



Are E-Grocers Serving the Right Markets?

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Buying Food Online?

Prior to 2003, the biggest news in the E-grocery sector had been the dramatic implosion of high-profile operators. Silicon Valley and Wall Street saw “dot.bombs” in many sectors during the 1990s, but failings in the grocery business seemed magnified due to unique supply chain relationships and, most importantly, strong consumer expectations about product and service quality that do not disappear when customers move online. Online grocers like Webvan were among the myriad of startups that failed to balance true market potential with their investment in technology and business strategy. Some firms simply subsidized online operations as long as they could as an “experiment” before giving up; reasons for these failures ranged from market selection problems to corporate culture and commitment. Others simply tried to run before they had crawled. Some thought that new technology offset the need for strategic ways of dealing with known consumer expectations and industry practices—and failed accordingly. The exit of Publix Supermarkets from the E-grocery arena illustrated risks from trying to build such an enterprise in areas with limited online subscribers or consumer suspicion of online purchasing. Despite these early stumbles, the E-grocery market rebounded and has grown dramatically since 2003. New entrants—many of them traditional grocery retailers venturing into E-commerce—are offering more products and services to broader geographic areas. The question we address here is whether surviving E-grocers are entering the right markets—ones containing enough of the kinds of customers inclined to use this service and generate profits—and what a right market looks like.

Consistent estimates of current market size and projected growth in the E-grocery industry are elusive targets.

What is an E-grocer?

E-grocers use the Internet to sell perishable and nonperishable grocery items. Products are ordered online for delivery or pick-up. E-grocers are divided into two categories: *Bricks & clicks* are traditional grocers that also offer Internet-based ordering; *Pure plays* organizations lack traditional grocery stores.

In 2002, sales for online food, beverages, and groceries were estimated to range between \$4.25 billion (Keenan Vision) to \$6.4 billion (Yankee Group). Forrester Research called 2002 online grocery sales at \$5 billion. A more recent estimate by Jupiter Research predicts that online grocery sales will hit \$2.4 billion in 2004, or 0.4% of the total grocery market of \$570 billion. By 2008, the estimate grows to \$6.5 billion, just 1% of the total forecasted market of \$641 billion, but showing an annual growth rate of 42%. Clearly this sector continues to grow:

- Safeway.com doubled its business in two years (2001–2003) and expected it to double again in 2004.
- Ahold-owned Peapod reports that it has 150,000 active customers in its system, which includes Chicago and

parts of the East Coast. By 2006, Peapod expects to nearly double its reach to areas serving 14 million potential households.

- In 2004, New York-based pure play Fresh Direct had 100,000 active customers—four times the number of just a year earlier.

What are the Right Markets for E-Grocers?

A major factor in determining the future viability of the E-grocery sector is understanding whether these retailers are entering and servicing the right markets. Based on a comprehensive literature review and our research group’s previous firm, manager, and consumer research, the characteristics of an “ideal” E-grocery consumer can be identified (see papers and presentations at <http://aede.osu.edu/programs/e-agbiz>). Age, gender, household income, household size, and level of education are key indicators of willingness to buy food online. Factors such as computer literacy and access, time pressure, and focus on convenience also play a role. The question becomes

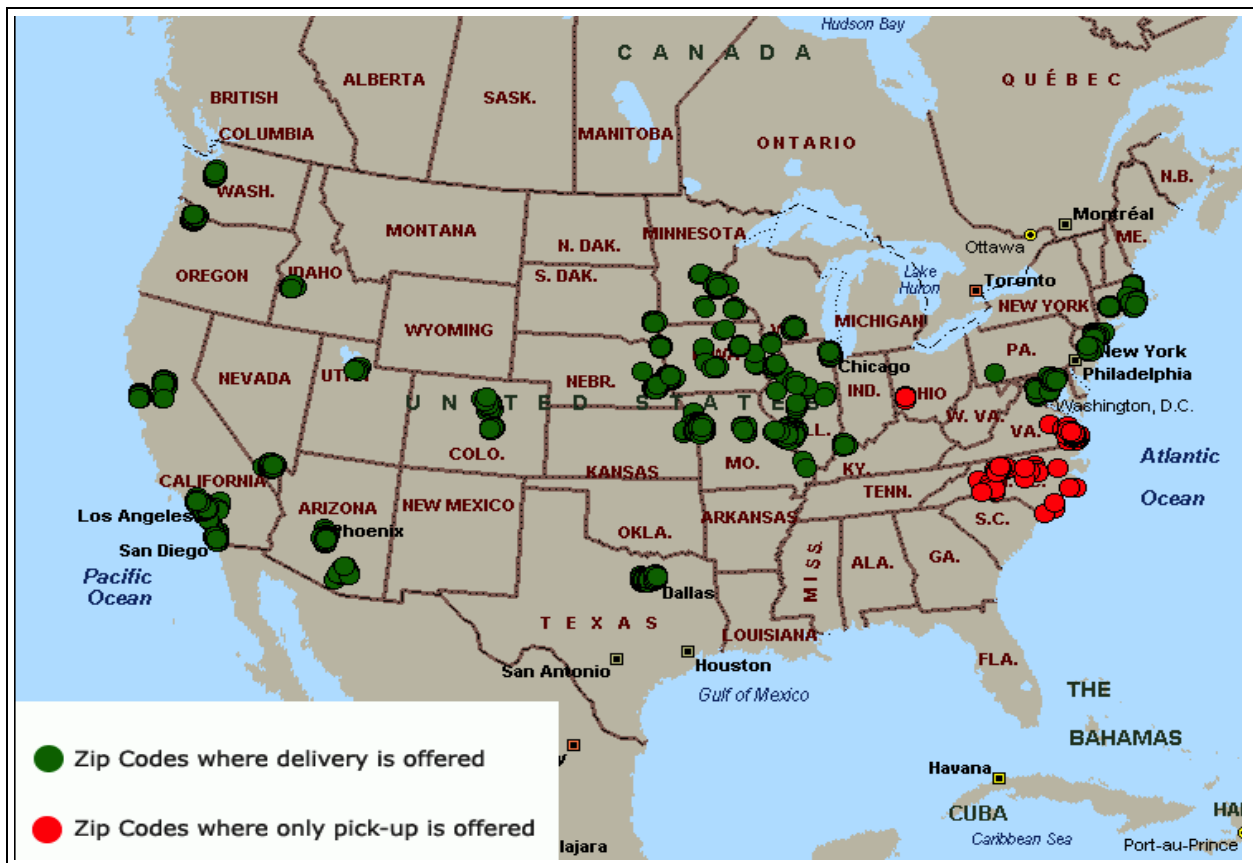


Figure 1. Zip-code-level distribution of E-grocery service—September 2004.

whether sufficient densities of customers with ideal characteristics show up in the markets in which E-grocers operate. Information we gathered from E-grocery managers in 2001 and 2004 indicated they generally recognize the value of these variables but were inconclusive on the role they played in selecting markets to enter. Marketing managers of grocers who were less active online appear to discount the importance of time/convenience and focus more on household income as a potential indicator of online grocery acceptance.

Are E-Grocers Targeting Ideal Consumers?

To explore the proportion of ideal E-grocery consumers in markets currently serviced by firms, we first obtained a list of 2003's top 75 grocery stores (based on sales) and iden-

tified their subsidiaries, creating a list of 143 different grocery chains. To this list we added all full-service pure-play E-grocers identified in our previous research. Each grocer's website was visited to determine whether they had full-service E-grocery operations. Of the 143 firms, 23 operations offered delivery and/or pick-up of both perishable and nonperishable items (see Table 1). These firms operate in 26 states and the District of Columbia, with most in large cities such as Los Angeles, New York, Detroit, and Salt Lake City. Seventeen are bricks-and-clicks and six are pure plays. Some offer delivery within 30–40 minutes of placing an

order; others offer next-day delivery in a temperature-cooled tote.

Service areas for these E-grocers were determined at a zip code level from their websites, creating a database of 1,371 distinct areas out of the more than 29,000 zip codes nationally. Using a commercial zip code-level database (Microsoft MapPoint), a socioeconomic analysis was completed for each market currently serviced by one or more E-grocer (Figure 1). This analysis considered key demographic measures: age, gender, household income, level of education, and size of household. Other characteristics, such as number of households with Internet access,

Ideal E-grocery consumers are:

- women, aged 35 to 44;
- college educated;
- in households with income greater than \$50,000;
- more likely to have children; and
- looking for convenience and therefore less price sensitive.

Table 1. Number of zip codes serviced by individual E-grocers by type and state—September 2004.

	Zip codes serviced	States serviced
Bricks & clicks—delivery^a		
Stop & Shop (Ahold)	80	CT, MA, NY, RI
Giant (Ahold)	21	D.C.
Safeway	16	CA
Vons/Pavilions (Safeway)	178	CA, NV
King Soopers (Kroger)	55	CO
Albertsons	383	WA, OR, ID, NV, TX, CA
Acme (Albertsons)	54	PA
Hy-Vee	226	IL, MO, KS, NE, IA, SD, MN
D'Agostino's	31	NY
Schnucks	162	IL, MO
Bashas	55	AZ
Bricks & clicks—pick-up^a		
Lowes	33	NC, SC
SentryontheGo	18	WI
Norkus	14	NJ
Santoni's	27	MD
Dorothy Lane Markets	3	OH
FarmFreshMarkets	28	VA
Pure play^b		
Peapod (Ahold)	41	IL
YourGrocer	47	NY
Fresh Direct	58	NY
Whyrunout	57	CA
Xpress Grocer	38	NY
Simon Delivers	55	MN

^a "Bricks & clicks/delivery" refers to traditional grocery stores offering E-commerce and delivery or pickup at the store.

^b "Pure play" firms have no traditional store front.

adults with a credit card, average commute time to work (a proxy for "time-starved" consumers), and the average amount that households

spend on food, were also assessed. These data are key to determining whether E-grocers are currently serving markets with a large proportion of ideal consumers.

What We See...

Initial analysis of our work suggests that households in areas serviced by E-grocers have the financial and technical means, tools, and time-starved incentives to purchase groceries online. There also appears to be a critical mass of optimal consumers for E-grocers to target within these zip codes, because they contain three times more people and households than the national average. Household incomes in these zip codes are \$10,000 greater than the national average, and households spend about \$1,000 more per year on groceries than average. These households have three times more 25- to 44-year-olds and teenagers, indicating a significant likelihood of both higher spending on food and time constraints on routine household activities such as grocery shopping. Gender does not appear to play a role, separate of the fact that E-grocery service is offered in high-population areas having more of both women and men. Zip codes currently targeted by E-grocers have households that are three times more likely to have credit cards and to adopt E-commerce more generally—other leading indicators of market potential. A final indicator of the importance of convenience is that wage earners in zip codes targeted by E-grocers are three times more likely than average to commute 45 minutes or more. These findings indicate that, to some extent, existing E-grocers seem to be targeting the correct geographic areas. What is less clear to

us, and yet to be clarified by research, is whether these geographic selections are truly intentional or merely ones of convenience. Given the nature in which this industry has emerged, there is evidence to suspect both scenarios.

Questions remain as to the future adoption rate of online grocery shopping by consumers. After four years of research and observation in this area, we can be reasonably confident that although analysis typical in location decisions for traditional grocery stores may have some value in deciding where to offer online sales of groceries, other variables are potentially more important. Convenience and consumer comfort with the technology are logical considerations. These factors are more likely to drive the proportion of households that adopt within a service area than to indicate which new zip codes are optimal for growth. Time-starved consumers, or those facing other constraints on their ability to shop traditionally, are primary drivers of expansion in this sector. As internet and E-commerce adoption continue to grow, it remains to be seen how much advantage is gained by targeting the right geographic regions suggested by our research and when such service will become sufficiently efficient and accepted to be seen as a mass market practice making the selection of individual geographic markets less important.

Casie Berning is a former undergraduate student; Stan Ernst is an outreach program manager; and Neal H. Hooker is an assistant professor. This work is part of a broader longitudinal study of online food retailing (see <http://aede.osu.edu/programs/e-aggbiz>).