Internet Adoption by Entrepreneurial Small Firms (ESF’s): Purchasing Versus Non-Purchasing Behaviors

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Abstract: Current models of Internet adoption at the marketing/entrepreneurship interface focus on the Entrepreneurial Small Firm (ESF) as the supplier in a supplier/buyer relationship. Analysis of a data set, which captured selected ESF Internet buying behaviors, offers insights from the buyer perspective. The authors present these findings and propose implications for the supplier/buyer relationship.

INTRODUCTION

From its debut in the mid-1990’s, e-commerce has exploded in a few short years. In 1996, revenue from the Internet was a mere $700,000, with 5 million people online and only a small percentage of them actually purchasing products. That figure increased to $7.8 billion in 1998 with over 9 million purchasers online (McQuivey, et al., 1999) and 580 million Internet users worldwide in 2003 (Nielsen Netratings, 2003) with predicted revenues of $21.6 billion for just November and December of 2004 (McGann, 2004).

Spending for households shopping online (B2C market) is expected to reach $184 billion by 2004; whereas the business to business (B2B) market will expand from $145 billion in 1999 to $3.95 trillion in 2003, and represent 7 percent of the predicted $105 trillion international sales transactions (Chan & Pollard, 2003). Another study indicates that over 80 percent of all B2B transactions are conducted over the Internet, with an estimated value of $6.8 trillion in 2004 (Rao & Perry, 2003). The Internet continues to grow with projections of world wide Internet populations of over 1 billion for 2005 (Computer Industry Almanac, 2004a; Computer Industry Almanac, 2004b).

As e-commerce gains a foothold in the business world, many trends are developing. As stated by Chan and Pollard (1999), “The internet has changed the way we do business. No longer is there a need to have face-to-face contact with a supplier, salesperson or customer service representative to purchase goods when this can be done with the click of a mouse” (p. 11). Stated simply, the Internet provides one way for a supplier to develop a relationship with a buyer (Berthon et al., 2003; Harrison-Walker & Neely, 2004; McIvor & Humphreys, 2004; and Rao & Perry, 2003). This phenomenon has resulted in highly developed web sites that let customers...
browse over products and information about the company. In most cases, consumers have an option of purchasing these products. Even though the Internet and e-commerce is expanding at a phenomenal rate, there are still problems this electronic world faces.

Since literature in the B2C domain exploring Internet purchase behavior is more prolific than in the B2B arena, the B2C side of the equation is first examined, as this may lead to some insights that can be carried over to the B2B side. The B2C Internet literature review focuses on exploring why consumers do not purchase online and then why they do purchase online. This information then leads to an examination of the small amount of information in the B2B literature that attempts to identify potential barriers to Internet purchasing in B2B transactions, and to a discussion of the Internet Adoption Model (McGowan & Durkin, 2002) at the Marketing/Entrepreneurship Interface (the Interface) from the buyer perspective. A data set of Entrepreneurial Small Firm (ESF) purchasing behavior is then analyzed in light of the Internet Adoption Model.

BACKGROUND

B2C Internet Non-Purchasers

In examining the B2C literature, one of the main quandaries that businesses are dealing with is the fear of online shopping by people who use the Internet (Ernst & Young, 1999; Forsythe & Shi, 2003). This fear is inhibiting consumers from using the Internet to its fullest potential. For online businesses to reap the full effects of e-commerce, they must adhere to these fears and attempt to alleviate them as even a small conversion increase (moving customers from visitors to purchasers) can have a major impact on sales revenue (Sismeiro & Bucklin, 2004). The online activities of Internet users are divided into two groups— the purchasers and non-purchasers. One goal of companies is to create an environment that will encourage the non-purchasing segment to begin purchasing as well.

A study performed by Ernst and Young (1999) revealed the top reasons why these potential consumers do not purchase products online. These are listed in Exhibit 1 below and are confirmed in part by the research of Bhatnagar and Ghose (2004), Forsythe and Shi (2003), and Sismeiro and Bucklin (2004).

Exhibit 1: Why Customers Do Not Purchase Online

<table>
<thead>
<tr>
<th>Reason for Non-Purchase</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncomfortable sending credit card data across Internet</td>
<td>97%</td>
</tr>
<tr>
<td>Preferred to see product before purchased</td>
<td>53%</td>
</tr>
<tr>
<td>Could not talk to a sales representative</td>
<td>18%</td>
</tr>
<tr>
<td>Could not get enough product information</td>
<td>16%</td>
</tr>
<tr>
<td>Process took too long</td>
<td>11%</td>
</tr>
<tr>
<td>Web site was hard to navigate through</td>
<td>10%</td>
</tr>
<tr>
<td>Process was confusing</td>
<td>8%</td>
</tr>
<tr>
<td>Product information was not current</td>
<td>6%</td>
</tr>
</tbody>
</table>
The number one reason consumers mentioned as to why they do not purchase online is the fear of sending personal information (i.e., credit card information) across the Internet. Thus, privacy is a major concern, although it must be stated that the related concern of the security of online shopping is diminishing, with consumer willingness to buy products online much greater than a year or two ago (Chan & Pollard, 2003). This is because B2C Internet based firms “…have had to establish customer confidence much the same way that mail order firms have traditionally done. They must earn it through demonstration of honesty, trustworthiness, timely processing and delivery, fair return policies, and the expected consumer support” (Peeples, 2002, p. 26).

In Exhibit 1, 51 percent of the population stated that they did not purchase online because of one or more of the following: the process taking too long, the difficulty of navigating through the web site, the process being too confusing, not having enough information, or information being out of date. Web site designers for online companies are designing their sites to allow the potential purchaser to locate information more easily and more quickly. This will help alleviate some of the concerns stated in Exhibit 1. Many companies are following the trend of updating their information more often to ensure that the 6 percent of consumers mentioned in Exhibit 1 have enough current information to make a purchasing decision (Hagar, 1999).

**B2C Internet Purchasers**

The second group of online users is the purchasers. A study performed by Ernst and Young (1999) examined the top features that purchasing consumers look for when judging a web site. These are explained in Exhibit 2 below.

**Exhibit 2: Success Factors Affecting Online Consumer Purchases**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncomfortable Sending Credit Card Data Across Internet</td>
<td>97%</td>
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<td>8%</td>
</tr>
<tr>
<td>Product Information Was Not Current</td>
<td>6%</td>
</tr>
</tbody>
</table>

Looking at Exhibit 2 above, the number one factor affecting consumers’ purchases is having a well-designed, easy to use web site while the number eight factor is competitive pricing. Having a web site that is easy to navigate allows the customer to purchase their product much more efficiently and frees up valuable time. These results suggest that pricing, although still important, is not why consumers are primarily purchasing from the Internet. Consumers are purchasing products for the convenience factor. Looking at the third and fourth factors in Exhibit 2, consumers want well-known brands available to them. Individuals interviewed for the data in Exhibit 2 also stated that an aggressive advertising campaign played a key role in their online buying decision. If businesses have web sites that are easy to use, carry well-known
brand names, and have an assertive advertising program, they will experience repeat purchasers and quite possibly new consumer purchasing (Ernst & Young, 1999).

**B2B Internet Purchasing Behavior**

Chaston and Mangles (2002) observe, “Despite the bias in the literature towards consumer markets, it is in the world of business-to-business marketing where the Internet is having greatest impact” (pp. 343-344). Poon and Swatman (1999) define Internet commerce as: “…the sharing of business information, maintaining business relationships, and conducting business transactions by means of Internet-based technology” (p. 4). There is no question that the Internet is a rising force in B2B transactions (Mahadeven, 2000; Rao & Perry, 2003), and there are predictions that B2B activities will soon be six times that of B2C (Kennedy & Deeter-Schmelz, 2001). This increasing number of online B2B transactions will potentially increase the B2B Internet market’s similarity with that of Internet consumer markets (Noyce, 2002). The ability to customize service through the Internet provides a logical way for suppliers in a B2B marketplace to develop a relationship with their buyers and achieve a competitive advantage, especially for ESFs (Boyd & Spekman, 2004; Day, Dean & Reynolds 1998; Martin & Matlay, 2003; McGowan & Durkin 2002; McGowan et al. 2001). A recent study by A.C. Nielsen (Greenspan, 2004) states that of 400 small businesses surveyed, 51 percent indicated the Internet had improved their profitability. See Exhibit 3.

**Exhibit 3: The Internet’s Impact on Small Businesses**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Helped Business Grow or Expand</td>
<td>58%</td>
</tr>
<tr>
<td>Helped Business Become More Profitable</td>
<td>51%</td>
</tr>
<tr>
<td>Helped Business Reduce Costs</td>
<td>49%</td>
</tr>
<tr>
<td>Business Relies on the Internet to Survive</td>
<td>15%</td>
</tr>
</tbody>
</table>

Adapted from Greenspan (2004)

In fact, buyers may make purchases based on information from the Internet, even if the purchase transaction is not carried out on the Internet (Forsythe & Shi, 2003; Sismeiro & Bucklin, 2004). Additionally, buyers may perceive the lack of an Internet front for a supplier as an indication that the supplier employs outdated business methods (Peeples, 2002). Further support for this idea comes with the realization that the Internet is merely another channel of distribution to create revenue and market share (Chaston & Mangles, 2002) and brings together the Internet marketing and relationship marketing literatures (Rao & Perry, 2003). However, while natural, such an Internet relationship between a B2B supplier and buyer is not easy to create. Because marketing and entrepreneurship are strongly related (Collinson, 2002; Collinson & Shaw, 2001; Day, Dean & Reynolds, 1998; Hills & LaForge, 1992; Morris & Lewis, 1995), and both require a plan in order to be successfully executed, strategic vision in developing an online business is paramount (Chan & Pollard, 2003).

Several competencies that may lead to a successful B2B supplier/buyer relationship on the Internet are established in the literature. These competencies include: organizational readiness, external pressure, perceived ease of use, and perceived usefulness (Grandon & Pearson, 2004);
cost leadership and enhanced services (Chan & Pollard, 2003); positioning, funding, innovation, workforce management, productivity, service quality and information management (Chaston & Mangles, 2002); vision, value recognition, technical ability, and control (McGowan & Durkin, 2002; McGowan et al., 2001).

Ali and Birley (1998) write that the “credibility gap” or risk versus trust is one of the most fundamental challenges to the entrepreneurial marketer. One can only imagine how much more true this is in establishing Internet relationships (Bramall et al., 2004; Harrison-Walker and Neeley, 2004). It is traditionally held that one of the advantages present in a B2B supplier/buyer dyad is that trust, while hard to come by initially, once established is much stronger in a B2B dyad than a B2C supplier/buyer relationship. Ali and Birley (1998) created a Trust Model, and found that there are four ways in which suppliers may reduce perceived risk: enthusiasm, an eagerness to respond to potential buyers which assures the buyer of the supplier’s interest in his or her own products; association, a way to garner trust through identifying the supplier organization with another already established and trusted organization; shared vision, abilities possessed by supplier and buyer; and forgiveness, where buyers are willing to discount supplier mistakes, either because the product is not affected and/or the buyer’s belief that the supplier has integrity and will provide quality in the long-term.

Suppliers should consider additional reasons other than just trust, regarding why a customer would buy online from them (Chan & Pollard, 2003). Reasons include superior functionally of the website, personalized interactions, streamlined transactions, security and privacy. Perceived downsides to doing business over the Internet include violations of privacy and security, unsolicited e-mails, and geographic and language barriers (Peeples, 2002). Note that these are similar to the concerns expressed by B2C Internet purchasers.

In the end, it is the buyers that are in the driver’s seat, since they determine what conditions are acceptable for doing business over the Internet. Some traditional marketing practices translate well to an online environment. Peeples (2002) offers the following solutions to suppliers to gain buyer acceptance: provide a statement of ethics on the website and maintain a code of ethics for employees that is clear and explicit; develop policies and procedures tied to the firm’s code of ethics; enforce company policies with a zero tolerance rule for unethical behavior; subscribe to organizations that require uniform standards of conduct; provide contact information on the website; answer questions quickly and personally; allow the customer to volunteer company information; and clearly state contractual terms, price, conditions of purchase and all associated costs.

Now that the literature discussing factors that influence B2B Internet purchasing behavior has been examined, the authors turn to a specific model of B2B Internet adoption at the marketing and entrepreneurship interface (the Interface).

**Adoption of the Internet at the Interface**

To date, research on the Interface has focused on several key areas. One such area is the adoption of the Internet at the Interface (Collinson, 2002). The importance of having entrepreneurial marketers understand the adoption/diffusion process and, in particular, develop
an understanding of the Internet adoption process in order to sustain growth is clearly supported by the literature (Hills & LaForge, 1992; McGowan et al., 2001; McGowan & Durkin, 2002; Mehrtens et al., 2001; Poon & Swatman, 1999; Rao & Perry, 2003). Current models of Internet adoption at the Interface focus on the Entrepreneurial Small Firm (ESF) or Small – Medium Enterprise (SME) as the supplier in a supplier/buyer relationship, and explore the competencies (sequential stages of technical ability firms pass through to develop e-commerce—Daniel et al., 2002; vision, value, technical ability, and control—McGowan & Durkin, 2002; perceived benefits, organizational readiness and external pressure—Mehrtens et al., 2001) which may predict the extent of Internet adoption by ESFs or SMEs as suppliers.

As McGowan et al. (2001) suggest, the extent of Internet adoption, as a relationship management tool is a collaboration of many factors, including but not limited to, the nature of the customer. In this paper, the authors feel it would be pertinent to focus on the other end of the supplier/buyer relationship and explore ESFs as buyers. This research examines ESFs as buyers along the competency of technical ability, by utilizing and analyzing a data set comprised of ESFs as the customers/buyers, rather than the suppliers.

The analysis of this paper’s data within the framework of the existing model of Internet Adoption at the Interface (McGowan & Durkin, 2002) will provide a springboard for additional empirical research of the Internet supplier/buyer relationship from the buyer’s perspective. Analysis of the data set, which captures selected purchasing behaviors of ESFs as Internet buyers (non-purchasers, light purchasers, regular purchasers and heavy purchasers), offers some interesting insights into the model proposed by McGowan and Durkin (2002) from the perspective of the buyer. It also identifies some barriers that must be overcome before the potential of the Internet can be fully realized by those ESFs acting as suppliers who wish to effectively utilize the Internet as tool in maintaining and establishing supplier/buyer relationships. The authors discuss the results of the ESF purchasing data set in light of the Internet Adoption Model. See Exhibit 4.

**Exhibit 4: Internet Adoption Model**

![Internet Adoption Model Diagram](attachment:diagram.png)

Adapted from McGowan and Durkin, 2002
Research Objectives and Relevance

In their theoretical model of Internet Adoption, Exhibit 4, McGowan and Durkin (2002) report there are four quadrants (Q1 = Aware, Q2 = Prospector, Q3 = Laggard, and Q4 = Happening) that refer to the role and importance of the Internet in supplier/buyer relationships. Each quadrant is aligned along potential and actual Internet adoption on the two axes of Collaboration/Competition (vertical) and the Firm (horizontal). This framework also incorporates various competencies that have been identified as predictive of the extent of Internet adoption by ESFs in the study.

One competency that McGowan et al. (2001 & 2002) propose is that of the technical ability of the entrepreneur. The entrepreneur must feel comfortable with the technology to advance to the latter quadrants. This observation is supported by literature that investigates Internet learning and which comments that “...basic personal skills are prerequisite to using the Internet....” (Cahoon, 1998, p. 6).

The purpose of this research is to explore this competency from the perspective of the ESF buyer. One test, which can measure how comfortable an entrepreneur is with the technology, is to examine their current purchasing habits using the technology. Measures of Internet usage such as time and frequency of use are theorized to predict the impact of the Internet in business environments (Anandarajan, 2000). In this study, ESFs’ purchasing habits are examined via an Internet survey. The differences between those ESFs that surf the web but do not use the web for purchasing and those that have engaged in purchasing via the Internet are examined. Results can be utilized to examine why some entrepreneurs are hesitant to purchase products on the web. In addition, results will aid in the exploration of the buying habits of those ESFs who purchase on the web and the type of purchases they tend to make. Insight into these buying habits will further illuminate the nature of the buyer/supplier relationship.

In sum, the research objectives are to examine the Internet Adoption Model from the ESF buyer perspective to better understand the model and to identify additional barriers that may prevent the adoption of the Internet as a relationship management tool by ESFs.

PURPOSE OF THIS STUDY

This paper presents findings on using the Internet as a relationship marketing tool at the Marketing/Entrepreneurship Interface from the buyer’s perspective in an ESF buyer/supplier dyad. Data was examined through basic descriptive statistics, cross tabulations, and ANOVA in order to explore whether the findings identified any variables that warrant additional research in this area.

METHODOLOGY

A survey was administered via the Web to measure differences in Internet purchasing behavior of ESF buyers and examine the characteristics of the online purchasers. The sample consisted of
363 ESFs randomly chosen from a Southeastern U.S. city’s Chamber of Commerce Membership Directory. Respondents were first sent a letter explaining the purpose of the research and asking them to go to a specified website to complete the survey. The website was setup with a firewall to prevent unauthorized access, and information was collected on purchaser demographics, the nature, frequency and length of Internet use, and factors influencing decisions about whether or not to purchase. Upon respondent completion of the survey, the data was automatically and anonymously e-mailed to the researchers.

RESULTS

Of the 363 e-mail letters sent, fifteen were eliminated due to incomplete/wrong web address information. One hundred and nine of the 348 ESFs responded (a response rate of 31.3 percent). Males comprised 57.8 percent of the sample, while females comprised 42.2 percent. Based on the data, the respondents were classified into two main groups (non-internet purchasers and internet purchasers)

Non-Internet Purchasers

ESFs that surfed the web in the past year but did not purchase products from the Internet were classified as non-internet purchasers and comprised 20.2 percent of the total respondents in this study. Exhibit 5 lists the factors, in order of importance, contributing to the ESFs non-purchasing via the Internet (see Exhibit 5 below).

Exhibit 5: Reasons Why ESFs Do Not Purchase Online

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1). Variety of Products Available</td>
<td>3.46</td>
</tr>
<tr>
<td>2). Ability to Ask Questions</td>
<td>3.33</td>
</tr>
<tr>
<td>3). Ease of Navigating Around Web Site</td>
<td>3.14</td>
</tr>
<tr>
<td>4). Overall Speed of Process</td>
<td>3.00</td>
</tr>
<tr>
<td>5). Ability to do Comparison Shopping</td>
<td>2.69</td>
</tr>
<tr>
<td>6). Pricing</td>
<td>2.46</td>
</tr>
<tr>
<td>7). Security of Sending Credit Card Information</td>
<td>2.27</td>
</tr>
</tbody>
</table>

NOTE: Factors are rated on a 1-5 scale (5 very important and 1 not at all important)

The three main reasons why some ESFs do not purchase products online consist of: not enough variety of products available online, the inability to ask questions about the products, and the difficulty of navigating around the web site. This implies that even if the ESFs are willing to purchase products online, the suppliers are not currently using the correct technology (i.e., appropriate web sites) to make it possible.

As mentioned previously, this study examines ESFs in the role of buyer in the supplier/buyer relationship. Based on Exhibit 5, one can see that ESFs as buyers contrast sharply with consumers as buyers (see Exhibit 1 in literature review) in terms of their views toward
purchasing products via the Internet. Looking back at Exhibit 1, 97 percent of the consumers surveyed by Ernst and Young (1999) cite the main reason why they are not purchasing online is due to the uneasiness of sending credit card information across the Internet. This factor ranked last in the ESF research. In addition, only 18 percent of the consumers surveyed by Ernst & Young cited the importance of communicating with a sales representative as a contributing factor to non-purchasing. In this research, ESFs cited the inability to communicate with sales representatives as the number two reason why they are not currently purchasing products over the Internet. Based on these differences, ESFs as buyers have different needs/concerns than consumers as buyers and that depending on the target market (consumers or ESFs) firms may need to tailor their web sites accordingly. These results support the traditional marketing literature, which delineates decision-making processes into B2B and B2C categories.

**Internet Purchasers**

Those ESFs who purchased products or services from the Internet in the past year were classified as Internet purchasers. In order to clearly delineate the differences that could occur based on technical ability, internet purchasers were further defined into three groups (light internet purchasers, regular internet purchasers and heavy internet purchasers). Light Internet purchasers are those who have purchased products or services from the web one to two times in the past year. They include 22.9 percent of the total respondents in this survey. Regular Internet purchasers (comprising 26.6 percent of the total respondents) are defined as those ESFs who have purchased products three to seven times in the past year. Heavy Internet purchasers are defined as those who have purchased products or services, more than seven times in the past year from the Internet and include 30.3 percent of the total respondents.

As part of the survey, ESFs were asked to check the types of products purchased on the Internet. Based on the responses, products were defined as one of two types: business purchases (e.g., travel, software) or personal purchases (e.g., clothing, food). Cross tabulation results indicate that there is a significant relationship between the three types of Internet purchasers (light, regular and heavy users) and whether or not they purchase products for business use (chi-square=6.85, \( \chi^2 \); \( p=.033 \)). The strength of this relationship is also acceptable (Cramer’s \( V=.281; p=.033 \)). The data indicate that the more often ESFs purchase products from the Internet; the more likely they are to purchase those products for business use.

The three purchase groups also differ in the amount of money (categorized in three groups: $0-50, $51-100, and over $100) they spend per month online. As one would expect, the more one purchases products from the Internet, the more likely they are to spend more money each month online (chi square = 20.374,4; \( p=.000 \)). The strength of these items is positive and satisfactory (Cramer’s \( V=.346; p=.000 \)). Light purchasers tend to spend less than fifty dollars per month online, while the majority of heavy purchasers spend a hundred or more dollars per month online.

For the purposes of this study, technical ability was defined in two ways: 1) how much time ESFs spend online each week and 2) how long the ESF has been an Internet user. An ANOVA was computed to test the differences between the three purchase groups on each of the two items comprising technical ability. The results of the two ANOVAs are shown in Exhibit 6 below.
Exhibit 6: Technical Ability of Internet Purchaser Groups

<table>
<thead>
<tr>
<th>Internet Purchase Groups</th>
<th>Average Time Per Week Spent on Internet</th>
<th>Average Time as an Internet User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Purchaser</td>
<td>7.92 hours</td>
<td>3.75 years</td>
</tr>
<tr>
<td>Regular Purchaser</td>
<td>6.74 hours</td>
<td>4.97 years</td>
</tr>
<tr>
<td>Heavy Purchaser</td>
<td>13.45 hours</td>
<td>5.28 years</td>
</tr>
</tbody>
</table>

The three Internet purchase groups differed in both areas of technical ability. As seen in Exhibit 6 above, the more a group purchases online, the more time per week they spend online (F = 6.064, p = .003). Further multiple comparison tests, using Duncan’s multiple range test, reveal there is no significant difference between light and regular users in terms of average time per week spent online (p = .855), both averaging around seven hours per week online. However, results indicate that there are differences between light and heavy users (p = .031), and regular and heavy users (p = .05), with heavy users averaging about six more hours per week than the other two groups.

Significant differences also occurred between the three groups with respect to the second measure of technical ability used in this study—length of time as an Internet user (F = 2.393, p = .098). The difference in length of time as an Internet user between light and regular users (p = .233) and regular and heavy users (p = .901) are insignificant. However, results indicate that there is a significant difference between light and heavy users (p = .094) in terms of length of time as an Internet user, with light users averaging around four years and heavy users averaging over five years of time as an Internet user.

Gender differences were also found in the data. Males spend significantly more time online than females (t = 1.490, p = .069). Results indicate that males spend an average of 10.08 hours online while females average 7.60 hours online per week. In addition, differences between gender and length of time the ESF has been an Internet user also occurred (t = 2.233, p = .014). On average males have been Internet users for approximately five years while females have been Internet users for approximately four years. This implies that technical ability could also be related to gender.

**DISCUSSION**

The results of this study indicate that there are differences between ESFs as buyers and consumers as buyers of Internet products. In addition, these results duplicate and expand those found by McGowan and Durkin (2002) in terms of technical ability of ESFs and Internet use.

As stated in the literature review, the Internet Adoption Model proposed by McGowan and Durkin (2002) suggests four quadrants relating to the importance of the Internet in the supplier/buyer relationship. This paper’s research examined the second and fourth quadrant in the model, by surveying ESFs as buyers in the buyer/supplier relationship.
In the second quadrant, (i.e., Prospector), the entrepreneur not only understands the importance of the Internet but has taken steps to use the technology in his or her business (McGowan & Durkin, 2002). ESFs that surf the web but have not purchased products or services from the web (non-purchasers) could be argued to fall into this group. As found in this research, this group understands the importance of the technology (i.e., they surf the web) but they have not purchased products from the web because the technical ability of the suppliers is not yet available. Based on this research it was found that as the technical ability of the ESFs and the suppliers increase; there is the likelihood that this group might start purchasing products from the Internet. This finding seems to concur with McGowan and Durkin’s claim that once the value of the Internet is understood, the technical ability must be conquered before an ESF can master “control” and move into quadrant four (i.e., Happening).

Quadrant four is defined as “…the ultimate point in the continuum…” (McGowan & Durkin, 2002, p. 367). Here, both the supplier and the buyer integrate the Internet in their business use. This study examined quadrant four by surveying Internet purchasers (see the Results section, entitled Internet purchasers). In this group, the ESF is utilizing the Internet for business purchases and has mastered some level of technical ability concerning the web. Results of this study indicate that quadrant four may be broken down into three discreet groups (light, regular and heavy purchasers) based on the level of purchasing via the Internet. As discussed above, the three purchase groups in this study were found to differ in terms of technical ability and their purchasing habits on the Internet. Further research needs to examine these three purchase groups in terms of technical ability and their integration of the Internet into their business practices to determine the nature of these differences.

**LIMITATIONS AND FUTURE RESEARCH**

There are some limitations to the methodology utilized in this paper. By examining the current research in this area, the authors were able to infer that there are Internet purchasing behavior differences between small firms (ESFs) and consumers. While this linkage is established in the literature, further research is warranted to determine if a statistical linkage exists between these two groups. Further, differences between small and large B2Bs were not explored. Thus, the following hypotheses are proposed for future testing:

- **H1:** Internet purchasing behavior is different for small firms (ESFs or SMEs) versus consumers.
- **H2:** Internet purchasing behavior is different for small versus large B2Bs.

In addition, the conceptualization of the measure technical ability may warrant further investigation. While the authors have proposed one definition of technical ability in this paper, further research could uncover other useful descriptions of this concept that could be used to strengthen the linkages established in this paper.

Consideration should also be given to the sampling method employed in this paper. The current sampling method is a way to capture current firms who are purchasing products on the Internet. However, there might be some concern as to the generalizability of these results. The results of this paper provide an initial reference point in understanding the purchasing behaviors of small
firms; but further research is needed which utilizing other sampling methods and other geographical areas to determine the extent to which these results can be inferred to the larger population.

The types of purchases included in this study should also be commented upon. In order to establish a linkage between purchasing behavior and ESF’s as buyers, general purchasing behavior was investigated. While general purchasing behavior was a first step in determining this linkage, further research could investigate if such linkages exist when utilizing different types of B2B products and services, leading to a third hypothesis for future testing:

\[ H3: \text{Internet purchasing behavior of ESFs differs depending on type of product purchased (e.g., office supplies versus raw materials).} \]

This research explored ESFs as potential buyers in the supplier/buyer relationship. Initial results indicate that there are differences between consumers as buyers and ESFs as buyers. In addition, two quadrants in the Internet Adoption Model (proposed by McGowan & Durkin, 2002) were examined. Results specify that ESFs who fall in quadrant two lack the technical ability to integrate the Internet fully into their business. It was also found that those ESFs who fall into quadrant four of the model might differ slightly in terms of their technical ability. Further research needs to be performed to more thoroughly examine these potential differences.

Such research will serve as a mechanism for extending the current Internet Adoption Model to encompass ESF buyer behaviors and determinants. This knowledge would help ESF suppliers better grasp and overcome barriers to ESF buyer adoption of the Internet. The resulting increased adoption rate would result in more successful business transactions for both buyers and suppliers; and thus, greater overall success and survival of ESFs. Finally, the authors hope that this project will alert researchers in the Marketing/Entrepreneurship area to the need for additional research on the Internet ESF buyer/supplier relationship, so that a true understanding of this relationship at the marketing/entrepreneurship interface can be developed and made actionable.

REFERENCES


Ernst & Young (1999). The second annual Ernst & Young Internet shopping study. *Ernst & Young, (June)* 11-14.


