Consumer Response to Online Grocery Shopping

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Consumer response to online grocery shopping

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Keywords

Retailing, Internet, Food, Consumer behaviour

Abstract

Reports a preliminary assessment of consumer response to and demand for online food retail channels. Data were collected from 243 US consumers who currently buy their groceries online. The majority of online users were younger than 55 years of age, female, and reported annual incomes of $70,000 or more. Over 70 percent reported convenience and saving time as their primary reasons for buying groceries online but 15 percent cited physical or constraint issues that made it difficult for them to shop at grocery stores. Of the respondents, 19 percent bought all of their groceries online. Also reports demographic and online shopping variables that are significantly related to the primary reason for shopping online, willingness to buy all grocery items online, perception of time spent shopping online vs in the store, and experience with online grocery shopping.

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Introduction

There is currently a glut of trade publications and consulting reports which attempt to predict the future potential for online shopping. In this study, we collect and analyze data from actual users of online grocery shopping services. Our objective is to profile the characteristics of such users and make a preliminary assessment of consumer response to, and demand for, online grocery shopping services based on behavioral data.

Terbeek (1996, p. 93) suggests that the future of the retail food industry is less about incremental supply chain improvements and more about "redistributing rewards and profits along the consumer's value chain according to value created". Kinsey and Senauer (1996) believe retailers have the potential to "create value" along two dimensions of convenience. That is, the retailer improves convenience by enabling the consumer to increase the number of tasks that can be accomplished during a single visit to the retailer, or reduce the amount of time required to complete the shopping task. Retailers that expand their product assortments and add a variety of services to the offering (e.g. banking, floral, video rental, cleaning) focus on adding value along the first dimension (completion of multiple tasks). Those retailers that add express checkout lanes and offer drive-up services are adding value on the second dimension by reducing the time spent on the grocery shopping task.

According to Kinsey and Senauer (1996), the ultimate time-saving convenience may be home shopping. Liebmann (1998, p. 25) observes that while consumers are shopping more, at more outlets, and more often, "... these same consumers repeatedly tell us they are time-pressed and want more convenience-oriented and added value services that will save them time." Also, grocery store operators are seeking more retail channels that bring them into direct contact with the consumer without the shopper stepping into the physical store. Thus, online grocery shopping services have the potential to fulfill the goals of both consumers and grocery store operators. It was, therefore, the objective of this article to make a preliminary assessment of consumer response to and demand for online grocery shopping services using data collected from actual online shoppers. Specifically, the researchers wanted to:

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- learn who uses online grocery shopping services and why;
- describe consumers' online grocery shopping behaviors;
- learn how shopping online has influenced consumers' overall food shopping; and
- identify what consumers see as the positive and negative aspects of online grocery shopping.

Background

Although the earliest grocers offered home delivery services in the US market, supermarket shopping via the computer dates only to the late 1980s. An estimated 90,000 US consumers bought groceries online in 1998 but the number is expected to grow to 7 million by 2002 (Belsie, 1998). Several factors explain the demand for more convenient ways to buy groceries, including greater labor-force participation by women (who have traditionally been the primary food shoppers), a greater number of dual-income and thus higher-income households, and a greater number of single-parent and elderly households with time and other resource constraints (Park *et al.*, 1998). The greater number of consumers with personal computers, modems, and subscriptions to online services in their homes makes ordering groceries over the Internet a realistic option for an increasing number of households.

Practices of online food retailers

A recent search for Internet sites selling a full line of groceries online identified 12 in the US market. (This paper does not include the numerous specialty and gift food retailers operating online.) Each of the 12 fits one of two basic descriptions: online retailer or online grocery shopping service. Online retailers are virtual supermarkets, existing only online. They typically fill orders from merchandise stored in a warehouse. Examples include NetGrocer (www3.netgrocer.com) and Streamline (www.streamline.com). Among the online retailers found in the Web search, most delivered only in the Boston area; an exception was NetGrocer which delivered non-perishables nationally via Federal Express.

Two online retailers, Streamline and ShopLink, lease warehouses from which orders are picked and filled (Kirsner, 1999). Both also offer customers not only weekly home deliveries of groceries, but also other services such as picking up dry cleaning, and video rentals as well as UPS shipments. Streamline deliveries can be left in a special unit that is installed in the customer's garage at no extra cost to the consumer (Lardner, 1998). The unit includes a refrigerated and a frozen section (Lundegaard, 1997). A Streamline field agent visits the home initially and uses a barcode scanner to record what the consumer already has in order to set up a personal shopping list (Ransdell, 1998). Customers pay a flat monthly fee for the service.

A second basic type of Internet grocery service is the store-based shopping service. This service typically picks a consumer's order at a local supermarket; the consumer can either pick up the order at the store or have it delivered to his or her home or place of business. While some online retailers (e.g. Schnucks; www.schnucks.com) fill orders from their own stores, at least one (PC Foods; www.pcfoods.com) shops at one or more stores chosen by the consumer.

The oldest US grocery shopping service is Peapod Foods (www.peapod.com) which had $69 million in revenues (and a $21 million loss) in 1998 (Anders, 1999). In the decade that Peapod has been in operation, it has used the store-pick format. In the store-pick format, Peapod contracts with a supermarket and Peapod's professional grocery pickers select merchandise at that store to fill orders. However, Peapod has recently changed to the warehouse model in two of the eight US markets it serves and plans to make that conversion in its other markets as well (Donegan, 1999). Peapod's delivery prices vary by market; however, typically the charge is a monthly fee plus a flat rate delivery change. In some markets, Peapod charges only the delivery charge. Peapod offers the full range of products typically found in the local supermarket and delivers seven days a week.

The consumer's cost of using a store-based shopping service varies considerably depending not only on the individual retailer, but also on the type of service provided. Store-based services usually charge around $10 to $15 per order. Some add other fees depending on the service, the market, whether groceries were delivered or picked up, and sometimes the amount of the order. Still others waive the delivery fee on orders above a

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certain minimum amount, typically $60 to $75. Online retailers typically charge a service fee of $30 to $50 a month which includes one delivery per week.

Previous work

Research on online grocery shopping has been limited since this is a relatively new retail channel. Most of the research reviewed here was conducted in the context of the US market. In one study, Park *et al.* (1998) conducted focus group interviews with US consumers who had previous experience with home shopping for groceries. The researchers categorized the participants into two groups: hi-tech baby boomers and older/physically challenged consumers. Hi-tech baby boomers were interested in home shopping for the convenience or because of the novelty. Respondents in this group typically used the computer to order items from home, found that ordering time decreased with experience, were very satisfied with delivery, found mistakes in orders to be their greatest source of frustration, and felt the convenience justified the delivery fee.

The second group of respondents was older, had lower incomes, and was more likely to live alone. They typically bought groceries via home ordering because of physical difficulty in going to the store. They tended to phone in orders when possible rather than order online. Like the first group, they were very satisfied with delivery but were concerned about mistakes in orders. Unlike the hi-tech baby boomers, the older/physically challenged group found it difficult to justify paying what they perceived to be a very high delivery fee.

Both groups of respondents expressed concerns about security (using a credit card online and having a stranger come to their home to make a delivery) and trusting the supermarket to select groceries (especially perishables and frozen food) for them. Some felt they saved money by ordering from home. Several mentioned frustrations due to the lack of online nutrient and ingredient labeling.

Anderson Consulting (Kutz, 1998) identified five major groups of potential online grocery shoppers based on survey respondents' attitudes toward time, shopping, and technology. The group they termed "Shopping Avoiders" dislike grocery shopping while "Necessity Users" have limitations that make going to a store difficult. "New Technologists" are young and comfortable with technology while the "Time Starved" are not sensitive to price and will pay extra to free up time in their schedules. The group termed "Responsibles" has available time and gets an enhanced sense of self-worth from shopping.

US researchers at the University of Maine have been examining electronic marketing of specialty foods and drinks since 1995 (White, 1997). Specialty food and drink customers primarily shop online to buy items not available locally or to buy items that appear to be significantly higher in quality than similar products available elsewhere (White, 1998). It is not clear, however, if the behaviors and expectations of online specialty food and drink shoppers would be comparable to those of online grocery shoppers.

Research by Hiser *et al.* (1999) confirms that consumers other than those in suburban dual-income households are interested in online grocery shopping. They surveyed 390 consumers in four supermarkets in Bryan/College Station, Texas. About one-third of the shoppers were familiar with online grocery shopping even though it was not available in the area at the time of the survey. Logit analyses indicated that income, the number of people living in the household, the presence of children, and gender were not significant determinants of interest in using a grocery shopping service. Age and education were, however; people over age 50 were less likely to consider using the service (compared to people 18 to 29 years old) as were those with less education.

Methodology

With the permission of the retailer, data were collected in April through June 1998 from 243 US consumers who purchased groceries from Schnucks Express Connection, the Internet shopping service of Schnucks Markets, a St Louis-based chain of stores in Illinois, Missouri, and Indiana. At the time of data collection, Schnucks offered the service in the St Louis market area plus three others in Missouri. The service was also available in four market areas in Illinois and one in Indiana. Schnucks Express Connection shoppers can choose either to pick up their

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orders or have them delivered. The costs are about $13 for same-day delivery, $10 for next-day delivery, and $6 if the consumer picks up the order. A minimum order of $10 is required.

During the survey period, a shopper who completed an order at the Schnucks Web site was invited to click on a link to the researchers' site to answer questions about online grocery shopping. Shoppers were asked to complete the survey one time only to avoid multiple responses from the same individual. No incentives were offered to shoppers to complete the survey. Once at the site, consumers were asked to respond to nine closed-end questions and eight open-end questions. The closed-end questions, for which all responses were categorical, asked consumers:

(1) length of time they had used the Internet to buy groceries;
(2) whether they usually have groceries delivered or pick them up;
(3) if they still buy groceries at stores;
(4) age;
(5) education;
(6) household composition;
(7) gender;
(8) income; and
(9) Zip code.

Including Zip code in the data collected served two purposes. First, it allowed the researchers to identify the market in which the respondent lived. This was important since Schnucks began operations in its different markets at different points in time. Zip code and other demographic data could also be compared to eliminate responses that matched perfectly and thus were likely from the same household.

One advantage of conducting surveys online is that respondents can easily provide extensive responses to open-end questions if they choose. This feature is particularly valuable in emerging areas of consumer research such as online shopping to allow consumers to describe their experiences with this new retail channel. The eight open-end questions asked consumers:

(1) the most important reason for using the Internet to buy groceries;
(2) what grocery items, if any, they would not order via the Internet;
(3) how using the Internet has affected grocery shopping time;
(4) how their grocery shopping at supermarkets is now different since they started ordering groceries via the Internet;
(5) how their grocery shopping at supercenters is now different since they started ordering groceries via the Internet;
(6) how their grocery shopping at warehouse clubs is now different since they started ordering groceries via the Internet;
(7) how their grocery shopping at limited-line discount food stores is now different since they started ordering groceries via the Internet; and
(8) any other comments.

Questions mentioning a particular retail format included an illustration appropriate to each market (e.g. warehouse clubs like Sam's Club). Responses were immediately sent to researchers in the form of e-mail messages.

Results

A demographic profile of the online survey participants is provided in Table I. The majority of respondents were younger than 45 years of age (68 percent), female (82 percent), and 92 percent had some college education or a college degree. A total of 50 percent reported an annual income of $70,000 or more while 12 percent had an annual income below $30,000. In most households there were two adults (63 percent); most households had one or more children (83 percent). Of the respondents, 57 percent lived in the St Louis, Missouri market area. The balance of the respondents lived in one of five cities, three in Illinois and one each in Missouri and Indiana. The demographics of the respondents matched very well with the profile online grocery shopping services typically used to describe their ideal customer – suburban families with incomes above $75,000 and at least one child (Lardner, 1998; Ransdell, 1998; Ingram, 1999; Kirsner, 1999).

Table II includes descriptors of the participants' online grocery shopping behaviors. Of the online survey respondents, 14 percent had used the Internet to buy their groceries for more than six months, and 35 percent had used it between one and six months. However, about one-half (51 percent) had bought groceries via the Internet for less than one month. Three-quarters of the respondents said they usually

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Table I Demographic profile of online grocery shopping survey participants

Variable	*n*	Percent of total
Age (years) (n = 240)		
34 or younger	81	33.8
35-44	83	34.6
45-54	54	22.5
55 or older	22	9.2
Gender (n = 232)		
Male	41	17.7
Female	191	82.3
Income ($) (n = 220)		
29,999 or less	26	11.8
30,000-49,999	31	14.1
50,000-69,999	52	23.6
70,000 and over	111	50.5
Educational level (n = 239)		
High school education or less	19	7.9
High school graduate with some college education	82	34.3
College graduate	138	57.7
Number of adults in household (n = 231)		
One	46	19.9
Two	146	63.2
Three or more	39	16.9
Number of children in household (n = 154)		
Zero	26	16.9
One	42	27.3
Two	55	35.7
Three or more	31	20.1
Market area (n = 233)		
St Louis, Missouri area	133	57.1
Other markets	100	42.9

Table II Grocery shopping descriptors of online grocery shopping survey participants

Variable	*n*	Percent of total
Period of time using Internet to buy groceries (n = 242)		
Less than one month	124	51.2
One to six months	84	34.7
More than six months	34	14.0
Usually have groceries delivered or pick up order (n = 240)		
Delivered	181	75.4
Pick up	52	21.7
Pick up as often as have delivered	7	2.9
Still shop in stores for groceries (n = 238)		
Yes	192	80.7
No	46	19.3
Primary reason for using Internet to buy groceries (n = 242)		
Convenience/time	178	73.3
Physical constraints	36	14.8
Hate grocery shopping/hate grocery stores	12	4.9
Buying for a business	6	2.5
Can avoid impulse buying	3	1.2
Do not like standing in line	2	0.8
Other	5	2.2
Secondary reason for use of Internet to shop for groceries (n = 73)		
Convenience/time	20	27.4
Can avoid impulse buying	15	20.5
Physical constraints	8	11.0
Do not like standing in line	7	9.6
Hate grocery shopping/hate grocery stores	5	6.8
Buying for a business	1	1.4
Other	17	23.3
Grocery items will not buy through the Internet (n = 182)		
Nothing	88	48.4
Meats and/or produce	55	30.2
Items cannot buy because are not offered	8	4.4
Perishables	7	3.8
Other	18	9.9
Don't know	6	3.3
Perception of time spent shopping through the Internet vs the supermarket (n = 221)		
A lot less	68	30.8
Less	48	21.7
Not less time but other benefits	58	26.2
No difference or spend more time	47	21.3

have their groceries delivered (rather than picking them up at the store) when they buy groceries online. A higher proportion than expected (19 percent) said they buy their groceries *only* online.

Reasons for grocery shopping online

Since online shopping is still a fairly new phenomenon, respondents were asked to list their most important reasons for using the Internet to buy groceries. Each of the two researchers involved in the project coded these responses independently. The inter-rater reliability was 0.92 and the two researchers reconciled any differences in coding by discussing and agreeing on an appropriate code.

Convenience was cited most often as the most important reason for using online shopping with 73 percent of the respondents

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mentioning factors related to convenience and saving time. For example, respondents said:

> Saves me time. The time I took to grocery shop I use for other things now.
>
> Convenience, don't have to deal with crowds, takes less time.
>
> Saves me time, gas, and aggravation.
>
> Convenience. I work on the Web. I can shop all week, my list is stored, and I can send it off when I'm ready for delivery.

Another group of respondents (15 percent) mentioned physical and/or constraint issues that make it difficult for them to shop at grocery stores as their primary reason for shopping online. Physical constraints included disabilities as well as difficulty driving and lifting groceries. Respondents mentioned temporary conditions (e.g. recovering from surgery, wearing a cast) as well as more long-term physical limitations. Illustrative comments include:

> I'm disabled and can't get out much. So I use my computer to shop from home.
>
> I don't drive, so it's a major pain for me to make a trip to the grocery store.
>
> Delivery to my kitchen is most important since carrying heavy items is getting more and more difficult.

A number of respondents mentioned the presence of children in the household as a constraining factor – in terms of both being able to leave the home and not wanting to take children with them to the grocery store. For example, respondents said:

> It can be difficult to take three small, tired children to the store at the end of the day.
>
> I am a single parent and this allows me to shop without taking the kids to the store.
>
> I don't want the hassle of taking (my three children under 4 years), paying for a sitter, or inconveniencing my husband in the evenings.

A small number of respondents (5 percent) mentioned the primary reason for using the Internet to shop for food was because they hate to shop and hate grocery stores. Another 7 percent listed hating to shop as a secondary reason for going online.

Despite consumer interest in the convenience aspects of online grocery shopping, not all of the respondents felt that shopping online saved them time. Although more than one-half thought the Internet saved them either a lot (30 percent) or some (21 percent) grocery shopping time, another 21 percent thought that the time spent shopping online was either no different from or greater than shopping in stores. However, some consumers indicated that additional time spent was not a concern. For example, respondents said:

> It has increased (the time I spend) because it takes so long to go from screen to screen; however, that tradeoff is preferable to taking my children out at night or wasting a Saturday morning in the store.
>
> Because of age and speed of computer, it takes longer.

Over one-quarter (26 percent) of consumers responded to the question by commenting on other benefits such as greater accuracy, a more peaceful experience, easier comparison shopping, better ability to monitor total spending, and facilitating planning and thus more meals prepared and eaten at home. About 8 percent of respondents said that while online shopping did not yet save them time, they *expected* it to save them time in the future as they gained more experience.

Influence on overall grocery shopping

Somewhat surprisingly, nearly 20 percent of the respondents said they buy all their groceries from an online food channel. The main demographic variable related to buying all groceries online was education. The greatest proportion of online-only food shoppers were high school graduates with some college education (53 percent) while the greatest proportion of those shopping multiple retail channels were college graduates (65 percent) (chi-square = 14.7; $p = 0.001$). Two grocery shopper descriptors were at least marginally related to online-only shopping. Those who shopped online only were more likely to say there was "nothing" they would not buy online (chi-square = 7.7, $p = 0.006$). In addition, they were more likely to agree they were now spending a lot less time grocery shopping due to the availability of online grocery shopping (chi-square = 6.8; $p = 0.08$).

Online grocery shopping behaviors

Chi-square analyses were used to identify variables significantly related to descriptors of the survey participants' online grocery shopping. Results are reported in Table III. A number of the demographic variables were significantly related to the primary reason for shopping online. Compared to those who cited physical and/or constraint issues, those

Table III Results of chi-square analyses of online shopping variables by demographic characteristics and other online shopping variables

	Online shopping variables			
Demographic and other online shopping variables	**Primary reason to shop online**	**Willing to buy all grocery items online**	**Perception of time spent online vs in-store**	**Experience with online grocery shopping**
Gender	0.08	2.37	1.29	0.42
Education	0.75	3.89	7.48	6.41**
Income	23.03***	0.33	14.23	1.44
Age	20.69***	5.90	6.90	9.61**
Number of adults in household	19.36***	3.8	10.28	4.44
Number of children in household	23.34***	3.9	10.47	3.07
Market area	4.84**	6.37**	0.90	12.05***
Buy groceries online only	0.00	7.7**	6.77*	0.21
Primary reason shop online	–	2.7*	15.69***	0.03
Willing to buy all grocery items online	2.72*	–	1.42	0.36
Experience using online grocery shopping	0.03	0.36	3.30	–
Perception of time use when shopping online vs in-store	5.70***	1.42	–	3.3

Notes: *** $p < 0.001$, ** $p < 0.05$, * $p < 0.10$

that shopped online for other reasons including convenience tended to have higher incomes, were younger, and lived in households with larger numbers of adults and children. Of those who shopped online for reasons other than physical and/or constraint issues, 56 percent reported annual incomes of $70,000 or more compared to 18 percent of those who shopped online due to physical and/or constraints. Of those who shopped online for physical reasons, 28 percent were age 55 or over compared with 5 percent of those who shopped online for other reasons. Those who shopped online for reasons other than physical and/or constraint issues were more likely to say there was nothing they would not buy online (53 percent compared with 36 percent) and to say that using the Internet saved time (56 percent compared with 31 percent).

None of the demographic variables was significantly related to willingness to buy all grocery items online. However, compared to the rest of the sample, those who did not restrict their online choices were more likely to say they buy groceries online only. They were also more likely to say that they shopped online for reasons other than physical or constraint issues. While none of the demographic variables was significantly related to the perception of time spent shopping online vs in the store, those who thought shopping online took less time were more likely to shop online only and to cite convenience as their primary reason for shopping online. Two demographic variables were related to how long the consumer had been using the online service to buy groceries. Those who had used the service for more than a month had lower educational levels and were older.

The market area was a significant variable in three of the four chi-square analyses. Compared to the other markets, a larger proportion of St Louis shoppers (19 percent compared with 9 percent) cited physical and/or constraint issues rather than other factors as their primary reason for shopping online. Despite the fact that St Louis is the home market for Schnucks, a smaller proportion of St Louis respondents (42 percent compared with 62 percent) said they were willing to buy any grocery item online. A third finding was that about 41 percent of respondents in the St Louis market had used the service less than one month compared with 64 percent in other markets. The service had been available in St Louis longer than in any of the other markets and had only recently been introduced in two of the other market areas.

Positive and negative aspects of online grocery shopping

Respondents were also given the opportunity to add any comments they chose and 126 respondents did. Many elaborated on

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questions asked earlier in the survey or wrote general statements of praise such as, "I think it is the most inventive way to grocery shop" and "It has been a blessing for those of us who cannot leave the house". Ten respondents commented on using the Internet, generally writing statements encouraging more opportunities to shop online. Some comments (14) related to the selection of items available online, generally asking that all of the items in the supermarket also be sold online or inquiring why specific items (sugar-free foods, fat-free foods, larger sizes, smaller sizes, specific brands) were not available online. Eleven respondents wrote about mistakes in orders and two complimented the service for rarely making mistakes. The sentiment among the other comments was that mistakes should not happen primarily because correcting them requires a trip to the store, thus defeating the purpose of online shopping. While six consumers commented that shopping online went too slowly, only one mentioned a technical problem that prevented completion of an order.

A total of nine individuals wrote comments on the cost of the service. Most said the fee was reasonable and they were willing to pay for it, but three acknowledged that they shopped online only when they had a large order that would make paying the fee worthwhile. One requested specials available only to those who buy online to help offset the delivery cost. A further five consumers specifically stated that they found being unable to use coupons to be a great limitation of online shopping.

A total of 17 respondents commented either on what information is available online or how it is presented. Seven specifically wanted a listing of all sale items in one location while five wanted to be able to see all of the information on the product's label, either for health reasons or to learn more about a product before buying it for the first time. Several consumers wanted information presented differently, largely asking for a shopping experience more like the in-store experience with items organized by aisles as in the local store and brands shown side-by-side rather than separately.

Interestingly, only two shoppers made comments suggesting they missed the personal contact of in-store shopping. One suggested that a "real" person call to confirm the order. Another suggested that one individual do both the picking and the delivery to build some sense of loyalty and familiarity. Finally, only one respondent expressed any concerns about the security of the online transaction. That individual suggested the e-mail confirmation of the order should contain only the consumer's name and not, as is now the case, his/her phone number and address as well as directions to the home.

Results from this preliminary survey suggest that better educated and somewhat higher-income consumers may be more likely to shop online, primarily for time savings and convenience aspects. However, other consumers may be likely candidates for such services as well. A segment of respondents mentioned physical and/or transportation constraints as a primary motivation for shopping online.

Discussion

Before discussing results from this survey of online grocery shoppers, limitations need to be acknowledged. This was an exploratory study based on a non-probability sample. Therefore, generalizations to other audiences may not be appropriate.

For our respondents, shopping online appears to be the ultimate in streamlining grocery shopping. The majority cited convenience and saving time as their primary motivation for buying groceries online. When asked to compare the time spent shopping online vs in the store, many commented that the real time savings was a result of not traveling to and from the store, rather than a decrease in shopping time. Just over one-half had used the Internet less than a month and 11 percent of those users noted that while shopping online was not yet less time-consuming than shopping in the store, they expected it would be as they gained more experience. Their continued patronage of the online service is likely to depend on the realization of these expectations.

The demographics of both the online-only shoppers and those who cited convenience as their primary reason for shopping online suggest these are consumers with above-average opportunity costs who see shopping online as a way to minimize those costs. Many were younger, had children, and had relatively high incomes. There were also hints in the data that these shoppers were ones who were

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less likely to restrict the grocery items they were willing to order online and to believe that shopping online saves time. However, a larger sample size is needed to profile this group more accurately using multivariate analysis.

Another market segment may be the 15 percent who used online shopping as a way to reduce fixed costs associated with physical and/or caregiving constraints. While they are not a majority of respondents, they are important in that individuals with physical constraints may be overlooked when Web-based services are designed. Of the sample, 6 percent mentioned what Aylott and Mitchell (1998) refer to as grocery shopper stressors as their primary motivation for online shopping; another 5 percent described it as a secondary motivation. Consumers who shop online may avoid the problems of crowding and standing in line. Retailers must, however, be careful that in-store stressors are not replaced with parallel online stressors such as being unable to access the Web site, long delays in completing online orders, inconsistencies in the items available online, mistakes in filling orders, and the hassle of returning merchandise.

Our research suggests that online grocery shoppers in this study are more upscale demographically than the average grocery shopper. With one important exception, their characteristics were, however, not unlike the demographics typically reported for Internet users – younger with higher education and income than the general population (Graphics, Visualization and Utilization Center, 1999). The one important exception here is that a majority of our respondents were women. That is typical of grocery shoppers in the USA (71 percent are women in the US market (Weinstein, 1998)) but not of online shoppers (71 percent are men (McPhee, 1998)). Perhaps online grocery shopping services have the potential to close the gender gap that researchers have observed in general for online usage.

Conclusions

For the most part, the respondents in the survey appeared quite satisfied with their online grocery shopping experiences. One respondent succinctly expressed her feelings by saying, "This is the greatest idea since sliced bread"! Several groups of online grocery shoppers emerged, each with unique reasons for shopping online. Mothers with young children in the household were especially positive about online grocery shopping. Online shopping allows them access to a grocery store without taking young children along or finding someone to care for them. They also can shop without having to resist the exhortations of their children to buy the latest cereal or candy. Another group that was also very positive about the availability of online shopping was those with physical disabilities. This was somewhat surprising given this market segment is typically characterized as unable or unwilling to pay for optional services. In some cases the individual with the disability reported that he or she could now shop via the computer; in other cases, the individual's caregiver bought the groceries online. A surprising number of respondents reported shopping online because of minor physical ailments that limited their ability to complete the grocery shopping task. Examples included difficulty lifting groceries, carrying groceries, and taking groceries up a few stairs from the garage into the home. It is important to remember that with an aging US population such minor physical limitations will likely increase and perhaps add to the demand for home shopping and delivery services. Minor disabilities, even when temporary as when recovering from an accident or an illness, can present major concerns for grocery shopping since food and grocery items tend to be purchased more frequently than most other retail products.

Online grocery shoppers also seem to recognize and value differences between the online grocery shopping experience and the in-store shopping experience. For example, they described putting an order together over a period of days and sending it when it was complete, being able to check recipes or cupboards for needed items while shopping, checking the running total of the order periodically while shopping, and other behaviors that are typically impossible or at least difficult to do when shopping in the store. At the same time, the online shoppers seem to want other aspects of online grocery shopping to be as much like in-store shopping as possible. They want to find their favorite brands, the sizes they prefer, and the information they need to make decisions.

Perhaps most of all, if they choose to order online, they want to avoid also having to make a trip to the store, especially to correct mistakes in orders or to buy items unavailable online. If asked, consumers will no doubt say they expect much from online grocers – personal service at a reasonable cost with timely delivery and few out-of-stocks and mispicks. The challenge for retailers is finding a model that enables them to meet consumers' expectations profitably as demand grows for online food retailing.

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