

Conceptualizing Consumer Experiences in Cyberspace

by

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Introduction

The purpose of this paper is address consumer experiences in cyberspace and what aspects of technology that brought about these experiences. This paper proposes a conceptual model of technology and consumer experiences within virtual space by drawing from various literatures outside of marketing that have extensively studied the Internet phenomenon. Building from research in these diverse areas, two constructs are proposed that help describe consumer experiences in virtual space: telepresence (Sheridan 1992; Steuer 1992) and bricolage (Turkle 1995). This paper also examines aspects of cyber technology that give rise to these consumer experiences and projects what the consequences of these experiences may be as they apply to marketing.

Cyber Technology

Cyber technology is defined as any technology that impacts the social and commercial aspects of cyberspace. To fully understand what kind of impact cyber technology has, we need to understand how the technology has developed, how it has changed the way we communicate, and how it differs from traditional communication technologies.

[Insert Figure 1 Here]

Vividness

One important dimension of cyber technology is the vividness of the information consumers receives in cyberspace. Vividness is “the representational richness of a

mediated environment as defined by its formal features; that is, the way in which an environment presents information to the senses” (Steuer 1992). It is a stimulus driven construct and is entirely dependent upon the technological characteristics of the medium. A characteristic of vividness is that the more vivid the information, the less the receiver needs to fill in. Consider a television ad for automobile, which is considered to be relatively vivid since the audiences does not need to fill by imagining how the automobile moves or what kind of sounds the engine makes. But with print ads, readers are left to imagine the automobile's movements and sound.

Two generalized variables that contribute to vividness are breadth of the sensory information, the number of sensory dimensions simultaneously presented by the medium, and depth of the sensory information, the resolution or fidelity of the sensory information (Steuer 1992). The wider the range of sensations the technology medium is able to deliver at one time, the greater the breadth. Print media deliver only visual stimuli, and radio delivers audio stimuli, but television and film provide a combination of visual and audio stimuli. Thus television can be said to have more breadth than either print or radio.

Breadth of sensory information is important because humans use all of their perceptual senses when engaging with their immediate environment. For example, when consumer walks down the produce aisle of the supermarket, they use their smell, touch and vision to access the freshness of the produce. While their senses may produce redundant information about the freshness of the fruit, many consumers still use all of their senses in making such choices. Advances in communication technologies attempt to capture all of the senses in order to bring consumers realistic environment that mimic real

life. Although cyber technologies have been able to capture only the visual and aural senses as has television and film, but this is still more powerful than either print or radio.

The second variable that contributes to vividness is the depth of sensory information Steuer (1992). Depth of sensory information refers to the quality and amount of information embedded in the presented stimulus. For example, a photograph has more depth (or higher definition) than cartoon drawings, because photographs provide viewers with more visual information on a higher level of image quality.

Interactivity

Another feature of cyber technology that distinguishes it from traditional communication technology is its ability to respond to user inputs, i.e., interactivity. Interactivity is used in the present paper as meaning “the capability of new communications systems (usually containing a computer as one component) to ‘talk back’ to the user, almost like an individual participating in a conversation” (Rogers 1986, p. 4). What is implied in this definition is that the computer system is capable of giving feedback in response to the actions they perform on the computer, resulting in the sense of engagement with the computer.

In order for the user of computer mediated communications to feel a sense of interactivity, the speed of the feedback must approach instantaneous. Unless a technology has a speedy feedback mechanism, our sense of interactivity can greatly diminish because we will no longer feel we are engaged in a “conversation”. Consider two web sites, *www.vacations.com* and *www.pleasant.com*, both offering vacation packages over the Internet. In *www.vacations.com*, consumers can search for a particular vacation package by inputting certain parameters such as desired location and price. The computer will take

the parameters, email it to the company will respond by emailing a selection of available packages for consumers to choose. On the other hand, at the *www.pleasant.com* site, consumers can input the same parameters and the computer will generate the vacation selections for display on the computer instantaneously. The *www.vacations.com* site is analogous to communicating via mail, slow and delayed. The speedy response of *www.pleasant.com* makes it feel more interactive, even to a point that consumers will feel like they are actually “conversing” with a travel agent, although the agent is a computer.

The speed of interaction has a simple relation to the vividness of the medium. In general, the more vivid the medium, the slower the speed of interaction. When a medium is high in vividness, we expect it to carry a great deal data, which slows down the transfer over the network. Depending on the content of the site and the method of transfer, the time required to transfer the data could take up to several minutes. With each additional second it takes to transmit data makes, the site becomes less interactive (Held and Durlach 1993).

Another factor important in determining the interactiveness of the medium is the ability of the user to control the medium. Control has been defined as the ability to modify the causal relation between a person’s intentions or perceptions and the corresponding events in the world (Schloerb 1995). Users’ control of the medium can be operationalized in several ways, and by far the most common is for creators of the web content to generate multiple layers of inter-linked web pages that allow users to control the flow of information presentation. As a departure from traditional media, this feature of the WWW affords the users the same power as the content providers. Consider a medium such as a magazine, in which the presentation of information is largely left to the discretion of its

editors as to how they want to display the graphics and the placement of the advertisements. The readers are left in the passive position of message recipients, having little input into the makeup of the magazine and the order of the information delivery. With the Internet, although users cannot modify the actual content of the web pages, they have the ability to modify the order of the presentation by selecting the links they want to follow. This affords users the power to tailor certain aspects of the contents to their needs, making them the authors of the content because they alone determine the content they see.

Steuer (1992) have argued that interactivity should be viewed as a continuum along which various technologies can be rated from more interactive (e.g., telephone) to less interactive (e.g., books). Similarly, we can evaluate web sites on interactiveness based on the dimensions of speed and control. A slow web site is not considered very interactive while a faster one is, and a web site that affords no user control (an unlinked page) is not interactive, while a linked site is.

Experiences of Consumers in Cyberspace

We can expect new cyber technology to create new shopping experiences for the consumer and ways of searching for product information that is not possible in the physical environment (Biocca and Levy 1995). And two constructs are useful for conceptualizing consumer's experience in cyberspace, telepresence and bricolage.

Telepresence

When consumers are on the Internet, they perceive two distinct spaces simultaneously: the virtual space that is presented through the computer, and the home

space where they are physically located. The term telepresence can be used to describe the extent to which consumers feel their existence in the virtual space. It is similar to “presence” as defined by Sheridan (1992), that is, to be the sense of being in a computer-generated environment. The alternative environment we imagine ourselves in is a world generated by other computers in which time and space are compressed and have no real meaning (Tambyah 1996). Through the use of cyber technology, users can be transported across time and space to another location in the cyberspace, to a virtual storefront that is simulated by a distant computer. It is in this sense that telepresence applies, because the user, at a physical location such as their living room or bedroom, can feel a sense of being present in a virtual storefront where they can browse, and shop like in a real store. Even though virtual stores do not have physical existence, they can provide users with a feeling of being there.

The degree of telepresence is defined as the extent a person perceives that he or she is physically present in the computer-mediated environment (Schloerb 1995). This definition suggests that the degree one feels telepresence is determined by the configuration of the technology that allow users to interact with the environment. The following section discusses the two dimensions of cyber technology that affect the degree of telepresence one experiences.

Vividness of sensory information contributes to our subjective sense of telepresence in cyberspace. In any environment we are operating in, we perceive environmental cues with all of our senses, and to the extent that cyber technology can reproduce these sensory data, we feel present in the computer-generated environment. Any medium can, to a certain degree, generate feelings of telepresence. Print

advertisements also attempt to do this by using descriptive metaphors and graphical illustrations that brings the consumer into the consumption environment. However, the print mediums has limited depth and breadth and thus it is not capable of reproducing the entire range of possible environmental cues needed for users to feel a sense of “being there”. In order to reproduce the sensation of being there, the range of sensory information and their qualities needs to approach real experiences. Studies in virtual reality have experimentally demonstrated that there is a strong positive correlation between the sensation of telepresence and the presence of both visual and auditory scores (Hendrix and Barfield 1996; Slater, Usoh and Steed1994).

Another antecedent to telepresence is the interactivity of the communication medium. In general, the more users are able to interact with the medium and through the medium, the more likely they will feel a sense of telepresence. Mass communication technology offers little or no prospects for interactivity or feedback, and this diminishes our perception of presence (Short, Williams and Christie1976). Other writers have also suggested that if users are to feel they are actually in a computer-generated world, then they must interact with the environment and receive feedback from it (Sheridan 1992; Welch et al. 1996).

Consequences of Telepresence

Telepresence as described here requires the communication technology to provide both interactivity and multi-sensory information. But the locus of telepresence is in the perception of the user because telepresence is an user experienced sensation that is induced by the technology. Therefore, it is important that we turn our attention to the experiential outcome that results from the consumption of the technology.

Turkle (1984) indicated that telepresence suggest play, exploration and immersion in the virtual space. Immersion is a term that refers to the degree to which the virtual environment submerges the perceptual system of the user in computer-generated stimuli, captivating the senses and blocking out stimuli from the physical world (Biocca and Delaney 1995). To paraphrase Turkle (1984), what the new communication technology does is bring together interactivity and sensory stimulus to creates an imaginative world which users are transported into as participants (i.e., telepresence). As a result, users are drawn into and can playfully explore an alternative world that captivates their imagination and immerses them for periods of time by what Turkle called the computer's "holding power". A close parallel can be drawn between this feeling and the sensation one may experience from playing video games, for both technologies project the users into computer-mediated worlds and encourage the users to explore the environment.

The experience of telepresence involves consumer fantasy, imagination and suspension of disbelief, suggesting elements of fun and playfulness (much akin to playing games). By consuming interactive web sites, consumers may be involving in hedonic consumption where the act of consuming web pages is merely for the entertainment and pleasurable values it provides (Holbrook and Hirschman 1982). It is interesting to note it has been suggested that application of telepresence may see its highest potential when applied in the field of entertainment, because apparently the experience of telepresence is intrinsically rewarding and fun (Hawkins 1995). I propose that it is telepresence that results from the vividness and the interactiveness of the medium that promotes users to play and have fun with the medium, and through interaction with the medium, users may

experience positive affects. Such positive affects can help web sites retain browsers longer and attract repeat visitors.

The discussion of telepresence may be recapped by the following proposition:

Proposition 1: The higher the vividness, interactivity, and user's ability to control the computer interface in the virtual environment,

- a) the higher the degree of telepresence,*
- b) the more users will feel immersed in the virtual environment,*
- c) the more time the users will spend in the virtual environment*
- d) the more positive will be the affective feeling user will experiences, and*
- e) the higher the probability the users will make repeat visits.*

Bricolage

Bricolage is the tinkering and manipulation of objects around one's immediate environment to develop and assimilate ideas. It was an idea first developed by Jean Piaget and later by Levi-Strauss and recently adopted by Turkle (1995) adopted for study of the Internet. Bricolage is a soft mastery of objects, a learning process typified by flexible, nonhierarchical style that allows a close connection with one's object of study. Its emphasis is on negotiation and compromise, concrete mapping and manipulation.

According to Turkle (1995), this kind of manipulation helps people categorize concepts and facilitates the learning process. Thinking with objects has intuitive appeal in human behavior, because much of what we do, the way we think and the way we remember do not always follow a hierarchical structure. Rather, much of what we learn is learned by being in physical contact with our object of study that allows learning by playing. Things learned in this manner can be characterized as bricolage's bottoms up approach versus the top down approach of the hierarchical style in which concepts follow a rule-based linear path of one thing after another.

Bricolage can be adopted and applied to consumer behavior on the Internet. The interactive nature of the medium allows for the practice of bricolage by the web consumers that is not available in traditional media. The “object to tinker with” in cyberspace can be conceptualized as the various links or virtual objects that web surfers can play with as they navigate and learn the numerous product information that firms are trying to send. Company web pages or web advertisements often provide embedded “objects” and links that surfers can manipulate and play with to get into a different level of the web pages or to another link on the Internet. By allowing this capability, surfers are in control of the information they are receiving and the path they follow while in the web site. In traditional advertisements, consumers are fed information in order intended by the author of the advertisement. One of the rules consumers typically follow in reading traditional advertisements in the Western style is to read from the top and proceed down, from right towards the left. This style of reading forces readers to process information in a linear fashion as enforced by the linearity of the text presented by the author.

With the ability to control the flow of information on the WWW, users now have the same power as the author since they can now create the order of the information (Burton et al. 1995). Advertisements on the web present an alternative to top-down style of information processing. The surfer or bricoleur enters a “conversation” with the text. The embedding of hot words and icons allows the bricoleur a means to deviate from the linearity of the presentation and affords the bricoleur with a means to manipulate information as it fits the individual’s particular whim. Surfers are encouraged to play with links on the pages and to see what is underneath each “clickable” icon or hot word. Because each surfer can choose to explore and play with the links differently or may have

a different strategy in assessing the links, each may absorb different information from the page. This implies that not everyone will come away with the same understanding of the information presented.

A possible benefit of bricolage is it affords the bricoleur a way to organize information through association and nodes that fit their own style of thinking without the interference of the author. This associative style of learning, according to Burton et al. (1995), closely resembles how the human mind actually functions, associative and nonlinear. Bricoleurs not only learn more, they may even remember more because they organize the information to fit their particular style. Because information is not processed in a linear fashion as in traditional advertisements, the author of the advertisement does not impose a structure of how the information is digested. Rather when the bricoleurs form their own structure and develop their own concepts, things should be remembered quicker and remain remembered longer. If this is true, then bricolage provides a more intimate understanding of the text presented because we feel closer to it through manipulating it and working with it. Through manipulation of the text, we remember them longer than if they are presented to us in magazine print ads. If we conceptualize bricolage as active learning (vs. passive learning common among print advertisements), bricolage would appear to be a more effective way of internalizing information (Urban, Weinberg, and Hauser 1996). Using a hypertext environment, Liu (1994) demonstrated that user control contributes to the learning of new information because the style of learning better resembles human information systems.

Bricolage can also be seen as a strategy to deal with the phenomenon of consumer information overload as described by Jacoby (1984). The massive quantity of information

available on the Internet is evident to anyone who has been exposed to it. Recent evidence also suggests that consumers optimize their own information searches (Hauser, Urban, and Weinberg 1993). In order to deal with information overload and thus to optimize searches, users may practice bricolage, manipulate and explore links to form associations in order to organize and sort data into manageable chunks to be stored in and later retrieved from memory. By doing so, they also bypass unwanted information that may exist in between useful information when massive quantity of information is presented in a linear fashion.

The above discussion leads to the following proposition:

Proposition 2: The greater the opportunity for the user to control the computer interface in the virtual space,

- a) the more the user will practice bricolage, and*
- b) the longer the user will retain the information acquired .*

Discussion

Telepresence and bricolage can be united in the general theoretical framework of consumer experiences in cyberspace if we postulate that telepresence represents the experiential aspects while bricolage denotes the cognitive components of consumer behavior. Our positioning of telepresence and bricolage as two distinct routes of consumer experience in cyberspace does not imply that the two occur on a mutually exclusive basis, but rather we suggest that consumers browsing web sites can experience both simultaneously. This is analogous to the conceptualization that cognition and affect are parallel and integrated parts of human mental framework (Kaplan 1991). Likewise, telepresence and bricolage are different but integral parts of the experiences of the

consumers in cyberspace, and the relation between the two is similar to that of affect with cognition.

Telepresence and bricolage are experiences with positive outcomes that are derived from the technology, a fact which suggests that firms sponsoring web sites can modify their site designs to utilize the features that promote these experiences. Care should be taken however, to balance vividness and interactiveness of the web sites since as previous discussion indicates, the two dimensions of cyber technology are inversely related. Depending on the goals of the firms sponsoring the web sites, one dimension might need to be scaled down to boost the other. For example, if firm's products are information intensive and consumers generally require a high amount of knowledge prior to purchases (such as search goods), it is in the firm's best interest to design web sites that maximize interactive features so consumers can practice bricolage and retain product information better. However, if the firm is engaged in the selling of experiential products (e.g., vacations, movies), then it would be strategically advantageous for them to design web sites with vivid displays, taking that it does not come at a heavy cost of interactivity. Vivid and interactive site design strategies have the most favorable chance of creating telepresence experience for the web surfers, because they allow potential consumers to imagine what it would be like to own/use the product/service being offered.

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Figure 1

