From Consumer Response to Active Consumer: Measuring the Effectiveness of Interactive Media

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Traditional measures of the effectiveness of marketing communications suggest a specific process by which marketing actions influence consumers. This article offers a broader philosophical perspective on measuring the effectiveness of marketing communications that focuses on interaction as the unit of analysis, rather than the behavior of either the marketer or the consumer. Structuration theory is discussed and offered as a viable foundation for the identification, selection, and evaluation of new measures of effectiveness in an interactive context among active, goal-driven consumers and marketers. Structuration theory focuses on the emergence and evolution of the structure of interaction, which is posited as a critical factor in devising, selecting, and evaluating new measures of the effectiveness of marketing communications. This view broadens the potential set of measures of effectiveness of interactive marketing communications, implying alternative meanings for measures under different interaction structures and combinations of goal states.

Traditional measures of the effectiveness of marketing communications focus on measuring the achievement of the marketer’s objectives following a specific process by which the marketer takes actions and consumers respond. There is a rich literature and strong tradition of research in marketing, advertising, and persuasive communication that follows this paradigm (Stewart, Furse, and Kozak 1983; Stewart, Pechmann, Ratneshwar, Stroud, and Bryant 1985). This paradigm has produced a plethora of specific measures of various consumer responses to marketing communications. While this paradigm has produced important and practical insights, it is largely based on a one-way view of communication: the marketer communicates and the consumer responds. However, the advent of interactive media, such as the Internet, raises the specter that traditional approaches for measuring the effectiveness of interactive media may be incomplete (Pavlou and Stewart 2000, 2001). Interactive media change marketing communications from a one-way process to a two-way process, with the interaction of the marketer and consumer at core. Duncan and Moriarty (1998) argued that communication (rather than persuasion) is the foundation of consumer-marketer relationships in an increasingly interactive context. This change in the character of marketing communications not only suggests the need for new measures of the effects and effectiveness of marketing communications, but it also suggests that the meaning of traditional measures of consumer response to marketing communication may change in an interactive context.

This article offers a philosophical perspective on the measurement of the effects and effectiveness of marketing communications in an interactive context. The objective of this article is to identify the ways in which interactivity changes the communications process and hence the nature and meaning of measures of communication effects. This article does not offer specific, well-defined measures of the effectiveness of interactive marketing communications. Rather, this article is in the tradition of Campbell (1928), Stevens (1951), and Suppes (1977) in that it seeks to identify and describe the philosophical bases for measurement in an interactive context. In so doing, it seeks to
provide a conceptual foundation and broad guidelines for the development and evaluation of new measures in an interactive context.

In an interactive context, consumers have more influence on the process and on subsequent marketing communications by searching for, selecting, processing, using, and responding to information. Hence, research that treats marketing communication as an independent variable ignores the reciprocal influence that active consumers have on the interaction. Recent work on interactive marketing communication has observed that measurements of response or outcome alone are incomplete because they fail to consider the dynamic process of marketing communications where such measures are obtained (Pavlou and Stewart 2000, 2001; Stewart, Pavlou, and Ward 2002). Thus, in contrast to the traditional paradigm of measuring the effects of marketing communications that focuses on the static behavior of the marketer or consumer, this article focuses on interaction as the relevant unit of analysis for measurement.

A critical element of the paradigm described in this article is the role of goals in directing interaction. Traditional approaches to measuring the effects and effectiveness of marketing communication either ignore consumer goals or treat them as one more descriptive variable. Conventional media planning has focused on fulfilling the marketer's objectives of reaching relevant consumers. Hence, it has at least implicitly recognized that goals may direct consumers to attend to certain media, messages, or products. Yet, the systematic analysis of consumer goals within a marketing communications context has been infrequent. While goal-directed behavior, in the form of consumer involvement or interest, has long been recognized as an important determinant of consumer response to marketing communications, the full range of the effects of goals on how consumers seek out, respond to, and change the communications process has yet to be fully explored. This article stresses the importance of understanding the consumer's motivation beyond the actual behavioral activity, arguing for the need to understand goals as a primary driver of the structural context of communications, and therefore is critical for understanding and interpreting subsequent consumer behavior and effectiveness measures.

This article also posits that any comprehensive system of measurement of behavior or of the effects and effectiveness of actions within an interactive context must include the structural context of the interaction. The structure of any given interaction, which is jointly determined by the marketer and the consumer, has a significant impact on the consumer-marketer interaction and is a critical factor in marketing communications and its subsequent effectiveness. This article describes prominent sources of structure—(a) the portfolio of substitute and complementary actions available to the marketer and consumer, (b) the structural features of media, and (c) the history of prior interaction—while pointing out several other potential sources of structure that may influence the nature of interactive marketing communications.

Finally, this article offers structuration theory (Giddens 1979, 1984) as a viable foundation on which a philosophy of measuring the effects and effectiveness of interactive marketing communications can be identified, assessed, selected, and subsequently evaluated. Structuration theory addresses both the consumer-marketer interaction and the structural context of the interaction, thus establishing the basic elements for accurately conceptualizing the interactive communications process. The structural context is very important in shaping the interaction and influencing the effectiveness of interactive marketing communications. Structuration theory, originally created to describe social behavior, has been applied to a variety of situations involving the dynamic interaction of actors over time. Structure is a dynamic element that influences interactive marketing communications, and it is simultaneously affected by the interaction. A key insight of structuration theory is that as consumers and marketers interact, changes in structure influence any measure of success. Hence, any meaningful measure of interactive marketing communication must take in account the role of the structural context that guides the interaction. In addition, this article integrates the notion of goals into the structuration theory perspective, arguing that goals are important in the interpretation of the structural context that guides the behavior of marketers and consumers.

The objective of this article is to suggest that interactive marketing communications of the type found on and facilitated by the Internet are an inherently different form of communication that does not readily lend itself to the use of traditional measures of the effects and effectiveness of marketing communications. This article not only argues that traditional measures may be incomplete, but it also suggests that traditional measures may have different meanings within an interactive than within a more static context, and these meanings may vary with the structure of the interactive context. Hence, this article proposes a conceptual basis to guide future research on devising, assessing, and evaluating measures of the effectiveness of interactive marketing communications.

WHAT WE LEARNED FROM THE DOT.COM BUST

The "dot.com" phenomenon that gripped the investment, business, and academic communities in a remarkable way during the late 1990s appeared to suggest that basic laws of economics had been changed, if not repealed altogether. Stewart and Zhao (2000) noted that the dot.com euphoria of the late 1990s has parallels in other speculative technology-driven frenzies, such as the railroad,
telegraph, automobile, radio, and television, among others (Chancellor 1999). In all of these frenzied speculative eras, including the e-commerce era, there was a certain opportunity in the technology, but investors and businesses got well ahead of customers and markets in the design and marketing of products and services. In many cases, there was no market or at least not enough demand to support the array of offerings brought to the market. In addition, many of these technological innovations changed the way in which people interact in important cases, there was no market or at least not enough demand in eras, including the e-commerce era, there was a certain telegraph, automobile, radio, and television, among others. These examples of substitution and complementarity illustrate an important point about the Internet. The Internet is a set of technologies that came into being within the context of an existing social and economic structure. An understanding of the Internet and of interactive media requires an understanding of not only the technology and its capabilities but also the existing structure of which it becomes a part and how these capabilities might alter that structure. There is no doubt that the Internet and related technologies have the potential to add value, create new markets, alter the competitive landscape of business, and change the societal and market structures. There are, however, some important and often unstated realities of business on the Internet. While Internet-based offerings may indeed reduce transaction costs, they often provide no further incremental value to the customer. There may be costs savings associated with greater productivity resident in information technology, but many of the “savings” also reside in the transfer of costs from one party to another or the substitution of one cost for another. Sales personnel may simply be replaced by customer relationship management (CRM) systems. Information search, distribution, and support costs may be borne by the customer rather than the seller. For example, order input into a Web site form that the customer must complete replaces order taking by the seller. The customer may incur costs for downloading a software product rather than for a CD-ROM. Customers may also have to incur a cost by revealing personal information that they might not otherwise provide to a more traditional seller or by accepting “standards” imposed by the seller to obtain the benefit sought. These are trade-offs that some customers may be willing to make, but they do not necessarily change the underlying economics of the market. In each of these examples, one set of structural relationships has replaced another with consequent changes not in the economic equation but on the structure of the market.

There has been much discussion of the structural changes created by the Internet. Much of this discussion has focused on disintermediation, the elimination of the need for various actors and entities within the value chain (Chiricu and Kauffman 1999; Gilder 1994). However, it is now clear that the disintermediation that was initially forecast has not occurred (Lucking-Reiley and Spulber 2001), and it may be more appropriate to examine reintermediation, the reconfiguration of roles within the value chain, rather than disintermediation. The Internet affects the existing social and economic structure and individual value chains in a variety of ways, each suggesting rather different ways of measuring its impact. In some cases, the Internet may increase the overall value of an offering to the end user. This increase in value may be achieved through enhancing the primary offering itself or through reducing the costs of search, acquisition, use, or...
support of the primary offering. The ultimate test of whether value has been added is found in the price the customer is ready to pay or the greater propensity of a customer to select one alternative over another (at a constant price). The Internet has demonstrated that there is considerable demand for "value-added" services that carry little or no cost, such as Amazon's (www.amazon.com) customized recommendations. It is less clear whether the Internet has created "value" for which customers are willing to pay, at least directly.

Another way in which the Internet may influence the social and economic structures is through a reduction in the overall cost of serving the customer. It is useful to note that this Internet effect may create value for the firm, but this effect need not create greater value for the customer. If the firm uses its lower costs to offer lower prices to customers, the customer may then benefit; yet, this is not unique to the Internet. In any case, the appropriate measure of this effect of the Internet is the cost of serving the customer. An additional way in which the Internet may influence the value chain is through the redistribution of revenues and costs within the value chain. In these cases, the total economic equation remains the same, but revenues and costs are redistributed among the participants within the value chain (including the customer). This is the reintermediation effect referred to above, and the appropriate measure of this effect is the change in allocation of costs and revenues among members of the value chain. This latter reintermediation effect is not unique to the Internet and has been observed in a wide array of industries before the advent of the Internet.

Thus, when placed within an appropriate structural context, the Internet is not radically different. Basic laws of economics apply, concepts such as the value chain are relevant, and much of the motivation and behavior of buyers and sellers in other venues is common to the Internet. Nevertheless, the Internet is a new technology that offers some new dimensions of business and some new opportunities. It is certain that the Internet is a new means for communicating with customers and for distributing products and services. However, the Internet is not just another advertising medium; rather, it is a new marketing channel for interactive marketing that includes communications and, in some cases, other elements of the marketing mix such as distribution, product design, and pricing. Hence, the Internet's value does not rest in the promotional value of customer exposures but in the increased effectiveness and value creation with which it performs interactive marketing functions. This suggests the need for a far wider and richer array of measures of effects and effectiveness than has been used with more traditional media. Whereas conventional marketing communications are designed to move consumers toward some desired response, the Internet serves a much wider range of functions based on its potential for interactivity, such as customized shopping experiences, personalized selections, better information search, and greater convenience, among others.

Given the difference between traditional and interactive approaches (promotion vs. value creation) to marketing communications, the dot.com bust may also be attributed to lack of relevant measures for capturing interactive marketing communication effectiveness. This phenomenon was present both in its frenzy (because traditional measures were considered irrelevant) and its bust (because the traditional measures gave a dismal picture). However, the identification of just another, potentially more relevant, set of very specific measures is unlikely to be sufficient for capturing the impact of a potentially interactive medium, such as the Internet, unless such attempt is guided by an overarching conceptual framework that integrates the social and economic structure, the interactive nature of the new media, and the dynamic role of the relevant actors. Drawing from the lessons of the dot.com bust and the unique attributes of the Internet, this article proposes a framework to guide research on measuring the effectiveness of the interactive media.

THE UNIQUE ATTRIBUTES OF THE INTERNET AS A MEDIUM

Although the Internet is undeniably a unique medium, it shares many of the characteristics of more traditional media. More specifically, substantial work has focused on the measurement of advertising effects and effectiveness within traditional media (Stewart 1989; Stewart et al. 1983, 1985). Such work has focused on (a) the effects of advertising on in-market sales (Lodish et al. 1995a, 1995b), (b) the content of advertising that is more or less effective (Stewart and Furse 1984, 1985, 1986; Stewart and Koslow 1989), (c) the effects of advertising repetition (Pechmann and Stewart 1988; Stewart 1999), (d) the influence of competitive advertising (Burke and Srull 1988; Geiger 1971), (e) the role of nonverbal cues in advertising (Stewart, Farmer, and Stannard 1990; Stewart and Hecker 1988; Stewart and Punj 1998), (f) the differential role of advertising in mature markets (Stewart 1989, 1994), (g) the role of comparative advertising (Pechmann and Stewart 1990, 1991), and (h) media effects (Stewart and Ward 1994; Stewart et al. 2002), among others. Thus, many existing measures of the effectiveness of marketing communication and other marketing activities may be cautiously applied in the increasingly interactive context of the Internet. Such measures must be used with caution because they may not have the same implications within an interactive context as they have within the more static paradigm that has guided measurement of the effects and effectiveness of traditional media. Thus, a traditional measure, such as recall, may become less important when the consumer has a ready substitute for memory, such as a
The new interactive media were initially defined as media that provide the opportunity to instantaneously advertise, execute a sale, and collect payment (Cutler 1990). However, the interaction between consumers and marketers has become increasingly more complex with the advent of the Internet (Pavlou and Stewart 2001). Consumers receive and provide information by navigating Web sites, customizing their preferences, and communicating with marketers. Consumers also communicate with one another, share their preferences and experiences with product and service providers, and offer recommendations. Marketers also facilitate this communication among consumers through bulletin boards and chat rooms and provide customers with links to providers of complementary products and services. Similarly, marketers use consumer feedback to customize their messages and offerings, facilitate consumer search for specific products, and collect information about consumers’ preferences to improve future products and services. Moreover, marketers use such media to provide consumers with better services such as personalized e-mails and information, virtual communities, individual customer service, interactive Web sites, and online video conferencing. These various activities represent communication, social, and economic structures that are rather different from the structural characteristics associated with the use of more traditional media in marketing communications. It is also especially important to recognize that the structural characteristics of interactive media, and hence the effects and effectiveness of these media, are controlled to a significant degree by the customer. Thus, in addition to focusing on the effectiveness of marketing communications from the perspective of the marketer, the effectiveness of interactive communications must also be viewed from the consumers' perspective.

Marketing communications have long been recognized as providing consumers with information and facilitating comparisons among alternatives (Borden 1942; Nelson 1970, 1974). Keeney (1999) suggested a variety of ways in which the Internet might create value for consumers, such as error minimization in transactions, lower costs of products and services, optimal design of products or product bundles, shopping time minimization, and increase in the shopping enjoyment, among others. These outcomes are undoubtedly valuable to consumers, but they are still limited by their focus on simple action and reaction and do not provide a means for understanding how interaction on the Internet may relate to other activities or what drives the nature of the interaction. Thus, measures of the effectiveness of an interactive medium such as the Internet must go beyond traditional measures of effects to explain reciprocal and dynamic interactions among marketers and customers. At least four dimensions of these dynamic interactions must be recognized in any measurement model: (a) interactivity, (b) goals, (c) effects of substitution and complementarity, and (d) media characteristics.

**INTERACTIVITY**

The real power of the Internet—and the characteristic that differentiates it from traditional media—is its potential for interactivity. Leckenby and Li (2000) defined interactive advertising as the presentation and promotion of products, services, and ideas by an identified sponsor through mediated means, involving mutual interaction between consumers and marketers. Alba et al. (1997) suggested that interactive communication is characterized by three factors: it is (a) multiway (it involves two or more actors), (b) immediate (responses occur within seconds), and (c) contingent (response of one actor follows directly and logically from the action of another).

Interactivity suggests that the reasons consumers seek, self-select, process, use, and respond to information are critical for understanding responses to communications. Search and self-selection of the sources from which information may be obtained, as well as the way this information is processed, has long been recognized as an important determinant of consumer behavior (MacInnis and Jaworski 1989; Stewart et al. 2002). Despite its importance, very few studies have examined the interactivity of marketers, consumers, and ad messages (Oh, Cho, and Leckenby 1999). This is probably because the character of interactive media requires a different way of conceptualizing measures of effectiveness. Interactive advertising places the consumer at the center of the study of marketing communication because its effectiveness hinges not only on how the marketer’s message influences the consumer but also on how the consumer shapes the interaction.

Media and the communications embedded in media are not simply binary, interactive or not. Rather, there are degrees of interactivity, and interaction exists along numerous dimensions. In fact, many media are not inherently interactive or not. Media themselves may possess characteristics that facilitate or impede interaction, but the locus of interactivity exists in the decisions of actors who choose to interact when it serves their purpose(s). Even more important is the principle that interaction is not the outcome of a unilateral decision by a single actor; interaction, by definition, requires at least two actors. This means that interaction and the pattern of interaction are jointly determined by the decisions of the actors involved. Thus,
the most appropriate unit of analysis for measurement is the interaction itself rather than the individual behavior of the actors. Indeed, the contingent nature of interaction means that any given response of an actor cannot be completely understood without information about the context and structure within which the interaction occurred, including the goals of the actors, the sequence of actions and reactions that preceded a given response, and the characteristics of the media in which the interaction occurs. To the extent that characteristics of the medium facilitate, impede, bound, or otherwise influence the nature of the interaction, the medium also plays a role in determining the structure of the interaction.

**Measurement in an Interactive Context**

The fact that interactive media share many of the characteristics of other forms of communication implies that much of what is known about marketing communication may apply to the measurement of effectiveness in the new media. The data on consumer response suggest that consumers do not respond remarkably differently to the Internet, at least by traditional metrics. Drèze and Hussherr (1999) found response to advertising on the Internet to be similar to response to advertising in other media, except that advertising on the Internet appears to be easier to ignore. The Internet Advertising Bureau (IAB 1997) examined the effect of Web banner advertisements and found that it was related to a significant increase in brand and ad awareness, product attribute communication, and purchase intentions. Bruner and Kumar (2000) showed a positive effect of Web page complexity and Web experience on attitudes toward the ad and brand, attention to the commercial, and purchase intention. Broussard (2000) explored the relationship between advertising frequency of exposure and advertising effectiveness on the Internet by employing traditional measures such as direct response and brand awareness. Stevenson, Bruner, and Kumar (2000) showed that, similar to results obtained within other media, Web page background positively affected advertising effectiveness using traditional attitude measures: attitude toward the ad, attitude toward the brand, attention to the commercial, and purchase intention. In addition, Lynch and Ariely (2000) found that consumers are less price sensitive when online marketers offer different rather than identical products, a finding that directly parallels findings in traditional retail settings.

Despite the similarities with more traditional forms of marketing communication, there are many unique dimensions of interactive media and communication through these media. There is interaction, but this interaction is without the personal, face-to-face dimensions of such interpersonal communication modes as personal selling and word-of-mouth communication. On the other hand, interactive media provide a wider and more immediate scope of communication among consumers and marketers (Pavlou and Stewart 2000). While consumers may decide to interact with the marketer in a variety of contexts, consumers have only limited motivation, time, and processing capacity for such interaction. Therefore, consumers are likely to interact when the focal product or service is of high importance to them, when they are convinced that this interaction will be beneficial to them (e.g., when the interaction is consistent with their goals), and when the communication medium facilitates such interaction through ease of use. The role of the customer in the selection, use, and evolution of interactive media challenges traditional assumptions about the measurement and interpretation of the effects and effectiveness of online marketing communications. The ability and willingness of consumers to selectively respond to communication and shape the nature of the consumer-marketer interaction places the role of the consumer squarely at the forefront of any effort to understand and measure the effects and effectiveness of interactive marketing communications.

The typical paradigm in conventional advertising tends to view effectiveness in terms of the advertising response curve, tested by forced exposure to a message, followed by some measure of response. Research that begins with the perspective that marketing communication does something to consumers treats communication as an independent variable and consumer response as the dependent variable. Research that treats marketing communication as an independent variable, useful for predicting consumer response, ignores the reciprocal influence that consumer response has on subsequent communication. If one accepts the proposition that people do things to and with communication, the identities of independent and dependent variables are less obvious. Indeed, any response to marketing communication, including that of simply attending, may be contingent on other factors. When consumers select that to which they attend, the act of attending, such as a complex interaction with a Web site, becomes a powerful determinant of subsequent response. This is a very different perspective on communication from the traditional view.

These two differences in approach are not unlike those found in other disciplines. First, in psychology, there is a strong tradition of research involving human subjects who are placed in well-controlled settings where their responses are observed and recorded. Second, several schools of thought emphasize the development of understanding the methods by which human beings construct and control their own environments. Control theory (Powers 1973, 1978) and the interactionist perspective (Punj and Stewart 1983) are two examples of the second perspective. In the literature of organizational behavior, the notion of "socially enacted environments" is well established (Salancik and Pfeffer 1978). These theoretical
perspectives go well beyond the study of what consumers do when forced to attend a communication with instructions that their thoughts will be of interest. Rather, they are concerned with how people respond to their environment when their own purposes guide response. In the context of research on interactive marketing communications, this would mean that the focus of research should be the ways in which consumers control communication and other marketing stimuli rather than how communication controls consumer behavior.

**Measures of Interactivity**

There is a general consensus that there are no well-accepted measures for the effectiveness of interactive communication, such as those used to measure more traditional forms of marketing communications (e.g., Lombard and Snyder-Duch 2001; Pavlou and Stewart 2000). Traditional measures that were designed for passive media fail to capture the important and differentiating dimensions of response to interactive communication. They ignore fundamental constructs, such as “presence,” which captures the degree of correspondence between the type of user input and the type of medium response (Lombard and Snyder-Duch 2001). However, the most common measures employed to date have more in common with traditional measures than the types of measures that may be most important in an interactive context. Thus, many common measures of response to the Internet are little more than derivatives of various types of “exposure” measures used in traditional research on marketing communication. “Click-through rate” simply captures how many consumers click on ads for more information; cost per click and cost per customer are derivatives of measures widely employed in other media (Cannon 2001). Other common measures of response to the Internet include hits, response time to banner ads, exploration patterns, the pattern of online purchasing, and the time spent at a Web site (Chatterjee, Hoffman, and Novak 2000; Rodgers and Thorson 2000). These measures have much in common with measures of efficiency for traditional media and largely ignore interactivity. Similar types of measures exist for traditional media. Measures of Web site attractiveness, friendliness, usefulness, and “realism” of Web sites (the degree to which consumers feel they are able to “experience” the advertised product or elements on the Web site) (Coyle 1997, 1999) have analogs in traditional measures of response to print and broadcast advertising.

Leong, Huang, and Stanners (1998) examined 10 key media attributes such as ability to (1) draw attention; (2) convey detailed information; (3) stimulate emotions; (4) change or maintain attitude; (5) involve the audience; (6) precipitate action; (7) efficiently reach target markets; (8) create brand, product, and corporate awareness; (9) communicate product/brand image; and (10) communicate the corporate image. All of these measures are adaptations of measures developed in a traditional media context. Online advertisers have rediscovered brand recognition and brand building (Sweeney 2000) and adapted existing measures to the Internet context. Experiments with animation, audio, and video on the Internet (Riedman 2001) led Bruner and Kumar (2000), among others, to propose a new construct, attitude toward the Web site. However, this measure is not so new; measures of attitude toward the ad have long been employed in advertising research. Although all of these measures are clearly useful in an interactive context, none of them captures the unique character of the interactive media.

**Limitations of Traditional Measures in an Interactive Context**

Several studies have attempted to identify key dimensions of new and traditional media and compare the effectiveness of marketing communications along these dimensions. Hoffman and Novak (1996) classified several media along the dimensions of individualization and dynamism, proposing that Internet media are more dynamic and individualized compared to more traditional media. Similarly, Zeff and Aronson (1999) argued that the notion of interactivity differentiates Internet and traditional media. Zeff and Aronson suggested that online advertising is able to (a) target consumers more accurately, (b) trace user responses more effectively, (c) deliver and update information more flexibly, and (d) allow consumer-marketer interaction. Leong et al. (1998) found that online media were better able to convey detailed information, precipitate action, and change and maintain attitudes while being more cost-effective. However, traditional media appeared to be more effective for stimulating emotions and drawing attention. In another study, Sundar, Narayen, Obregon, and Uppal (1998) demonstrated that online media were less effective in preserving memory compared to print media.

To the extent that traditional measures of communication effectiveness have been used to evaluate Internet-based communication, these measures have tended to produce a rather dismal picture of the Internet as an advertising medium. Banner ads appear to produce negligible click-through rates, recently plummeting to as low as 0.3 percent (Green and Elgin 2001). By this measure, marketers would be well advised to ignore the Internet. However, the click-through rate may not be an appropriate benchmark to measure advertising effectiveness (Child 2001). Indeed, click-through rate may merely provide a convenient means for determining the frequency with which consumers choose not to attend to advertising. Low click-through rates may simply provide a quantitative summary
of consumer response that is common but more difficult to quantify in other media. This suggestion supports the notion that interactivity requires a rethinking of traditional approaches to measuring advertising effectiveness. By being able to track consumer behavior, the Internet may provide a better picture of how consumers behave in response to advertising; this knowledge can be used to understand more traditional media where it was not possible to accurately monitor consumer behavior.

It is certainly the case that consumers ignore the vast majority of the advertising to which they are exposed. When placed in the context of how consumers respond to advertising in general, a click-through rate of 0.3 percent may not be bad. The adaptation and use of traditional measures of the effectiveness of marketing communications may be useful, but they may also be misleading. Bezjian-Avery and Calder (1998) contrasted traditional and interactive advertising by arguing that in traditional advertising, the presentation is linear and consumers are passively exposed to product information, whereas in interactive advertising, consumers actively traverse information. Such studies may suggest less about the inherent characteristics of a medium or of the messages embedded in such a medium than about how consumers chose to use the medium and how such choices are driven by consumers' motives and goals.

The need to capture the special characteristics of interactivity has led some researchers to propose various measures of interactivity. Pavlou and Stewart (2000) argued that research on interactive communications must focus on measures that reflect both the process of interaction and the evolving outcomes arising from collaborative relationships, such as consumer and marketer learning, satisfaction, and trust (Stewart et al. 2002). Outcomes arising from collaboration include idea generation, involvement, learning, conflict management, efficient identification of choices, high-quality solutions, and commitment. Novak, Hoffman, and Yung (2000) conceptualized interactivity along three dimensions: (a) the speed of the interaction, (b) the mapping of the interaction based on perceptions on how natural and intuitive the interaction is, and (c) the range of the interaction (number of possibilities for action at a given time). Burgoon et al. (2000) defined interactivity along the dimensions of interaction involvement and mutuality (degree to which actors perceive their partners as credible and attractive). Other measures might be related to perceptions of one or more of the parties of the nature of the interaction or perceptions of the relationship(s) between the interacting parties. The interaction itself and the particular market- or exchange-related outcomes associated with interactivity have been less frequently the focus of measure development. This may be because the very concept of interactivity is multidimensional and thus difficult to assess with a single measure.

GOALS

A key to understanding the nature of any interaction is the identification of what each party in the interaction is attempting to achieve. The notion of goal-oriented and goal-driven behavior has a long history in marketing, and it is consistent with research on the retrieval and use of information, the formation of attitudes, and choice behavior (Bettman 1979). Recent work in cognitive psychology places consumers' goals at the center of the network of information associated with products (Barsalou 1991). Research in marketing has also investigated the impact of goals on consumer knowledge formation and preference rankings. For example, Huffman and Houston (1993) demonstrated the importance of goals when consumers are learning about brands and products. Park and Smith (1989) illustrated the influence of goals on consumers' brand preference rankings, and Martin and Stewart (2001) offered an empirical demonstration of the mediating role of goals in determining the success of brand extensions.

Research in cognitive psychology has increasingly focused on the role of goals as motivating and organizing forces in the acquisition, storage, and retrieval of information and affective responses. Murphy and Medin (1985) argued that without some guiding force, it is impossible for human beings to determine which properties are relevant and useful for the task of creating meaning. These authors suggested that goals serve to focus attention on some properties of stimuli while indicating that other properties are not relevant. Thus, goals provide both the motivation for seeking and organizing information (creating meaning) and serve as the nexus of the structure around which associations are formed (Barsalou 1983, 1992). Pervin (1983) defined goals as combinations of cognitive, affective, and behavioral processes that organize and regulate behavior. In effect, goals provide a means by which consumers organize cognition, affect, and behavioral intentions. These cognitive organizational structures are a part of any interaction that takes place among actors and influence the structure of interaction over time.

Goal-derived categories do not come into being immediately and fully formed, however. Early in a goal-driven constructive process, people form ad hoc categories based on the best information available, but such categories are not well organized and are subject to frequent change (Barsalou 1982, 1983, 1985, 1991, 1992). As experience with a goal increases, the structure changes to a goal-derived category. Information and behavior that are more relevant to a particular goal become more strongly linked to the goal and other goal-relevant cognition and affect. In the context of interactive media, this means that interaction and the structure of interaction will tend to evolve over time as actors seek efficient means to achieve their goals.
In fact, some types of interaction may disappear altogether as it becomes clear that it has no relevance to an actor’s goals.

The association of actions with a goal is a matter of degree, with some actions more tightly linked to the goal than others. This degree of fit is sometimes referred to as graded structure (Barsalou 1991). Several measures of graded structure exist, but two of the most relevant in the present context are ideals and goodness of fit. Ideals are the concrete or abstract attributes (e.g., an action or behavior) that an element in a category should possess if it is to best serve the fulfillment of a particular goal. In the context of interactive media, certain types of media, content, actors, and modes of interaction become associated with achieving specific outcomes. Goodness of fit is a measure of how strongly an action is linked to a particular goal. Thus, revelation of personal information in an interactive context may be viewed as especially appropriate when such information is required to achieve a particular outcome (e.g., the creation of an individualized or customized product offering). The notions of ideals and goodness of fit are especially appropriate for identifying and describing those characteristics of an interaction that are most likely to govern its structure over time.

Identifying and Measuring Goals

An important implication of the foregoing discussion is that the meaning of any particular measure of process or outcome will be dependent on the context in which the measure is obtained. Particularly important parts of this context are the goals that drive the behavior of the interacting parties and the structure each party is attempting to create in the service of its goals. While it is the case that more traditional approaches to media research and scheduling recognize the role of goals (through such processes as screening respondents for category usage), such approaches use goals as a means for selecting or describing consumers rather than as a tool for understanding how consumer behavior evolves over time in an interactive context. Indeed, in an interactive context, the characteristics of an interaction will be driven toward a mutually beneficial structure that is consistent with the goals of all actors. If interaction does not serve the goals of the actors, interaction will cease. However, structures of interaction may take a variety of forms and still be consistent with the goals of the relevant actors, although some of these structures may advantage or disadvantage one actor more than others. Indeed, certain actions by consumers and marketers may be viewed as either complements or substitutes with respect to a particular goal. Similarly, particular interactions may offer viable substitutes for the fulfillment of a particular goal. On the other hand, certain interactions may serve as complements to a given goal. Thus, an interaction that developed in the service of a product-related goal might, over time, develop value in its own right.

SUBSTITUTION AND COMPLEMENTARITY

Substitution and complementarity are especially important to consider in online marketing communications since, for any given activity in which a firm engages, the Internet may be a substitute or a complement. First, the Internet may be used as a substitute for a particular activity—for instance, the replacement of a call center by a Web site. This substitute may be more or less costly than the alternative for the firm and add more or less value for the customer. Second, a given activity may complement a firm’s current offerings such as the addition of a Web site with product information that did not exist before. As with substitutes, complements may be more or less costly and may add or reduce value to the customer.

Substitutes and complements must be thoroughly examined from the customer’s perspective. Thus, a customer may view a particular offering by the firm as a substitute for something else. For example, a product purchased on the Internet may be considered to be merely a substitute for one that would have been purchased through a traditional channel. The customer may view a purchase through an Internet site as value adding if it reduces search or acquisition costs, or it may simply be viewed as a direct substitute with no added value. In other cases, the customer may view an offering by a firm as a complement. Thus, a Web site to which a customer may go to acquire real-time account information that was previously not available may be viewed as a complementary offering. In some cases, this complementary offering may be perceived as adding value, and the customer may even be willing to pay something extra to acquire it. Whether an offering by a firm is a substitute or complement for the customer is not always easy to determine; in fact, the perception may sometimes vary by customer. Some customers may view a firm’s Web site as a substitute for other offerings. Thus, in some markets or for some customers in any given market, a Web site may be just another channel of distribution or source of information with no added value. In other markets or for some customers in any given market, a Web site may be viewed as a complement, which may or may not add value.

Recognition of the role of substitution and complementarity, as well as the interaction of the firm’s activity and the value created or reduced for the customer, gives rise to a conceptual framework (Figure 1) for thinking about the complexities of Internet offerings. For both buyers and sellers, any particular offering may be viewed as a substitute or a complement. Depending on the costs
imposed relative to other offerings, any given offering may be value reducing, value adding, or neutral. An activity that is viewed as a complement by the seller (e.g., a Web site with product information) may be viewed by the buyer as a substitute (e.g., the Web site substitutes a catalog). An activity that adds value for the seller, perhaps by reducing its costs, may be viewed as subtracting value by customers because it imposes additional costs to them. Such interactions may not always be so simple to discern, however. The seller that intends a Web site to complement a catalog may confront a buyer who views the Web site as a substitute for the catalog. Because of these differences in intentions and perceptions between buyer and seller, customers may be disgruntled and dissatisfied because they perceive the Web site as both an incomplete substitute for the catalog and an inconvenience because it imposes costs related to learning how to use the site.

Such mismatches in intention and perception between buyers and sellers are quite common in the world of Internet marketing. E-mail messages intended to inform buyers of new offerings are often viewed as a nuisance by their recipients. Sellers focus on solving the problem of why apparent customers fill electronic shopping carts without completing transactions, without recognizing that many apparent customers had no initial intention of buying. These customers were simply forced through a portion of the purchase process to obtain information they were seeking, such as shipping and handling costs. In fact, it is quite possible that the apparent customer was even a competitor seeking information to gain advantage. This means that measuring behavior alone is not enough. Similarly, the meaning of a particular success measure may change depending on the available complements and substitutes. Thus, a traditional measure, such as recall, may become less important when a substitute, such as a bookmark on a Web browser, is available. Effectiveness must be defined in the context of alternatives for achieving specific goals: many activities are substitutes for the same goal or outcome, while some activities are complements that are expected as part of the product offering.

**MEDIA CHARACTERISTICS**

One especially vexing issue with respect to the measurement of the effects and effectiveness of interactive media is the fact that the Internet is of relative recent origin, and many consumers and marketers have only recently begun to use it. Thus, current use of interactive media tends to confound the effects of adopting a new technology with the longer lasting effects of interactivity. Following Leonard-Barton (1988), the implementation of Internet technologies does not fit perfectly into the existing system of consumer-marketer interactions. As with any other new technology, new media are subject to barriers to adoption and use because of their new characteristics or structural features, such as restrictiveness, level of sophistication, and comprehensiveness (DeSanctis and Poole 1994). For both marketers and consumers, adoption and use of the structural features of Internet technologies are important prerequisites before any benefits from mutual interaction take place. There is an extensive literature on the adoption of technology. Since interactivity is contingent on media adoption, it is important to disentangle factors related to the adoption and use of interactive media from the primary effects of interactive media once they have been adopted. Given the complex set of features and capabilities provided by today's interactive media, it is no longer possible to treat the structural context of media as a constant. In conventional media, planning vehicles come and go, but the way in which consumers interact with these media tends to be rather constant. Only the introduction of new media changes the nature of such interaction. Thus, broadcast media introduced new dimensions of media use relative to print, and these dimensions evolved over time (both radio and television were once hailed as technologies that would bring the family together).

Research and the development of measures of media effects and the effectiveness of marketing communication cannot ignore the role of technology and its influence on the structure of interaction when examining marketing communications effectiveness. The current observed effects of interactive marketing communications might differ from outcomes that will be observed in the future as consumers and marketers adapt to each other and also respond to the availability and characteristics of the interactive media. As interactive media are adopted and adapted over time, the effects of these media on interactivity may change. While it is the case that media are adapted by their users, technologies and their
capabilities also influence the ways in which users interact (Markus and Robey 1988). It may be too early to separate the effects of technology adoption and adaptation from the effects of interactivity. Thus, it is quite possible that empirical results obtained in an interactive context today may not hold at some point in the future. This means that any measures developed today may be context bound, or at the very least, the meaning and implications of these measures may be context bound. An implication of this context dependency for research and theory development related to interactive media is that there is a need for a strong theory of measurement that provides perspective and conceptual grounding for individual measures of media effects and effectiveness. The development of individual new measures or the direct adoption of extant measures absent such a conceptual foundation is likely to produce incomplete understanding at best and may even be misleading at worst.

THE NEED FOR A THEORY OF MEASUREMENT

The discussion to this point suggests that any comprehensive system that measures the behavior or effectiveness of actions within an interactive media context must include the following: (a) an understanding of the differences that interactivity brings to the communication arena, including the central role played by an active consumer; (b) an appreciation of the complex interaction of actors’ goals that give rise to the structure of interaction; (c) the identification of the portfolio of substitutes and complements related to the actors’ goals; and (d) recognition of the media characteristics and processes that influence media adoption and adaptation, as well as the history of prior interaction and its influence on the structure of interaction in the service of the actors’ goals. It is also clear that absent an understanding of these factors, any particular measure of “effectiveness” may be misinterpreted. What might at first brush appear to be a problem in a consumer’s ability to complete an online transaction might actually represent a consumer’s attempt to acquire information in a structure in which the desired information is only available when the consumer goes through a sequence of activities that mimic a purchase up to the point when that information is obtained. An illustrative example of this structure within an Internet context is a consumer’s search of the site for a particular item, the comparison of price and shipping cost, and the purchase decision. This process is repeated for each item considered for purchase, and the entire process is repeated for each customer. The complexity of both interaction and interactive media makes recourse to many extant theories of marketing communication incomplete at best. However, candidate theories might provide the foundation for a new conceptualization of marketing communications in an interactive context. One such theory is structuration theory (Giddens 1979, 1984).

INTERACTIVE MARKETING COMMUNICATIONS AND STRUCTURATION THEORY

Structuration theory focuses on the ways in which the interactions of actors develop and evolve over time. Although initially proposed as a general theory of social behavior, the theory has found application in a wide array of contexts, including interfirm networks (Sydow and Windeler 1998), the innovation process (Jones, Edwards, and Beckinsale 2000), global virtual teams (Maznevski and Chudoba 2000), organizational transformation (Orlikowski 1996; Sarason 2000), and dyadic relations in organizations (Barry and Crant 2000). It has also been used to explain the adoption of new technologies and the influence new technologies have on social interaction (DeSanctis and Poole 1994; Majchrzak, Rice, Malhotra, King, and Ba 2000; Markus and Robey 1988; Orlikowski 1996). The term structuration is derived from making the noun structure into a verb. It refers to the process of interaction in which actors create or re-create the structural properties of an interactive system toward achieving desired outcomes. Hence, the focus of the theory is the reciprocal interaction of agency (human actors in pursuit of goals) and structure. Applied to marketing communications, this theory rejects the notion that consumer-marketer interactions have a predetermined form (Jones et al. 2000). Rather, consumer-marketer interaction is embedded in (a) the actors’ purposeful (goal-driven) actions and (b) the arrangement of structural interrelations (substitution and complementarity) and the media’s structural features.

STRUCTURATION THEORY DEFINED

Giddens (1984) defined structure in terms of a fundamental duality, in which structure is both (1) a mechanism
for the organization of interactions (processes) and (2) the outcome of such interactions. Structuration theory assumes active, knowledgeable, and purposeful actors whose actions are governed by pursuit of their own goals and their interpretation of existing structure. Thus, it is not necessary for actors to share the same interpretation of structures and the related elements. The “duality of structure” theorem suggests a reciprocal and mediated relationship between interaction and structure, as shown in Figure 2 and described in Orlikowski (1992).

The central idea of structuration theory is that structure influences interaction, yet structure is also the result of previous interactions. Structure is defined as the recursive set of templates, rules, capabilities, resources, and informal understandings that are the contextual constraints that consumers and marketers draw on to interact and attempt to reconstitute during their interactions. For example, Internet capabilities (links, dynamic and customized content, order entry, instant notification, audio, video) are the structural basis of consumer-marketer interaction. Structuration theory also highlights the role of action and interaction by all relevant actors in defining the structure of interaction. Figure 2 graphically depicts Giddens’s (1984) theory and identifies its key conceptual elements in the language of structuration theory: structure is the framework for organizing interaction through (a) signification, (b) domination (control), and (c) legitimation (moral authority). Interaction involves (a) communication and the exercise of (b) power and (c) sanctions. The relationships between the elements of interaction and structure are mediated by the modalities of structuration, which include (a) interpretive schemes, (b) facilities, and (c) norms.

Structures of signification are the rules of what make up meaning; consumers and marketers draw on interpretive schemes driven by their goals to shape their communication. Thus, in an Internet context, the meaning of a particular link, piece of information, or behavior becomes shared over time. For example, the act of logging into a specific Web site may come to signify security and confidentiality, although there is no reason such an act should carry such implications. Structures of domination are asymmetries in resources such as knowledge, financial assets, and technology that consumers and marketers draw on to exercise power in the service of goal fulfillment. A typical example of such structures of domination is found in the notion of information asymmetry between buyers and sellers that can be used to achieve bargaining power. Structures of legitimation are the norms that enable consumers and marketers to justify their behavior. A typical example is the legitimation structure imposed by auction marketplaces, such as eBay. These procedures aim to build norms and rules to guide behavior and provide a means to impose sanctions if needed.

Over time and with repeated interaction, these elements of interaction reproduce, reinforce, or alter the structural context. For example, structure has meaning for the actors (signification structures) and includes the means for producing desired outcomes (domination structures) and a shared code of conduct (legitimation rules). Interpretation schemes, facilities, and norms are the mediating variables that are used by actors to communicate meaning and make sense of their interaction. Goals are posited as critical in influencing the modalities of structuration, especially the interpretive schemes. In Giddens’s (1984) view, there are reciprocal relationships between all variables. Structures are themselves the product of preceding actions; hence, interaction produces new structures over time since the interpretation of actions has an influence on structure.

Applications of structuration theory take place at virtually every instance of consumer-marketer interactions. For example, in online auctions among buyers and sellers, auction sellers draw on the structures of legitimation (transaction norms) and signification (auction procedures, technology capabilities) of the auction house (e.g., eBay) to initiate a communication. Sellers may also draw on the structures of domination to exploit information asymmetry or employ the auction mechanism to boost prices. Sellers have to draw on certain rules to post product information; however, by falsely interpreting the rules to satisfy their goals (posting a refurbished product for new as opposed to used), sellers initiate a problematic interaction. By interacting to this stimulus, consumers communicate the rules to the seller, thereby helping reproduce the rule in action. The seller may find an alternative way to post its product information (arguing that the product’s guarantee is equal to a new product’s, and thus refurbished products must not be posted as used). This consumer-seller interaction not only reinforces the existing auction structure, but it also simultaneously alters the structure by slightly changing the rules (refurbished products receive a new category). This interaction becomes history that has influence in subsequent communications. Finally, feedback mechanisms also represent another example of a structure.

**FIGURE 2**
The Duality of Structure in Structuration Theory

| Structures | Signification | Domination | Legitimation |
|------------|---------------|------------|--------------|
| Modalities | Interpretation| Facilities | Norms        |
| Interactions | Communication | Power       | Sanctions    |

SOURCE: Adapted from Giddens (1984:19).
of legitimation that aims to impose sanctions on opportu-
nistic parties through a collectively driven system if coop-
erative norms are not followed. Other common structural
changes are technology advances in media features that
facilitate or shape communication based on previous anomali-
es. For example, PayPal and BidPay are new struc-
tural features that help facilitate transactions.

Structuration Theory
and Interactivity

While structuration theory has been proposed to explain
general social phenomena, its focus on the inter-
play between interaction and structure makes it an espe-
cially attractive conceptual framework for understanding
interactive marketing communications. Structuration the-
ory focuses not on the behavior of individual actors but on
their reciprocal interaction. Consistent with the active role
of consumers in interactive marketing communications,
the structuration perspective places the consumer at the
same level as the marketer. In contrast to the traditional
perspective in marketing communication of focusing on
one or the other side of the consumer-marketer interaction,
structuration theory embraces the role of interdepen-
dent action, aiming to prescribe measures that capture the
effectiveness of the interaction as opposed to the objec-
tives of either side. Each interaction draws on the existing
structure and alters the original structure by reproducing
an emergent structural context. Thus, interaction is the re-
levant unit of measurement and analysis. Each interaction
can be observed and measured, but its effectiveness must
be evaluated in the context of the underlying structure.

Structuration Theory and Goals

In structuration theory, interaction is embedded in a
structural context, which is determined by rules,
resources, and capabilities. A key element of structuration
theory is “interpretive schemes” that actors use to interpret
the structure and shape their actions in response to it. Inter-
pretation thus mediates the relationship between structure
and interaction, and this interpretation is mediated by the
actors’ goals. This conceptualization is consistent with
Barsalou (1983, 1992), who argued that goals provide the
motivation for creating meaning and serve as the nexus of
the structure to form associations. In the context of interac-
tive marketing communications, such interpretation is
influenced by the goals of both the marketer and the con-
sumer. Both parties communicate to satisfy their goals; hence,
their interpretation of the structural environment
depends on their goals and how they might best achieve
them. For example, in an attempt to better serve their
goals, actors may attempt to change the rules of the inter-
action, thus altering the interaction and future structure.

Following Murphy and Medin (1985), goals are the guid-
ing force that allows actors to interpret which structural
properties are relevant and create meaning. For example,
consumers whose goal is to learn about a product would
interpret a structure that allows them to find much infor-
mation easily as functional and positive. On the other
hand, if the goal of the consumer is a quick transaction,
structural properties of an interaction that result in too
much information may be interpreted as unnecessary and
annoying. These misalignments between structure and
goals may influence emergent structures (media features
are personalized to individual goals) or alter goals (con-
sumers may desire to obtain more information or conduct
faster transactions, accordingly). Therefore, knowledge of
the actors’ goals is integral in understanding how structure
will be interpreted and how it will influence subsequent
interaction, shape future goals, and indirectly alter emer-
gent structures. This means that any measure of the effect-
iveness of interaction must be placed in a structural con-
text whose meaning is influenced by goals.

THE STRUCTURAL CONTEXT
OF MARKETING COMMUNICATIONS

The structural context of consumer response to market-
ing actions could be regarded as constant. This is not an
appropriate assumption, even in the context of traditional
models of marketing communication in which it is recog-
nized that media context (sometimes described as media
quality) and repeated exposure to marketing stimuli
change the response of consumers (the well-known wear-
out phenomenon is an example of this). However, for most
practical purposes, traditional approaches to the measure-
ment of marketing communications effects tend to treat
one exposure as the equivalent of the next. Such an
assumption is not warranted in the context of interactive
marketing communications. Structuration theory observes
that structure is embedded in any interaction. Hence,
sources of structure must be carefully selected, and their
influence on the effects and effectiveness of marketing
communication must be accounted for. Three sources of
structure—substitution and complementarity, media fea-
tures, and the history of prior interaction—serve to illus-
trate the importance of explicitly incorporating the role of
structure in any measurement model involving interactive
marketing communications.

Substitution and Complementarity

Structuration theory provides an expanded view of the
consumer-marketer interaction that is enriched by the
dynamic nature of substitution and complementarity. Sub-
stitution and complementarity represent structures of
signification that help actors understand the relevant context (through their own interpretation) and shape their interaction and goals. In interactive marketing communications, the online structural context is heavily influenced by whether an activity is a substitute or a complement. As Figure 1 shows, the interaction is essentially different depending on whether the customer and the marketer perceive substitution and complementarity to create or reduce value. This interpretation is influenced by each side’s goals (interpretive schemes); hence, the interaction (communication) depends on perceptions of substitution versus complementarity.

It is also important to note that the interaction itself will have an impact on whether an activity is perceived as a substitute or a complement. For example, Amazon’s marketing communications allow consumers to find used products from Amazon’s customers who already bought the products new and wish to put them up for sale. This interaction influences perceptions as to whether Amazon is a substitute or a complement to traditional booksellers. Structuration theory not only can treat substitution and complementarity as structural features of online marketing communications, but it can also describe how interaction affects perceptions of substitution versus complementarity. For example, receiving product information on a Web site may initially complement a visit to a traditional store but over time may lead a consumer to fully substitute Web visits for physical visits. In turn, the meaning of a particular effectiveness measure may change depending on the structural context interpreted by the perceptions of complementarity and substitution. Consumers may no longer see the very same online interaction as effective when it presumably substitutes physical visits, while it might have been very effective as a complement. This may lead to the perception of online interaction as a complement as opposed to a substitute. In addition, the available substitutes and complements will influence the emergent structure of any interaction that develops.

The question of whether specific activities or structures are substitutes or complements cannot be fully addressed without an understanding of the goals driving interaction. As noted earlier, one reason for the lack of success of many Internet businesses was the ready availability of substitutes with which consumers were already familiar and comfortable. Indeed, it may well be the case that the long-term value of interactive media and the structure of interaction and exchange associated with it have yet to be manifest. Marketers may wish to use interactive media in the service of their own goals, which may not be consistent with consumers’ goals. Thus, initial structures of interaction may not be successful (or effective from either the marketer or consumer perspective). This does not mean that the long-term structure of interaction will be problematic. The structure may evolve over time as new substitutes and complements are introduced and old ones disappear.

The emergent structure will be influenced by the goals of consumers and marketers and any effectiveness measures.

### Media Characteristics

Structuration theory posits that the use of new media is neither deterministic nor strategic; users shape media through interactions over time. Concurrently, the media also shape the interaction by providing the relevant technical structure. Thus, the interactions among marketers and consumers are governed by the capabilities and features of the media that both enable and constrain action (Snyder and Cantor 1998). For example, many interactive Web elements (e.g., Java applets, Flash!) have been promoted to facilitate online interaction. Therefore, interactive consumer-marketer communications cannot be examined adequately without taking into account the structure that the media impose. Following Orlikowski and Iacono (2000), media are adapted and shaped by the consumer-marketer interaction while dynamically influencing the nature of the interaction. In other words, the consumer-marketer interaction has an impact on media features and future media capabilities. Adaptive structuration theory (DeSanctis and Poole 1994) argues that a technology’s structural features shape interaction without influencing the interaction in a definite way. Therefore, when consumer-marketer communications are evaluated, it is important to account for the exact structure that media characteristics impose on the interaction.

### History of Prior Interaction

An especially interesting characteristic of the Internet that differentiates it from other media is sustained interactivity, that is, interactivity not restricted to a single interaction. Structuration theory does not view customer-marketer interactions as a series of isolated events (e.g., spot transactions) but as a flow of interactions that are embedded in the structure in which they occur. The history of the interaction is yet another source of structure that consumers and marketers can invoke to shape future interaction. The process of structural change is constantly being influenced by past transactions, allowing learning to occur (Sarason 2000), which further modifies future interactions. Sustained interaction is purposeful, goal directed, and dynamic; the interaction itself will tend to change over time. The notion of sustained interactivity also highlights the importance of substitution and complementarity. Activities within an interactive context may well be substitutes or complements for other activities; these substitution and complementary effects may also change over time. This means that any given response or measure in an interactive context cannot be fully understood without an explicit recognition of the goals of the actor and the role a particular action plays in goal fulfillment. Structuration
theory calls for longitudinal research that would allow research to capture consumer-marketer interactions over time to understand the recursive interplay between action, structure, and goals and account for the history of past interaction and learning effects.

**STRUCTURATION THEORY AND EFFECTIVENESS OF MARKETING COMMUNICATIONS**

Consumer-marketer relationships are embedded in the process by which actors interact to satisfy their goals. Marketing communications may be viewed as an attempt at coordinated actions by consumers and marketers for fulfilling goals that neither party can accomplish individually. Indeed, a similar view would apply to the emergence of exchange relationships and markets. Despite the interdependence required by interaction, it is rare for both parties to agree on a common set of goals; the more common circumstance occurs when consumers and marketers have dissimilar goals, at least in the beginning. Nevertheless, an interaction system (e.g., a transaction) is put into place to achieve each party’s goals through a particular structure, as shown in Figure 3, which illustrates the process by which a goal can be fulfilled. Therefore, consumer-marketer relationships are the result of mutual interdependence involving coordinated actions designed to satisfy each actor’s goals. It is important to note the reciprocal relationships in respect to goals. The structure of interaction also evolves over time, influencing goals as the interaction reveals the characteristics of the interaction and structure that are useful to the actors. In addition, the interaction itself may produce unanticipated outcomes that fulfill unforeseen goals.

Structuration theory does not assume the structure as given but one that is constantly shaped by continuous interaction. Viewing structure in a dynamic way prevents the marketing researcher from seeking static measures of effectiveness by assuming static structures at equilibrium. Structures are both the medium and the outcome of marketing communications. Since structures influence any effectiveness measure, it is important to understand and measure interaction structures. As consumers and marketers continue to adapt, structural changes may confound any measures of the effectiveness of marketing communications. It is important to clarify that effectiveness measures will continuously change following unanticipated structural changes, other than those adaptation processes that specifically anticipate aligning the structure with the interaction. In sum, it is essential to constantly evaluate measures of the effectiveness of interactive marketing communications that are consistent with the structural context. In addition, it might be necessary to devise new ones that are consistent with the current interaction structure or ones that anticipated changes in the interaction structure can favorably affect over time. For example, *faithfulness of appropriation* (DeSanctis and Poole 1994) describes how close the actual interaction is to the capabilities of a given technology, assuming that these capabilities indeed favor communication.

The nature of consumer interaction with new media changes over time with increased consumer experience and the adaptation and personalization of the customer interface. These insights relate directly to how the performance of interactive media should be measured. For example, measures should be diagnostic, measuring process as well as outcomes. They should assess performance under multiple goals. They should be longitudinal, tracking the ability of interactive systems to adapt to unique customer requirements and levels of product knowledge. In using structuration theory as a framework, we demonstrate that structure is not an artifact that can be studied in isolation from interactive marketing communications. Hence, any meaningful effectiveness measure must be placed within the interaction structure.

Since the fundamental relationship between structure and interaction is mediated by interpretative schemes, goals are essentially linked to this relationship. Therefore, measures of success are essentially reproduced and transformed since goals are contextually embedded in the structure-action context as represented in Figure 3. Goals are fundamental to interpreting the structural context and shape the interaction. Therefore, from a structuration point of view, measures of success are not only the result of marketing communications, but they are also the means of shaping future interactions. Rather than attempting to evaluate marketing communications based on predetermined measures of success (e.g., awareness, persuasion, recognition), structuration theory allows measures of success to coadapt with interaction, structure, meaning, and goals, encouraging the creation of new dynamic measures.

A fundamental premise of structuration theory is that effectiveness arises from a proper alignment (fit) between the interaction structure and the communication system associated with it. Given that it is virtually impossible to achieve a perfect fit between structure and system, misalignments (poor fits) exist. If the communication system is inconsistent with the interaction structure, outcomes will be less predictable and less favorable (DeSanctis and Poole 1994). Alignment is achieved through continuous adaptations of the interaction structure and communication system in response to action. Adaptation may take several forms (Leonard-Barton 1988; Majchrzak et al. 2000); however, it is beyond the scope of this article to describe the adaptation process in marketing communications, but this may be an important avenue for future research. By viewing consumer-marketer interactions as active and constantly changing in the pursuit of goals, structuration theory allows a more comprehensive
analysis of the process by which actors influence measures of communication effects and effectiveness.

The very nature of interaction requires consideration of two very different types of measures of effectiveness. Some measures will focus on outcomes, much like the measures that have long characterized research on traditional advertising. However, not all of the relevant outcomes will be associated with the responses of individual actors and individual behavior. Some outcomes in an interactive context will be associated with the structure of the interaction itself, such as the marketer asking for personal information and providing a template for this information and the consumer completing the template and submitting it to the marketer. The completed template and the information it captures represent a structural outcome of the interaction. In addition, in an interactive context, there is also a need to focus on the characteristics of the interaction itself and the process of interaction. Such measures might include the frequency and type of interaction, the quality of information exchanged during the interaction, perceptions of the interaction and other actors, and similar factors.

APPLYING STRUCCTURATION THEORY IN AN INTERACTIVE CONTEXT

To better illustrate the importance of different types of measures of effectiveness (interaction process and outcome), consider the implications of structuration theory for analysis of interactivity. As structuration theory makes clear, interactivity is both a process and an outcome. Thus, interactivity can be examined both as (a) a structural concept whereby consumers and marketers interact toward achieving effectiveness (as a means to an end) and (b) an emergent aligned structure (as an end to itself).

Interactivity as Means

Interactivity can be examined as a means toward achieving the goals of the participant actors. Measures of the effectiveness of interactive marketing communications that focus on interactivity as a means will examine the degree to which actors' goals are achieved and the degree to which the structure of the interaction is aligned in service of these goals. Interactivity is thus the means to achieve the requisite alignment between structure and interaction through mutual adaptations. Increasing the speed of interaction may be the means for satisfying the objectives of both parties. For instance, self-service check-in at airports is an example whereby speedy interactivity is the means for increasing customer's convenience while reducing costs for marketers.

Interactivity as a Goal

Following the definition of Alba et al. (1997), interactivity also captures the quality of reciprocal communication. Therefore, focusing on the quality of consumer-marketer communications, interactivity may be viewed as a high-quality emergent structure without misalignments. From this perspective, the level of interactivity determines the quality of marketing communications; following structuration theory, interactivity would be the contingency whereby all pertinent structures are properly aligned. For example, smooth and rich communication has been touted as an important outcome in dyadic communications (Barry and Crant 2000), which could generalize to consumer-marketer interactions. However, interactivity could never become a goal exclusively since it is simultaneously a process and an outcome.

Interactivity as a means and as a goal can be illustrated following structuration theory's adaptation point of view during the consumer-marketer interaction's life cycle. In
the early stages of the communication process, interactivity is typically the means for achieving more desired outcomes in the future. For example, interactivity is the means to enhance the consumer’s loyalty or commit the marketer to make adjustments to meet the customer’s needs. However, as the relationship reaches a buildup and maturity stage, interactivity is primarily the goal, which may be smooth communication, high richness of information exchanges, and facilitation of the true goals of both sides. As the meaning and nature of interactivity evolve over time, the interaction structure and goals coevolve. Hence, following Figure 3, different effectiveness measures also coevolve and have different meanings during the relationship life cycle. Hence, loyalty would not make much sense during the relationship maturity because it is considered constantly high. Similarly, interactional richness (Barry and Crant 2000) might not be applicable in the exploration phase when the interaction structure does not yet support such rich communication.

IDENTIFYING MEASURES OF EFFECTIVENESS

While it is beyond the scope of this article to propose specific measures for measuring the effectiveness of interactive marketing communications, we offer a set of broad guidelines for guiding the development of appropriate measures. First, the consumer-marketer interaction itself should be the focal point of measure development. In other words, measures of effectiveness should aim at concurrently capturing value creation for both consumer and marketers, as shown in Figure 1. For instance, particular interaction-related outcomes associated with value-adding interactivity and interaction quality could be the focus of measurement. Second, any measure of the effectiveness of interaction must be placed in a structural context whose meaning is influenced by goals. Hence, measures should clearly indicate how the pertinent structure affects their connotation and at which structural contexts they are likely to be relevant (e.g., the boundaries of their relevance). Similarly, the goal states of both consumers and marketers need to reflect how the structural context is interpreted and whether goals are fulfilled by the interaction. Third, effectiveness measures must reflect the dynamic, longitudinal nature of the adaptation processes that align structure with the interaction. Thus, measures should aim to capture both process and outcome measures of communication effectiveness (Pavlou and Stewart 2000) and their adaptation process (how effectiveness also feeds back to the structure and goals). For example, an effective process measure of success could be one that favorably influences the structural context and indirectly influences an outcome measure. It is important to note that existing measures from several disciplines should be examined to assess whether they could be adapted to fit the requirements for appropriate effectiveness measures. However, it is important to consistently assess the relevance of these measures as the new media become increasingly more interactive and the structural context and goal states change.

Several recent measures can be used as a starting point in devising appropriate effectiveness measures. One potential measure of particular relevance is interactional richness, a dyad-level construct proposed by Barry and Crant (2000) that assesses the extent to which the dyadic communication between consumers and marketers is high in shared meaning. Following Barry and Crant (p. 651), the construct is defined as the extent to which communication within an interacting dyad at a given point in time is efficient (high in symbolic content), coordinated (characterized by synchronous interaction), and accurate (the symbolic meaning is shared and appropriately represented). According to Burgoon et al. (2000), interactivity may be described by the structural properties that are present in a given communication format. These authors proposed several structural features of interactivity such as participation, mediation, and contingency, but they focused on three particularly salient factors: (a) interaction involvement (the degree to which actors perceive they are cognitively, affectively, and behaviorally engaged in the interaction), (b) mutuality (the extent to which actors perceive and create a sense of relational connection, interdependence, coordination, and understanding with one another), and (c) individuation (the extent to which actors perceive they have a rich, detailed impression of the other’s identity and personalizing information). Moreover, the performance of interactive communications could potentially be measured in terms of the ability of buyers and sellers to achieve their goals in a complex and dynamic environment. Other potential measures could include the effort required for interaction, satisfaction with the interaction, and willingness to interact. Various measures that have been proposed in the context of relationship building in other contexts may also be applicable to media-facilitated relationship building. For example, measures of responsiveness, reliability, empathy, assurance, and trust may be especially relevant in this context (Ganesan 1994). Note that measuring the value of interactive communications may be similar to the evaluation of service quality. In both cases, consumers enter the experience with goals that can shape the nature of the exchange.

SUMMARY AND CONCLUSIONS

The advent of interactive media requires a reconceptualization of marketing communications that recognizes interaction as the unit of analysis. It also produces a circumstance in which individual measures of
communication effects and effectiveness have meaning only within the context of the history of interaction among actors, the structure of that interaction, and the actors' goals for engaging in the interaction. Specific measures of outcomes or processes may have quite different meanings depending on the structural context in which they are embedded. Structuration theory provides a powerful lens for viewing the dynamic process of marketer-consumer interaction and its structural characteristics. It is especially relevant to interactive communications such as those facilitated by the Internet, but it can be applied to any form of interactive marketing communications. The implications of this approach for theory, research, and practice in marketing are profound.

Implications for Theory

A variety of measures of the effectiveness of marketing communications (e.g., click-through rates) would seem to suggest that the Internet is inferior to traditional advertising media. However, such measures may not so much evaluate the effectiveness of interactive media but simply describe how consumers use the medium. Interactive media enable better monitoring of consumer behavior, which was difficult or impossible to quantify with traditional media. By precisely tracking consumer behavior, interactive media may provide a better representation of how consumers react to marketing communications. The contextual richness of interactive media may provide information about consumers' use of media that may be useful for understanding the effects and effectiveness of traditional media when context is more difficult to identify. For example, consumer goals and the structural context in which communications has its effects have been critical determinants of advertising effectiveness, but they have been regarded as "noise" because of the inability to accurately capture them with traditional media.

Any theory of the effects and effectiveness of interactive communication requires the identification of the goals that give rise to the interaction among consumers and marketers. Rather than focus on how marketing communication influences the consumer, there is a need to develop richer theoretical insights related to the ways in which goals influence consumers' search for information, decision making, and development of behavioral patterns and interactive sequences. Measures of the effects and effectiveness may only be understood when placed in the context of such goals, and the meaning of individual measures may be very different depending on the goals that drive the context in these measures that are obtained. Goals are not static, however. They may evolve over time and may be influenced by the character of the interaction, just as they influence the interaction in the first instance.

Similarly, any theory of the effects of interactive communication requires analysis of the structure of the interaction and the way(s) in which this structure develops and changes over time. In addition to the traditional focus on the responses and behavior of individual actors, there is a need to focus on the character and nature of the structure itself. A focus on the structures of interaction also raises the question of whether alternative structures of interaction exist that might produce similar outcomes. This means that seemingly different structures may share common drivers. An understanding of the portfolio of substitutes and complements available to the actors in any particular interaction will be an important element for explaining any particular interaction and any particular structure of interaction or sequence of behaviors. Interaction may also produce new, unanticipated goals that may drive the behavior of actors and change the structure of interaction over time. When placed in an appropriate goal-directed structure, actions and outcomes become a part of a larger process that may include a variety of existing and potential substitutes and complements.

Implications for Research

Interactive media offer a rich domain for future research. Not only are there opportunities to develop new measures, but there is also a need to redefine the meaning of well-established measures in the context of the interactive structures that arise in the context of goal-driven interactivity. In addition to new measures of individual response, there is also a need for greater focus on developing measures of interaction and the structure that evolves from interaction. There is a need for measuring the adapted structures over time (in contrast to static structures), including identification of substitutes and complements associated with actors' goals. These measures must be related to such economic outcomes as the price consumers are willing to pay and the sales and revenue that marketers are able to generate.

The Internet provides an especially inviting domain for examining the structure of interaction, offering a means for capturing and archiving streams of behavior. In addition, the Internet itself and the associated hardware and software provide marketers and consumers with the means to create and re-create useful structural characteristics of interaction. On the other hand, it is important that researchers not fall into the trap of analyzing the readily available but incomplete data that are archived in Web-facilitated interactions. There is a need to go beyond such data to gain insight into the underlying goals of actors and understand the relationship of particular activities and structural features in response to these goals.

It is also especially important to recognize that current research on the behavior and interaction in an Internet context may not generalize to the future. Part of what is currently observed in the behavior of marketers and consumers is a response to the transient structural features of new
technology. Over time, interaction tends to become structured, and norms develop to govern the interaction. It will be especially important for researchers to separate research findings that are driven by response to the adoption of new media from the genuine and independent effects of the Internet’s characteristics and the unique dimensions of interaction that it may facilitate. Structuration theory is well suited for guiding research on the structural features of new technology, the norms and institutional rules that develop (legitimation), and the relative power of consumers and marketers (domination). The most important step toward adequately measuring effectiveness is to appreciate the dynamic nature of the new media and devise measures of success that account for the unique nature of interactive marketing communications and the context in which they occur.

Implications for Practice

While there is potentially much value in interactivity, it is important to recognize that interaction is not, in and of itself, of value to consumers or marketers. The critical issue is whether the interaction serves the actors’ goals. Indeed, in commenting on interactive shopping, Alba et al. (1997) observed that an “irony of HIS [home interactive shopping] could be that the technology that enables consumers to make more intelligent comparisons in some cases can induce manufacturers to take actions intended to produce an opposite outcome in other cases” (p. 50). In some cases, interactivity can create value by engendering trust, producing better understanding and rapport among consumers and marketers, and facilitating better decision making by both consumers and marketers. Indeed, an especially important benefit of interactivity is the potential for the design of better products. Paustian (2001) has argued that by taking advantage of interactivity, companies may help product development teams obtain customer evaluations of new-product concepts and prototypes quickly, accurately, and economically. This assumes, of course, that consumers are prepared to assist in such efforts and that the structure of such interactions provides benefits for all parties involved in the interaction. Consumers might well pay a premium for a product that is customized to their unique needs. They may not, however, be willing to also pay a premium for participating in the interaction that produces such a product.

Although much attention has focused on the potential value of interactivity for marketers and consumers, it is important to recognize that interactivity, or at least certain types of interactivity, may destroy value in the context of certain goals. Interactivity may be distracting, generate overwhelming amounts of information, and promote excessive (harmful) consensus. Speed of response may have benefits, but it may also promote impulsive and insufficiently informed action. One dimension of interactivity may be particularly threatening to consumers, the potential loss of privacy. Interactivity often takes the form of marketers collecting, compiling, and using information about consumers. This is a price consumers may pay for the benefits they receive, and it is often assumed that such information is the property of the marketer. However, this may not be a characteristic of the structure of interaction that lasts. A world in which the consumer decides what information to share, how that information can be used, and what price the marketer pays to obtain such information might produce a very different structure of interaction than exists today. The measures of effectiveness of marketing communications would likely be very different in such a world.

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