The Emotional Aspects of Computer-Mediated Communication in Human Relationships

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Abstract

At the core of communication is the sharing and exchange of information. In contemporary age, media of communication have various forms and states, especially the network medium. Computer Mediated Communication (CMC) which provide a new medium to human communication, is a powerful tool that has changed the ways of people's daily life, work, and learning. CMC is a generic term now commonly used to describe text-based and visually interactive communication by means of computers and networks, it has transformed social and cultural interactions by continuously defining and redefining digital communities' identities, relationships and their commonalities. This article reviews the language-based strategies that computer-mediated communication (CMC) users employ to transmit emotions in the absence of nonverbal cues.

Keywords: Computer mediated communication, emotions, non-verbal, language

1. Introduction

Communication as a process enables the exchange information and sharing of meaning between people. The last few decades have experienced a huge revolution in the field of communication and media, revolution that have increased the speed of communication and how relationships are formed. The revolution created by computers and phone networks, the Internet and other multimedia technology, are generally called the 'new media'. These "new media" vary in their communications patterns; they range between the characteristics of interpersonal communication (interactivity and synchronization) and the characteristics of mass communication (asynchronization).

Computer-mediated communication (CMC) is a form of human communication that is expedited via digital-based technology, including computers and phone networks (Spitzberg, 2006; Herring, 2001). Computer-mediated technology provide individuals with other techniques for communication that do not require face-to-face interactions. Techniques that are more efficient and accessible than the traditional means of communication. The interaction between technologies and communication media results in interactions that are formal written, informal oral or somewhere in between. CMC include asynchronous and synchronous communication (Herring, 2001). Synchronous computer-mediated communication requires immediate feedback and communication in real time, which is achieved through text-based online chat, audio and video conferencing. This requires the communicators to be logged on simultaneously. Asynchronous communication does not require immediate feedback, this is achieved via the use of email and discussion fora. CMC is not a replacement for face-to-face interactions; however, it has continued to transform the landscape of communication.

The goals for communicating include, sharing information, sharing meaning, and managing social relationships. Computer-mediated Communication is a system consisting of human and computer networks, which implies that the establishment and maintenance of social relationship in a CMC structure depends on communicating though a network, and communicating in a social system. When compared to face-to-face interactions, CMC has inherent communication constraints resulting from the absence of contextual cues, these cues are available in face-to-face interactions and important for the creation and maintenance of social relationships (Rice & Love, 1987; Potter, 2004; Witmer, 1998).

2. Differentiating Computer-Mediated from Face-to-Face Environments

Studies have shown striking differences between computer-mediated communication and face-to-face

communication (Bargh & McKenna, 2004; McKenna & Bargh, 2000). According to McKenna and Bargh (2000), there are four main areas of differentiation, especially in terms of social interactions: anonymity, physical appearance, physical distance, and time and pace of interactions.

2.1.   Anonymity

Some features in computer mediated communication offers relative anonymity and CMC is characterized by three levels of anonymity (Morio & Buchholz, 2009). The lowest level is visual anonymity (e. g. e-mail), where individuals still retain some connection to their real self. The next level of anonymity is the 'Dissociation of identity' where individuals assume a new identity on the computer mediated networks. This new identity represents a different gender, name, or race. The highest level of anonymity is the 'lack of identification' altogether (Morio & Buchholz, 2009). Accountability in a social interaction is reduced, depending on the level of anonymity, resulting in the de-personalization and de-individuation of communicators (Postmes et al., 2002). Depersonalization is a state of loss of personal identity and reality.

Anonymity may have consequences on interpersonal relationships, as the willingness to participate in an interpersonal interaction depends on the level of anonymity of the communication medium. According to Valacich et al. (1992) "anonymity may promote interaction because it offers a low-threat communicative environment" (p. 54). Another consequence of anonymity is its influence on self-disclosure. Studies have shown self-disclosure is more in CMC than in Face-to-Face interactions (Wysocki, 1996, 1998; Montgomery, 1994). The CMC environment provides a safe harbor for users to communicate without the anxieties, discomfort and fear of reproach encountered in Face-to-face interactions.

2.2.   Physical Appearance and Physical Proximity

According to McKenna and Bargh (2000), CMC reduces the significance of physical appearance in social interactions. For instance, due to the textual nature of e-mails, communicators do not consider relevant the issue of physical appearance which is available in Face-to-Face communications. A positive consequence resulting from this, is a reduced level of discrimination during social interaction (Morton et al., 2003).

Besides physical appearance, physical proximity also has reduced significance while interacting with CMC (McKenna & Bargh, 2000). Physical proximity indicates the measurable physical distance between two individuals. In face-to-face communication, physically proximity is required for closeness in social interaction, however, for CMC, the perception of physical closeness is generated in virtual space, because interpersonal differences tend to be blurred.

2.3.   Time and Pace of Interactions

Users of CMC have better control over the time and pace of their social interactions. They have the opportunity to organize, edit and delete their responses during social interactions which is not possible in face-to-face interactions.

2.4.   Nonverbal Cues

Non-verbal cues encompass auditory/tone, posture, hand waiving, eye contact, gestures, and facial expressions. According to Birdwhistell (1970), human communication requires 60-65% of non-verbal communication cues, which makes it impossible to communicate without the non-verbal elements.

Nonverbal cues help to regulate interaction, express intimacy and provide information (Ekman & Friesen, 1969; Harrison, 1973). Face-to-face interaction requires the use of a range of non-verbal cues, however in CMC, the use of non-verbal cues is limited or absent depending on the medium (Perry, 2010). On one spectrum, telephone conversations allow for auditory/tonal cues but remove physical cues, while on the other spectrum, 'online chatting' lacks visual and auditory cues, and requires real time response as it is a synchronous channel. The non-availability of non-verbal cues also increases the perception of anonymity when using CMC (Sproull & Kiesler, 1985).

3. Computer Mediated Communications and Human Relationships

Nonverbal cues, which are limited in CMC, are usually copious in relational information (Short, Williams & Christie, 1976) that aid the perception and interpretation of communicated messages (Rice, 1984). According to Derks et al. (2008) social interactions on CMC is associated with the expression of lower positive emotion when compared to face-to-face social interactions. The expressed lower positive emotion may be caused by the reduced level of social presence in CMC as compared to Face-to-Face social interactions. Studies have also shown the direct link of sociality to the expression of -mostly- positive emotions (Hess, Kappas, & Banse, 1995)

and the function of positive emotions in relationship (Fischer & Manstead, 2008).

CMC facilitates the experience and expression of negative (lower positive) emotions because it provides an encouraging environment (Bargh & McKenna, 2004). This environment includes the medium richness which is lower in social cues and thus influences the context and quality of social interaction in CMC (Sproull & Kiesler, 1985). In addition to medium richness, the 'naturalness' of the interaction also impacts the expressed emotion in CMC social interactions (Kock, 2005), both in intensity and valence. In fact, the expressed positive and negative emotions in relationships is an indicator the quality of the social interactions and the significance of the interpersonal relationship to the communicators (Zaalberg, Manstead, & Fischer, 2004; Hess, et al., 2016).

4. Language Use in Computer Mediated Communication

Human communication via CMC is made through a hybrid of writing, speech, orthography and graphics (Ooi, 2002), that are different from other modes of human communication. These differences are seen in reported language transformations that are evident in changes in the use of terminologies, acronyms, the use of abbreviations and grammatical structure. The language use in computer mediated communication varies, depending on the communication context (Herring, 2004), which can be technological or situational. Technological variables consist of relative anonymity, a-synchronicity or synchronicity and transcript persistence; while situational variables can be found in the topic of discussion, societal norms, tone, gender, age and other characteristics of the users (Herring, 2004).

The language use in CMC is innovative and includes new features for spoken and written communication, which will be discussed below:

4.1. Word-Formation on CMC

The word-formation on CMC is usually characterized by word reductions, this reduction is done by either the use of acronyms and initialisms; or replacing words with letters or numbers (Sun, 2010). Acronyms are pronounceable words written in capitals and formulated from the initials or other parts of several words; while initialisms are unpronounceable abbreviation that contains the initials of a term and then used instead of that term (Taylor & Metzler, 2008). Examples, BRB – be right back, JK – just kidding or LOL – laughing out loud.

Word reduction by replacing words with letters or numbers is done only if pronunciation of the word is the same after replacement (Sun, 2010). Examples are, replacing the pronoun you with u, writing Gr8 as great, b4 as before, or 2day as today. Word replacement increases the speed of writing since the sum of characters is reduced.

4.2. Paralinguistic Features

The paralinguistic category includes the nonverbal cues, such as vocal and facial expressions, or gestures that contribute to shared social meanings (Spitzer, 1986; Holler & Beattie, 2004). But CMC communicators, most times do not share the same physical space, so the use of Paralinguistic features are usually typographical or pictorial features that convey emotional meaning on text. These paralinguistic features enriches social interactions and increases the perception of social presence.

In CMC, paralinguistic features such as punctuation and emoticons (emotional icons) help in the development of interpersonal relationship, as they express attitude or emotion in text-based interactions. According to Provine, Spencer and Mandell (2007), the function of emoticons is not only emotional, they function as forms of punctuations, to mimic similar effect such as laughter, pauses or response cues in face-to-face interactions. Emoticons helps to incorporate the emotion and/or mood of the communicator in the meaning of the message (Rezabek & Cochenour, 1998; Antonijevic, 2005) and attempts to act as surrogates for nonverbal cues in CMC (Crystal, 2001; Krohn, 2004).

Therefore, emoticons are paraverbal devices that help to improve communication and interpersonal relationships by enhancing the exchange of social information and formation of sentences in CMC (Amaghlobeli, 2012).

4.3. Graphical Emphasis

In CMC, the opportunity for auditory emphasis such as pitch and rhythm, are limited, especially in written text. There are few ways of expressing sonic emphasis:

a.   Metaphorical Shouting – In CMC, shouting is expressed when the message is written in all-uppercase lettering, for instance, NOTHING HAPPENED! Just as in face-to-face interactions, shouting is considered offensive and not approved in CMC either. However, using all-uppercase lettering is acceptable when a communicator wants to emphasise an important part of the message.

b.   Making a Pause - Pauses help to hint at meanings and convey information. Pauses occur when the communicator intends to initiate a response cue, formulate response or emphasize what one is about to say. In CMC, pauses are characterized by dots (Chovanec, 2009). For instance, "I used to like basketball...till I met him, the dots emphasized the latter part of the message that was built by the pause.

c.   Laying Emphasis - In addition to writing in all capitals letters, other ways of emphasizing a part of the message is to use repeating characters (Crystal, 2009), by using either letters, or punctuation signs. For instance, this meal is sooooo delicious or "NOTHING HAPPENS!!!!"

5. Theoretical Approaches to Computer Mediated Communication

5.1.   Media Richness Theory

Media Richness Theory was originally propounded by Daft and Lengel (1986), the theory posits that media vary in their ability to deal with uncertainty and equivocality (Daft & Lengel, 1986; Huber & Daft, 1987). Uncertainty refers to the absence of information (Shannon & Weaver, 1949); while Equivocality refers to ambiguity and multiple conflicting interpretations for the information (Trevino et al. 1990). The medium's ability to handle equivocality and uncertainty is ranked on a richness continuum. A rich medium (e.g. face-to-face and telephone) has the capabilities to handle complex and equivocal tasks, while a lean medium (e.g. written documents) has the capabilities to handle uncertainty reduction. Users of "rich" media communicate faster and understand equivocal messages, while users of "lean" media reduce uncertainty by evading excessive information (Daft & Lengel, 1986).

According to Daft, Lengel, and Trevino (1987), four factors determine the richness of a medium: (a) feedback capacity, (b) multiple cues availability, (c) language variety, and (d) personalization. The greater the medium's capacity to deliver rapid feedback, convey multiple cues such as voice and tone variations, incorporate language variety and to convey personal feelings, then the richer the medium is (Huber & Daft 1987). Based on the continuum of richness from most to least 'rich' is; "face-to-face interactions, telephone conversation, e-mail, personal written text (letters, memos), formal written text (documents, bulletins), and formal numeric text (computer output)" (Schmitz & Fulk, 1991).

In the CMC context, media richness theory (MRT) assesses the ability of a medium to produce positive interpersonal outcomes and its capacity to facilitate shared understanding (Robert & Dennis, 2005). The perceived richness of a medium translates to the capability of that medium; to use nonverbal cues, how much of self and personal feelings are shared and the level of intimacy achieved (Hu, Wood, & Smith, 2004). Thus, a medium is 'richer' if it allows for a greater extent of closeness.

Also, according to Walther (1992), the continuum of (F2F communication is rich - CMC is lean) richness do not represent the reality of how a medium is used. In CMC, the richness of medium increases as the user becomes experienced with the technology of the medium (Walther, 1992; 1996). As the experience level of user increases with a technology, they begin to innovate ways to transfer emotions, cues and presence, which in turn, increases the perceived richness of that medium.

The validity of the Media Richness Theory to CMC especially the new media, have been criticized, as the theory was propounded prior to the widespread adoption of CMC (Kahai, Carroll & Jestice, 2007), and also the theory predicts media choice, not performance (Dennis & Kinney, 1998). As a result, there are two extensions of Media Richness theory; Channel Expansion theory and Media Synchronicity theory. The 'Channel Expansion theory' was posited by Carlson and Zmud (1999), the theory assumes that as an individuals' experiences increases with a medium, the richer the medium becomes. Four experiences were identified, experience with, a) the channel, b) other co-participants, c) the organizational context, and d) the message topic. The interaction of all four experiences influences the perceived levels of media richness (Carlson & Zmud, 1999).

The 'Media Synchronicity theory' was propounded by Dennis and Valacich (1999). The theory posits that media's ability to perform certain communication and task performance depends on two processes—conveyance and convergence. Conveyance process involves the communication of large amounts of raw information, suggesting that individuals will have more time to prepare the information and lower synchronicity (Robert & Dennis 2005). Alternatively, convergence process involves the transmission of higher-level information that requires participants to engage and converge on meaning and interpretation of information. The convergence process requires higher synchronicity for performance and construction of new knowledge.

Although the 'Channel Expansion theory' and 'Media Synchronicity theory' provide better explanations for media richness, the Media Richness Theory provides a rational perspective to explain media choice and

behaviors associated with the use of media (Zhang & Ge, 2006; Kahai et al., 2007).

5.2. The Hyper-personal Model of CMC

The hyper-personal model (Walther, 1996) provides a framework to explain how CMC helps to develop social relationships that are more desirable and intimate than what is experienced in face-to-face communication. The model explains how CMC communicators engage in selective and positive self-presentation based on their ability to control the communication process, which is not easily done in face-to-face interactions. According to Walther (1996), there are four elements of the communication process that affects how CMC influences message reception and construction; (a) effects due to the message sender, (b) effects due to the receiver, (c) attributes of the channel, and (d) feedback effects.

In CMC context, the sender creates an impression of themselves through selective self-presentation and self-disclosure of personal information on their channel of choice. For instance, a sender of an email has the opportunity to thoughtfully compose a message that portrays an impression and emphasizes desirable characteristics (Walther, 2007). In the absence of cues and physical attributes, the receiver of a message may formulate an idealized impression and exaggerated perceptions of the sender based on the limited information provided (Griffin, 2009). The receiver's perceptions contribute to increased intimacy and intensify the interpersonal relationship (Walther, 1996). The attributes of the channel focus on the mechanics of that channel, which indicates the user's ability to write, edit and delete messages before sending them, without interfering with the flow of the conversation.

The last element, feedback, brings together all the other elements to form a positive and favorable impression of both communicators (Griffin, 2009). For instance, when a receiver gets a selected presentation from a sender and idealizes the sender, then that individual may respond in the same personae that eventually forms a feedback system. In spite of the merits of the Hyper-personal model on interpersonal goals, there are consequences on intrapersonal perceptions. Users are likely to develop different personas both online and offline (Walther, Van Der Heide, Tong, Carr, & Atkin, 2010).

6. Conclusion

Emotions are communicated in different ways via CMC and face-to-face communications. The difference in the communication of emotions is influenced by both physical and social dimensions. The physical dimension has to do with bodily presence, visibility, proximity and the availability of visual and nonverbal cues. All these attributes are available in face-to-face interaction, however, in CMC, there is reduced visibility, except for the use of videos and webcams. The social dimension has to do with how salient the presence of the communicator(s) is in the interaction. How does reduced visibility affect the awareness level of the other communicator, for instance, in email exchanges, one can identify one's communicator, but the communicator's presence is less salient.

Emotion sharing improves interpersonal relationships and social integration. The sharing of emotions in social interactions is through nonverbal cues, as nonverbal cues help to reduce the ambiguity, intensify or tone down the intended emotion expression (Lee & Wagner, 2002). However, the absence of non-verbal cues in CMC may indicate over – or under –accentuated emotional states during social interactions. But CMC is not completely void of nonverbal information, as it has developed its version of non-verbal displays. These includes the use typographical or pictorial symbols to illustrate facial expressions called emoticons and the use of graphical emphasis to illustrate auditory expressions like pitch and tone. These non-verbal displays help to accentuate or emphasize the emotions of the speaker, add social cues about the speaker and message interpretation (Crystal, 2001; Walther & D'Addario, 2001).

In this paper, we reviewed the emotional aspects of CMC in human relationships and our conclusion is that emotions are displayed and communicated in CMC. Positive emotions are expressed at the same levels as in face-to-face communication and negative emotions are even more freely expressed in CMC due the characteristic of the environment. Studies have shown that the anonymous nature of the CMC environment promotes the increased levels of interactions, hence the expression of both positive and negative emotions in CMC. Other characteristics like reduced spontaneity due to time-lag and reduced visibility, provides users with control over the expression of emotion in CMC (Gross & John, 2003; Gross & Levenson, 1995). It is therefore possible to hypothesize that the control of emotions is easier in CMC than in Face-to-Face communication.

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