Online interaction readiness: conceptualisation and measurement

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Abstract Relationship marketing suggests a need to better understand and more actively involve consumers in the marketing process. This is especially the case with the Internet channel, because of its unique capability for two-way communication compared with traditional mass media. Existing research, however, has paid limited attention to consumers' general tendency to engage in online interaction. This paper brings together critical thinking in relationship marketing, Internet marketing, and communication to propose a new construct, online interaction readiness, that captures a consumer's willingness to engage in reciprocal actions through the Internet. Following recommended scale development procedures, a 10-item scale measuring interaction readiness (IRSCALE) is developed. Evidence regarding the dimensionality, validity, and reliability of the IRSCALE is provided. The relevance of interaction readiness to business strategy is illustrated through its impact on consumers' online shopping behaviour and communication channel preferences.

Keywords Interaction readiness, Internet marketing, Marketing communication, Multi-channel marketing, Scale development

INTRODUCTION

Traditional marketing has focused mostly on exerting an influence *on* consumers, such as persuading them through advertising or inducing them to buy a product through sales promotion. Relationship marketing, however, provokes new views of consumers as co-producers in marketing activities (Vargo and Lusch 2004). Consumers are no longer merely passive recipients. They now actively participate in the presentation of

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marketing messages and offer constructive responses about their experiences, needs, and preferences. Instead of trying to persuade consumers, marketers are advised to focus on communicating *with* consumers, through informing, answering, and listening (Duncan and Moriaty 1998). This ability to foster communication with consumers is considered key to developing and maintaining customer relationships (Duncan and Moriaty 1998; Stern 1997).

Among the channels that firms can use to interact with consumers, the Internet is a very attractive medium because of its flexibility, immediacy, and most importantly, its cost saving potential (Peterson et al. 1997; Sawhney et al. 2005). While firms are eager to reach consumers through this channel, interacting with customers through the Internet will not be effective unless consumers are ready and willing for such interactions (Zettelmeyer 2000). When communication is imposed upon consumers without regard to their preferences, it not only creates negative attitudes toward the business but also hampers consumers' interest in online communication in general (Gaudin 2003).

Correspondingly, researchers have called for a better understanding of consumers' online communication preferences (Stewart and Pavlou 2002). Specifically, Stewart and Pavlou (2002) argue that *"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"* (p. 385). Existing research, however, has studied mostly the latter and has paid very limited attention to how consumers' general attitude toward interactive media may play a separate role in online interaction. Addressing this gap in the literature, the current research conceptualises the construct of online interaction readiness and develops a scale (IRSCALE) to measure the construct. In doing so, it brings together critical thinking and recent developments in communication, relationship marketing, and Internet marketing, and offers a systematic venue through which we can examine consumers' online interaction tendencies and what may foster or impede such tendencies.

LITERATURE REVIEW

The changing role and nature of marketing communication

In their communication-based model of relationship marketing, Duncan and Moriaty (1998) argue that the essence of communication with consumers is a two-way exchange that is built on balance, symmetry, and reciprocity. This means that consumer cooperation is necessary for a true dialogue to be carried out, and consumer feedback needs to be incorporated as a key component in the marketing process. Through such two-way interactive exchanges, information is shared among various stakeholders, including consumers, and a common understanding is established between firms and their customers. Duncan and Moriaty (1998) state that such consistent, interactive communication among stakeholders is central to building brand relationships and delivering value. More recently, Gummesson (2004) makes a similar observation that interaction should be the third essential business activity besides the traditional production and consumption activities.

Not only is interaction a more important component of marketing, its nature has changed as well (see Table 1). Unlike traditional marketing, which often focuses on communication in isolated episodes, now interaction is considered a continuous process (Stewart and Pavlou 2002). With the help of new information technology

such as the Internet, firms and consumers now communicate constantly and instantaneously on a broad range of issues. Communication shifts from one-way to a two-way process, and consumers are brought to the forefront as they gain more control over the process (Hoffman and Novak 1996; Stewart and Pavlou 2002). As a result, consumers' idiosyncratic needs and preferences are likely to have a bigger impact on the processes and outcomes of marketing communication. This development is reflected in findings from the relationship marketing literature showing that consumers differ in how much they would like to engage in relational behaviour with firms and that such differences can affect customer relationship quality and buyer behaviour (Oderkerken-Schoder, De Wulf and Schumacher 2003; Sheth and Parvatiyar 1995). Overall, the new role and nature of communication in marketing calls for a better understanding of the interaction process, especially the critical role consumers play in this process.

Interactivity research

This paper focuses specifically on customer interaction through the Internet channel, which has become a critical component of firms' marketing strategies (Varadarajan and Yadav 2002). Different from traditional mass media, the Internet offers the potential for instantaneous and two-way flow of information (Hoffman and Novak 1996; Yadav and Varadarajan 2005). This interactive nature of the medium is often captured in the interactivity construct and has been the focus of much academic research in recent years (Ko et al. 2005). Although embraced with much enthusiasm by firms and researchers, interactivity has not found consistent support in empirical research (Yadav and Varadarajan 2005). While some studies find positive impact of interactivity on consumer perceptions and attitudes (e.g., Ko et al. 2005; Sicilia et al. 2005), others find no and sometimes even negative effects of interactivity (e.g., Bezjian-Avery et al. 1998; Ariely 2000).

TABLE 1 Communication in traditional marketing versus relationship marketing

	Traditional Marketing Communication	Communication in Relationship Marketing
Role in Marketing	One of the elements in the marketing mix	A central role and the foundation of relationship marketing
Direction	One-way	Two-way
Timing	Isolated single episodes	Continuous interaction
Goals	Persuasion-oriented	Full spectrum of communication goals, such as informing, persuasion, listening, etc.
Role of the Consumer	Passive recipient who reacts to marketing messages	Active participant who exert proactive control over the communication process
View of Information	Information delivery at the sender's end and information processing at the receiver's end	Information sharing

These conflicting findings point to two problems with existing research. First, earlier interactivity studies have paid little attention to individual idiosyncrasies. By nature, an interactive encounter is one that incorporates input from all communication parties (Alba et al. 1997; Rafaeli and Sudweeks 1997). Many studies, however, attempt to manipulate structural features of the communication environment or message without considering individual consumers' preferences. Interestingly, these studies of interactivity as an objective attribute often fail to prove it to be beneficial (Liu and Shrum 2002), suggesting a need to incorporate consumer preferences into interactivity research. Second, a logical prerequisite for the occurrence and eventual success of online communication is that consumers are ready and willing to adopt the Internet for interaction purposes (Stewart and Pavlou 2002). By studying specific features of the Internet such as interactivity, existing research presumes consumers' ready adoption of the Internet as a communication channel. However, such an assumption is questionable in view of industry statistics showing that as many as 49% of consumers are only marginal users of Internet-related technology (Horrigan 2007) and that many consumers exhibit avoidance behaviour when it comes to certain online communication tools such as email and online shopping (Fallows 2003; Gaudin 2003; Pastore 2001). The lack of considering general adoption of the online medium for interaction purposes can confound the effects of actual interaction processes (Stewart and Pavlou 2002) and may have contributed to the contradictory findings in the interactivity literature.

Communication avoidance

To address these gaps in the literature and to better understand consumers' reaction to the interactive nature of online media, the current research draws from theories and research in the fields of communication and psychology and in particular builds upon the literature on communication avoidance (McCrosky 1984a). For more than 50 years, the general phenomenon of communication avoidance has been studied under different concepts such as unwillingness-to-communicate (Burgoon 1976), communication apprehension (McCroskey 1984a), and reticence (Phillips 1984). Although each of these constructs has its unique meaning, the central idea is that individuals differ in how much they prefer to engage in social interactions. When presented with the same social situation, some individuals may choose to approach the situation whereas others may want to avoid it. Aside from situational factors, such variations in individual choice have been found to reflect dispositional differences among individuals that persist over time and across a wide variety of contexts (McCroskey 1984a). An individual with high communication avoidance is more likely to withdraw from any situation that involves interaction with others, and is less likely to disclose information about him or herself (McCroskey and Richmond 1977). Internally, the individual is likely to feel self-conscious and apprehensive during social interactions.

Measurement of communication avoidance normally takes one of three approaches: physiological measures, behavioural observation, and self-report (McCroskey 1984b). The physiological approach monitors individuals' physiological reactions to social interactions. The basic notion is that individuals with high communication avoidance often experience anxiety during a social interaction, resulting in physiological arousal (Horwitz 2002). While the physiological approach is the most objective way of measuring communication avoidance, it is difficult to tease out other confounding physical and psychological factors and to determine the exact physiological responses

that can be specifically related to communication avoidance reactions (Beatty 1984). Built on similar premises, another approach to measuring communication avoidance is through observing an individual's behaviour during social interactions. Similar to the physiological approach, behavioural observation is subject to difficulties in choosing the criterion behaviour that can be directly attributed to communication avoidance. Furthermore, certain communication avoidance responses may not be manifested explicitly in behaviour (McCroskey 1984b). This issue is resolved through the third approach - individual self-report. Major measures of communication avoidance include the personal report of communication apprehension (McCroskey 1970) and the unwillingness-to-communicate scale (Burgoon 1976).

CONCEPTUALISATION OF ONLINE INTERACTION READINESS

Online versus face-to-face communication

The communication avoidance literature reviewed above is developed mainly for face-to-face interaction. Although it is applicable to the Internet, online interaction is different from traditional social interaction in important ways that warrant its separate consideration. One of the most important differences is the virtual nature of the online environment. On one hand, this may bring less pressure than traditional face-to-face interaction. On the other hand, it brings new issues such as lack of trust and concerns about privacy (Grewal et al. 2003; Koehn 2003; Parasuraman and Zinkhan 2002). Another major difference is the special role technology plays in online interaction that is absent in face-to-face communication. It facilitates communication but also imposes new skill requirements. The imperfection in technology may worsen concerns about security and privacy breaches. These differences between online and face-to-face communication make it necessary to consider consumers' propensity for online interaction separately from the traditional communication avoidance literature.

The online interaction readiness construct

Building on communication and psychology literature, this research proposes a new construct – online interaction readiness – that captures differences in consumers' online interaction preferences. Formally defined, it refers to a consumer's willingness to engage in reciprocal actions in an online environment. It is not about the adoption of the Internet *per se* but rather the use of the Internet in interactive settings. Interaction readiness is a global trait that underlies a consumer's choices and behaviour across various online interaction scenarios. Although the process and outcome of a particular interaction depend on the other party involved (such as trust in the other party), online interaction readiness can differentiate between two consumers' potential responses when faced with the same situation and their likelihood to engage in interactive activities through the Internet, such as virtual communities and online customer service.

Manifested in actual behaviour, a high level of interaction readiness means that the Internet plays an important role in consumers' daily routine and may even replace other communication channels (such as telephone) in their frequency of use and significance. These consumers enjoy a wide range of interactive activities on the Internet and are more comfortable engaging in relational behaviour online. When someone initiates interaction with them on the Internet, these consumers are more

likely to reciprocate and allow the interaction to take place. Consumers with low levels of interaction readiness, in contrast, exhibit an overall resistance toward online communication. The Internet plays no role or a marginal role in their communication routine. Although it may be used fairly regularly by these consumers, the Internet functions more as a one-way information source than as an interactive medium.

Online interaction readiness is considered a secondary disposition that defines specifically a consumer's interaction tendencies in the online arena. While it is derived from primary dispositional characteristics such as unwillingness-to-communicate, it focuses more narrowly on the Internet medium and is accessed by the consumer when an interaction takes place on the Internet or when situations arise where the Internet is a potential media choice in the consideration set.

Interaction readiness and related concepts

In defining interaction readiness, it is important to distinguish it from two closely related concepts that have appeared in the literature –interactivity and technology readiness. As discussed earlier, interactivity is a defining characteristic of the online medium (Hoffman and Novak 1996; Stewart and Pavlou 2002). It has been used to describe both the nature of a specific interaction process (e.g., Rafaeli and Sudweeks 1997) and the capability for interaction through a communication medium or environment (e.g., Jensen 1998; Steuer 1992). Whereas interactivity refers to the characteristic of a medium or an interaction process, interaction readiness reveals the characteristic of an individual. It describes an individual's general tendency toward online interaction and predicts the individual's likely reaction to environments of various levels of interactivity. While interactivity consists of multiple dimensions such as active control (Liu and Shrum 2002; McMillan and Hwang 2002), interaction readiness is most closely related to the two-way communication aspect of interactivity. It focuses on a consumer's willingness to respond and reciprocate in a two-way dialogue.

The other related construct, technology readiness, refers to *"people's propensity to embrace and use new technologies for accomplishing goals in home life and at work"* (Parasuraman 2000, p. 308). While technology readiness covers all types of new technologies, online interaction readiness has a narrower focus in that it relates specifically to the interactive nature of Internet technology. Given the technological nature of this medium, individuals' adoption of the Internet should reflect their technology readiness. Indeed, results from a national survey suggest that people who have Internet service at home are more technology ready than people who do not (Parasuraman 2000). However, high levels of technology readiness will not always predict high interaction readiness. Consumers with high technology readiness can readily adopt the Internet as an information source, but may hold back when two-way communication is involved. As a result, the Internet is not utilised to its full capability, and it functions not much differently from other one-way communication media such as the television or newspaper. Under such circumstances, the ability for firms to build more personal relationships with these consumers via the Internet tends to be more limited. Through its more refined focus, interaction readiness can help identify such consumers and guide firms' customer relationship management strategies.

SCALE DEVELOPMENT

Item generation, selection, and content validity

Based on the conceptualisation of interaction readiness, this section reports the development of a measurement scale to operationalise the construct. Following the scale development procedures recommended by Churchill (1979) and by Netemeyer et al. (2003), the initial item pool for the interaction readiness scale (IRSCALE) was developed based on past literature and on semi-structured interviews with a convenience sample of 26 Internet users. A total of 87 initial items were developed. Expert feedback was then sought from colleagues and practitioners familiar with Internet marketing. They were given a written definition of interaction readiness and were asked to rate each item on how well it represents the conceptualisation of the construct (Netemeyer et al. 2003). Twenty-four items that did not receive consistent high ratings from the experts were eliminated from the item pool. The remaining 63 items were organised into a questionnaire using 7-point bipolar scales anchored at strongly disagree and strongly agree. This questionnaire was administered to a separate convenience sample of 34 consumers. After these consumers filled out the questionnaire, they were asked to indicate any difficulties or ambiguities they experienced with the scale. The item wordings were then revised based on the feedback.

Item purification and dimensionality

Study 1 sample

Two studies were conducted to purify the items and to test the validity and reliability of the scale. In study 1, a survey was administered to 198 undergraduate business students who participated in exchange of course credits. The survey questionnaire included the revised IRSCALE items and a few other measures. The age of the respondents ranged from 19 to 48 with the median age being 22. 49% of the respondents were females, and 51% were males. Their Internet experience ranged from less than a year to 15 years. The respondents spent an average of 11.78 hours online each week.

Study 2 sample

In study 2, a regular mail survey of 1000 Internet users in the mid-Atlantic region of the United States was conducted. The survey questionnaire contained the IRSCALE and several other measures that will be detailed later. The consumers' information was obtained from the Internet user database of a commercial mailing list company. Three waves of mailing were used, starting with a pre-notification letter, followed by the questionnaire with a cover letter, and finally a reminder postcard (Dillman 2000). The consumers were also given the option to answer the survey through a website instead of returning the questionnaire. Of 973 deliverable surveys, 346 questionnaires were returned and 23 additional responses were received through the Internet, yielding a response rate of 38%. Follow-up phone calls were made randomly to consumers who did not respond to the survey to check for response bias. No significant difference was found between the consumers who responded to the survey and this latter group. Seven returned questionnaires had most questions blank and thus were not included in the data analysis. The final sample size was 362. The respondents' ages ranged from 18 to 83, with a median age of 47, which is older

than the general Internet population. The average time spent online was 9.83 hours per week.

Factor and item analyses

Following the recommendations by Netemeyer et al. (2003), a principal component factor analysis with an oblique rotation method (direct oblimin) was first conducted on the items for both samples. Kaiser-Meyer-Olkin test of sampling adequacy and Bartlett test of sphericity suggest that factor analysis was appropriate for the data. Across the two samples, an item was deleted if: (1) its factor loading is below .40 (Netemeyer et al. 2003); (2) its corrected item-to-total correlation is below .35; and (3) its average interitem correlation is below .20 (Bearden et al. 2001). This resulted in ten final items.

A two-factor structure was identified that accounted for 58.13% of the variance for study 1 and 52.54% for study 2. The factor loadings are displayed in Table 2. The first dimension consists of four items that measure a consumer's willingness to initiate and build relationships online (labelled "online relationship"). The Cronbach's Alpha for this dimension was 0.79 for study 1 and 0.82 for study 2. The second dimension has six items, all related to the extent to which the Internet is used for interaction/communication purposes (labelled "Internet role"). The Cronbach's Alpha for this dimension was 0.81 in study 1 and 0.70 in study 2.

TABLE 2 IRSCALE items and factor loadings

Dimensions and Items	Study 1 Factor Loadings	Study 2 Factor Loadings
Online relationship		
I feel comfortable creating friendship online	.93	.83
I am open to meeting new people on the Internet	.92	.80
I have never really used the Internet for social activities outside of keeping in touch with friends and family via email*	.53	.73
If given the time and opportunity, I would have mingled on the Internet more	.53	.70
Internet role		
The idea of online instant messaging is really attractive to me	.74	.67
I enjoy interacting with others online via email, chatting, etc.	.73	.76
I use the Internet mostly for social reasons such as emailing friends and families and participating in online discussions	.69	.57
For me, the Internet is more like an information source than a communication tool*	.68	.50
I actively participate in online interaction activities such as email, chatting, and group discussion	.65	.58
I depend on the Internet for most of my day-to-day interaction	.55	.52

*These items were reverse coded.

VALIDITY OF THE IRSCALE

Convergent validity

According to the definition of interaction readiness and the Theory of Planned Behaviour (Ajzen 1991), if consumers have the ready intention to interact online (e.g., high interaction readiness), they will be more likely to engage in interactive behaviour such as participating in online communities. Following this rationale, to establish convergent validity of the IRSCALE, study 1 respondents were asked to indicate whether they participate in several typical online interactive activities, including (1) email; (2) online shopping; (3) online communities; and (4) online chat and discussion. Together, these items measure the behavioural manifestations of interaction readiness, and a significant correlation between this and the IRSCALE would indicate convergent validity of the scale (Netemeyer et al. 2003). As shown in Table 3, the summed scores of these items correlated significantly with both dimensions of the IRSCALE ($r = .39$ for online relationship and .47 for Internet role; $p < .001$ for both dimensions).

Discriminant validity

Discriminant validity of the IRSCALE was assessed through confirmatory factor analysis. Two models were estimated using LISREL8, one with the proposed two-factor structure and the other a one-factor model in which all ten IRSCALE items loaded on a single latent construct. According to Anderson and Gerbing (1988), if the two components of interaction readiness are indeed separate dimensions, the constrained two-factor model should produce a significantly improved chi-square than the less constrained one-factor model. Table 4 displays the model fit from the confirmatory factor analysis. For both studies, the two-factor model showed a good fit to the data and outperformed the one-factor model, suggesting the discriminant validity of the IRSCALE.

Another test of discriminant validity is suggested by Fornell and Larcker (1981), which involves comparing the average variance extracted (AVE) for each factor with the shared variance between the factors. Discriminant validity is established when the former variance component exceeds the latter. This was the case with the current data. The AVE for the online relationship dimension was 0.79 in study 1 and 0.83 in study 2, and the AVE for the Internet role dimension was 0.72 in study 1 and 0.70 in study 2. The shared variance between the two dimensions, in contrast, was 0.61 and

TABLE 3 Correlations between interaction readiness and other variables

	Online relationship	Internet purpose
Behavioural measure of interaction readiness	.39[a]	.47[a]
Perceived value	.29[a]	.48[a]
Online shopping frequency	.12[b]	.17[a]
Highest amount spent online	.15[a]	.12[b]
Preference of the Internet as sending channel	.17[a]	.13[b]
Preference of the Internet as receiving channel	.14[a]	.15[a]

[a] Statistically significant at the .01 level.
[b] Statistically significant at the .05 level.

0.64 for study 1 and study 2 respectively, both lower than the AVEs for the individual dimensions.

Known-group validity

Given the higher Internet penetration rate among college students and the significant role of the medium in their daily life (Jones and Maiden 2002), college students are likely to be more interaction ready than an average consumer. This was confirmed with the two study samples. Table 5 shows the average interaction readiness scores for the two studies and results from paired comparison tests. As expected, the adult consumer sample in study 2 reported significantly lower average scores than the student sample in study 1 on both dimensions of interaction readiness.

Nomological validity

Nomological validity of the IRSCALE was assessed through the relationship between interaction readiness and perceived value of online interaction. According to the technology acceptance model, perceived usefulness is one of the most important predictors of people's intention to use a new information technology (Davis 1989; Davis et al. 1989). This ability of perceived usefulness to predict individuals' attitude and usage intention toward information technology has been confirmed in a variety of contexts, including consumers' adoption of online shopping tools and consumers' intention to shop at an online store (Gentry and Calantone 2002; Koufaris, 2002).

Within the arena of dyadic communication and relationships, value perception is also considered a key contributor to the decision to engage in interactive relationship-oriented behaviour. Sheth and Parvatiyar (1995), for example, propose that consumers are more prone to engage in relational market behaviour if it brings values such as

TABLE 4 IRSCALE confirmatory factor analysis model fit

	Study 1	Study 2
χ^2	109.10	58.53
d.f.	34	34
RMSEA	.08	.06
CFI	.91	.98
NNFI	.91	.98
χ^2 *of one-factor model*	250.71	159.49
χ^2 *difference*	141.61[a]	100.96[a]

[a] Statistically significant at the .01 level.

TABLE 5 Average interaction readiness scores for study 1 and study 2

	Study 1 (Students)	Study 2 (Adult consumers)
Online relationship	3.49[a]	2.35[a]
Internet Purpose	3.93[a]	3.30[a]

Note: The numbers with the same superscripts in the same row are significantly different from each other at the significant level of .01.

efficiency and risk reduction. In an online environment, Ko et al. (2005) find that consumers' needs for convenience and social interaction and the perceived ability of the Internet to fulfil such needs have a positive impact on consumers' interaction intentions. Overall, existing theories and research point to a positive impact of perceived value on interaction readiness. Reciprocally, a higher level of interaction readiness can enhance a consumer's perception of value in online interaction, as the consumer is likely to utilise the interactive capability of the Internet more extensively.

Based on the positive relationship between interaction readiness and perceived value, nomological validity of the IRSCALE would be demonstrated by significant positive correlations between perceived value and the two dimensions of interaction readiness. Since no existing scale is available for measuring perceived value of online interaction, a five-item perceived value measure (see Appendix) was developed based on Parasuraman and Grewal's (2000) customer value framework and on the qualitative interviews discussed earlier. This perceived value measure was included in the study 2 questionnaire, and the Cronbach's α for the scale was 0.88. As shown in Table 3, significant positive correlations were found between perceived value and the two dimensions of interaction readiness ($r = .30$ for online relationship and .49 for Internet role; $p < .001$ for both dimensions), suggesting the nomological validity of the IRSCALE.

Economic relevance of interaction readiness

To demonstrate the economic relevance of interaction readiness, this section examines the relationship between its two dimensions and two important strategic considerations: (1) a consumer's extent of participation in online shopping and (2) a consumer's marketing communication channel preference. Questions related to these were included in study 2 and will be detailed below.

Extent of participation in online shopping

Transaction is one of the most fundamental forms of firm-consumer interaction. In recent years, the Internet has emerged as an important retail channel. For a firm that sells online or is planning to do so, it is useful to know how much its existing and potential customers shop online (Kumar and Venkatesan 2005). This can affect the decision of how to manage the role of the Internet in the firm's overall channel strategy. Since online shopping is a rather involved form of interaction, it takes a consumer who has a relatively high level of interaction readiness to be willing to shop online extensively. In study 2, consumers' extent of participation in online shopping was captured by two variables: frequency of online shopping and the highest amount spent in a single purchase. As shown in Table 3, the correlations between both of these variables and the two dimensions of interaction readiness are positive and significant, suggesting the important role of interaction readiness in consumers' online shopping decisions and behaviour.

Marketing communication channel preference

Besides actual transactions, firms also interact with consumers before a transaction is made (e.g., informing consumers of new products) and after a transaction has been made (e.g., post-sale customer service). The main channels that allow such interactions at an individual consumer level are direct mail, telephone, and the Internet, and managers have to constantly decide which one is the most appropriate to use. In

study 2, respondents were presented with two items asking them to rank order these three channels as their most preferred way of contacting a firm (i.e., sending channel) and of receiving offers and contacts from a firm (i.e., receiving channel). The underlying premise is that firm-consumer interaction through a consumer's most preferred communication channel is most likely to actually involve the consumer and to lead to effective communication outcomes (Stewart and Pavlou 2002).

As consumers with high interaction readiness are more willing to engage in interactive activities on the Internet and to incorporate the Internet more fully into their daily communication routine, it is expected that these consumers will be more likely to prefer the Internet as the channel for communicating with firms. Among all study 2 respondents, 23% chose the Internet as their most preferred sending channel, and 39% chose it as the most preferred receiving channel. Interestingly, the two rankings only correlated moderately (Spearman's *rho* = .35, *p* < .001), indicating contextual effects on channel preference. As shown in Table 3, both components of interaction readiness significantly correlated with consumers' sending and receiving channel preferences, with higher interaction readiness leading to a higher preference for the Internet as a marketing communication channel.

DISCUSSION

Summary and managerial implications

Due to its capability for immediate and cost-effective interaction, the Internet is a very attractive customer-contact channel and can play a critical role in firms' multi-channel marketing strategies (Peterson et al. 1997). To understand the effectiveness of marketing through this channel, it is necessary to distinguish between the effects of the adoption of the medium and those stemming from actual usage of the medium once it is adopted (Stewart and Pavlou 2002). Existing research, however, has paid little attention to the former factor. Drawing from communication and psychology theories, the current research addresses this gap in the literature by proposing a new construct called online interaction readiness that captures consumers' general online interaction tendencies. The empirical portion of this paper develops a scale (IRSCALE) to measure the construct. Two sub-components of interaction readiness are discovered: a consumer's willingness to initiate and develop relationships online (online relationship) and the degree to which the Internet is used for interaction/communication purposes (Internet role). Evidence regarding the validity and reliability of the IRSCALE is provided.

The interaction readiness concept and the IRSCALE developed here contribute to the literature by identifying specifically consumers' tendency to engage in interactive activities online and at the same time taking into consideration individual disposition toward social interaction. Although existing studies have considered broader measures of consumer attitude toward the Internet (Porter and Donthu 2006), toward online shopping (Chow and Angie 2006), and toward web advertising (Burnett 2006), none of these measures sufficiently reflect and capture the interactive nature of the online media. Thus, while these measures are effective in distinguishing between the Internet and other traditional mass media (e.g., print media) or channel (e.g., traditional retail stores), a positive attitude as reflected by these measures does not necessarily dictate a higher receptivity toward interactive marketing tactics online. For example, a generally positive attitude toward the Internet does not always mean

that the consumer is willing to engage in two-way online dialogues with a firm or to engage in activities such as virtual communities. To the author's best knowledge, the IRSCALE is the first attempt at quantifying consumers' idiosyncratic differences related to the interactive aspect of the Internet. By combining the interpersonal communication literature with online research, interaction readiness offers a more accurate tool for studying the effectiveness of interactive marketing mechanisms and the reasons why certain interactions may not produce desired outcomes. Such an understanding is very important given the multipurpose nature of Internet use (Ko, Cho and Roberts 2005; Schiffman, Sherman and Long 2003) and the increasingly important role of interactive mechanisms (e.g., virtual brand communities and real-time chat support service) in firms' marketing strategies.

Strategically, an understanding of interaction readiness can help determine the appropriate communication strategies within the online channel (Zettelmeyer 2000). The empirical findings show that a more interaction-ready consumer shops online more frequently, is willing to buy bigger-ticket items online, and is more likely to prefer the Internet as the channel for communicating with firms. These results demonstrate the strategic relevance of the construct. Conceptually, interaction readiness implies a need to consider consumer preferences when designing a firm's online marketing strategy. As Stewart (2002) pointed out, *"the locus of interactivity exists in the decisions of actors who choose to interact when it serves their purpose(s)"* (p.380). Given the current finding that consumers with varying levels of interaction readiness participate in online activities differently, the same communication environment can potentially create different outcomes for different consumers. Consequently, managers should be mindful of their customers' interaction readiness levels. While features such as customer support through real-time chat can be appealing to consumers with high interaction readiness, these elements offer limited value and may even be annoying to consumers with low interaction readiness. For these consumers, any forced online interaction, such as unwanted emails or solicitation of consumer information, may generate especially negative responses. As a firm tends to have a mixture of consumers with both high and low levels of interaction readiness, it may be necessary to vary the interactivity level of the firm's online marketing based on individual consumer response and create an adaptable environment that is suitable for each consumer's needs.

Future research directions

This paper represents an initial step toward understanding consumers' online interaction preferences. With the IRSCALE developed, future research should examine the antecedents and consequences of interaction readiness. As a secondary disposition, interaction readiness is likely to be affected by more primary traits such as communication avoidance and general relationship proneness (Odekerken-Schröder et al. 2003). The communication avoidance literature reviewed earlier also suggests that interaction readiness may be a learned cognitive response to initial perceptions of online interaction as well as accumulated experiences over time (Horwitz 2002). The technical nature of the Internet further points to technology skill as a prerequisite for being interaction ready. These and other potential antecedents and consequences of interaction readiness need to be examined in future research.

Although the central idea of interaction readiness is that firms need to adapt their online marketing to their customers' interaction preferences for maximum effectiveness, it does not mean firms cannot positively influence consumers' interaction

readiness levels. Ideally, a firm wants its customers to be open to interacting with them, either proactively or at the firm's initiation. With an understanding of the antecedents of interaction readiness, future research can study the ways in which consumers' interaction readiness levels can be boosted, such as through customer relationship management strategies. The ultimate goal is to protect and enhance consumer welfare as well as produce benefits for firms so that a win-win situation can be created.

Finally, to better understand the effectiveness of the Internet medium, it is important to incorporate interaction readiness into future interactivity research. Currently, the treatment of interactivity in the literature falls into two distinct categories: objective interactivity, which views and operationalises interactivity as a structural characteristic of a medium or a message; and subjective interactivity, which considers interactivity to be a more malleable experience as perceived by individuals involved in an interaction (McMillan and Hwang 2002). It is unclear how these two aspects relate to each other and which one should be the better predictor of consumers' response to online marketing efforts (Liu and Shrum 2002). Future research needs to study how consumers with different interaction readiness levels respond to structural interactivity to form their actual interaction experience and interactivity perception. By studying the moderating effects of interaction readiness on interactivity, such research can help explain the conflicting findings in the interactivity literature and bridge the objective versus subjective aspects of interactivity.

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APPENDIX: PERCEIVED VALUE SCALE ITEMS

1   The Internet is an indispensable communication tool.

2   I have benefited a lot from online interaction.

3   Communicating online has allowed me to accomplish my goals quickly.

4   I am really glad that I have learned how to use the Internet to communicate with others.

5   Online interaction brings me a lot of enjoyment.

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