

## PRODUCT AND FIRM QUALITY SIGNALING IN E-BUSINESS: INTERSTICES FOR SMALLER BUSINESSES

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### ABSTRACT

*Interstices, or gaps created in the economy, are becoming apparent in the third phase of the E-Business life cycle and providing opportunities for entrepreneurs. Such opportunities may allow smaller firms to enter these spaces and create new businesses or partnerships. As an example of these interstices, product- and firm-quality signals can be communicated and coordinated well over the Internet. However, it is unclear if such information flows are currently being applied. An application to grocery E-Business ventures is advanced to highlight the current use, or non-use, of such quality signals. The entrepreneurial insights provided by a preliminary content analysis of some 21 E-Businesses within the grocery industry are generalized for a wider audience. Lessons learned from this study are then applied to consider the reasons for Webvan's demise.*

### INTRODUCTION

Where entrepreneurship is concerned, in growth there is opportunity. In the process of growth, interstices—which are cracks or spaces in the fabric of the economy—occur. For entrepreneurs, there is an opportunity to enter these spaces and create new businesses or partnerships. (An historic example would be the growth in the automobile industry that created niches for parts manufacturers, components suppliers, etc.). E-business is in the early stages of its life cycle, when growth occurs at an increasing rate. We have seen manifestations of such interstices in three broad

waves in these early stages of E-Business growth.

First was the so-called **dot-com phase**, where many new, primarily small businesses launched on the Internet in the hope of establishing themselves as first movers. Some survived. Many did not. In a second on-going phase of E-Business, established firms recognized the advantages to be gained from augmenting traditional means of doing business with new E-Business options. These **bricks and clicks** efforts are being directed both at partners in the supply chain (B2B) and at the final consumer (B2C). Through these efforts, industry leaders as well as smaller firms are acquiring a Web presence. It is our hypothesis that this step marks the initiation of a third phase, **the creation of new interstices** (or niches) for entrepreneurial efforts.

There are two potential types of interstices. First would be those that exist because established firms may see E-Business primarily as an adjunct to their usual means of doing business. As such, these firms may not be willing to undertake the breadth of change that would enable them to profit from new ways of doing business. Regardless, these firms may be successfully integrating business activities on- and off-line as most analysts recommend, but are still basically applying their traditional business model to the Internet. This process fails to recognize the uniqueness of E-Business opportunities. Entrepreneurial firms can step into this breach. Second, opportunities may be created for entrepreneurial firms to partner with established firms in the delivery of products and services. If you can't beat them, join them!

This paper focuses on the ability of E-Businesses to effectively signal product and firm quality. The objective is to explore the nature of interstices and the possibilities for entrepreneurship in this new phase of E-Business by reference to one industry. It is our contention that interstices could occur in any industry, and that entrepreneurs stand to benefit from the systematic in-depth analysis of gaps in product- and firm-quality signaling online. We question the unique aspects of such business opportunities and challenges, recommending a closer assessment of the quality of information and the information about quality to be signaled to customers. Potentially, product and firm quality signals can be communicated and coordinated well over the Internet. However, we believe this is not currently evident in the grocery industry<sup>1</sup> leading to interstices for entrepreneurs. The Internet sites of industry leaders in the grocery business (both dot-coms and traditional supermarkets) are reviewed for signs that interstices are indeed present. The entrepreneurial insights provided by a preliminary content analysis of some 21 grocery web sites are generalized for a wider audience. By so assessing E-Business ventures, we hope to both suggest certain key quality signals and also recommend how entrepreneurs may best react to the interstices by better signaling firm and product quality. We conclude the paper with a discussion of Webvan's recent demise.

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<sup>1</sup>This industry is chosen due to the vital role of product quality signaling and consumer recognition of quality in its market success.

## BACKGROUND: WHY WORRY ABOUT THE WEB?

Concern is rising over the adaptability of traditional management and marketing strategies to the Internet age. Porter (2001, p. 64) forecasts that “The key question is not whether to deploy Internet technology—companies have no choice if they want to stay competitive—but how to deploy it”. If he is correct, then E-Business can prove to be a significant driver for change within the market. This will occur through the construction of strategies that build upon closer coordination and communication. Some of this potential may be either mitigated or exaggerated by unique aspects of E-Agribusiness (the use of E-Business strategies by companies in the agricultural and food industry) applications (Hooker, Heilig, & Ernst, 2001).

There may be advantages or disadvantages of firm size and type that demonstrate economies or diseconomies of scale, of scope, or of entrepreneurial ability. Discovering how to survive and prosper in an increasingly competitive and often hostile environment such as the electronic marketplace is a problem shared by many entrepreneurs. Consumers seek convenience, quality, service and value, and entrepreneurs must cater to those desires. Small businesses that carefully define their market are often able to meet consumer needs better than larger institutions. The growth and the success of entrepreneurs will depend on finding and responding to the right interstices (McCrea, 2001).

According to a recent report by Jupiter Media Matrix (May 22, 2001) the online grocery channel will command close to 2 percent of total US grocery sales by 2006. Estimated online grocery sales will rise from \$1 billion in 2001 to \$11.3 billion in 2006. The online grocery market grew by nearly 200 percent between 1999 and 2000. However, due to high operational costs, major E-Groceries like Webvan and Peapod have experienced setbacks (*The Standard*, April 30, 2001) and traditional grocery chains that are moving online are seeking more suitable and sustainable business models.

This paper discusses such Internet-based management and marketing strategies, focusing on the important roles of firm and product quality signaling. Quality signaling is an important factor in the consumer decision-making process, especially in markets where quality uncertainties exist. This occurs when products are heterogeneous (Wiggins & Lane, 1983). With such differentiated products, consumers may have imperfect information about the quality or characteristics of each product available. Such imperfect (asymmetric) information may generate risk, which will affect the decisions of risk-averse consumers. Unlike traditional grocery shopping, consumers cannot examine products in person when shopping online and, we postulate, the perceived quality becomes an important factor in the consumer decision-making process. Thus, quality signaling is an important aspect of business strategy for the online grocery environment. Examples from E-Agribusiness, and in particular E-Grocers, are presented to highlight our assertions.

## RESEARCH QUESTIONS

Our fundamental research questions can be stated as: (1) Is product and firm signaling effective online? (2) Does the current (in)ability to effectively signal quality lead to interstices for entrepreneurs?

We investigate the ability of firms to signal firm (B2B and B2C) and product (primarily B2C) quality over the Internet. We are concerned over the creation of new quality signaling challenges that may arise online. For example, does the ease of mimicry prevent certain information from being placed on web sites? Alternatively, are food manufacturers being required to provide retailers with product quality information to be placed on the grocers Internet sites (e.g., nutrition facts)? Conversely, are the fears of disintermediation (Atkinson, 2001; Porter, 2001) – the bypassing of traditional supply chains through ‘direct to the consumer’ marketing channels – as apparent in the grocery industry as they are in others? If not, why not?

Certain E-Business tools may provide for more effective or efficient communication or coordination of quality information. Examples may include the real-time tracking of shipments through the use of global positioning systems (GPS), the creation of individualized shopping lists tailored to special dietary requirements on an E-Grocery site, etc. It is unclear if these tools are sufficient to address all consumer concerns over online grocery shopping (e.g., the ability to offset the lack of true organoleptic search processes).

Once the need for further research to address these questions is recognized, the methodological approach to evaluate the success of these signaling efforts takes center stage. We conducted a preliminary qualitative content analysis for the purposes of this paper. This is the first step in an ongoing research project that will subsequently include a longitudinal, international comparison of bricks and clicks supermarkets, dot-com E-Groceries, and specialty food E-Agribusinesses. Within the overall project, quantitative content analyses will be linked to consumer simulations, and behavioral and attitudinal surveys to compare a range of firm- and product-quality signaling strategies.

## THE ROLE OF SIGNALING

The efficiency of a market critically depends on the amount and nature of the information available. When the quality of a product is unknown, consumers may be unwilling to pay for it and thus result in less-than-optimal consumption. Since the seminal article by Nelson (1970) that discussed the signaling model of advertising, a large body of literature has developed dealing with markets with imperfect information (Smallwood & Conlisk, 1979; Wiggins & Lane, 1983; von Ungern-Sternberg & von Weizsacker, 1985).

Nelson (1970) defined experience goods as products whose qualities cannot be observed prior to purchase, as opposed to search goods. The notion of experience goods is important in the study of E-Groceries in two major aspects. First, because

of the nature of E-Commerce, quality uncertainty becomes more severe. Products that are search goods in a traditional marketplace become experience goods online. For example, fresh produce is generally classified as search goods because a visual inspection of the texture of the products, occasionally combined with some nutritional information, is required to judge quality. However, in electronic marketplaces, consumers cannot fully examine the quality of fresh produce personally and, thus, the burden is on the suppliers to signal the quality of their products using other mechanisms. Second, E-Grocers as firms are experience goods themselves. The physical presence or the identity of a seller is difficult to verify in electronic marketplaces (Choi, Stahl, & Winston, 1997). Consumers do not know in advance whether or not the E-Grocers are going to provide satisfactory services unless the consumers try the business and find out. Thus, in order to entice consumers to try their online stores, firms must supply quality signals about themselves as service-providing firms, as well as about the products they offer. This may conflict with well-documented consumer concerns that continue to constrain the expansion of E-Commerce in general. Issues related to security, ease of discovery, product descriptions, satisfaction guarantees, and logistics may be further magnified in the grocery industry given products where consumers value quality and are well indoctrinated in existing, frequent, and low-cost search and purchase experiences.

### SIGNALING METHODS

Numerous mechanisms can be used to accomplish the goal of quality signaling. Some of these mechanisms can be used to signal both product and firm quality and others to signal firm quality. First, the classic mechanism of quality signaling discussed by economists is advertising (Davis, Kay, & Star, 1991; Nelson, 1974; Wiggins & Lane, 1983). The first and most obvious piece of information that the advertisement can provide is the seller's willingness to advertise. This itself provides a signal of the seller's confidence in and commitment to product quality (Davis et al., 1991). This is a model of advertising as a screening mechanism (Telser, 1964). Under this view, advertising signals the quality of a product by displaying the producer's confidence in the output, reflected by the money that is spent on promoting it.

Second, firms can convey quality information by offering guarantees or warranties (Choi et al., 1997). The key element of guarantees or warranties is their credibility. By offering such signals, firms are further demonstrating their confidence in their products and services.

Third, the reputations of the branded food products that the E-Grocers decide to carry and the value-added services the firms decide to provide (store reputation) function as quality signals. When consumers are not familiar with the E-Grocers as a firm, they look for other cues for the quality of the firm. Having brands that are recognized and trusted by the consumers is an example of such a cue.

Fourth, firms can display quality information provided or verified by trusted third parties. The third party should be neutral and should have the necessary expertise or relevance to evaluate the products. The third parties could be government agencies, non-profit or consumer advocacy organizations, industry groups or experts. Another form of third party verification would be providing quality information using established certification programs or standards. In the electronic market environment where information flow is bi-directional (Porter, 2001), the third party could easily be a consumer who has already tried the E-Grocer or its' products. Such quality information can be provided in forms of consumer ratings or through a public bulletin board.

### **AN APPLICATION: GROCERY E-BUSINESS**

Our study of E-Grocers is particularly appropriate as a way of examining the role of quality issues in creating market interstices and, therefore, opportunities for entrepreneurs. Food products by their very nature are highly tied to quality factors—both firm and product. At the same time, there are both cultural and physical impediments to circumventing existing systems of marketing food. Customers are generally comfortable with a system of search and acquisition that requires physical proximity to the product. Indeed, much of the existing food merchandizing system is based on organoleptic information. A system of retailing that forces the consumer to dramatically change that approach to food purchase faces a unique responsibility to address such concerns.

Likewise, E-Business for food offers special logistical constraints beyond the consumer's search and selection problems. Perishables are an important part of the grocery purchase. How the E-Business handles the selection and delivery of such products can be a complex logistics problem. Perhaps as importantly, how the firm signals its ability to deliver quality perishables is critical to the acquisition and maintenance of customers. Some firms examined have basically eliminated perishables from their online product selection. This raises additional concerns in that these products may be the very ones that drive customers to the firm in the first place.

In fact, this question of product range and mix is a considerable one for E-Grocers and entrepreneurs wishing to enter the market. Firms must choose a product mix that satisfies full consumer demand without overwhelming shoppers who may be particularly skeptical to this online shopping experience. Technology is available to help E-Grocers deal with such problems, but the current applications appear limited at best. Allowing the level of comparison between products and providing enough of the right information to make purchase decisions is critical for both niche markets and broader ranges of grocery selections. Yet, the amount of technical sophistication and understanding of target customers to accomplish this effectively and efficiently appears limited in this industry at this time.

## WHAT WE DID AND WHAT WE FOUND

The purpose of this study is to examine the leaders in the grocery industry and, importantly, to develop tools for evaluating food-based E-Businesses that market products with key quality concerns. To this end, in May 2001 an evaluation tool was developed to assess both firm and product signals of quality. While potentially applicable to other industries, our review focuses solely on the grocery sector. We used the Supermarket News *Top 75 Company Rankings for 2001* ([www.supermarket-news.com](http://www.supermarket-news.com), 2001) and other industry leadership-reporting mechanisms to select 21 online grocery site.

**Table 1. Websites Evaluated**

Website	Dot-com	Bricks and Clicks
<a href="http://www.webvan.com">www.webvan.com</a>	X*	
<a href="http://www.albertsons.com">www.albertsons.com</a>		X*
<a href="http://www.fleming.com">www.fleming.com</a>		X
<a href="http://www.aptea.com">www.aptea.com</a>		X
<a href="http://www.peapod.com">www.peapod.com</a>	X*	
<a href="http://www.safeway.com">www.safeway.com</a>		X*
<a href="http://www.aldi.com">www.aldi.com</a> (US only)		X*
<a href="http://www.meijer.com">www.meijer.com</a>		X*
<a href="http://www.kroger.com">www.kroger.com</a>		X*
<a href="http://www.giantfood.com">www.giantfood.com</a>		X*
<a href="http://www.supervalu.com">www.supervalu.com</a>		X*
<a href="http://www.shaws.com">www.shaws.com</a>		X*
<a href="http://www.groceryworks.com">www.groceryworks.com</a>	X*	
<a href="http://www.winndixie.com">www.winndixie.com</a>		X*
<a href="http://www.bluelight.com">www.bluelight.com</a>		X
<a href="http://www.walmart.com">www.walmart.com</a>		X
<a href="http://www.stopandshop.com">www.stopandshop.com</a>		X*
<a href="http://www.publix.com">www.publix.com</a>		X
<a href="http://www.heb.com">www.heb.com</a>		X
<a href="http://www.netgrocer.com">www.netgrocer.com</a>		

\* Full E-Commerce ability at time of review(May, 2001)—consumers being able to place an online food order.

Included were four dot-coms, 16 bricks and clicks grocers (with varying degrees of E-Business and E-Commerce capabilities), and one E-Business solutions provider (Table 1). We developed the evaluation tool to assess how these firms signaled quality traits about themselves and the products (and services) they were marketing online to their customers. Some of the key items evaluated are presented in Table 2.

**Table 2. Key Instrument Items**

<b>Categories</b>	<b>Example Indicators</b>
<b><i>Firm Quality</i></b>	
1. Firm Financial Data	Firm share price, Annual reports (10K, 10Q)
2. Return Policy	Money back guarantee, return process
3. Delivery Options	Pick up available, Work / home delivery, delivery time window, delivery fee
4. Payment Option	Number of payment options, Number of cards accepted
5. Security Issues	Privacy policy, use of security software, third party certification
6. Pricing Strategies	Coupon, Bulk purchase discount, minimum order
7. Feedback form	Email addresses, phone number (local and 1-800), time required for response
8. Customer Profile Maintenance	Log-in, previous purchase history
9. Ease of Use	Time and clicks to place an order, navigational logic
10. Coordination of Bricks and Clicks	Ties to physical stores and brands
<b><i>Product Quality</i></b>	
11. Nutritional Information	Nutritional facts panel, Ingredients, additional information
12. Product Information	Origin, organic, etc.
13. Product Description Format	Pictures, Use of multimedia, length of description
14. Brands	National / private
15. Depth of Product Range	Number of products available for sample products from each category
16. Availability of Perishables	Number of produce, meat and poultry, seafood, etc. items available
17. Customer testimonial / endorsements	Presence of customer supplied information available online
18. Other	Bundling of food and non-food items

Five members of the research team each reviewed either four or five E-Grocery Internet sites using the tool. Several quantifiable variables were recorded. Subjective analysis of other signaling categories was also reported. Results from this survey approach were then compiled and compared by two members of the team. Trends and ranges of experience were reported. Further analysis resulted in a compilation of recommendations for entrants into the E-Grocery sector. Additionally, we report several opportunities (interstices) for marketers in grocery



and specialized-food industries stemming from our observations.

Of the 84 variables we considered subjectively for indication of signaling either firm or product quality, about 15 were considered following analysis as immediately advisory to understanding the importance of quality in an E-Grocery environment. Some grouping occurred in the analysis. From those we infer potential within other industries and are able to make some direct recommendations for locating interstices in the E-Grocery industry that future entrepreneurs or innovators might wish to consider. For the sake of this paper, we will consider two major groupings of signals: those focused on the *experience of shopping* for groceries online and those centered on *signaling product quality*.

Quality signals related to the online shopping experience at E-Groceries primarily relate to the firm's showing an ability to handle logistics of selection, purchase and delivery, or to the ability to provide shopping experience amenities for the consumer. In our qualitative review several points were clear and present interstices to existing and future innovators alike:

- (1) Logistics matter. No matter how wonderful the overall selection or individual products offered, the E-Grocer must be able to deliver that quality in a fairly painless way. Signals sent to consumers through explanations of policies and navigability of the actual online shopping tool are critical to successful completion of a purchase and return of that customer in the future. Likewise, providing tracking and customer service through receipt of the order is a service that is not universal but should be. Issues as seemingly simple as how the customer receives the product are surprisingly ignored—if online grocery shopping is to be successful, receipt options must fit the needs of customers. Few options existed among the firms we studied for local pickup or office delivery, and home delivery schemes were fairly restrictive based on the retailer's schedules. In the area of logistics, retailers should consider ways to make the process mimic known shopping and customer-service experiences from the bricks environment. Opportunities exist for firms that can find new or innovative ways to rectify consumers' logistical concerns in shopping for groceries online.
- (2) Community can be an important part of the signaling process. E-Grocers may use various tools and practices to establish their presence in the consumers' physical community, signaling that their stability and concerns extend beyond the online environment. This is particularly true of those bricks and clicks firms who have both online and local store presence. Likewise, E-Grocers can use techniques that create community online. Such behavior serves to connect the customer more closely to the firm—particularly critical in the case of dot-coms who have no physical presence in the community. Communities can be created through practices as simple as

connecting shoppers with similar food interests or promoting the sharing of recipes or preparation techniques. These communities may signal the quality of the firm involved and help shoppers move beyond their concerns with buying groceries online by promoting such consumer-to-consumer interactions. We found several firms attempting this but few doing it well.

- (3) Opportunity exists in unique or targeted experiences. While tools such as individualized shopping lists were beginning to appear on the sites we observed, there are further opportunities in allowing customers to manage their grocery (and related non-food product) inventories, link favorite recipes with shopping lists, quickly focus on products that meet their special dietary or cultural needs, or provide shopping recommendations and extended services. Likewise, offering bundles that meet specific consumer needs (e.g., a package deal on ingredients for a full low-sodium meal; or cake, ice cream and a birthday card) are potential market expanders. Many targeting practices are possible given the existing technology, and some firms are beginning to apply them. The greatest opportunities exist for those firms that are able to apply them in ways that customers find blend convenience with their security and privacy concerns.

Signals related to the quality of products marketed by E-Grocers were, in some ways, weaker in the cases we observed. These signals fit into three primary categories:

- (1) Product information includes physical descriptions, nutrition, and dietary links. These are all areas that help show consumers the quality of the product, absent the ability to physically examine it. We found wide variance in the use of such tools, let alone innovative use. The ability to target product descriptions and benefits to a consumer base increasingly concerned about the attributes of foods they consume is potentially a mandatory condition for online grocers. At present, such ability may present an interstice for entrepreneurs.
- (2) Product mix and depth includes number of brands and products being offered. The majority of firms have basically moved their in-store inventory on line. The exception is generally in the area of perishables where many have chosen to reduce risks of logistics by not offering fresh and frozen products (primarily dependant upon their delivery tactics). The signals sent by mass dumping of products to an online environment are not positive. Targeting is ignored.
- (3) Product presentation is perhaps the most critical and difficult issue in signaling product quality in the grocery business. For products often dependent on organoleptic information, online retailing presents additional challenges. Barring the deployment of devices that transmit scent, taste or texture over the Internet, the E-Grocer is limited to the

use of color, words and sound to present the product. Basic product descriptions are a necessity, although sadly lacking in many of the observations we made. More detailed descriptions of products and uses are more desirable. High-quality images may be able to replace some of the signaling advantages of actually handling a product. Third-party certifications, quality guarantees, and customer testimonials may also be used to present the quality attributes of a product. Again, these more advanced signals are not the current industry standard. An ability to better communicate quality may offer opportunity for emerging or future E-Grocers to capture more of the market.

## **DISCUSSION: THE PROS AND CONS OF BEING SMALLER**

Given the potential gaps found in our preliminary examination of the E-Grocery business, what are the implications to smaller firms? Our observations indicate that, despite perceived diseconomies of size, small and entering firms may find profitable interstices. Much of the key to their success would be based on quality differentiation and service leadership. Local grocers may find opportunities in their existing brick infrastructure by bundling the old service of local delivery with the new service of online ordering. Additionally, smaller firms may find unique opportunities to team up with complementary businesses to offer a wider range of products and services and, therefore, attract a new or expanded customer base (e.g., local grocery, florist, pharmacy and dry cleaners developing a common online ordering and delivery system). In some markets, this might allow such small firms to compete with larger, broader firms for share.

Smaller or more specialized firms also have the opportunity to develop additional trust-based services related to quality concerns. In the E-Grocery world, examples might be providing hand-selected produce to customer specifications, asking and responding to customer preferences on fat content of foods, or providing alerts when food selections differ from recorded dietary needs. Developing these additional selection distribution-based services creates an interstice for small business.

## **EXTENSIONS**

While admittedly preliminary, our analysis of the E-Grocery industry holds some implications for other industries, especially where quality is of paramount concern to the customer. Fiber and clothing markets come to mind where consumers must judge quality of products that are best evaluated by sight and touch senses. In a similar vein, services marketed over the Internet that involve a high degree of trust (e.g., financial planning, counseling, etc.) have demands for quality signals that greatly affect their success or failure. In this light, we believe there is much to be

learned about online consumer responses to various technical and website organization techniques that signal the quality of physical products or services marketed online. Additional exploration of consumer responses to online marketing tactics would enhance the ability of firms of all sizes to succeed in this environment. Likewise, we would raise a number of other questions from our study relating to strategies for maximizing existing competitive advantages - especially in the case of smaller firms. On a slightly more focused note, we see need for additional study on the role entrepreneurship plays in the successful deployment of an E-Grocery enterprise and the effect firm structure has in that success.

### **EPILOG: WHAT HAPPENED TO WEBVAN?**

During the review process of this paper, one of the major players in the E-Grocery business, Webvan, filed for bankruptcy in July 2001. This clearly demonstrated the dynamic nature and volatility of the electronic marketplace, especially for the grocery business. Bakshi (2000, p.8), in his case study stated that Webvan “represented a giant bet on the future of the Internet and time would tell whether its strategy would deliver its promises.” It appears that the strategy has failed, leaving the remaining players and potential newcomers to wonder and search for business models that can deliver success.

First, it is generally agreed that it was the high operational cost of the business model that led to the failure, despite the large investment of \$830 million. On top of the cost of building new warehouses and distribution centers nationwide, Webvan (a dot-com company) had to hire personnel to handle order fulfillment—a cost that in-store shoppers incur themselves. By contrast, Albertson’s, a bricks and clicks company that is trying to fill in the market space left by Webvan and Homerun.com in the Seattle area, believes that delivery is but an option within its E-Business model. Physical locations can alternatively be used as pickup facilities (Koller, 2001). Many favor such a store-based fulfillment business model as championed by Tesco.com. The lesson to be learned is that there seems to be an advantage in joining E-Businesses with existing traditional stores (the bricks and clicks or second phase of E-Business development discussed above). This model leads to a classic make-or-buy question with certain firms choosing to internalize such partnerships (e.g., the Ahold group’s purchase of Peapod). For entrepreneurs this represents an opportunity to reduce operational cost and take advantage of existing (offline) firm-quality signals.

Second, it has been suggested that Webvan failed to forecast the demand of consumers accurately, taking the mentality of ‘build it and consumers will come.’ The lesson to be learned is the necessity of a consumer-centric approach. It is important to understand and estimate the size of the current and potential market and to cater to those markets accordingly. E-Business entrepreneurs need to find out what will create the highest value for consumers and target accordingly. For example, if the purpose of shopping online for certain consumers is to save time, then providing

high-level technological services that expedite the shopping process is most appropriate and may justify higher prices than local stores. If the purpose of shopping online for other types of consumers is to gain access to particular kinds of food items, then offering specialized content or links would be useful. The key strength of E-Business is its ability to cater to the need of consumers. In evaluating such interstices E-Business entrepreneurs should define the consumers they are ready to serve, be certain that those customers are ready and able to be served by E-Commerce, and then make sure that each consumer receives the right kind of signal about the products and services provided.

Last, many reports following the demise of Webvan suggest that its consumers were generally satisfied with the service, but that there were not enough customers, and the customers did not buy enough groceries often enough. As we have stated in our findings and suggestions, not many online grocers are taking advantage of their satisfied consumers as a marketing tool. Viral marketing, which uses word-of-mouth of customers as a primary marketing tool, is a concept that is becoming increasingly important in the electronic marketplace. The use of customer networks to provide referral discounts could be a cost effective method of marketing for E-Business entrepreneurs.

In the wake of Webvan's demise there seems to be skepticism towards the online grocery business. That, we suggest, may be premature. Tesco, Britain's number one food retailer is turning a profit on web-ordered groceries (Wilder, 2001). Despite the turbulent environment, forecasters still project that the online grocery business will eventually become profitable in the U.S. too. Ironically, Webvan will likely be remembered as the pioneer of the online grocery business. Their most important legacy is the lesson that the process of buying and selling groceries online is evolutionary, not revolutionary. We must learn to take more measured steps into the brave new world.

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## About the Authors (*continued*)

*"Product and Firm Quality Signaling in E-Business: Interstices For Smaller Businesses"*

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*"Back to Business Basics: Buyers, Benefits, and Brands on the Internet"*

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*"How Small and Medium Size Manufactures Use the Internet for Technology Development"*

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