A Review of the Interactivity Research

LI Guangming
School of Business Administration, Huaqiao University of China, 362021
E-mail: lgm7950@126.com

Abstract: Website is an important interactive marketing tool, and the interactivity of website is a hot topic in marketing researching. This paper attempts to provide a rough picture of the interactivity of website research in academic circle. To achieve this, it reviews the definition, studying methodology and results of two interactivity research streams, then the moderators of interactivity which were brought forward by some scholars. Finally, it presents the future research direction.

Keywords: Actual Interactivity, Perceived Interactivity, Effectiveness of Website

1. Introduction

During the past decade internet has become a major area of attention to marketer because it is a powerful, universal, interactive medium of communication which enables new marketing tools that can improve marketing productivity. Almost all companies have created their own websites. Compare to the traditional media, the most significant feature of website is that it has great interactive potential. Therefore, the website has become the most important interactive tool which is widely used (Barwise and Farley 2005). Company can easily communicate with customers in two ways through the website at a low cost, which is almost impossible through other mass media. As a result, “both marketers and Website designers want to know how to build interactive Websites (Song and Zinkhan 2008).”

At the same time, the ardent practice of interactive website also touches the sensitive nerve of the academe. Since the end of the last century, there have been a lot of scholars getting down to studying the interactivity of website. The literature concerning the relationship between interactivity and effectiveness of website has rapidly grown.

Yet, in reading different literature, we can hardly know whether the relationship between interactivity and the effectiveness of website is positive or negative. Some researchers argued that heightened interactivity helps to improve the effectiveness of website (e.g., Wu 1999; McMillan, Hwang, and Lee 2003; Sicilia, Ruiz, and Munuera 2005; Song and Zinkhan 2008), while others argued that heightened interactivity does not yield positive outcomes and even has negative effect on the effectiveness of website (e.g., Bezjian-Avery, Calder, and Iacobucci 1998; Ariely 2000; Shankar, Smith and Rangaswamy 2000). Why there are these inconsistencies? One of the most important reasons is that the concept of interactivity is different across literatures. Accordingly, the manipulation and measure of interactivity is different from each other. Therefore, in this article, it focuses on reviewing the concept of interactivity, the dimensions of perceived interactivity, and the influence of interactivity on the effectiveness of website. Finally, it presents the future research direction.

2. Two Interactivity Research Streams

Website, as an important interactive communication medium, has attracted many scholars in the fields such as marketing, communication, advertising, education. Interactivity has been defined in many ways. Although there is little consistency in definition across these literatures, these different definitions can be classified by whether they focus on features, perception and process or combined approaches (McMillan and Hwang 2002). Such a classification can provide some insight to the interactivity, but most of the scholars pay their attention to the first two classifications because the operation in studying interactivity which focuses on process is difficult. Scholars named interactivity focusing on features as actual interactivity (e.g., Hoffman and Novak 1996), and interactivity focusing on perception as perceived interactivity (e.g., Wu 1999; McMillan and Hwang 2002). Wu (2005) offered an extensive
review of the interactivity literature, and classified 14 studies into two groups: (a) one group constructed interactivity as actual interactivity and experimentally manipulated the levels of interactivity embodying on the features of a medium and (b) the other group constructed interactivity as perceived interactivity and measured it by a scale. The two research streams in interactivity have different research results owing to their different definitions and operations in interactivity.

2.1 Actual Interactivity Research Stream
The scholars in the first research stream define actual interactivity from the objective perspective. They focus on “either general characteristics (such as user control and two-way communication) or specific characteristics of Web sites (such as search engines and chat rooms) in defining interactivity (McMillan and Hwang 2002)”. For example, Jensen (1998) defined interactivity as “a measure of a media’s potential ability to let the user exert an influence on the content and/or form of the mediated communication”. Lombard and Snyder-Dutch (2001) consider interactivity as “characteristic of a medium in which the user can influence the form and/or content of the mediated presentation or experience.”

Moreover, scholars in this research stream manipulated the level of interactivity by varying the number of specific features such as E-mail links, chat rooms, search engines (e.g., McMillan 2000) and measure the effectiveness of website embodying on the attitude toward the website/product/brand, repurchase intention, loyalty, satisfaction. For example, Bezjian-Avery, Calder, and Iacobucci (1998) manipulated the actual interactivity, the result showed that interactivity had a detrimental effect. Sohn, Ci, and Lee (2007) identified three groups of features that, based on the inquiry, might suggest that a Web site is interactive: (1) hyperlinks/clickable buttons; (2) graphics, animation, and sound; and (3) channels for on-line communication, transaction, and feedback. They manipulated the levels of interactivity and measured the attitude toward the website of participants. Results showed that expectation moderates the relationship between interactivity and attitude toward the website. In conclusion, inconsistencies exist in the actual interactivity research stream.

2.2 Perceived Interactivity Research Stream
The scholars in the second stream suggested that actual interactivity represents a potential for interaction, mere presence or absence of certain features may not affect consumers’ perceptions of interactivity unless they actually use them (Lee et al.2004; Song and Zinkhan 2008). “It is the consumer’s choice to interact, thus interactivity is a characteristic of the consumer, and not a characteristic of the medium. The medium simply serves to facilitate the interaction (Schumann, Artis, and Rivera 2001).” In this stream, scholars define interactivity from subjective perspective. They focus on the perception or experience of consumer. For example, Kiousis (1999) defined interactivity as “ability of users to perceive the experience to be a simulation of interpersonal communication and increase their awareness of telepresence”.

The scholars focusing on perception usually use a scale to measure the perceived interactivity rather than manipulated (Liu and Shrum 2002), and they concern the determinants and consequences of perceived interactivity. For example, Wu (1999) used a battery of ten Likert scale items to measure the consumers’ perceived interactivity and a battery of fifteen items to measure the consumers’ attitudes toward websites which belong to two different greeting cards companies respectively. The result showed that perceived interactivity is positively related to attitude toward the website. Jee and Lee (2002) found that Need for Cognition (NFC) and skills was two antecedents of perceived interactivity, and perceived interactivity did not influence consumers' purchase intention. In addition, Song and Zinkhan (2008) investigated the determinants of interactivity by experimental methodology. In their study, they measured perceived interactivity on three dimensions: (1) perceived communication, (2) perceived control, and (3) perceived responsiveness. They not only identified the key features which can heighten the perceived interactivity of participants, but also found the positive relation between perceived interactivity and the effectiveness of website.

3. Reconciling the Inconsistencies
The inconsistencies in interactivity research have only made marketing practitioners more confused. Marketers still do not know whether heightening website interactivity improves the performance of the website, although some empirical evidence showed the positive effects of interactivity on consumer response. To address this question, some scholars strive to integrate the two streams; others seek to identify the specific moderators which affect the relationship between interactivity.

3.1 Integrating Two Research Streams

Although perception is one of the focuses which scholars concern in marketing, actual interactivity is an important determinant of perceived interactivity. Both interactivity research streams contribute to our understanding to the interactivity. Therefore, we cannot divide them completely. Some scholars begin on integrating two research streams to reconcile the seemingly conflicting results. For example, Wu (2005) verified that perceived interactivity mediates the effect of actual interactivity on attitude toward the website through empirical study. He manipulated the level of actual interactivity by varying the presence or absence of six features and measured perceived interactivity on three dimensions: (1) perceived personalization, (2) perceived control, and (3) perceived responsiveness. Similar to the previous research, he measured consumers’ attitude toward the website by using eleven seven-point semantic differential items. Results indicated that the effect of actual interactivity on attitude toward the site is mediated by perceived interactivity.

Although the result of Wu’s research has contributed to explain the inconsistent conclusions existing across literatures, the results should be treated with caution, because the author tested only one website and did not consider the variation of the effects of interactivity across different product categories. In addition, there are likely many other situational variables that might moderate interactivity effects.

3.2 Considering the Moderating Factors

**Expected interactivity.** Sohn, Ci, and Lee (2007) conducted an experiment to investigate the moderating effects of expectation on the relationship between interactivity and attitude. They manipulated the level of interactivity by varying the features of interactivity of the website and manipulated the expected interactivity of participants by using product categories: automobiles (high Expected interactivity) and furniture (low Expected interactivity). Results confirmed the moderating effects of expectation on the relationship between interactivity and attitude toward the website. Especially, expected interactivity could reverse the direction of the interactivity-attitude relationship.

**Personal factors and Situational factors.** Liu and Shrum (2002) propose two individual factors which moderate the effect interactivity on the website: desire for control and CMCA (Computer-mediated communication apprehension). They argued that interactivity is a multidimensional construct which includes three dimensions: actual control, synchronicity and two-way communication. Based on the previous research, they proposed that “higher active control will produce more satisfaction for people with high desire for control than for people with low desire for control” and “more two-way communication will produce more satisfaction for people with low levels of CMCA than for people with high levels of CMCA”. Moreover, they proposed that higher interactivity “will produce more satisfaction when a user browses a Web site for information than when the user browses for pleasure.” Unfortunately, they did not test the propositions by empirical research. In 2009, Liu and Shrum tested the interaction effect of person and situation factors in their empirical study. Results of an experiment showed that under low-involvement conditions, interactivity would produce more positive attitudes regardless of experience. Under high-involvement conditions, however, interactivity would lead to more positive attitudes for experienced users but less positive attitudes for inexperienced users.

4. Conclusions and Future Research Direction

Early work on interactivity focused on whether potential interactivity features or interactivity perceptions only, whereas more recent studies paid more attention to the combination of the two (e.g., Wu 2005). Now we can hardly distinguish which stream some researches belong to, whereas we do not
care this. We care what are the antecedents, moderators and consequences of interactivity only. Therefore, we summarize some researches which published on the excellent journals or important conference in marketing and advertising since 2005. There are two important implications: first, some scholars have considered both the features of website and the perception of consumer in their interactivity researches now. Wu (2005) suggested that “a theory of interactivity is incomplete without considering both actual and perceived interactivity.” Second, more and more scholars recognize that heightened interactivity is not always beneficial, because there are lots of moderators which may influence the relationship between interactivity and consequence.

Based on the review of literatures, some research directions are identified:

First, we should find and check more new specific factors which influence the relationship between interactivity and communication outcomes. Liu and Shrum (2002) suggested that we should examine specific moderators both personal factors and situational factors. They have put forward some specific influential factors which include desire for control, CMCA (Computer-mediated communication apprehension), and the consumer's communication goals, but these factors have not been tested by empirical study. So we should make more effort in this direction.

Second, previous study has been conducted in different product categories such as greeting card (Wu 1999), automobile and furniture (Sohn, Ci, and Lee 2007), T-shirt (Song and Zinkhan 2008), but we cannot draw a conclusion that the results can be adapted to all product categories. Therefore, future research needs to use more websites in different categories to see whether the interactivity theory will work and which product can benefit from heightened interactivity. The addressing of these questions will facilitate marketers to decide whether need to invest on heightening website interactivity.

Finally, future research can investigate the relationship between perceived interactivity and firm performance. Whether heightened interactivity of website can lead to excellent financial performance? Heightening interactivity of website will yield a lot of expenses as well as benefits. Marketers must trade off costs and returns on investment (Song and Zinkhan 2008).

Acknowledgments:
The author would like to acknowledge the financial support from the 2009 Fellowship of Huaqiao University of China (NO. 09HSK08).

References


