delivering orders to clients already out of the list.”

Accounts department is situated at upstairs and it is hard for sales team to go upstairs before every delivery. They always update their manager about real time communication problem. They have to experience business routine, by their own. Salesman said

“It is difficult to make it routine to visit accounts department, before every delivery. We told manager many times how much panic it is.”

Manager delivers short introduction about organization, at time of joining the organization. They did not look at notice board, so often. They do not believe that there could be any information for them. They are not very much familiar with CMC. No training session was ever arranged for sales team. They are not satisfied with current communication system. As one sales team member said

“I was unaware of high credit delivery rule and mistakenly executed delivery. Manager said that he was sure I was going to do that as most of new employees did that. There is knowledge sharing culture and we have to learn all by our own.”

Sales team knew it that marketing team put same day delivery note at their table and they lost those, sometimes. As salesman added

“We have everything at our table and it is difficult to find which paper is new in it. We lost order list in bulk of papers, few times”

4.4.5. Logistics

Logistics team has only face-to-face communication medium to communicate with other departments. They always tried to update marketing and sales departments about stock level but it is not possible for them to update everyone every time. They display inventory at notice board every morning. Logistic team member said
“We update our documents at real time but it is not possible to update marketing and sales at real time.”

They avoid visiting desk by desk as they have to come in main office for updating both departments. Management is well aware of problem, they are facing. They are not well aware of CMC and never get any training. They are not very much satisfied with current communication system. He added

“We feel that we are strangers or alien in main office as we have office outside the main building. Sometimes we have to visit several times to share information”

4.4.6. Accounts
Accounts team has only face-to-face communication medium. Accounts department is situated at second floor of main office and the employees have to update sales with updated version of debit list. Every morning they gave list to sales department. During day if they received any payment from client regarding to over debts, they let it know to sales. They are not always fast enough to give the list at real time. Accounts team member said

“We update our lists with every transaction. It is not possible to update sales team with each transaction”

Some time they are already tired enough to go down stairs, especially before lunch break and last working hour. They also wait for more than one task to go downstairs. He added

“Walking all day at stairs is hectic routine to do, at the end of day, it goes even worst.”

The team is bit aware of CMC and have experienced at previous job. They never get any training session. Accounts team is not satisfied with current communication system.

4.4.7. Administration
Administration department has face-to-face communication medium, most often. They did not found contact person at seat, most of time. They could not make several visits in day to catch the contact person because sales and marketing department are at different floor. For example, they display schedule of vehicle maintenance at notice
board but not found it best exercisable practice to eliminate communication gap. Administration team member said

“We put vehicles maintains schedule at notice board but not found vehicles in garage accordingly.”

They daily look at notice board. They are not satisfied with current communication system. They were never being in any training session. They are pretty good in computer handling and have little knowledge about CMC.

4.4.8. Human Resource (HR)

Face-to-face is the only communication medium, available to human resource department. They are facing problem in data storage and retrieving. Sales and marketing often demand for certain skills hiring. HR took long to find out the best match, as they have to search all available applications. HR team member said

“It took long to go through all applications to find the best match.”

Sometimes marketing and sales team update them bit late about the resignation of their employee that cause delay recruitment as well. He added

“Sales and marketing required new staff so often. We are unaware of their staff demand in time, it causes recruitment delay”

They are bit satisfied with inter departmental and intra departmental communication as they do not have any real time or periodic update. They look notice board daily and read all new notices. They are good in computer education and well familiar with CMC. They never got any training session.

They believe that before implementing CMC, directors should have well awareness of all advantages and disadvantages of upcoming communication system. He said

“Directors are conducting business in traditional way, before implementing any solution they should be well aware of what is going to implement and how it could be beneficial in various accepts.”
Chapter 5. Analysis and Discussion

Research questions will be discussed in the following chapter.

Q1: Which problems and limitations can be found in the current system?

Current system’s problems and limitations are described through rich picture and discussed below.

![Fig 5.1 Problem Description](image-url)
5.1. Problem among departments

There are several problems reported to managers and directors. Most of them are critical. Communication and information exchange problem is reported between departments. As director said

“I know employees are not happy with this office because of multi floor, they have problem in communication. I hope soon we will have good solution for it”.

Problems among departments are described below.

5.1.1. Information Delay

Marketing staff have responsibility to market the products and generate orders while sales department make in time delivery possible. Marketing representative handover order lists to sales team; often they not found contact person at seat or they are in field for delivery. They drop written note at desk but delivery is not made within specific time. As marketing staff said

“When we visit sales team to hand over order list often contact person is away, it needs several visits to make it possible.”

Sales team has to make sure that every order should be delivered in time to buyer. Sales team receives order list from marketing team and products are loaded accordingly from stock for delivery. Sales team complained of low stock, which ultimately leads to late delivery. Sales team member said

“We need stock list at real time to plan our routes of delivery. We came to know about low stock, when we came out of main office for delivery.”

Logistics team ledger was always found updated according to stock but sales and marketing team remain unaware of low stock until they have order list in hand. Logistic team said

“We update our documents at real time but it is not possible to update marketing and sales at real time.”
Company has regulation about customers, either exceeding the allowed credit limit or included in bad debit list, results in discontinuing the delivery of products. Sales team said

“Accounts department should update us with every transaction made by bad debts to make sure of delivery or to stop delivering orders but we get updates late. In several cases our team delivered order to customers already declared as bad debts and sometime we stop delivering orders to clients already out of the list.”

Lists updated several times a day as they got payment or amount exceeds the allowed limit. Sales department often complain of not having updated lists that cause delivery to bad debts or vice versa. Accounts departments lists always found updated. According to accounts team

“We update our lists with every transaction. It is not possible to update sales team with each transaction”.

5.1.2. Information Lost
Sales teams facing problem of getting order list or written note crowded by other notes or files, which cause late delivery. As sales team member said

“We have everything at our table, it is difficult to find which paper is new in it. We lost order list in bulk of papers, few times”

Logistics team has to update sales team about stock lists but they do not have updated the stock list. Sales team member said

“We are bound to deliver all orders at same day, what if the products are out of stock? We either got outdated list or work with old lists.”

5.1.3. Data sorting
Abuzar is fast growing company, to meet the pace of business, marketing and sales team need backup staff when employees are at leave or resign from job. In few cases, Human Resource department was unable to manage replacement of staff in time because they claimed that they were unaware about leave or resignation of employee. In some cases it took long to find the application of right candidate. Human resource team member said
“Sales and marketing required new staff so often. We are unaware of their staff demand in time and if we informed in time we have to find out the best match person with their requirement, it causes recruitment delay”.

5.1.4. Information Overflow
Administration department is responsible for maintenance of vehicles. They have to arrange periodic checkup and fix any damage at real time. Administration team is not updated with vehicles schedule to fix time with workshops. It causes delay in periodic checkup and in some case it led to major damage of vehicle. Administration team member said

“We put vehicles maintains schedule at notice board but not found vehicles in garage accordingly.”

Administration team put up notices on notice boards but sales and marketing teams not shown up with vehicles as scheduled. Sales and marketing teams look at notice board daily but not found schedules for them because of overflow of information in form of many old notices.

Q2: What could be potential benefits of CMC in this organization?
In the region of our case company, all trading companies have similar pattern of conducting business and have face-to-face communication as main medium of communication. All trading companies have distribution of several national and international manufacturing companies as our case company has colgate, faraz tetra pack juice etc.

Working in same environment with similar business, we can say our case company is true representative of trading SME in Pakistan. Potential benefits for our case company should be similar for every trading SME working in Pakistan.

5.2. CMC and Organizational Communication
In modern organizations, communication play vital role in achieving organizational goals, more effectively and efficiently. No one can deny the importance and effectiveness of face-to-face communication but it is not the only medium to
communicate. Technologies have made the world a global market, competing in the market, organizations should meet the pace of technology. Abuzar Marketing and Trading Company is still relying on traditional face-to-face communication. It is the only medium to communicate within department and with other departments. Santra and Giri (2009) agreed that traditional means of communication are still in practice but adopting technology made information flow and communication more effective and efficient. Abuzar’s employees are facing communication problem because of traditional way of communication as marketing team member said:

“When we visit sales team to hand over order list often contact person is away, it needs several visits to make it possible. It cause delay in urgent deliveries which ultimately effect company’s reputation in market.”

Increase in business volume made communication more complex, important and critical. Important information is needed to be shared more efficiently even sometime at real time. In Abuzar company communication system, real time communication is not possible currently and critical information remains unshared as sales team member said:

“Accounts department should update us with every transaction made by bad debts to make sure of delivery or to stop delivering orders but we get updates late. In several cases our team delivered order to customers already declared as bad debts and sometime we stop delivering orders to clients already out of the list.”

CMC has changed the communication structure and introduced several mediums of communication. Employees need not to arrange face-to-face communication every time or be physically present at time of presentations. Culnan and Markus (1987) stated that CMC has not only changed the organizational communication but it also makes organizational process faster. Rice and Love (1987) believes that CMC is an alternative communication media with several tools like email, instant messaging, video conferencing etc. With help of these tools, communication tasks previously performed in days could be done in few moments.

Employees at Abuzar Company are depending on face-to-face communication. It is pretty fine when team members have to communicate within the department because they are at same working place and well aware of each other’s schedule.
Communication goes worst when they have to communicate to other department’s personals. As above several authors have discussed the role of CMC to make communication more efficient and effective. To cope up with inefficient communication at Abuzar, CMC would be most appropriate solution to implement. Implementation of CMC will provide several ways to communicate within departments and with other departments. E-mail could be used to post updates or ask query to colleagues not available at seat. When he/she will come back at seat will reply the e-mail. The employees need not to visit several times to catch that colleague. Instant messages could be used for real time communication for exchanging critical updates or discussing important issues. Geographical distance or time stamp will not be problem anymore for Abuzar’s employees to communicate and exchange information, after the implementing of CMC.

<table>
<thead>
<tr>
<th>Literature Review</th>
<th>Empirical finding</th>
</tr>
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<tr>
<td>• adopting technology made information flow and communication more effective and efficient</td>
<td>• Delay in order list from marketing team to sales team</td>
</tr>
<tr>
<td>• With help of technology communication tasks performed in days previously could be done in few moments.</td>
<td>• Late updating from accounts to sales.</td>
</tr>
</tbody>
</table>

Table 5.1: Organizational Communication

5.3. CMC as democratic tool

Analyzing the empirical data from different participants, it is pretty clear that there is no democratic environment. Sproul and Kiesler (1991) believe that CMC is democratic, since it allows all the organizational members to participate in the communication. They define organizational democracy as “people believe that everyone should be included on equal terms in communication; no one should be excluded from free exchange of information” (pp.13). In Abuzar Marketing and Trading Company employees feel that it is difficult to communicate with directors or managers of other departments. Marketing employee said:
“When we face problem with other department personal, the best we can do is to inform our manager. If we try to update their manager, it is not easy to get appointment. Same problem we face to meet any of directors.”

In literature review it is stated that CMC allow every member of network to have same opportunity to communicate. CMC also eliminates the problem in organization based on status and power. CMC is very helpful to promote democratic culture in organization.

Abuzar’s culture is not democratic. Employees have to follow the hierarchy of management to approach higher management. Mantovani (1994) believes that CMC as democratic tool minimizes the problem regarding to communication based on status and power. In Abuzar, horizontal communication within colleagues is pretty well but vertical communication from down to top is otherwise, see also the fig 5.1. Employees have to pass through power queue of management to raise their voice to directors. Some time managers disagree with ideas and discard employee’s suggestions or proposals. Sproul and Kiesler (1991) believe that email could be very helpful to promote democratic culture in organization. Democracy provides equal rights to every employee to share information and ideas in order to enhance organization’s efficiency. Absence or lack of democracy may cause spoiling new ideas or important information unshared. Implementation of CMC at Abuzar will help to create democratic culture in organization to eliminate the threats of unshared important information and better vertical communication.

<table>
<thead>
<tr>
<th>Literature review</th>
<th>Empirical finding</th>
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</table>
| • CMC is democratic, since it allows all the organizational members to participate in the communication.  
• CMC as democratic tool minimizes the problem regarding communication based on status and power | • Employees face problem to have meeting with directors or managers of other departments |

Table 5.2: Democratic Tool
5.4. CMC as knowledge sharing

Knowledge management is one of core strategic issue in modern organization. Recognizing, creating, maintaining, organizing and manage knowledge is considered as highway for the success of any organization. Participants in research discuss about lack of knowledge sharing in organization. New employees need to understand the standard procedures of business routine. There should be knowledge sharing platform to share individual or group’s experience or research with other colleagues and new staffs. Similar procedural mistakes exercised by new employees as a sales staff said

“I was unaware of high credit delivery rule and mistakenly executed delivery. Manager said that he was sure I was going to do that as most of new employees did that.”

One marketing employee said

“We have no platform to inform our colleagues about trends in market”

Cecez-Kecmanovic (2001) believed that CMC could be one of best solution for knowledge creating, maintaining, organizing, managing and sharing. CMC enables individual and group members to exchange their knowledge and experience with others regardless of time and geographical constraints. Like a logistic team member said:

“We feel that we are strangers or alien in main office as we have office outside the main building. Sometimes we have to visit several times to share information”

As knowledge is tacit entity and generally carried by individuals or groups, therefore it is important to convert tacit knowledge to explicit knowledge. CMC provide both communication types: synchronous and, asynchronous, to deal with time and geographical differences. CMC provides knowledge sharing platforms beyond the traditional hierarchy of organization.

Abuzar has no history of knowledge sharing at organizational level. One of biggest problem for company is unavailability of explicit knowledge about business process. It is because of communication gap among employees. In high pace of business it is
nearly impossible for employees to update everyone at company, while they have only face-to-face communication medium. CMC comes with the solution of sharing knowledge with several easily accessible options of both synchronous and/or asynchronous communication. Static web page could be designed to share knowledge or business process. Scanned copies of important documents could be placed at central server, accessible by employees. Updating blog or forum could be used for knowledge sharing which later be the source for analysing departmental efficiency. Sharing personal experiences could help new employees for decision making and develop better understanding with business process. Video or voice conferencing could facilitate with real time knowledge sharing without geographical distance. CMC will provide several platforms for sharing and storing knowledge which could be accessed easily without time stamp.

<table>
<thead>
<tr>
<th>Literature review</th>
<th>Empirical finding</th>
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<tbody>
<tr>
<td>• CMC could be one of best solution for knowledge creating, maintaining, organizing, managing and sharing.</td>
<td>• Employees have no platform for individuals or groups to share their knowledge with other colleagues.</td>
</tr>
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</table>

Table 5.3: Knowledge Sharing

5.5 CMC as business training

Various studies have indicated the need for and importance of employee's training. Training sessions are more important for new employees to better understand about what organization wants. Training sessions are also important for senior employees when launching new products, introducing new technology or change in current procedure. There is no training session culture in Abuzar Marketing and Trading Company according to several participants in conducted survey as one marketing employee said:

“We are not familiar with training session in this company. We have to learn by our own and never get any compliments from management on learning. ”

Employees of HR department have good presentation skills and are ready to train new employees about daily life business procedure of the company. Absence of platform failed the execution of such training workshops. They feel there should be
seminar for Directors and Managers to have better understanding with new era parameters to run successive business. He said

“Directors are conducting business in traditional way, before implementing any solution they should be well aware of what is going to be implement and how it could be beneficial in various accepts.”

Smith (2001) believes that CMC is capable to provide workplace based flexible training. It also provides opportunity for those who have urge to learn themselves. Trentin (1999) added that CMC facilitate collaborative education. It enables learners or new employees to communicate with their trainers, instructors or senior colleagues. Salmon (2000) presented 5 stages model for online learning and teaching. Smith (2001) believed that as people get more familiar with CMC, it will open a new world of learning which they never experience before it.

Training of new employees is quit challenging, for all departments of the company. There is no training session custom in company. Seniors of every department give brief introduction about company and job tasks to new coming employees. New employee has to understand daily routine business process by their own, which raise the chances of error or misconduct in process. CMC will enable the option of business training in the company. CMC helps trainer either to be present, or not at time of training sessions. They could use video conferencing, tele-lecture, remote assistance, etc. for time sync training sessions. They could also save video clips, tutorials or simulators to learn by their own. It will help new employees to understand and perform their jobs in batter manners.

<table>
<thead>
<tr>
<th>Literature review</th>
<th>Empirical finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CMC is capable to provide workplace based flexible training.</td>
<td>• Employees have to learn at their own and never have any training session before.</td>
</tr>
<tr>
<td>• Salmon’s 5 stages model for online learning and teaching.</td>
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</table>

Table 5.4: Business Training
To ensure successive implementation of CMC and make communication effective and efficient, following recommendation can be made:

- Information sharing among the departments is key element of day to day business process. Company should make it possible to share information among all departments. CMC is most suitable to share information among departments.

- Both types of communication synchronous and asynchronous should be in practice as employees are facing problem in real time communication and periodic updates.

- As company is small scale company and it is not possible to buy computer for every employee there. Initially company should focus more critical area that is communication between the departments. They should install one computer in each department, at least.

- Every department has computer literate employees so training sessions or new hiring for operating computer system could be avoided. Computer literate employees should be assigned tasks to deal with computer.

- It is not possible for one employee to keep everyone update every time, even within department. Small notice board should be placed in every department and put prints of critical information which is important for everyone in the department.

- Computer literate employees should be assigned the task to guide other colleagues and make them comfortable with CMC so that when second phase of computers installation will start, all of them will be well familiar with CMC.

- Business process simulator should put at central server so new employees can watch and learn daily business process of the company.

- Portal or blog should be developed to share ideas and accessible to every employee for viewing and posting.
• Importance of notice board cannot be avoided even the age of CMC, employees should be taught and develop habit of reading notice board. Notice board should not messy so everyone can see in a glance what is new and important.
Chapter 6. Conclusion

With the presence of computer technologies, communication plays a vital role in organization’s growth. Abuzar Marketing and trading company is running business in third world country Pakistan with traditional way of face-to-face communication. They are facing communication problems among the departments. Their traditional communication system has created communication gap among the departments. Marketing, sales, logistics and accounts are the most effected departments as they required real time updates to run their business process. Periodic updates are similar important for all departments parallel with real time updates. Delay or lost of information not only causes delay in delivery to clients but also leads to wrong or seized clients delivery. This affects overall progress and reputation of the company.

The purpose of this study was to understand the communication problem of company and make appropriate recommendations to eliminate the gaps. Research was done under research questions:

Q1: Which problems and limitations can be found in the current system?

Q2: What could be potential benefits of CMC in this organization?

Research was done as qualitative research, as single case study of Abuzar Marketing and Trading organization, with literature review, data from interviews, questionnaires, observations and documents.

According to analysis and discussion we found that the communication gap is because of delay or lost of information. All departments have complaints about communication gap but following departments have high number of complaints and this gap is affecting their performance.

- Marketing to Sales
- Sales to Logistic
- Sales to Accounts
- Marketing and Sales to Human Resource
- Administration to Marketing and Sales
Abuzar is not a large-scale company but one of the most excelling in the region. Implementation of CMC in all departments and ensuring computer system for every employee is not possible, it should be gradual change. Replacing traditional communication with computer based communication system requires trainings and skills to operate new installed system. Abuzar have skilled employees in every departments either they have experienced CMC at previous jobs or learn by their own at home PC.

As CMC facilitates both synchronous and/or asynchronous communication, it makes CMC most appropriate tool to fix the communication gap. Organization could took following potential benefits

- CMC as Organization Communication
- CMC as Democratic tool
- CMC for Knowledge Sharing
- CMC for Business Training

In Pakistan, trading companies has set format to conduct business. These companies either have franchises or distributions of multinational or national companies. Our case company is a true representative of trading companies in the region, having distribution of several national and international companies.

6.1. Contribution and lesson learned:

**Lesson learned:** keep following point in account while implementing CMC.

- Study should be designed on the basis of local context. Successive story is based on several local elements that could change in every case, even in same kind of business and region, e.g. organizational culture, organization structure, organization regulations etc.

- Recommendations should not be like “adopt this or leave that”. Always make flexible and adoptable recommendations. Management may or may not be
agreed with researchers. Adoptable recommendations could not be practiced because of several other factors e.g. affordability.

- When a new system is proposed, start it with pilot project. Theoretical propositions may not always produce same results as claimed. To avoid complete failure, pilot project could help to proceed main project in better manners.

- Keep evaluating the study from beginning, time constraint is a major factor of research. As early the problem is identified as early could be fixed. This could lesser the chances to revise major part of study.

**Contribution:** Following are the contributions of this study

- This study has addressed the communication problems in Trading and Marketing company in the developing country e.g. Pakistan, proposing implementation of CMC to eliminate communication barriers and improve overall business with potential benefits of CMC.

- The research was made in an organization with no history of CMC. The organization is relying on traditional communication system (face-to-face). This study will develop understanding with problems facing in face-to-face communication and propositions to fix them. The study will be threshold to conduct more studies to measure the effect of CMC, in practice.

- Communication problems of small size Trading and Marketing Company were studied in this research. Suggestions to overcome the challenges were made in account of organization’s adoptability and affordability.

6.2. Future Work

In our thesis we have presented different aspects computer-mediated communication and presented those issues in organisational context. It is very obvious from the literature review and empirical findings that there are various aspects of CMC that can be studies in organizational aspect. Based on the findings from the current research future studies can be:
• Analyzing the impact of computer-mediated communication on overall organizational communication
• Studying the expected and actual results of implementation of CMC
• Analyzing the role of CMC in overall organizational growth and development
• Examining the user adaptability and complexity of the proposed system
• How much system was successful to provide effective and efficient information flow within and between different departments at organization
• Another aspect for the future studies can be role of the CMC to capture organizational knowledge
• A study might be carried out to find out and resolve the problems and hurdles that the users may face while using the system
• Cultural impact (like trust) on the system adaptability can be another possible impact of future studies

6.3. Epilogue

Dealing with possible implementation problems and limitations:

As director described, Abuzar has planned to use CMC for instant information sharing and periodic updates, at the moment. Face-to-face (FTF) communication will remain in practice along with CMC to avoid lack of non-verbal communication.

Management at Abuzar do have fears of error occurrence because of new system’s complexity or new interface to work with. They are planning to employ couple of new experienced employees to develop employee’s understanding with new system.

They have planned to dedicate employee for information exchange, with other departments. He will be responsible to reply all inquires and periodic updates.

Initially company has planned to install one computer in each department with dedicated employee to operate the system. He will use system to accomplish office tasks and will try to avoid irrelevant posts. This would help to avoid information over flow.
Employees at organization are well known to each other and the process so the trust will not be an issue among them.

FTF communication will remain in existence parallel with CMC, it would help to counter the resistance causes described by Rogers (1983), and Holden and Wedman (1993).

As Abuzar is not a big organization, economic perspective does matter a lot for them. Initially they are going to install one computer in each department which will drag down the cost at minimum level.
References


Perez, M. (2004) *E-mail in the business: A lack of e-mail communication*. Master’s Thesis, Luleå: Luleå University of Technology


Rudick, M. and O’Flahavan, L. (2001) *E-mail for Good, Not Evil – putting e-mail to effective managerial use*. [online]: Available from:


Appendix A-Questionnaire

Personal
Name:
Age:

Educational
Regular Education:
Specialization (If any):
Computer Education:

Organizational
Department:
Current Job Description:
How long at this position:
How you communicate with colleagues in department?
How you communicate with other departments?

For Directors
   How you communicate with managers?
   How you communicate with team members?
   How often you post notice at notice board?
   What problem you think more critical in communication?
   Did you ever use any CMC tool for communication?
   What you are expecting from new system?

For Managers
   What problem you face in communication?
   How many complains a day employees registered?
   What complain most often revised?
   How you fix complains at present?
   How many times a week employees ask for displaying notice?
For Team Member

How you communicate with colleagues?
What problem you face when you communicate with other colleagues?
Did you every time report communication problem?
What you feel most comfortable way to communicate?
How long it take to meet directors?
Are you satisfied with present communication system?
How many times a day you look at notice board?
Notices at notice board are easy and clear to understand?
Have you ever get any training?
How familiar you are with computer?

Employees Interviewed:

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<tr>
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<td>Syed Sajid Hussain</td>
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**Marketing Manager**

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**Job Description**

**Marketing Team Member : 1**

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<tr>
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**Job Description**

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**Job Description**

**Sales Manager**

| Name       | Murtaza Shah      |

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<tbody>
<tr>
<td>Education</td>
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</tr>
<tr>
<td>Specialization</td>
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</tr>
<tr>
<td>Computer Education</td>
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</tr>
<tr>
<td>Job Description</td>
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**Sales Team Member : 1**

<table>
<thead>
<tr>
<th>Name</th>
<th>Ali Raza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>26</td>
</tr>
<tr>
<td>Education</td>
<td>Graduation</td>
</tr>
<tr>
<td>Specialization</td>
<td>Business</td>
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<td>Job Description</td>
<td>Team Leader</td>
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**Sales Team Member : 2**

<table>
<thead>
<tr>
<th>Name</th>
<th>Muhammad Husnain</th>
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</thead>
<tbody>
<tr>
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<td>28</td>
</tr>
<tr>
<td>Education</td>
<td>Graduation</td>
</tr>
<tr>
<td>Specialization</td>
<td>Social Science</td>
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<tr>
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**Accounts Manager**

<table>
<thead>
<tr>
<th>Name</th>
<th>Rana Waseem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>45 Years</td>
</tr>
<tr>
<td>Education</td>
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</tr>
<tr>
<td>Specialization</td>
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<td>Job Description</td>
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<tr>
<td><strong>Accounts Team Member</strong></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
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</tr>
<tr>
<td><strong>Name</strong></td>
<td>Waqas Ahmad</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>34</td>
</tr>
<tr>
<td><strong>Education</strong></td>
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</tr>
<tr>
<td><strong>Specialization</strong></td>
<td>Financial Management</td>
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<tr>
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<td>Accounts management and advisor</td>
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<tbody>
<tr>
<td><strong>Name</strong></td>
<td>Muhammad Imran</td>
</tr>
<tr>
<td><strong>Age</strong></td>
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<tbody>
<tr>
<td><strong>Name</strong></td>
<td>Ashiq Hussain</td>
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<tr>
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<tbody>
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<td><strong>Name</strong></td>
<td>Khurram Khan</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>34 Years</td>
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<tr>
<td><strong>Education</strong></td>
<td>Graduation</td>
</tr>
<tr>
<td><strong>Specialization</strong></td>
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<tr>
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| **Administration Team Member** |
| Name | Naeem Abbas |
| Age | 25 |
| Education | Masters in Business Administration |
| Specialization | Business Administration |
| Computer Education | Basic |
| Job Description | Assistant Manager |

| **Human Resource Manager** |
| Name | Ahsan Shahzad |
| Age | 38 years |
| Education | Master in human resource management |
| Specialization | None |
| Computer Education | Basic |
| Job Description | |

| **Human Resource Team Member** |
| Name | Asim Naveed |
| Age | 27 |
| Education | Graduation |
| Specialization | Commerce |
| Computer Education | Basic |
| Job Description | Maintaining Profiles |