6 The Application of Activity Theory to Web-Mediated Communication

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The Web is one of the fastest growing communication media and is increasingly being recognised as an effective marketing communications tool between firms and customers. One reason for its fast growth is the fact that a corporate Web site is a versatile communication medium for firms. For instance, a corporate Web site functions not only as advertising but also as public relations, sales promotion, customer service and online selling (Suh, Couchman and Lee, 2002). What is more, a corporate Web site utilises a variety of design elements such as text, images, audio, video etc.

The Web enjoys several advantages over passive media like television. It is frequently argued that the Web is basically an interactive medium, so it enables users to get more involved. Unlike television viewers, Web users can choose viewing time and order. They can browse the Web at their own pace. As a result, Web users experience the feeling that they are in control (Markham, 1998). The Web also provides a real time feedback function. Many researchers have argued that immediate feedback improves understanding and commitment (Clark, 1992; Clark and Brennan, 1991; Dennis and Kinney, 1998; Kiesler, Zubrow, Moses and Geller, 1985; Walther, 1992).

A corporate Web site is certainly different from traditional mass media. Likewise, in marketing Web-mediated

communication (WMC) is far different from traditional mass media advertising. This fact calls for the development of a new framework for studying WMC.

In this study the term Web-mediated marketing communications is defined as the firm's use of a Web site for marketing purposes. A corporate Web site is an electronic artefact that is accessible through millions of networked computers around the world. A corporate Web site is the place where users engage in continuous activities, and where dynamic interaction occurs. A new and useful perspective to help understanding mediation and interaction of human activities is Activity Theory (Mwanza, 2000; Ryder, 1998). Activity Theory is a well-established framework for analysing human activity involving the use of artefacts (Hasan, 1999).

The purpose of this chapter is twofold. Firstly, we attempt to demonstrate a conceptual model of WMC. Employing Activity Theory, to investigate elements and structure of communication activity via a Web site. Secondly, we suggest some implications for further study of WMC. Ultimately this study will provide a conceptual foundation for the design and evaluation of a corporate Web site.

Studies of Mediated Communication

Long before the advent of the Internet, research on mediated communication related issues have been dominantly conducted by computer-mediated communication (CMC) studies. Hence, it is necessary to review the studies of CMC before exploring a conceptual model of WMC. CMC research has focused on issues related to human interaction in the computer-mediated communication environment. Generally the term computer-mediated communication (CMC) is defined as the process of human communication through computers, both stand-alone computers and networked systems (Suh, Hasan and Couchman, 2003). Here mediated communication emphasises human communication that uses media such as computers, email, video conferencing, a Web site etc, rather than direct face-to-face contacts (Richards and Curran, 2002). Recently, CMC

research has influenced the marketing communication field, and many scholars (e.g., Hoffman and Novak, 1996; Hoey, 2000; Rafaeli and Noy, 2002) have developed and tested new models. Accordingly, CMC research will have provided useful insights into WMC.

CMC studies have been conducted since the 1970's, mainly focusing on personal interaction in group work situations (Rice and Love, 1987). The main fields of CMC were sociology, management and communication. However, after the 1990's the research has focused on social interaction in an Internet environment and been adopted by various disciplines including Information Systems, Education, Library Sciences and Marketing. Social Presence Theory (e.g., Short, Williams and Christie, 1976) and Media Richness Theory (e.g., Daft and Lengel, 1986) have been most frequently adopted by CMC researchers.

CMC researchers have argued that the effects of communication are dependent upon the specific characteristics of the communication media. They have also insisted that communication media vary in their capacities to deliver social cues in human communication, and CMC media are less likely to convey social interaction (Huang, 1999). Their assumption is that face-to-face is the ideal communication in group situations (Siegel, Dubrovsky, Kiesler and McGuire, 1986; Sproull and Kiesler, 1986). Accordingly, CMC media are substitutes for face-to-face communication. However, many other researchers have shown that there are socio-emotional aspects in CMC communication such as a sense of online community or friendship (e.g., Boudourides, 1995; Hiltz and Turoff, 1978; Steinfield, 1986; Williams, Strover, and Grant, 1994).

Regardless of these contradictory arguments, CMC research has developed many useful concepts including "interactivity", "social interaction", "social presence", "a virtual community", which are key phenomena in WMC. In the marketing context, Hoffman and Novak (1996) identify unique characteristics of CMC media and propose a useful research framework for computer-mediated environments (CMEs), which encompasses

important concepts such as mediated communication, interactivity, a sense of presence etc. While Hoffman and Novak's conceptual model provides general guidelines for CMC, it cannot fully describe a specific medium such as a corporate Web site. Hence, more elaborated models for WMC should further be explored. Furthermore, Hoey (2000) applies CMC concepts to testing marketing communication effectiveness of electronic publishing. He puts emphasis on interpersonal interaction facilitated by online conferencing and forums, as a successful factor for Web site success.

Although CMC studies have provided useful insights into mediated communication, they have inherent shortcomings. Firstly, as most research have conducted at the very early stage of the Internet era (Miltenoff, 2000), they have focused on a narrow range of communication media such as email and computer conferencing, and have not addressed differences between communication media such as email, Multiple User Dimension (MUD), Internet Relay Chat (IRC), Newsgroups and the World Wide Web (the Web). As a result, CMC media have been regarded as just text-based media (Boudourides, 1995; Kreijns and Gerrissen, 1999; Walther, 1992). Secondly, the study of CMC has focused on the medium itself rather than on the user. Both Social Presence Theory (e.g., Short, Williams, and Christie, 1976) and Media Richness Theory (e.g., Daft and Lengel, 1986) have emphasised the importance of the inherent characteristics of communication media. In these areas of study, researchers have argued that the use of communication media is dependent upon the different characteristics of the communication media regardless of user-related factors (e.g., motives, education, and usage) and the social context at use (Dennis and Valacich, 1999). Finally, CMC researchers do not consider diverse purposes of communication. Most CMC researchers to date typically have focused on task-related communication in the work situation. Hence, it is questionable whether the results of studies on CMC can be directly applied to WMC.

The shortcomings of CMC studies provide some useful guidelines for the study of WMC. To begin with, the differences of the media should be considered because the types of CMC vary widely in media characteristics and purposes of communication. For example, email is text-based, whereas the Web is a hypermedia-based medium encompassing links, text, audio, video, images etc. It can be generally assumed that user responses to the Web will be different from those to email. Accordingly, the result of studies on email cannot be generalised to all CMC media.

In addition, theories of human practices such as Activity Theory (e.g.) Vygotsky, 1962 and 1981 have insisted that human activities involve tool mediation and human interaction. Communication media are only mediating artefacts through which human beings interact with each other. Researchers have begun to investigate the human side of CMC and the resulting studies have suggested that a computer can create social responses such as a sense of presence or interpersonal feelings (e.g., Boudourides, 1995; Hiltz and Turoff, 1978; Steinfield, 1986; Williams, Strover and Grant, 1994). Thus, WMC, as a form of CMC, should not be treated simply as a process of human-computer interaction. Rather, it should be seen as mediated human-human communication (e.g., Riva and Galimberti, 1997; Tourangeau, Couper, and Steiger, 2001). For this reason, theories delivered from the social psychology of communication can help us better understand the nature and dynamics of WMC.

Activity Theory

Activity Theory has been built on the premise that a human being interacts with others through tools. Mediated interaction provides a basis for investigating human activity (Vygotsky, 1981). Activity Theory incorporates concepts of mediation, interaction, community etc. and these aspects have drawn attention among scholars in the field (Uden and Willis, 2001). Accordingly, Activity Theory provides a solid theoretical basis for understanding mediation and interaction of Web-mediated

communication (e.g., Hasan, 1998; Mwanza, 2000; Ryder, 1998).

Activity Theory has well-established theoretical foundations and has been applied in various disciplines such as Social Psychology, Education, Human-Computer Interaction (HCI), Information System (IS) and so forth (Hasan, 1999). Recently Activity Theory has been applied to the marketing communication area (e.g., Chaudhury Mallick and Rao, 2001; Suh, Hasan, and Couchman, 2003).

Activity Theory investigates human interaction with others through an activity, which is a basic unit of analysis for understanding human behaviour. Activity theorists have argued that human activity is not an isolated entity (Bannon, 1997). Rather it has the structure composed of three basic elements: a subject, an object and a tool. An agent who engages in an activity is called a "subject". A subject can be an individual or a group of people. More than one subject constitutes a community when they share an object. All human activities are driven by a certain purpose or motive, which is called "object". Vygotsky (1981) has emphasised that a human being does not directly react to others, but interacts with others through the use of tools and signs. An activity is usually mediated by one or more artefacts (a tool). The basic mediation model (Figure 1) illustrates a basic assumption of Activity Theory.

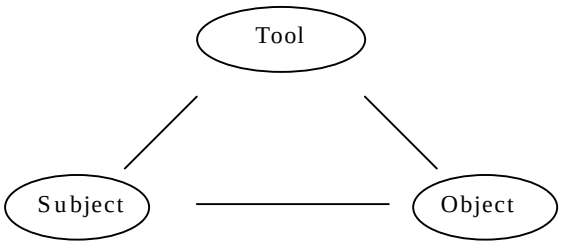

Figure 1: Basic Mediation Model

In relation to WMC, Activity Theory encompasses three important principles, which distinguish human beings from animals, (1) object-orientedness, (2) mediation, and (3) social interaction through higher mental functions (e.g., cognition and affect). In the first place, Activity Theory has emphasised that all human activities are always purposeful (Hasan, 1999). In other words, a human being undertakes an activity to accomplish a certain purpose. Then the object motivates and gives direction to an agent (Mappin, 2000). An object is also understood as a motive.

Secondly, a human being always interacts with others through mediation. In other words, a human activity is mediated by a variety of tools and artefacts (Bannon and Bodker, 1991; Kaptelinin, 1996). Mediation is a unique concept of Activity Theory. Tools can be classified into two basic categories: physical and psychological tools. Physical tools usually facilitate or restrict conditions for physical activities. On the other hand, psychological tools boost and activate cognitive and affective functions. However, the distinction between physical and psychological tools is not always clear, and sometimes both reside in the same tool. For example, a corporate Web site as a communication medium can be regarded as a physical tool. As a symbolic system, which is consisted of various signs such as text, audio, video and images, it can also be considered as a psychological tool. Tools shape human interaction with others and reflect human experiences and knowledge (Ryder, 2001). In that respect, tools are embedded in a social-historical context.

Finally, Vygotsky classified human beings' mental processes into two categories: lower (natural) and higher (cultural) mental functions. Lower mental functions are biological mechanism like instincts that animals also have (Gindis, 1995; Ratner, 1998). Higher mental functions distinguish human beings from animals. Through higher mental functions (e.g., cognitive and affective functions) a human being engages in an activity and interacts with others. In turn, social interaction develops higher mental functions (Nicholl, 1998). Without higher mental functions human beings cannot set goals and develop tools.

It is worth noting that Activity Theory is a general conceptual framework rather than a fully predictive theory (Ryder, 2001). As Activity Theory does not have a standard format, it allows flexibility in the application. Based on the principles a variety of models can be developed according to different contexts.

The WMC Model

According to Activity Theory, WMC is a human communication activity which involves subjects, objects, tools and communities in a marketing environment (see Figure 2). Subjects are individual consumers or a group of consumers who perform communication activities. A community is a group of people who share the same goals or purposes (Ellison and McGrath, 1998; Hasan, 1999). Objects are goals or motives that drive consumers to act. And tools are Web sites that mediate the communication activity. More specifically, WMC is a communication activity undertaken between firms and consumers, which is oriented by particular objectives and mediated by a corporate Web site and a community. In a marketing situation, subjects are firms and customers. Consumers include a wide variety of target audiences ranging from dealers to stockholders, government and general publics. Firms and consumers share similar interests and common goals, and therefore they constitute a community.

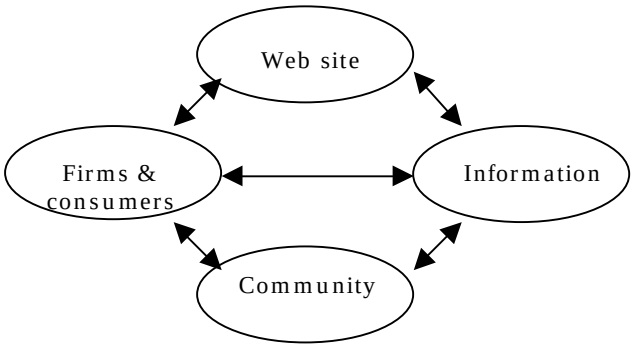

Figure 2: Initial Structure of WMC

Through a survey of 279 college students, Papacharissi and Rubin (2000) have found that browsing a Web site to obtain information has been the most conspicuous predictor of Web use. This result has been supported by a Web user survey (GVU, 1998). From a firm's point of view, informing is a universal purpose of marketing communication (e.g., Kotler, 2000; Shimp, 1997), and a corporate Web site seeks to perform this function (Suh, Couchman, and Lee, 2002). In other words, firms try to deliver a wide range of marketing information to consumers via their Web sites. On the other hand, consumers access corporate Web sites to collect product information. Thus, it can be concluded that the exchange of information is a common motive of the Web community.

In the WMC model social interaction plays an important role. Social interaction is defined as a process or outcome of continuous interchange between people in a social context such as conversation, attending a lecture, conducting a interview, etc (Cairns, 1979). Many researchers suggest that people respond to computers just as they are interacting with other humans (e.g., Picard, 1997, Cassell and Bickmore, 2002; Reeves and Nass, 1996; Nass, Moon, Fogg, Reeves, and Dryer, 1995; Nass, Steuer, and Tauber, 1994). Another characteristic of interaction in mediated communication is reciprocity. Reciprocity refers to mutual understanding, exchanging information. Reciprocity or mutual interchange is a critical element of community because humans cannot share social rules and reality without reciprocity (Fernyhough, 1996; Gouldner, 1960; Riva and Galimberti, 1998; Saito, 1996).

Another important concept is that of virtual community. Basically, a community is a group of people who have common interests and goals. A corporate Web site, utilising reciprocal communication facilities (e.g., feedback and email), creates a sense of space where subjects can communicate. This is a social phenomenon, arising from interaction among people (e.g., Fernyhough, 1996; Riva and Galimberti, 1998; Saito, 1996). Generally, it is assumed that the higher the degree of social interaction involved in accessing a Web site, the more the Web

site is perceived as a constituting a community (e.g., Benschop, 1997; Williams *et al.*, 1994). As a result, the Web site and the community merge into one domain (see Figure 3). Therefore, a virtual community can be defined as a sense of space where consumers and firms exchange information and emotional states. For corporate Web site, the virtual community can be called a "marketspace" to differentiate it from a "marketplace," which is a physical community (Rayport and Sviokla, 1994).

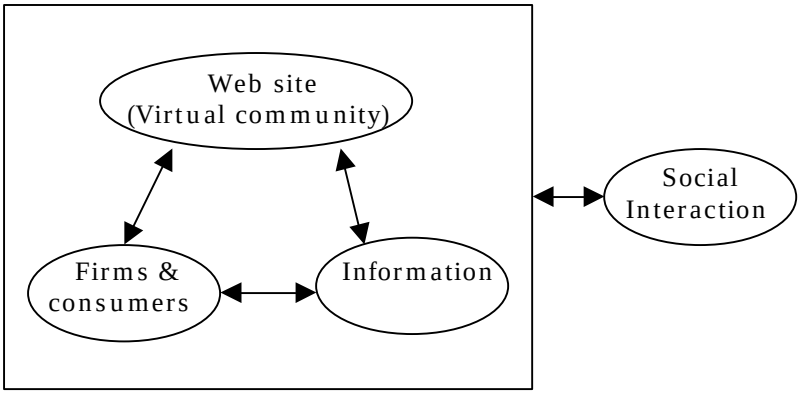

Figure 3: The WMC Model

Figure 3 illustrates the overall process of WMC. From this model WMC can finally be defined as an exchange process of social interaction between firms and customers mediated by a Web site and a virtual community for the exchange of information.

Implications of the WMC Model

The conceptual model that this study proposed, aims at complimenting the conventional marketing communication model by filling gaps in our knowledge in relation to the evaluation of WMC effectiveness. This model has significant implications for the study of the Web.

Firstly, the WMC model contrasts with traditional communication models, which defines communication as a message transmission process (e.g., Shannon and Weaver, 1949; Schramm, 1954). In traditional communication models, the direction of transmission is always from the sender (firms) to the receiver (consumers). Furthermore, although there is a feedback loop, it is asynchronous and performed through other media like telephone and customer surveys. On the contrary, the WMC model suggests that communication is the process of social interaction between firms and customers. Consumers are not simply passive recipients but are "participants" in a communication process.

Secondly, the Web design process is not a simple allocation of hypermedia elements but an activity involved by particular objectives. The difference can be described in terms of "informative" and "communicative" design (Gahagan, 1975). The former refers to a simple allocation of information without intention. On the contrary, the communicative design of Web site is an intended and planned behaviour of firms aimed at influencing consumers. In contrast with conventional media such as a TV, a Web site is multi-functional and might include advertising, PR, sales promotion, online selling, and customer service in addition, it involves hypermedia structure. Hence, Web site design requires well-prepared communicative plans for selecting and combining various design elements and modes of presentation.

Television commercials are thirty-second or fifteen-second and it can only tell one thing about a product or service (Leiss, Kline, and Jhally, 1986). Once TV commercials are broadcasted, consumers cannot access them again. By contrast, a corporate Web site is able to deliver hugh volumes of information with

unlimited storage. In this sense, Web design is much more complex than traditional advertising. Web semiotics is a study area to be developed in the near future.

Thirdly, the model indicates the important role of individual differences. As Activity Theory has argued, different objects drive different activities and people have different levels of expertise (kaptelinin, 1996). As a result, different motives for accessing Web sites and different capabilities (e.g., Web literacy) should be considered in the study of WMC. The Web is a new medium, and use of the Web can be seen as a learning situation. It is undoubted that individual differences have an effect on consumers' activities and social interaction. Accordingly, individual factors, such as motivation and Web literacy should be included in any study of WMC.

Finally, the model emphasises that a corporate Web site creates a virtual community, where firms and consumers interact. Many studies have shown that CMC media can generate emotional relations with an online community (e.g., Ogan, 1993; Rheingold, 1993). However, the affective side of human interaction has long been neglected in communication studies (e.g., Aboulafia, Gould and Spyrou, 1995; Craig, 1999; Peter and Olson, 1990). To address this shortcoming, Activity theorists have postulated that human cognition cannot be understood without considering human affect or emotion. As a critical feature of any human activity, the emotional aspects of social interaction should be included.

Conclusions

The Web presents a new phenomenon where its users are more active than traditional television viewers. The Web uses hypermedia and is multifunctional. Activity Theory best explains this new phenomenon. This study proposes a conceptual framework of WMC based on Activity Theory. WMC is a process of reciprocal interaction among a corporate Web site, firms and consumers. A corporate Web site is not a simple distribution channel of information; rather it is the virtual community where firms and customers exchange information and engage

relationships. Papacharissi and Rubin (2000) argue that the Web is a socio-cultural network for informational and social interaction. This notion implies that Web study should be conducted in relation to both information needs and social relationships. Therefore, effective Web design should be aimed at persuading and building relationships with customer through the virtual community. In relation to evaluation of a corporate Web site, social interaction is the critical indication of outcomes of the human communication activity. A special effort should be made to speculate on cognitive and affective aspects of social interaction in the Web.

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