

Marketing on the Internet — who can benefit from an online marketing approach?

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Accepted 25 October 1999

Abstract

The research builds upon the literature in electronic commerce and past research in marketing with the objective of understanding factors that impact a product's adaptability to online marketing. A review of marketing channel choice literature reveals a set of factors and channel choice functions that are considered important in making channel decisions. Using this as a basis, four major channel functions, namely, product customization, availability, logistics, and transaction complexity are considered relevant in understanding the implications for Internet marketing. By building upon previous research in the area of channel selection, we provide a means of classifying Internet marketing initiatives based on product characteristics. The classification scheme based on product characteristics can help analyze the significance of each factor on the success of a firm's online marketing approach. Further, the classification scheme is used to discuss decision support implications. © 2000 Elsevier Science B.V. All rights reserved.

Keywords: Electronic commerce; Channel selection; Internet marketing; Product classification

1. Introduction

The potential of the Internet as a commercial medium and market has been documented in a variety of publications [17,20]. Despite overwhelming statistics regarding Internet development, both successful and unsuccessful cases of Internet marketing have been reported [15,16]. There is no proven successful method that can help management evaluate how beneficial Internet marketing could be before

they commit substantial capital investment on Internet marketing and risk the possibility of interfering with their current channels. In this research, we focus on the use of the Internet as a virtual storefront where products are sold directly to customers. We contend that product characteristics play a major role in the successful marketing of a product on the Internet. We build a product characteristics based classification framework to study the implications of using the Internet as a marketing channel.

Channel selection is a complex task for both researchers and practitioners in marketing. Although

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Internet marketing has boomed in recent years, most companies have used it mainly for advertising or promoting corporate images. Not many companies have fully utilized the power of Internet marketing as a new channel for handling transactions on the Internet. The existing research in channel design and selection has only considered the traditional channels, including direct and indirect marketing approaches. There is no documented results or research that provide a systematic method to guide evaluation, planning, and execution of the channel choice decision when it comes to Internet marketing. The research done in Ref. [30] provides a comprehensive review of research in traditional channel selection and is used as the basis for building our model. In this paper, we extend and modify their work to include the new transaction/distribution channel, Internet marketing.

In this study, we first identify the product factors that may impact the selection of transaction channels. This is done through a thorough review of the literature in both traditional marketing channel selection and the new online marketing approach and identification of the key benefits of Internet marketing. Product factors that have impacted the successful capitalization of Internet marketing are added to the current list of factors identified by previous marketing research.

The rest of the paper is organized as follows. A summary of the review is presented in Section 2. To better understand the type of products or services selling on the Internet, Section 3 gives the classification of retailing on the Internet. Here, the findings from Section 2 are used as the basis for building the classification grid. Section 3 also discusses the decision support implications of the classification. Section 4 concludes the research with a summary of contributions and a direction for future research.

2. Literature review

2.1. Current research in channel selection

Marketing channel decisions are among the most critical decisions facing management. In marketing

literature, the types of channels can be divided broadly into direct and indirect marketing approaches. Most companies do not sell their products or services directly to the final users for three reasons: (1) lack of financial resources to carry out direct marketing; (2) decreased cost-effectiveness (e.g., selling gum or other low-price consumer goods directly); (3) to focus on the core business [21]. Internet marketing shares some of the characteristics of both direct and indirect marketing forms. However, the extant literature in channel selection only classifies products into *direct* or *indirect* marketing and cannot be applied directly to Internet marketing choice. Several product and market factors determine channel choice (these are summarized in column 2 of Table 1) [30]. These factors can be classified based on the function performed by the channel in fulfilling customers' requirements. The classification scheme of Ref. [30] groups the factors into eight channel functions and provides their implications for channel choice (see Table 1, column 1). Although the Internet is an entirely new channel, it has many of the same characteristics as those of conventional channels. We believe studying the factors considered significant in conventional channel selection can also help in analyzing the characteristics of Internet marketing. However, there are factors that either were considered less important in conventional channel literature or are unique to online marketing that need to be added to the analysis (indicated in bold letters in Table 1, column 2).

In Section 2.2, we identify the key advantages of Internet marketing recognized by companies participating in Internet marketing. The findings are then used as the basis for extending the channel selection theory to encompass online marketing.

2.2. The advantages of internet marketing

Marketing activity occurs through three types of channels: distribution, transaction, and communication channels [28]. Although this study focuses on using the Internet as a new transaction and/or distribution channel, there are substantial interactions and overlap among the activities performed by the three types of channels. Therefore, we need to consider the

Table 1
Channel choice functions (adapted from Rangan et al. [30])

Customer's requirement of channel functions	Product-market factor identified in the literature	Reference	Marketing implications
(1) Product information	Searching time, technical, complexity, rate of technology	[3,22,26,36]	Use direct marketing if high, indirect if low. Internet can be used as a communication channel in either case. If product complexity is high, Internet is well suited.
(2) Product customization	Adjustment, customization, customer importance, product novelty, ease of value added, specialty goods^a	[3,8,36]	Use direct marketing if high, indirect if low. Internet is ideal if factors associated with customization are highly critical for market success,
(3) Product quality assurance	Product criticality, significance of purchase	[8,26]	Use direct sales if Important, indirect if Unimportant. These factors are not critical in choosing Internet as a channel. ^b
(4) Lot size	Purchasing effort, unit value, extent of usage, order size, gross margin demand volatility	[7,22,26,36]	Use direct if Large, indirect if Small. If demand volatility is high, Internet can be chosen as the channel. ^c
(5) Assortment	Assortment, one-stop shopping, market decentralization	[7,8]	Use direct if Nonessential, indirect if Essential. Use the Internet if market decentralization is not essential. Other factors are not critical in choosing Internet as a channel.
(6) Availability	Frequency of usage, time of consumption replacement rate, frequency of purchase, convenient location	[3,7,26,36]	Use direct if Not critical, indirect if Critical. Use the Internet if these factors are critical to product success.
(7) After-sales service	Waiting time, need for service	[7,26]	Use direct if Not critical, indirect if Critical. For a digital product where need for service is critical, Internet is well suited. ^d
(8) Logistics	Need for special equipment, transportation convenience	[6,36]	Use direct if Complex, indirect if Simple. Use the Internet if digital products or if logistics factors are simple.
(9) Transaction complexity	Order complexity	[2,35]	Use the Internet if transaction complexity is high to reduce time and error in transactions processing.

^aNew factors are boldfaced.

^bDue to the ubiquitous nature of Internet Commerce, the authentication of a company is used as the surrogate for quality assurance of the product. Therefore, companies with established reputation (brand name) tend to do well in electronic commerce [9,11,29].

^cThe main reason that prevents potential customers from using the Internet is security concerns. As Internet marketing matures, we expect to see transactions of various lot sizes to occur on the Internet. Theoretically, the lot size just needs to be large enough to ensure the coverage of its delivery cost.

^dThis is true for companies that provide digital products. Also for companies that have established distribution channels other than the Internet can use the established channel to provide after-sales services.

effect of Internet marketing on all aspects of marketing activities to be able to recognize the true benefits

of Internet marketing. The extant literature in Electronic Commerce has documented various advan-

tages for companies to sell directly on the Internet. These advantages can be classified into those three channels based on the functions performed:

- As a *communication channel*: information exchange between sellers and buyers.
 - For accessing, organizing, and communicating information.
 - To improve interactivity and perceptual experience [28].
 - To gather information about customers via surveys and contests for new product development and introduction, relationship building and personalization [10,15,18,25].
- As a *transaction channel*: sales activities.
 - To improve visibility and reach a much bigger customer base [23].
 - To improve revenues by exploiting cross-selling opportunities [13].
 - To streamline transaction processing, thereby reducing task complexity, paperwork and transaction costs [2,23,25,31].
 - To customize promotion and sales to individual customers and improve flexibility [18].
- As a *distribution channel*: physical exchange of products/services.
 - To eliminate huge inventories, storage costs, utilities, and space rental, etc. [4].
 - To shorten supply chain and reduce commission and operating costs [12].

The ability to serve as both a transaction and physical distribution medium for certain goods is a unique feature of Internet marketing. Companies involved in online ticketing and reservation, digital products, financial services, tele-medicine, etc., can best realize such advantages.

Using the Internet as a distribution channel cannot only reduce the delivery cost substantially, but also ensure instant delivery of products/services. Thus, we extend the traditional dichotomy of direct or indirect marketing to include the Internet as an alternative channel for transaction/distribution. The last column of Table 1 briefly describes the decision choices involved in choosing one of the three channels for product marketing.

To summarize, we make four new additions to the traditional factors that affect channel choice. These new factors are found to be important for Internet transaction based on a review of several cases related

to Internet marketing. The four new factors are: (1) ease of value addition to the product [32,37]; (2) specialty of goods [14,19,24]; (3) order complexity [2]; and (4) convenient location [27,34]. Three of the four factors can be grouped into one of the eight channel functions proposed by Rangan et al. [30] (These are boldfaced in Table 1). We have also added a new channel function in Table 1, namely transaction complexity, an issue that was not considered in traditional channel selection literature. Using the Internet to handle transactions can help prevent human errors, and thus reduce transaction costs especially for complex transactions, such as those that traditionally require trained personnel or experts (e.g., travel agents and stockbrokers).

When analyzing the importance of each channel function to online marketing, we based the analysis on the advantages of Internet marketing identified in Section 2.2. We separate the marketing process into three channels and only focus on the advantages that have direct impact on the online transaction and distribution processes. Product information, which is a function of the communication channel, should not be a factor to consider when selecting the transaction channel. Companies can take advantage of the Internet as a communication channel for exchanging and communicating information with customers but not for directly placing orders and making transactions. In other words, the Internet can be used very well for information but not necessarily for marketing. On the other hand, the instant communication feature of the Internet allows the companies to quickly respond to market changes and customer preferences and to customize its promotion and goods to individual customers in a more timely fashion. Moreover, because the Internet access is not limited by any physical boundary and is available 24 h a day, it allows companies to provide convenient access to a broader customer base. The logistics function is expanded here to include the consideration of distributing digital or informational products or services that is pertinent to the success of Internet marketing. Thus, it appears that product information, product quality assurance, lot size, assortment, and after-sales service functions are less important factors to consider in Internet marketing. Therefore, we utilize product customization, availability, logistics, and transaction complexity as the basis for building our framework

to evaluate the suitability of marketing the products or services on the Internet.

3. Classification of products/services selling on Internet

To help understand the effect of each channel function to Internet marketing, we first need to provide the classification of products or services selling on the Internet. There is a broad range of products and services marketed on the Internet that range from consumable goods to durable goods. Services marketed on the Internet also range from online newspapers to business-wide consultation. The classification criteria of different products or services are still controversial. The traditional method is to classify products by their tangibility, nature and needs, and buying behavior [21]. This kind of classification may be suitable for a traditional marketing environment but does not seem as appropriate in categorizing products or services on the e-market. According to Ref. [28], a better way to group products or services on the Internet is by separating them into search or experience goods. Search goods are goods that can be evaluated using external information, whereas, experience goods have to be personally evaluated. If a product is a search good, it is more suitable and likely to be marketed on the Internet. On the other hand, if a product is an experience good, then marketing this product on the Internet is less possible. This classification gives us a clear picture of product suitability for marketing on the Internet

[28] further categorized the products or services along three dimensions that are more relevant in the context of the Internet: cost and frequency of purchase, value proposition, and degree of differentiation. These three dimensions constitute eight different combinations.

Peterson et al. [28] suggested that when products are expensive and infrequently purchased, an Internet marketer is more likely to carry such a product. However, the traditional retailer is favored when there is a need to personally inspect the product prior to purchase. When the value proposition is intangible or informational (digital products), the Internet marketer is favored.

Peterson et al. [28] provide a classification of Internet products or services based on product characteristics and likely consumer decision sequences, and the implications of the Internet for consumer marketing. However, no justification is provided for selecting the three dimensions used in their classification. In this research, we have reviewed the marketing channel choice literature and have identified a set of factors and channel choice functions that have been considered important in making channel decisions. We have arrived at four major channel functions that we believe are relevant to Internet marketing: product customization, availability, logistics, and transaction complexity. Three of the four channel functions match well with the three dimensions suggested in Peterson et al. [28] as follows. The production customization function considers factors such as adjustment, customization, and customer importance that correspond well with the differentiation potential

Table 2
Product and service classification grid (adapted from Ref. [28])

Dimension 1: outlay and frequency of purchase	Dimension 2: value proposition	Dimension 3: differentiation potential	Examples of products and services
Low outlay, frequently purchased goods	Tangible or physical	High	Wines, softdrinks, cigarettes
	Intangible or informational	Low	Milk, eggs
High outlay, infrequently purchase goods	Tangible or physical	High	Online newspapers and magazines
	Intangible or informational	Low	Stock market quotes
	Tangible or physical	High	Stereo systems, automobiles
	Intangible or informational	Low	Precious metal ingot of known weight and purity
	Tangible or physical	High	Software packages
	Intangible or informational	Low	Automobile financing, insurance

Table 3
Expanded product and service classification grid

Logistics	Product customization	Transaction complexity	Availability	Sample of cases	Major products/services
Digital Product	High	High	Critical	GM (financial service)	Installation, finance, calculator
	Tech/DSS implications: Profiling and customization agents to push products and services. Intelligent agents for customized setting of users options. Personalized tracking mechanisms to monitor customer preferences	Tech/DSS implications: Wizards and Customization tools to assist users in placing orders. Using past transactions to guide present transactions.	Tech/DSS implications: Server side monitoring tools to ensure uninterrupted service	Direct Credit	Personal financing, options, credit report
				Secure Tax, William Certified Public Account. Brooks and Company	Tax services
				TravelBids, Expedia, Travelocity.com	Online auction or sales of travel-related products, online ticketing
Low	Low	Critical	Southwest Airlines, United Airlines, American Airlines, etc. Compaq	Online travel, reservations	
Low	High	High	Critical	Dartnell	Business consulting services
				ESPN, CNN, Business Week, Golf Digest	Software, services, Consulting
				AudioNet	Online news magazines
Low	High	High	Critical	Canadian Insurance	News, CDs, live audio
				Electronic News	Online insurance
				You First	News
Low	High	High	Critical	Intuit.com, Soleau Software	Personal Health Assessment
				Dell Computer, IBM, Cisco, Micron	Online software ordering
				Headbone Interactive	Software, services
Low	High	High	Critical	Internet.net, Onsale.com, Insight, Adobe System, OfficeMax	Software, games
				First Commerce Bank	Software
Low	High	High	Critical	First Commerce Bank	Online banking

Table 3 (continued)

Logistics	Product customization	Transaction complexity	Availability	Sample of cases	Major products/services
	Tech/DSS implications: Embedder user configurable design for products. Data mining to cluster customers for targetting advertising and promotions.	Low	Not critical	Prudential Securities, InsurePoint FIC Insurance Groups, E* Trade.com	Insurance Online brokerage services
Physical products	High	High	Critical Not critical Critical	Sharper Image	Small appliances, gifts
Tech/DSS implications: Multimedia tools for enhancing perception/experience. Exploiting e-business to improve logistics through supply chain relations. Logistics management tools.	Tech/DSS implications: Supply chain partnerships to enhance relations and DSS to increase efficiency of partners/customers. Interorganizational systems to share logistics information for better decision making.	Tech/DSS implications: Wizards and tools to enhance user experience in placing orders.	Not critical	Chrysler, Toyota	Automobile Computer hardware
		Low	Critical	IBM, Dell Computer Micron, Gateway 2000, Internet.net Onsale.com, Insight Microage Cisco OfficeMax	Computer hardware Appliances Network hardware High-end office equipment Wines Flowers
		Tech/DSS implications: Automated order processing tools to optimize logistics.	Critical	Virtual Vineyard 1-800-Flowers	Flowers

Table 3 (continued)

Logistics	Product customization	Transaction complexity	Availability	Sample of cases	Major products/services
				Godiva	Chocolate
				Amazon, Barnes and Noble's, Rosewell	Books
				Cyberspace	Books
				Playboy	Computer books
				Levi's	Magazines
				Cdnow!, N2K	Apparel
				Wal-mart	CDs
			Not critical		Specialty items
	Low	High	Critical	Monitor Medical	Online medicine ordering
			Not Critical		
	Tech/DSS implications: Grouping and profiling customers for advertising and promotions.				
		Low	Critical	Wal-Mart	Wines, cigarettes, food
				Office-Max	Low price stationary
				BargainFinder (failure)	Shopping mall
				Downtown Anywhere Mall (failure)	
				IBm World Avenue	
				Cybermall (failure)	
			Not critical		

dimension. As Peterson et al. [28] stated, Internet-related marketing can result in extreme price competition when products or services are incapable of significant differentiation. The availability function looks at the frequency of usage, time of consumption, and replacement rate, and is related to the first dimension which ranges from low-cost, frequently purchased goods to high-cost, infrequently purchased goods. The logistics function has been redefined to focus on the difference between the logistics of digital vs. physical products. This function is the same as the tangibility dimension discussed in Ref. [28]. Thus, our classification scheme provides justification for Peterson et al. [28] framework based on traditional marketing channels literature.

We further refine the classification scheme by incorporating the transaction complexity as an additional dimension. We believe this is a critical dimension, especially in the context of e-business, where it deserves careful examination to determine whether a

product or service is suited for marketing on the Internet. The Internet can ease transaction processing, especially for handling complex orders [2], thereby reducing paperwork, increasing efficiency [23], replacing professionals tasks [31], hence, reducing the transaction cost [25]. One example is the purchasing of custom made blinds. The order needs to specify all detailed measurements, color code, style, brand, etc., for each blind ordered. It can take an operator over 30 min to process one average size house order with 15 to 20 windows. By using the Internet to place an order, it cannot only save the processing time (hence, save the operator cost) but also reduce the chance of human error and customer dispute. For business-to-business transactions, shortening the processing time also means the seller can maintain a lower inventory level and reduce other related overhead for handling excessive inventory. Thus, transaction complexity should in itself be considered as an important dimension in making channel

choice decisions. Based upon the above discussion, we have expanded Table 2 to include a transaction complexity dimension (see Table 3).

We collected an informal list of companies that market their products or services on the Internet ranging from online bookstores to insurance companies. Some companies provide physical products as well as intangible (informational) services. A sample of these companies appears in Table 3 based on the classification scheme presented in this section. We would like to add here that the list of companies presented here is for illustrative purposes only, and is not intended to be an exhaustive compilation of companies doing business online.

3.1. Decision support implications

While our research provides a decision support framework for channel choice in online marketing, important decision support issues need to be tackled once a channel choice has been made. We believe our classification framework helps us understand the decision support needs in using the Internet as a marketing channel. For instance, high product customization requires extensive profiling and customization tools to identify and target individual customers. Highly sophisticated tracking tools to monitor changing customer preferences are necessary to maintain the flexibility of the online marketing channel. When both product customization and transaction complexity are high, wizards and tools (that may utilize past orders as a guide) are needed to assist customers in placing orders. When product customization is low, one would still need tools that can broadly cluster customers for target marketing. Customer clustering could be based on a combination of demographics and past interactions. If a physical product is being marketed online, sophisticated multimedia tools could be used to enhance user experience and knowledge about the products [1]. In addition, supply chain management would be critical to keep inventories low. When a physical product has high customization needs, forging strategic supply chain relations and building of decision support tools to optimize manufacturing and delivery efficiency are critical. A summary of decision support and technology issues is presented in Table 3 under columns 1 to 4.

4. Conclusion

The rapid development of online computing technology makes it imperative for businesses to seriously consider the Internet to avoid losing competitive advantage. A Web site gives direct contact between the organization and the consumer. However, product characteristics play an important role in whether the organization benefits from utilizing the Web as a means of direct sales [33]. The research builds upon the literature in both electronic commerce and past research in marketing with the objective of understanding what factors have the most impact on a product's adaptability to online marketing.

Table 3 links the product and service characteristics of Table 1 to the company cases collected. Among the four functions, logistics has the dominant effect on the channel selection decision because digital products can take advantage of using the Internet for both transaction and delivery processes. The second important function is the product customization potential of the products or services, and that is followed by the transaction complexity and the importance of product availability. Consider some implications of Table 3, where most successful online marketing companies belong to either companies that provide digital products or services or physical products with high customization potential. This outcome matches well with Peterson's prediction. One observation from Table 3 is that the effect of product availability seems to be less important for Internet marketing. Both types of products or services (e.g., frequently vs. infrequently purchased goods) were observed in our sample of online businesses. As Internet marketing matures, we expect to see transactions of various price ranges and sizes to occur.

For digital products or services with low product customization and low transaction complexity, the Internet may not provide a new competitive advantage to the company. For tangible goods, the most important factor that determines the suitability of Internet marketing is the potential of product customization. With a high potential of product customization, if convenient location is also important, then products with low transaction complexity, such as wines and chocolates, still have a high possibility to do well on the Internet. For products with high

transaction complexity, both low and high availability products can sell well on the Internet; for example, the online banking and tax preparation services on the Internet. When both the transaction complexity is low and the product availability is not critical, we do not recommend using the Internet as a new channel for handling transactions based on the current infrastructure. For tangible goods with low product customization, unless the transaction complexity is high and product availability is critical, we do not see much opportunity for Internet marketing. All cases appearing in Table 3 are successful cases except BargainFinder, Downtown Anywhere Mall, and IBM World Avenue Cybermall, which belong to physical products with low customization, low transaction complexity, and low critical availability. The other two cases in the same category, Wal-Mart and OfficeMax, are successful cases, but the main products they sell over the Internet belong to the high product customization group. The shaded areas in Table 3 depict the type of products or services that will gain limited competitive advantage and hence less chance for success on the Internet. Thus, for a given product or service, Table 3 can help to evaluate the chance of survival on the Internet by analyzing the product characteristics associated with the four important channel functions.

The emphasis of this research is on a practical decision problem that impacts a wide range of companies. However, one cannot examine the channel choice decision solely based on product characteristics. Even though Internet is an efficient transaction and information mechanism for certain categories, it is not possible to completely understand the profitability implications without considering the competitive issues [5,38]. Still, we believe the model we propose can be utilized in the following ways: (1) Help identify the industries most likely to benefit from the online marketing approach. It poses both as an opportunity and a challenge for the companies in the “high likelihood to succeed” group. The first few companies that launch an online marketing service in its industry tend to better establish market shares and be more successful than their followers. Examples are Amazon bookstore and E*Trade brokerage services. (2) For the companies that are considering entering the Internet marketing realm, it provides a way for the firm to better measure the

chance of survival on the Internet, and to reduce the uncertainty involved in expensive capital investment. (3) For companies that have already participated in the online commerce, the key factors identified in our model will help the companies to reevaluate their projects and correct or avoid potential mistakes done by their predecessors. For example, a company that sells commonly found tangible goods on the Internet still can develop a niche business by offering delivery service to nearby locations as added product customization.

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