Viewpoint

Interdependency factors influencing the World Wide Web as a channel of interactive marketing

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The author identifies critical research issues of the interdependencies between the effectiveness of using the World Wide Web as a channel of interactive marketing and factors posed by the limitations of the media, both qualitative and technological. He proposes a model to explain the flow of a transaction in this hypermedia CME and isolates the critical paths in this flow and their possible effects on the given transaction and isolates the effects to taking alternate routes across those critical paths for a marketer. © 1998 Elsevier Science Ltd. All rights reserved

Key words: digital commerce; direct marketing; critical factors; Web retail; media limitations

Introduction

The combined influence of technology and information is radically transforming the shape of business across the globe. The marketing profession, like most others, is now working in a period of change characterized by information and innovation as hallmarks of an organization’s survival strategy. The marketing theories and practices are determined by the tools at its disposal at any given point in time, and as these tools refine or change, the discipline adjusts. The television and radio were two such tools that were to lead to an unsettling amount of innovation that was to follow them in the form of the internet and what it is still growing to be.

Computer-mediated communication in the form of the World Wide Web (WWW) is a highly evolving medium for interactive marketing wherein besides the ability to just address the individual is strongly supplemented by the ability to receive a response from that individual being addressed in real time. This allows a good marketing medium to refine into a good conversation medium (Deighton, 1996).

Interactivity has been pursued by marketing practitioners since over a decade now, mainly in the form of direct mail and catalog retail which have elicited response that is not in real time, which means that there is time lag between addressing the individual and receiving a response. Telemarketing was another option pursued but this brought in factors like the unwillingness of the subject to participate, varying degrees of performance of the telemarketer, the expense of the call and the person performing the action, and often the inability of the potential customer to see the product. This was refined by attaching a response device to broadcast devices, which brought in an added factor in terms of the cost of that device.

An alternative pursued was to provide a toll-free contact number while demonstrating the product in a broadcast terminal such as a television screen. More recently, the World Wide Web has rapidly emerged into a steadily maturing hypermedia channel overcoming many of the aforementioned limitations of the medium as well as the widely opposed and often unsolicited electronic-mail-based promotion which is categorized as ‘spamming’. Though a lot of interest has been demonstrated in this medium by self-made entrepreneurial startups, academic research interest is very recent. In this paper, we look at some of the issues which blend into a plasma of marketing and technical aspects affecting the effectiveness of such an interactive marketing methodology targeted at stimulating a transaction.

Research issues

The primary focus of this paper is to identify and examine the interdependency of the transaction and the various technical and qualitative factors that influence the decision making process for the end consumer when engaging in a potential transaction. Some of the recent scholarly works that have addressed the basic concepts
of hypermedia marketing include those by Donna and Hoffman (1996), and steering clear from the basic concepts, we shall focus on many of the factors that are singular to a web-based transaction inspite of the similitude of this ether to several other electronic two-way real-time and timelag media.

The effects of technical factors to be identified are (1) The alacrity of the transaction in terms of the limitation of the media and the link. (2) The optimal equilibrium between the Celerity at which information can be conveyed and the depth of detail which is made accessible to the potential consumer. (3) The plausibility of confirming the credit worthiness of the customer within a time interval admissible to the potential consumer which could contrarily lead the consumer to stop the transaction in the midpoint. (4) scalability, extensibility, Standardization and legacy integration.

The qualitative factors that shall be studied include; (5) the degree of interactivity of the content in view of the stipulations of the medium; (6) effectiveness of visual cues to the shopper; (7) invulnerability of the information provided by the user; (8) comprehensibility of conceptual ideas like a virtual shopping cart by the potential consumer of the product or service; (9) the capacity of the consumer to cancel the transaction in the middle and incentives to prevent that; (10) auxiliary services for a value added product; (11) dynamism of content and content life cycle; and (12) relation between degree of consideration and effectiveness of specific hypermedia strategy as a sales/promotional channel in relation the cogency of the grouping of clientele in terms of their characteristics. A model involving the aforementioned factors shall be proposed to demonstrate these set of interdependencies.

We study these factors with specific reference to the World Wide Web, and not the Internet as a whole, which would include discussion groups, multi-user dungeons, Internet relay chat (IRC), Multi-user shared environments (MUSE) and chat but including on-line services, since most of the commercial activity taking place is on the World Wide Web (CyberAtlas, 1997a, b, c).

**Methodology**

To understand the intricacies influencing the usability of the World Wide Web as a channel of interactive market-

<table>
<thead>
<tr>
<th>Human Interactivity Medium</th>
<th>Audio</th>
<th>Video Text</th>
<th>Video Static</th>
<th>Synchrony Dynamic</th>
<th>Agreement Temporal</th>
<th>Mutual</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Wide web</td>
<td>O</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>FTF Communication</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Mailing Lists/Email</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>promotion Internet relay chat (IRC)</td>
<td>O</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>
Out of all these media, the World Wide Web has the characteristics which most closely approximate those of an FTF communication session.

**Hypermedia transaction**

A typical hypermedia transaction takes place as proposed in the model in *Figure 1*. The producer produces content, which is the information regarding the product. Here, it is important to understand the term product, which refers to either a physical product or a piece of information with or without regard to a specific product. For example, the ‘product’ might be just a brochure for a new car that a car manufacturer wants to send out to a potential customer and not the car itself. Or it might refer to a backpack that LL Bean wants to sell to the final consumer.

Once this content is made available or “posted” on the hypermedium, it is available for public access. One of the many possible potential consumers will access this information, and depending on the set of factors that we shall discuss later in this paper, will decide to obtain the product. This information will be conveyed by the consumer to the producer using the same medium, which in the specific case of the Internet, allows a two-way flow of information, in the form of feedback.

On receiving this information, the producer, depending on the set of factors that shall be discussed later here, the producer will send the ‘product’ to the consumer.

In this transaction, the medium shows a high degree of similarity to a one to many medium. But as more than one producer comes into the picture, as is the case of the World Wide Web, the medium develops into a many to many medium.

**The transaction flow model**

The interdependency factors we shall discuss are proposed in the transaction flow model (TFM) in *Figure 2*, which is developed from the basic model shown in *Figure 1* to incorporate these factors.

At the top of the model is the one of many producers utilizing this medium (the World Wide Web). The producer creates the information content and stores it on a server, which is either within the organization or paid storage space on a computer which is linked to the World Wide Web through a nodal computer on the Internet having either its own unique address of the form www. companyname...identifier. extension or as a Hypertext page on some other computer.

This computer storage space, which we shall refer to as the server for reasons of brevity, forms the critical link between the content and the medium (Internet). $U_1, U_2, U_3, \ldots$, are the existing users who can access this medium through either a network computer, a dial up Internet service provider account or an on-line service such as America On-line or CompuServe, etc. Similarly, $P_2-P_n$ are other content producers who may or may not be targeting the same set of consumers for the same or entirely different set of products or services. Till this point the medium

![Figure 1](image1.png)  
*A Simplified Model of a Hypermedia Real-time Media-based Transaction*
Figure 2  Hypermedia Retail Transaction Flow Model
resembles, most other mass broadcast media wherein any person having an access device (Television, Radio or computer) can be potentially addressed by any potential producer. Till this point he only differences that emerges is that, while in most other mass broadcast media, a consumer, if indulging in seeking information from that media or device will involuntarily be exposed to the information content provided by, say an advertiser and only during that specific period of time when that information in conveyed. On the other hand, the World Wide Web user will be exposed to the content if and only if he or she chooses to access the specific website. For example, if a viewer is watching a program on a specific channel on television then unless he or she chooses to interrupt watching that channel, he will be exposed to the content provided by advertisers in an intervening time slot. On the other hand, a World Wide Web user will not be exposed to a content of a given site unless he specifically accesses it.

When a user accesses the content on the server, for example U1 in Figure 2, the following flow process becomes one to one between the producer and user (consumer) while still retaining the ability of the user to voluntarily cease further exposure to the content by changing the website or exiting the web navigation experience altogether. It is this ability of the user in this medium that make the factors all the more critical to the effectiveness of the interactive marketing strategy. It is at this stage that the user reviews the content provided.

After the potential consumer, who is the user, reviews the content, he, based on the set of factors on which he makes his judgement, makes a decision. If this decision is negative, the preceding transaction ends without a sale. If the decision is affirmative, the user gives out information. This information can either be financial information such as a credit card number or just a small set of useful information such as a mailing address or customer number. If this information is information that potentially needs to be verified, such as credit information, it goes through an additional series of procedures which shall be described next. This information is often in the form of Hypertext forms, but not limited to those; so as to enable the information to be sent back to the server through the medium via the path M1–M2.

When this information is required to be verified, typically in the case of financial information, the verification is done through the link C1–C2 which is one of the many critical paths that shall be discussed. A typical common example is checking the availability of credit to a credit card user. Depending on the result from that procedure, either the transaction is confirmed or it ends without a sale, where sale refers not only to actual sale of a physical product but also to a unilaterally initiated exchange for information. Following the confirmation of the transaction, the producer will ship the product, which again may or may not be physical. If the product is a physical product, the critical link S1–S2 has to be traversed before the transaction ends with an exchange of the 'product' in exchange of either information or a financial transaction done electronically or otherwise, i.e. the transaction ends in a 'sale'.

Throughout this flow model, the transaction passes through a set of critical and non-critical paths, which we discuss now.

Limitation of the media and link

Consumer research has indicated the significance of play in the consumption experience (Holbrook et al., 1984). Hoffman and Novak (1996) extend this to define a flow experience in a CME like the World Wide Web which is characterized by a seamless sequence of responses facilitated by machine interactivity, is intrinsically enjoyable, accompanied by a loss of self-consciousness and is self-reinforcing. In such a flow experience, which extends a sense of playfulness (Csikszentmihalyi and Lefevre, 1989) consumers get so involved in the act of navigating the network that "Nothing else seems to matter" (Csikszentmihalyi, 1990, p. 4). The prerequisites for the flow experience to occur are focussed attention on the part of Users U1–Un and perception of the balance between their navigation skills and challenge of interaction.

The World Wide Web, as a medium, has some inherent characteristics which directly affect this highly desirable flow experience. The World Wide Web comprises of millions of web pages or Hypertext documents (80 million at last count) which are linked together through an extensive worldwide network of computers varying in speed and power. Some of these are linked directly to the Internet as servers or nodal points of the Internet, such as computers in universities and large organizations. These computers have a strong advantage of a very high speed of data transfer and information exchange capabilities, in comparison to the majority of the other smaller desktop type personal computers which usually connect to these more powerful servers through a telephonic or ISDN link which inherently is much slower and lesser reliable. Many of these smaller and lesser powerful computers connect to the Internet using a dialup type link established through a series of routes normally used to carry telephonic signals. Recent experimental studies indicate that over 66% users complain about the web pages taking too long to download (transfer from the server to their personal computer) (GVU, 1997). So the speed at which the information can be exchanged between the server and the user as illustrated in the TFM diagram, is often limited not by the computer terminal itself but by the capabilities of the link M3–M4 and M1–M2.

The speed at which content can be transferred across the path M1–M2 is often the same as M3–M4 (though this is not the case with some recent modern technologies like the 56.6 KBPS modems). Since these communications devices try to stretch the existing telephonic lines at the upper range of their capabilities, it occasionally
results in a broken link where the user U abruptly gets disconnected from the server due to severance of the link to the Internet through which the World Wide Web is accessed in the first place.

The optimum equilibrium

Since a computer terminal used to navigate or browse the World Wide Web that is connected directly to the server has an advantage over users U1–Un, that it need not go through a lesser reliable telephonic or ISDN (Integrated services digital line) link characterized by lower speed, it follows that typical users who would form a major segment of the potential consumers (as demonstrated by the statistical information given in the technical appendix) U1 through Un, would be able to receive content only as fast as the link M3–M4 allows and can send back information only at a rate allowable by M1–M2.

While moving hypermedia content over the Internet, the relation between the speed at which content is delivered is inversely proportional to the amount of the graphical information provided as a part of the content. It follows that the content, I, comprises of full motion video it takes the maximum time to transfer from the server to U through the link; followed by audio content, static pictures and text, which takes a minimal amount of time.

The content provider, P, has the option to either limit content to textual information so that content can be delivered to U at a high speed where in the potential consumer U does not have to wait over a period of time long enough to negate the ‘play’ and ‘flow’ experience discussed above. If that happens, the potential consumer U can voluntarily stop the inflow of that content or stop the navigation altogether. If graphical details such as pictures of a product are provided, the above scenario can occur. On the other hand, if no graphical content is provided the user U might be overwhelmed by the extent of textual information or may lose interest and might exit the content altogether.

So, the content provider, P, who is the manufacturer of the content, and possibly the product he is trying to sell using the World Wide Web, must provide an optimal balance between the depth of textual information provided and the combination of graphical/video content so as to both optimize the speed of information transfer and retain interest of U, the potential consumer, simultaneously. Unfortunately, there is no specific way known to measure that ‘optimum’ due to the constantly changing nature of the medium’s technical characteristics. However, it is directly related to the available popular technology, for example the percentage of high-speed modems used by Internet users in the target market. A typical way to judge this would be from information in Table 3, which shows that a sizeable percentage of users in 1997 used 33.6 Kbps modems to access the Internet and that the number of users still using the previous standard of 28.8 Kbps are decreasing, which implies that access speeds are increasing (GVU survey, 1997). Also the growth and acceptance of alternative technologies (such as ISDN) which allow the same flow of content at a higher speed, can be used to select that ‘optimum’ using a calculated guess and then refining it either by field trials or user feedback linked with some incentive. Another notable point here is to allow the user to select the depth of information he wants to access, for example, answering the question of whether a prospective purchaser of a car just wants to see a picture, or the price or detailed technical specifications of the vehicle. This may be implemented by using a series of hyperlinks instead of trying to present all the information simultaneously. This is currently an active area of media research.

User information verification

After the user reviews the content provided and decides affirmatively to proceed with the transaction involving the exchange of a ‘product’ for information, which may be information like credit information which might need to be verified before the next step can occur, it is essential that this information be either verified or accepted conditionally within a time interval acceptable to the consumer, failing which the consumer has a liberty of canceling the transaction at that stage, either in the beginning or in the middle of it, owing to characteristics of lack of traceability within the medium. For example, a salesman can call back a potential customer who hangs up in the middle of a transaction being carried out on a phone using call tracing features provided by many telephone customers. However, no such feature exists on the World Wide Web.

This critical link is shown as C1–C2 in the Transaction Flow Model. Here the producer P may opt to elect to take the word of the consumer U, who might claim credit worthiness. But statistics consistently indicate that is not the most reliable option since 40% of Internet users admit having falsified information (GVU, 1997) owing to the anonymity provided by the medium. These figures are consistent with the figures obtained in the preceding six Internet surveys carried out by graphic and visualization center at Georgia Tech. Alternatively, this information is verified. This is usually done by accessing a database containing current credit information maintained by credit issuing companies. This information traverses through yet another critical link C1–C2 mentioned in the foregoing discussion.

Scalability, standardization and legacy integration

The number of Internet hosts exceeded 16 million, growing at a rate of 70% annually according to the domain survey done by the World Wide Web consortium in January 1997 are home to millions of websites, and thousands more get added each day. Unlike conventional
media like television which present the user an option of at the most a few hundred channels, this represents a medium of reaching a set of potential customers in a medium where albeit very low entry costs are counteracted by the presence of millions of ‘channels’. Since content is not always dynamic in this medium, it is essential that content is dynamically updated in order to retain user interest and at the same time, accessible by all connected users who want to access it. Unlike television or radio, where standards have more or less stabilized, the World Wide Web can be accessed by a number of different ‘browsers’ or software programs which might not agree on the same standards. Here, it is essential that the content be prepared in a format which is accessible by the industry standard browsers (Netscape communicator at the time of writing). Another historical incident worth noting is that browsers are distributed free of cost to users at the time of writing, so there is not much of a barrier preventing a potential user from switching the browsing software. Also, the marketing content must be developed in a manner that it is updateable at minimal cost, i.e., maximum amount of the content should be reusable, updating information that needs to be updated in order to retain the low cycle times required to deliver the content to the market fast enough. The definition of ‘fast enough’ will vary depending on the type of product being ‘sold’. Though programming the content is mainly a technical aspect, but it has a significance to marketing managers since continuous redevelopment is one of the most significant expenses maintaining a World Wide Web based interactive marketing website and 46% of major content providers surveyed implement a continuous redevelopment strategy for their content (Dolberg, 1997). Secondly, as Table 2 indicates, more and more users are accessing the World Wide Web on a daily basis wherein it might not be the best idea to present the same content over a prolonged period of time in order to keep them revisiting the site. The content life cycle would presumably depend on the nature of product. For example, a car company that releases a new model only once a year might not really need to update product information more frequently than once a year, but on the other hand a discount and clearance store like Surplus-direct Auctions Inc (www. surplusauction.com) or General Auctions (www.gsci.com) or a newspaper (example www.mercurycenter.com) might need to update it daily. It follows that interactive marketing content life cycle depends on the nature of the product being exchanged in the transaction.

### Degree of interactivity of content

Piverette and Bundrick (1987) suggest that flow occurs when a structured set of activities occur in which action follows action. In agreement with Piverette et al’s theory, Hoffman and Novak (1996) suggest that a consumer’s action in flow state is experienced as a unified flowing from one moment to the next with little distinction between the stimulus and response, and between past, present and future. However, the limitations of the medium severely restrict this unified structured sequence of events from occurring, as discussed in the first point of discussion above. The inherent characteristics of the medium tend to cause a time lag between each sequence, which is clicking on hyperlinks in this case. So the challenge that comes to a marketing strategist is to determine the information content, well balanced between textual information and graphical information either dynamic or static, which must be put on each page of the hyperdocument of the website by the programmer in order to ensure that both interest is retained to provide an incentive to the user to continue navigating on the same site and that content be provided fast enough so that the user who is also the potential customer, does not lose interest. Visual clues in form of icons could be used to provide interest retaining links while keeping content transfer times optimal. This level of interactivity might vary from product to product.

For example, if P is trying to sell a piece of clothing, a picture would best convey the essence of the information along with a short text portion that conveys the price. Another hyperlink could take the user to information for ordering. On the other hand, a publisher trying to sell a book might be better off giving a detailed set of contents and may be some reviews instead of delaying the transfer of the initial content by adding a picture of the front cover. It might be possible to generalize products within subcategories, but no such generalization has yet been proposed with specific reference to World Wide Web based interactivity.

### User information security

When the user provides personal information such as a Social Security number, credit card number or address information, the security of that information is a major concern. A recent study indicates close to 70% of the users who do not make a purchase or do not reveal information, choose not to do so solely for the reason

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**Table 2** Table usage frequency change from 1995–1997 (Find/SVP April 1997)

<table>
<thead>
<tr>
<th>Usage Frequency</th>
<th>1995</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>36%</td>
<td>49%</td>
</tr>
<tr>
<td>Weekly</td>
<td>45%</td>
<td>39%</td>
</tr>
<tr>
<td>Monthly</td>
<td>13%</td>
<td>7%</td>
</tr>
</tbody>
</table>

**Table A 3** Worldwide Web Access Speed (GVU7, May 1997)

<table>
<thead>
<tr>
<th>Speed</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.4 Kbps</td>
<td>11%</td>
</tr>
<tr>
<td>28.8 Kbps</td>
<td>33%</td>
</tr>
<tr>
<td>33.6 Kbps</td>
<td>20%</td>
</tr>
</tbody>
</table>
that they are not specifically informed by the content providers on how the collected information shall be used (GVU, 1997). Inspite of the presence of virtually fool-proof security existing from the technology standpoint, it needs to be very specifically explained to the user or potential customer on how this information would be handled. Visual cues such as security icons and symbolic graphics might foster a sense of trust between P and U, though the actual effectiveness of these is still another research issue.

Comprehensibility of conceptual ideas

Since the World Wide Web emerged out of ARPAnet which was used mainly by government researchers and technical academic researchers, a lot of conceptual ideas are not grasped by an ordinary non-technical World Wide Web user. Typical concepts that have come up in several surveys of Internet users include conceptual ideas like a virtual shopping cart which are essentially a list of items that a customer chooses to buy or accept in exchange of something of value to the producer of those goods.

Degree of consideration vs content organization

In a hypermedia environment on the World Wide Web, there are three types of content organization methodology, each having a different cost implication. First is the concept of a destination site, which presents information, entertainment and high production values to repeatedly attract users in an attempt to make them consumers (Doyle and Abbot, 1997). Such a site will have an entire web address dedicated to it, typical examples being the websites of Ford (www.ford.com) and Strange's Florists (www.stranges.com).

The second option, albeit the middle path, is to host a microsite, which is a set of hyper documents or web pages put together and hosted on another content site or network.

The third option is to use a banner promotion, the cost of which can vary from miniscule to very large (Levis spent $3 million on its initial website promotion with dismal results).

Doyle and Abbot (1997) identify two factors which need to be considered. Firstly whether the product can be sold on-line and then economically shipped. For such products, where brand recognition and selective demand and a high degree of purchase consideration are essential, a destination site is a viable option. Even if a product is a considered purchase, if the web can be used to make information, like specifications, technical details, configurations, etc., available more readily and efficiently, a destination site is a preferable alternative (Doyle and Abbot, 1997). Similarly, for products that do not yet have a major brand recognition, the banner approach wherein a user could reach a page or pages of information by clicking on a hyperlinked banner on a different website,

![Figure 3](https://example.com/image3.png)

**Figure 3** Degree of consideration Vs Efficiency of hypermedia channel organization
TABLE 4 Comparative shopping from the armchair (Based on GVU7 survey, May 1997)

<table>
<thead>
<tr>
<th>Activities</th>
<th>Percentage of users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>86</td>
</tr>
<tr>
<td>collection</td>
<td></td>
</tr>
<tr>
<td>Searching</td>
<td>61</td>
</tr>
<tr>
<td>Browsing</td>
<td>61</td>
</tr>
<tr>
<td>Work related</td>
<td>54</td>
</tr>
<tr>
<td>Educational</td>
<td>52</td>
</tr>
<tr>
<td>Communications</td>
<td>47</td>
</tr>
<tr>
<td>Shopping</td>
<td>18</td>
</tr>
<tr>
<td>Entertainment</td>
<td>46</td>
</tr>
</tbody>
</table>

could be used. Though a categorical classification of methodologies used for different types of products at different levels of market maturities is still another research issue, a generalization can be drawn from Figure 3 which very coarsely breaks up the hypermedia sub-channel by the degree of consideration involved in making a purchase or transaction decision on the part of the potential consumer of the product or the service.

**Conclusion**

The World Wide Web as a channel of interective marketing represents a rapidly growing many to many medium which offers unprecedented benefits in the electronic mass media in terms of management of content, lower costs per unit of promotional time, high degree of interactivity and low lag feedback and dialog. Most user surveys have indicated a high rate of growth in the number of users (43 million growing at a rate of 108% expected to grow to about 100 million in 1998 according to the GVU survey in May 1997), growth in the time spent by users (since increasing number of users are using the web daily), a growing number of users using it as a source of information collection (see Table 4), it's becoming a major source for gathering news as an alternative to newspapers (see Table 5A), it's becoming a potential medium of addressing minority target markets in a highly focussed marketing effort (see Table 5B). An increasing number of users are 'browsing' the World Wide Web during the time they normally would have spent watching television indicates that it is a segment of television viewers and conventional media audiences which are moving to the web instead, which makes it all the more essential for these people to be addressed through this medium.

It is from this perspective that apparently technical issues like balancing content in view of media limitations and changing that balance as technology permits, balancing depth and speed-of-transferring the marketing content over this medium, standardization and scabability of the content aimed at resuability, cogency and organization of a hypermedia site in relation to the degree of consideration by a potential consumer, and the content life cycle and dynamicity become significant issues not only from a marketing budget standpoint but also from a customer retention and marketing effectiveness stand, the features of which are very unique to the nature of this emerging media. Having identified these technomarketing issues in this paper, many of these do need further scholarly research by a marketer before this powerful new medium, which most closely resembles the characteristics of a face-to-face communication in relation to other many to many media, can be fully harnessed by the marketer as yet another tool in the marketers toolkit.

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