

Electronic Market Sales Opportunity (EMSO) Model for Web Marketing

Decisions

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Abstract

The World Wide Web continues to grow each year, with international penetration increasing. The low cost of obtaining an online presence is attractive to small and medium firms, especially when considering international markets. While entry to the global market is greatly eased by the Web, international markets are still segmented by national, cultural and social factors. Advantages of using the Web come at a cost. Creation, customization and updating are key ingredients to the successful use of the Web—all with associated costs. Without financial returns, operation of Web sites cannot be justified for many firms. The goal of this paper is to combine features of proposed models into a single predictive model to assist Managers in deciding the potential value of a target marketplace. Model components include efforts by the firm, in online site construction, expectations of online consumers, and the intervening technology infrastructure.

Keywords: Electronic Commerce, Market Segmentation, Infrastructure, EMSO, Internet Marketing Strategy

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I. Introduction

Rapid growth and acceptance of the Internet and the World Wide Web (hereafter collectively referred to as the Web) has left most companies questioning if they can afford to miss the business opportunities that are created by this new medium. The number of Web users in the United States has been estimated to be anywhere from 28.8 million to 45 million people. Estimates suggest women's use of the Web is rising and presently occupies between 30% to 40% of total users [1]. Usage of the Web continues to grow each year, with international penetration increasing. Unlike previous mass-communication mediums, such as television, radio and mail, the Web brings new opportunities for interaction, relationship building and customer support to marketing efforts [2, 3].

The international nature of the Web is central to its advantage for marketers. While the US presently makes up the majority of Web users, the fastest growing areas of the Web are outside the US, with Asia currently the fastest growing region. The low cost of obtaining an online presence may especially encourage the growth of SMEs (Small and Medium Enterprises) online [4, 5], the larger question is of marketing strategy; just what is the best way to market on the Web?

Different companies have differences in their Web marketing efforts. These efforts may range from simple domestic information and support services to global transactions [4]. In general, activities performed on the Web have a cost savings over traditional methods, with the largest savings accruing to sales activities which may bring substantial savings in areas such as distribution of information and goods. Export firms may even perceive the Web as an opportunity to avoid setting up foreign branches and obtaining foreign representation [6]. However, consumers may have different views,

including a preference to purchase from a local store, rather than from the Web. White [7] found this problem when firms marketed international foods, online, to US consumers. He concluded that firms would need to distinguish their products from locally available products in order to draw consumers. Klein and Quelch [8] also found that electronic market-making must offer benefits that are superior to traditional transaction methods in order to succeed.

II. Predicting Web Sales Opportunities

The global nature of the Web does not translate to a disappearance of market barriers. While entry to the global market is greatly eased, international markets are still segmented by national, cultural and social factors. Advantages of using the Web come at a cost. Creation, customization and updating are key ingredients to the successful use of the Web--all with associated costs. Without financial returns, operation of Web sites cannot be justified. Presently, the result is that most early adopters are on the Web, but have made little investment to take advantage of the capabilities of this new medium, which can differentiate products and services [9]. Beyond the most shallow use of the Web, as an extension of traditional broadcast media, substantial investments are required, including the commitment of personnel as well as a reorganization of some parts of the marketing mix in order to emphasize the interactive nature of the Web.

Once these commitments are made, incurring losses, due to poor planning and forecasting, is not acceptable. Existing models fail to take into account many of the unique features of the new marketplace. Place undergoes radical change but does not disappear. It is, instead, replaced by the capabilities of cyberspace where the target consumers interface with the marketplace. Recently, numerous models have been proposed that attempt to describe the unique features of the marketplace [10, 2, 11]. These models assist managers in understanding the activities and structures that are

important for successful implementation of Web marketing strategies. However, existing models do not assist in predicting market potential. The goal of this paper is to combine features of proposed models into a single predictive model to assist managers in deciding the potential value of a target marketplace.

III. Three Factor Model

The potential of a market, whether describing a firm's total sales or a specific product or product line, can be described in a model that captures the unique aspects of the new marketplace. The three most important factors are infrastructure, willingness to buy and willingness to sell (see Figure 1). These three factors interact in such a way so as to determine the sales potential of products sold over the Web in a specific market. Infrastructure is the hardware part that is required for consumers and firms to get onto the information highway. Willingness to buy and sell are the software factors that determine just how much consumers and firms will take advantage of existing infrastructure hardware. The lack of any one of these three factors will exclude the possibility of online sales.

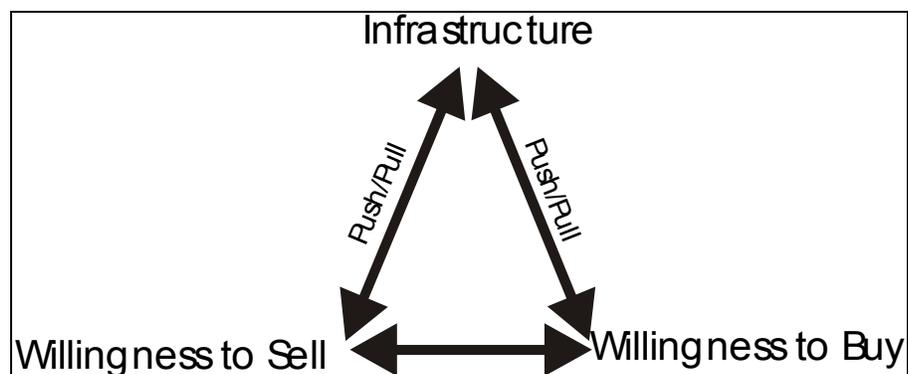


Figure 1. Three factors required for sales in the marketplace

It is the infrastructure component that will set a limit on the growth potential of Web sales in international target markets. While the technological limitations of the Internet are known by everyone who uses it, these problems are often dismissed as simply being temporary. Rapid growth

and development of the Internet, the Web, and its browsers leads researchers to assume all present problems will be overcome in the near future. While this is not an unreasonable assumption, it does not consider differences across national borders.

Simply observing that leveraging the Web can bring strategic advantages to a firm's international marketing efforts, takes as granted that the target consumers share a roughly equivalent level of technology and acceptance of the technology. In both categories, the United States leads the world for numerous reasons. This question is not simply one of PCs and modems being available for all to purchase. Advanced technology, in the form required for the Web, requires massive amounts of infrastructure ranging from phone lines, servers, and IT (Information Technology) workers. In addition, we can easily find nations where the existence of the technology is not at all an issue, but the heavy government regulation of the phone industry, for example, makes it impossible for consumers to get into and participate in the marketplace.

While effective design of a firm's Web page should take into consideration bandwidth, this is only a partial solution at best. Such an approach emphasizes the lower speed of the Web and thus encourages designs that use fewer graphics and other design elements that cause heavy traffic. While this can help a single page to load relatively quicker, there is no getting around the need for faster connections in general. Consumers that live in countries where Web access speeds slow to a crawl are less likely to participate in the marketplace simply because the time required cannot be justified by the return.

IV. ICDT Model

Decisions, by consumers, to make purchases over the Web are influenced by a mixture of factors, some of which exist in the traditional market place, and others that are unique to the new marketplace. Angehrn's [10] ICDT (see Figure 2) model includes many of these new factors. The ICDT model

depicts the dimensions a firm must pass through in order to take full competitive advantage of the new marketplace. Rather than a model of sales opportunities, the ICDT model describes what firms must do in order to succeed if they wish to have successful transactions over the Web.

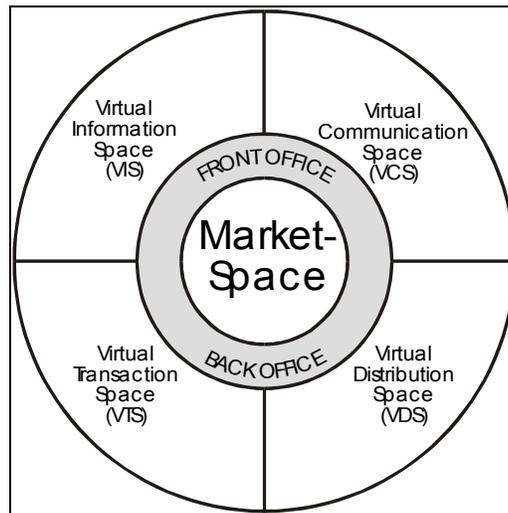


Figure 2. The ICDT Model (adapted from Angehrn, 1997)

From a consumer's point of view, actual interaction with the Web site is where the marketing investment has an influence. This is referred to, by Angehrn [10], as the front office part of the model due to its interface with consumers. The back office of the model includes the ability to handle transactions and distribution of goods through the marketplace. By simplifying the ICDT model and combining it with an infrastructure measure, we can gain insight into the potential of online sales in specific markets.

V. Further Elaboration on ICDT Model

Willingness to Buy

Presence on the Web is built on the creation of a Web site. This is achieved simply by putting up a Web page. While the Web was still relatively small, firms could create sites that attracted Web

surfers. With the explosive growth in the number of Web sites, firms have had to leave behind the strategy of “build it and they will come.” No matter the level of design expertise nor the technical excellence of a site, firms must rethink the traditional paradigm of broadcasting information in a one way direction. The virtual information space (VIS) is where consumers will encounter the firm.

Information about products and services can be supplied here. Decisions can be undertaken as to how the Web information is incorporated into the firm’s marketing strategy. This includes integrating Web addresses with traditional forms of advertising. Interactive elements can also be included which take advantage of the Web’s unique features. This includes search features allowing consumers to find information that suits specific needs or even tailoring online advertisements to meet specific desires and interests of Web users. Gordon and De Lima-Turner [12] found that consumers do not object to online advertisements and prefer that the advertisements be target-specific.

Virtual communication space (VCS) picks up where the virtual information space ends. In effect, a virtual communication space does what a plain information space cannot do by customizing interaction, allowing consumers to interact with each other, through virtual communities, and supplying customer support. To date, this aspect of the Web has been largely untapped. When executed well, consumers will return to a firm’s Web site in order to interact with the firm and other consumers [13]. Such interaction could take the form of after sale support, introduction to products and services that match the consumer’s needs, as well as reviews and comments, by other consumers, of the firm’s products. In many cases, this type of communication can be more detailed, personalized and useful than even that provided by a salesperson (Hamil, [19], reviews some good examples that presently exist on the Web).

Willingness to Sell

A firm's Web site may be effective at attracting consumers through rethinking information presentation (VIS). Retaining those visitors can be accomplished with interactive communication elements (VCS). However, actual sales cannot take place unless the firm makes a commitment to actually executing sales in the marketplace. Payments for products and services are handled in the virtual transaction space (VTS). Numerous surveys have shown that consumers are concerned with the security of making purchases in the marketplace. Since security over the Web is not significantly worse than traditional transactions, this concern is certain to quickly fade as the willingness to buy is increased by suitable marketing strategies for the VIS and VCS domains.

In general, the more options offered when making a transaction will generate the greatest appeal to the widest segment of consumers. This means giving Web consumers some choice in how to conduct a transaction. For example, credit card through a secure Web page, telephone contact or faxing of credit information are just a few possibilities. Even more appealing is the potential for personalized pricing or auctioning. Not only could payment method be chosen, but also price. While the implementation of the VTS domain is mostly unseen, it does require a major investment by the firm. Issues of security must be addressed along with effective internal organization of the firm in order to support this new source of revenue with consistent and sufficient resources. If a firm offers goods for sale, but there is no serious attention paid to the revenue potential, inconsistencies and lack of coordination will hinder sales [14].

Not all products can be digitized for delivery over the Web. Therefore, the virtual distribution space (VDS) would appear to not be an important issue for some products. This appearance reflects the traditional way of thinking of the product mix and not the opportunities of the marketplace. In fact,

every product has some aspect or feature that can be digitized. An example is Federal Express. At first glance, this service would appear to have no digital aspects that could be delivered over the Web. Customers drop packages off to a Federal Express office--a physical process, and the package is delivered to the receiver--another physical process. However, monitoring the progress of the package on its journey is actually a very important part of the delivery service, which consumers are very interested in, and one that is completely suitable to digitizing and distribution over the Web. Such opportunities force firms to ask exactly what the product is for the consumer, a fundamental marketing question that should be asked even in the traditional marketplace, but one that takes on more significance in the marketplace.

VI. Electronic Market Sales Opportunity (EMSO) Model

Changes in Traditional Marketing Mix Logic

Online marketing needs to attract an audience before anything else can take place. This leads to a synergetic approach that includes Web addresses in traditional advertising, while reinforcing those traditional messages on the Web sites. Sites need to not only attract an audience but also engage them while making certain they return for future visits. A site must learn about visitors' preferences and evolve to meet their needs [15], quite the opposite of traditional one-way advertising and promotion. Brannback [16], points out that the marketing mix, or Kotler's 4 Ps [17], must undergo fundamental changes in the new "marketplace." The major change comes from the lack of physical place and real physical interaction.

Physical Products in Virtual Markets

Completely digital products are perfectly suited for electronic commerce over the Web. These products can be found, viewed or even taken for a test run, i.e., demo programs, purchased and then downloaded all over the Web. E*Trade Securities is an example of successful implementation of purely electronic process. By targeting consumers interested in a deep-discount broker service, E*Trade Securities has been able to create a good fit, since the use of electronic order taking, over the Web, reduces labor costs thus allowing greatly reduced commissions [18]. A similar case can be found in the virtual company Amazon.com, Inc., [19] www.amazon.com. The main difference, however, is that Amazon's products are physical. Heavy discounting would appear to play an important role here as well. Amazon books are typically discounted 30% to 40%. Figure 3 shows the range of products and process that includes the Web's virtual aspects, adapted from Choi, Stahl and Whinston [20]. The question remains just how far down can the Web penetrate into physical products?

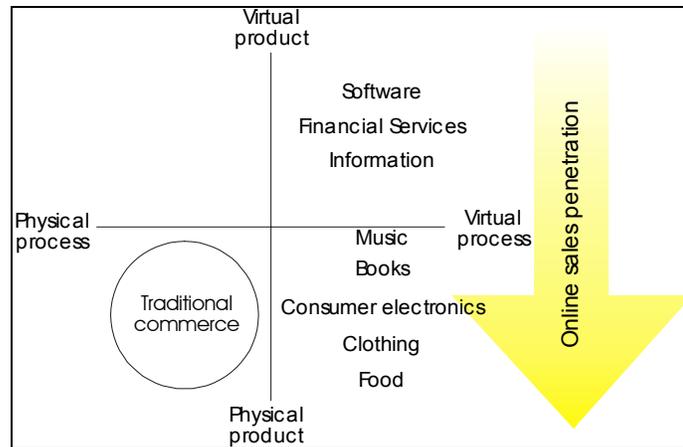


Figure 3. Physical and virtual characteristics of different products, adapted from [20]

Marketing Elements

While some physical products, such as clothing, cannot be converted to virtual products, other products, such as music and books, can obtain some degree of virtual existence. What remains unknown is just what degree of physicality a product may have before consumers refuse to purchase it through a virtual process. In other words, at what point, if any, is a physical product and a virtual process exclusive of each other? The authors assert that there is no point of separation, and that completely physical products can be accepted by consumers through the virtual process of the Web. Special attention, however, must be placed on adapting the mix of product, price, promotion and place.

EMSO Model

By estimating the three influencing factors (infrastructure, willingness to buy and willingness to sell—see Figure 4), through the combination numerous metrics for each, the potential electronic market sales opportunity can be measured and compared among products, firms and specific markets. Thus, the EMSO Model (Electronic Market Sales Opportunity) can be used by managers to judge entry into markets (see Figure 5).

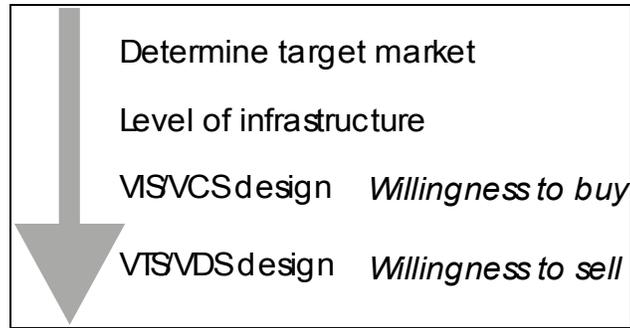


Figure 4. Stages in examining the potential of a marketplace

Infrastructure

As shown in Figure 5, this measure is taken for both buyer and seller, as it is the lower of the two that determines the upper limit on transaction level. For the consumer, presence of an infrastructure that allows easy entry to the marketplace is the most important limiting factor to be considered. The measurement for this axis must be based on Internet infrastructure measures, but such numbers may not accurately reflect the access that a specific market segment has (such as computer enthusiast compared to housewives). Therefore, a simple measure is needed that can be derived for specific segments of the market, yet also reflects the level of infrastructure as well as the cost of access to the consumer. Surveys can be used, as well as generally available statistics and other data to estimate the variables for the specific market being examined (see Table 1).

Table 1. Corresponding measures for the infrastructure rating

Variables	Measures
Access:	<ul style="list-style-type: none"> • Have PC that can link with the Web • Local Web server to link to that includes the ability to link the target market consumers with the firm making the sale
Speed:	<ul style="list-style-type: none"> • The difference in time to load information at the consumer's end than at the firm's end
Expense:	<ul style="list-style-type: none"> • Willingness to pay VS real cost

From the firm's perspective, infrastructure is much simpler, consisting mostly of presence on the Web with a reliable connection. Because of its international nature, a Web site needs to be open to visitors twenty-four hours a day, seven days a week. In addition, the server, on which a firm's site resides,

must be able to handle the amount of traffic likely to come its way. This measure is a more technical one and can generally be labeled as *suitability to task*. A small ice-cream shop, planning to use the Web for local orders and deliveries will not face the same hardware requirements of CNN Interactive (one of the most popular sites on the Web).

Infrastructure is really a measure of potentiality, such as the availability, and adoption rate, of broadband Web access. Such technologies increase opportunities for consumers in target markets to access the firm's efforts, yet do not assure a satisfactory experience for the consumer. Whether a firm can turn a high technology infrastructure into sales opportunities depends on implementation in the other two factors, i.e., what the consumer interacts with directly on the computer screen. Conversely, perfectly implemented Web marketing plans will have ineffective results if hardware issues prevent the firm and/or the target consumer from entering the marketplace in an effective and consistent manner.

If the Infrastructure measure results in a low score for the firm, i.e., the firm's score falls below the target market's score, action may be possible to improve server reliability or other hardware issues. However, if the score is low due to macro environmental issues, such as phone line quality, poor quality Internet backbone structure, government regulation, etc., then little can be done to improve this limiting factor. On the other hand, if the infrastructure score for the target market falls below the firm's score, the result must be accepted as an absolute limit, as such issues concern the social/economic situation of the country where the target consumers reside.

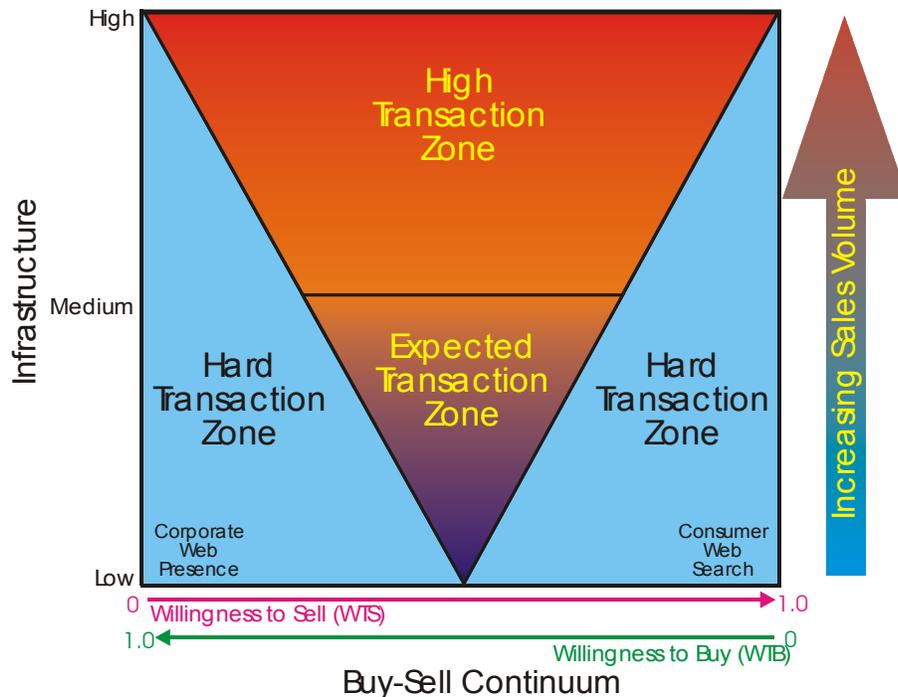


Figure 5. EMSO (Electronic Market Sales Opportunity) Model

Willingness To Buy (Market Demand)

The first part of this metric is understanding the level of acceptance of the marketing mix, when sold over the Web. If the target market simply does not read English, for example, willingness to purchase English books will remain low no matter how the marketing mix is changed. This measure is a prerequisite for any sales opportunities, but it does not help to predict Web-based sales. If no Web site is built, or one is poorly constructed, sales will not be generated even while demand for the product may exist.

Other measurements can be taken from the firm's Web site directly and from internal data (see Table 2). While detailed scales can be developed, as continued research into these issues uncovers new methods, a simple rating approach can be applied. While subjective in nature, the value of the EMSO model is in comparing potential markets and understanding where marketing expenditures can pay off.

Table 2. Corresponding measures for the willingness to buy and sell ratings (adapted parts from [15])

Variables	Measures:
Willingness To Buy (Target Market):	
1. Information	<ul style="list-style-type: none"> • Audience creation • Interface design, intuitive, interactive • Dynamic content
2. Communication	<ul style="list-style-type: none"> • Information capture • Personalized/customized
Willingness to Sell (Firm):	
Transaction capabilities	<ul style="list-style-type: none"> • Payment options • Electronic distribution of some form (real time communication, tele-consulting, etc.) • Formalized digital marketing unit within the firm

Examples

When examining the potential of a market, the first step is to decide on the metrics to be used in assessing the three main factors of the EMSO Model. Since computer network infrastructure is mostly based on national boundaries, the EMSO Model is well suited for target markets that can be classified based on nationality. For this example, let us assume the seller is located in Taiwan and the target market is located in China (see Figure 6). Applying the same metric to both locations, we conclude that the seller's infrastructure is located near the high zone, approximately 80% up the scale (setting the US market as the 100% mark), while the buyer's infrastructure is located at approximately the 40% mark. The resulting difference between the two infrastructures is the infrastructure gap, and there is little a firm can do to close the gap. In this case, the buyer's infrastructure is lower than the seller's, which rules out any possibility of raising the lower line.

Grading the seller's attempts at information presentation and communication capabilities, as well as the extent the marketing mix satisfies the target customers, results in a willingness to buy score of 0.3. Willingness to sell factors are graded and results in a score of approximately 0.4. As can be seen, the two vertical lines do not cross, indicating the lack of transaction potential. The resulting gap, between the two vertical lines, is a marketing strategy gap. Specifically, the gap reflects a lack of implementing

effective policies in the new marketplace. Unlike the infrastructure gap, the marketing strategy gap can be influenced through more effective implementation of market strategies specific to the new marketplace.

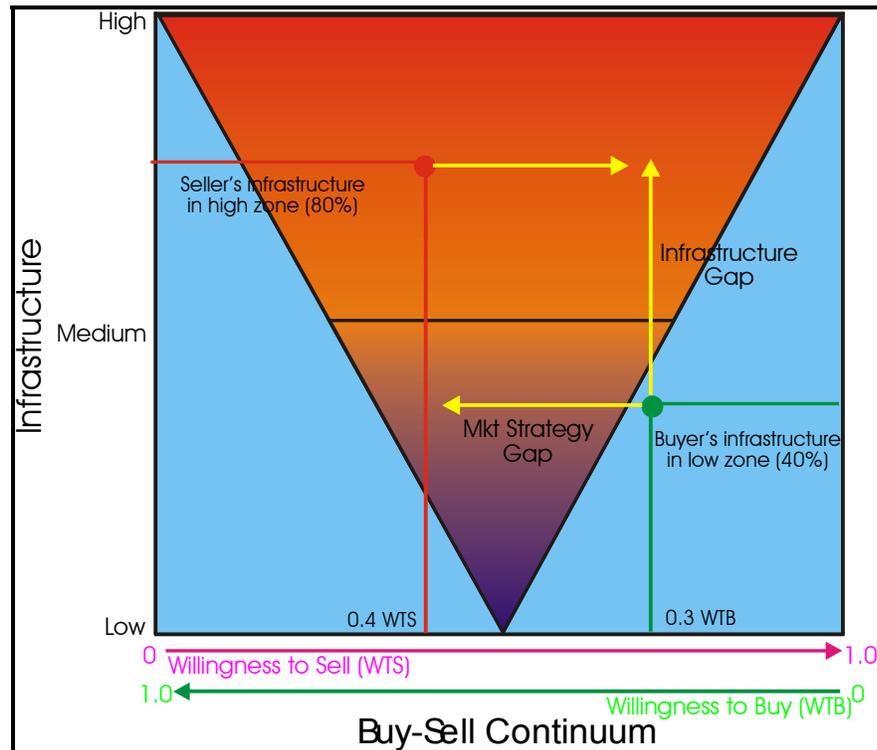


Figure 6. Example of infrastructure and marketing gap

After improving the factors involved in attracting, retaining and involving consumers, as well as making internal changes that allow efficient electronic transactions and distribution of some sort, the willingness scores may change. In the next example (see Figure 7), the two vertical lines have crossed over and now present a sales zone. The sales zone can be increased further, with more improvements, but the limiting infrastructure cannot be influenced and is unlikely to change over the short-term. As a market does evolve, the infrastructure is likely to improve, thus bringing increasing sales opportunities as more consumers enter the marketplace.

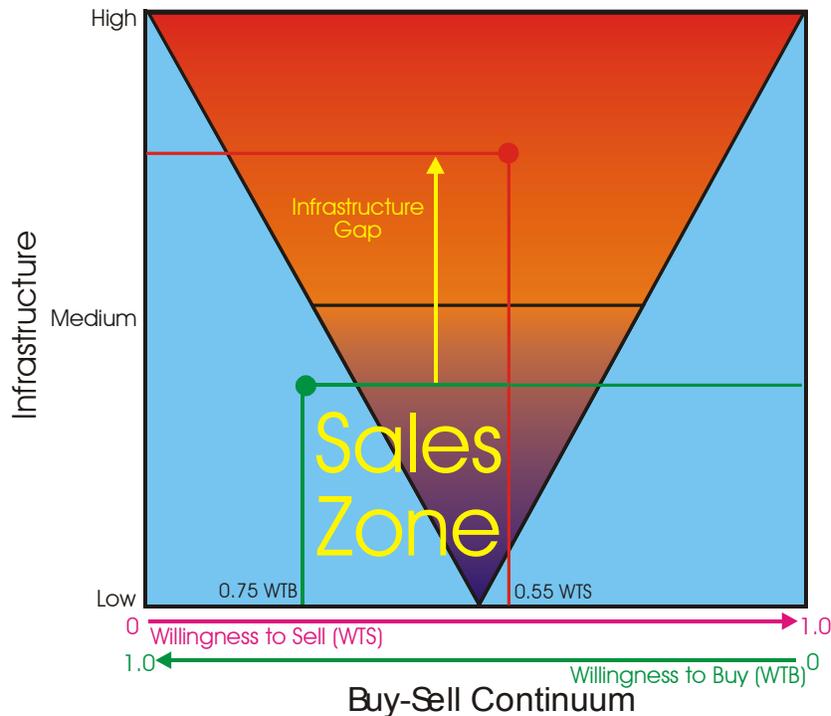


Figure 7. Example of improved marketing resulting in sales zone

VII. Conclusion

The EMSO Model, as proposed in this study, combines a number of descriptive models in order to create a conceptual tool that can assist in decision making. While the Web has grown rapidly, there is little consistency across national boundaries in access rates, acceptance, or even consumer awareness. With this in mind, international marketers must consider sales opportunities in the new marketplace before making major investments in effective Web presence. Simply entering the Web with a generic Web site is not only unproductive, but may do more harm than good, such as designing a graphically intense site that runs well on broadband access, while consumers in a targeted market segment do not have access to broadband. Firms must strive to incorporate the new marketing paradigms presented by the Web, if they are to succeed. Such shifts in marketing strategy and reallocation of resources should not be undertaken without sufficient evidence of market potential. The EMSO model can form the basis for a firm to judge opportunities in different target markets while also considering the interaction

of its own internal efforts with the infrastructure and consumers perceptions. Although the central importance of consumers is generally accepted in marketing today, Web efforts have often overlooked consumers and centered on what the firm wants to “broadcast” to consumers. Application of the EMSO model places consumers back at the center of attention when considering Web strategies.

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