

Tracking the Evolution of E-Grocers: A Quantitative Assessment

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Forecasts of the proportion of food retailing likely to be conducted over the Internet remain small, perhaps only contributing 2 percent of sales. One reason for this low market share is the challenge E-Grocers face in developing strategies which respond to four key areas of interest to consumers: signals of firm quality; signals of product quality; the range of products offered; and service, or customer-relationship management (CRM). Careful attention to these consumer concerns is important in all retail relationships—online or offline. This paper compares indicators of these factors across U.S. E-Grocers. A quantitative four-period ranking of online food-retailing strategies is presented for the nascent industry. Data from the third and fourth quarters of 2001, the fourth quarter of 2002, and the first quarter of 2004 provide the basis of this discussion. After initial setbacks, data show traditional (“bricks”) grocery retailers successfully developing online strategies. Firms not primarily focused on groceries exited the E-Grocery sector, while the development of specialty food suppliers blurred the concept of online food retailing. Gaps in current strategies are indicated using content analyses of E-Grocery web sites.

Socioeconomic characteristics such as growing demands on consumers’ time, increased wealth, and heightened levels of stress in consumers’ everyday lives present both challenges and opportunities for consumer-goods firms. Bygone concepts of customers spending a lot of time collecting advice about product attributes by engaging in individual conversations with friends and family before selecting and purchasing articles have disappeared. Likewise, today’s groceries are rarely bought from small “mom and pop” stores offering personalized shopping relationships. This nostalgic experience has been replaced by “big-box” grocery stores and “adventure” shopping centers. Consumers now desire the convenience of “one-stop shopping.” Accordingly, today’s grocery stores have expanded to offer many products other than food—in fact, among the leading grocers in the U.S. are firms that started out retailing non-food consumer goods (e.g., Wal-Mart). To attract customers, traditional grocery

retailers must continue to offer more services and a larger range of products and varieties.

While it is still not clear how such trends in grocery retailing convert to an effective online model, the same socioeconomic factors mentioned above have influenced the growth of E-Commerce in general. Many firms moving first to adopt E-Grocery strategies (clicks) have found it difficult to mirror the level of service provided by current store formats (bricks). The high total cost (including the opportunity cost of time spent) of E-Grocers’ “picking” and distributing items from a wide range of possible products and consumers learning how to shop online may be delaying the wider adoption of such E-Commerce by grocers and consumers alike. Such costs have also meant negative or low levels of profitability for most E-Grocery models to date. Yet the success of Tesco in the U.K. and their expansion to the U.S. (Safeway) and Asia keeps this from being an overall indictment of E-Grocery efforts.

A dynamic evaluation of online food E-Commerce strategies was conducted to determine if there are emerging “best practices” and to better understand how the nascent industry is responding to consumer demands. Research questions include:

- Is there a common set of E-Commerce strategies that appear to be successful?
- How are E-Grocers communicating information about the products and services they are offering?

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- Do “bricks-and-clicks” have an advantage over pure-play E-Grocers?
- How have E-Grocers evolved over time?

This comparison of E-Grocers does not attempt to suggest which business models are best, nor to measure specific financial (or other) performance measures. Furthermore, although informed by such, this paper does not report results of consumer-survey work which highlights customer demands and frustrations (see Morganosky and Cude [2002] for an excellent illustration). Instead, a quantitative four-period ranking of various indicators of E-Commerce strategies for the U.S. E-Grocery industry illustrates the dynamics of this rapidly evolving market. This tracking focuses on those signals provided to online customers and is grounded in the theory of customer-relationship management and the role of quality signals in retailing. Results offer guidance to E-Grocers on areas needing further strategic consideration.

Most significantly, the longitudinal nature of this research is a unique opportunity to observe an emerging industry. Three years of study is not a long time in traditional economic studies, but it does cover about half the lifespan of the E-Grocery industry. Dynamics in E-Commerce certainly occur at a different pace! This study offers what is essentially a real-time evolutionary study of the emergence of online grocery sales. It has followed the industry from the fallout of highly publicized industry failures (e.g., Webvan) to an environment again supportive of adopting online sales. More importantly, these observations enable us to track changes in firms' online performance and compare their strategies to overall business trends in general retailing, E-Commerce, and the traditional grocery marketplace. Given the ongoing competitive shakeout in the overall grocery industry, this type of research offers the chance to observe positions gained or lost through the application of online strategies.

Background

Forecasts of the potential share of food retailing likely to be conducted over the Internet in the coming years tend to be small, an estimated 2 percent of total food sales. Data from a 2003 Food Manufacturing Institute survey suggested as many as 3 percent of shoppers have experimented with online grocery purchasing. Results of a recent Michigan

State University study published in *Internet Retailer* (2004) reported “2003 online sales of food and beverages [was] estimated at \$3.7 billion, up 40% from \$2.64 billion in 2002.” By the end of 2005, Jupiter Research expects E-Grocery sales to reach \$3.3 billion nationwide. Regardless of which numbers you believe, consensus appears to be that this sector is continuing to grow.

One reason for the slow adoption of online food shopping may be the inherent inability of grocers and others marketing food directly to consumers online to develop tactics that address the uniqueness of the relationships between consumers, producers and retailers and the key role of product strategies. Perishable (fresh and frozen) items drive many of the decisions consumers make regarding where they shop—product quality is particularly important in this retail market segment. This presents a challenge for E-Grocers attempting to signal product quality and manage an effective distribution strategy (Hooker, Heilig, and Ernst 2001). Meat, poultry, seafood, produce, and other items depend on organoleptic (touch, smell, sight) experiences to guide selection during pre-purchase search. This process does not yet transfer well online. Such a failure of these “gateway” products to generate sales online may limit the growth of E-Grocery shopping to lower-value bulky items with more stable and/or more easily communicated quality attributes. These center-of-store nationally branded items generally carry a lower margin for retailers compared to produce, bakery, and delicatessen departments. This suggests that how an E-Grocer signals product quality is worthy of analysis.

Other signals of the overall reputation or quality of the firm itself may prove just as important to the success of E-Grocers. As discussed in Rha et al. (2001, p.8), E-Grocers are selling “experience goods” and, as such, models of the economics of information and firm/reputation signaling are appropriate when evaluating their business strategies. The novelty of purchasing food online also makes the E-Grocery itself an experience service, magnifying the importance of the firm's ability to signal its own quality to potential customers. This infers that how well the firm presents itself as a reliable supplier may be just as important as how the E-Grocer signals the quality of its foods.

Given the limited experience with online food shopping, E-Grocers must constantly evaluate the needs of customers who are not currently using

their services and determine how to attract these consumers as quickly as possible. Although the supply of items to purchase on the Internet is diverse and online ordering can constitute an advantage for time-constrained consumers after an initial learning period, the question remains whether (and what type of) customers will adopt online grocery ordering. What tools are E-Grocers using to ease this adoption process and to mitigate reluctant consumers' concerns? Morganosky and Cude (2000, p. 24) found, for example, that many respondents of their survey were apprehensive about the security of online transactions. Bielski (2000) discussed many different ways of making online payments, e.g., e-cash, to make secure nonrepudiable non-credit-card payments efficiently. Given these observations and the recent business failures in the general E-Commerce sector due to insufficient customer depth, tools that enhance response to customer demands are essential (see Rha, Hooker, and Widdows [2003] for more detail on such CRM tools).

Marketplaces which facilitate procurement by linking many buyers and suppliers electronically have advantages for both sets of agents. Buyers get easier access to product information, convenient purchase of associated services, and, sometimes, the ability to pool volume; suppliers gain access to wider markets. Indeed, these benefits have driven the business-to-business side of E-Commerce and provide incentives for those looking to break into the consumer-direct market. From an industry-structure standpoint, the attractiveness of digital marketplaces varies depending on the products involved. The most important determinant of a marketplace's profit potential is the intrinsic power of the buyers and sellers in the particular market area. If either side is concentrated or possesses differentiated products, it will gain bargaining power over the marketplace and capture most of the value generated (Porter 2001). For instance, consumers shopping at a large physical supermarket can choose from a total product mix that may exceed 30,000 stock keeping units (SKU) and includes a huge variety of fresh foods. This underscores the value of product range in the grocery market. Despite its eventual failure, Webvan represented a breakthrough in this area among online grocers. The business model provided customers with upwards of 50,000 SKUs (food and non-food items) from which to choose, almost certainly the largest assortment of any E-Grocer (Ring and Tigert 2001). Other E-Grocers

have limited their offerings, choosing to focus on a specialty area. Finding the optimal level of products from both a consumer-demand position and an operational-efficiency perspective remains a challenge for remaining marketers in the E-Grocery space. A range of such strategies are compared below.

Methodology

To assess E-Grocery strategies, a detailed quantitative E-Commerce content-analysis tool was constructed and applied to industry web sites. This accounted for a set of 30 operations in the third quarter of 2001, 29 for the fourth quarter of 2001, 20 sites in the fourth quarter of 2002, and 23 in the first quarter 2004 (Tables 1–4). Comparable data sets from four points in time make it possible to track changing E-Commerce strategies. Keep in mind that this industry is operating on “Internet time”—the compressed speed at which business practices change and with which success or failure is determined in an online industry adjusts our traditional terms of evaluation significantly. The period assessed provides interesting lessons in industry dynamics.

Approximately 370 indicators were reviewed for each E-Grocer in each period. Each of the indicators was grouped into one of the four factors; firm quality, product quality, CRM, or product range. The initial evaluation tool was developed with input from a group of E-Agribusiness researchers familiar with a previous qualitative tool used to assess E-Grocery sites (Rha et al. 2001). The researchers consulted relevant academic and industry literature in the fields of marketing, communication, computer science, and consumer science in selecting indicators which quantify both the technical performance of a web site and its success or failure as a marketing-communication and sales-transaction tool. This E-Grocery content-analysis tool includes marketing strategies that are emerging in the traditional food-retailing environment to determine if these are transitioning successfully online. For example, do E-Grocers provide product-label information such as “Nutrition Facts” to facilitate comparisons between brands? Do product search engines exist which sort organic products from conventional? Does the E-Grocer disclose country-of-origin information for produce items? To accommodate and track the application of these issues, the research team has attempted to be inclusive in the indicators

Table 1. Ranking Over Key Categories and Overall (3rd Quarter 2001).

E-Grocer		Firm-quality sum	CRM sum	Product-quality sum	Range sum	Total
1	Marsh	63.5	27.5	28.5	78.5	198
2	Harris Teeter	60	27	40.5	66.5	194
3	Giant Food	61	33	37.5	61.5	193
4	Albertsons	40.5	37.5	38	64.5	180.5
5	Stop & Shop	59.5	35	25.5	60.5	180.5
6	Bashas	71	26.5	24	56	177.5
7	Peapod	59	34.5	37.5	45.5	176.5
8	Schnucks	43	29	31.5	70.5	174
9	Hy-Vee	62.5	27.5	31.5	49	170.5
10	Ingles Markets	49.5	30.5	17	61.5	158.5
11	Why Run Out	45	30	15.5	61	151.5
12	Stater Bros	49	26.5	13.5	62	151
13	Easy Grocer	49.5	26	19.5	50.5	145.5
14	Publix	46	28.5	22.5	48.5	145.5
15	Walgreens	41.5	32	29.5	38	141
16	Simon Delivers	40	24	25.5	50	139.5
17	My Web Grocer	35	27	15.5	55.5	133
18	Market One Stop	36.5	30	7.5	50.5	124.5
19	House Calls Online	41.5	25	6.5	45	118
20	Price Chopper	63	21	19	14	117
21	Net Grocer	30	26.5	16.5	42.5	115.5
22	Ethnic Grocer	27	36	27.5	21	111.5
23	Grocer Online	22.5	28	24.5	35.5	110.5
24	Kroger	45	25	23.5	12	105.5
25	Metro Food Market	41.5	20	23	15.5	100
26	Electric Food	25.5	25	27.5	22	100
27	Your Grocer	34.5	27	4	30.5	96
28	Groceries Express	36.5	22	11	26	95.5
29	Bluelight	34	29.5	4	26.5	94
30	Giant	36	28	7.5	6.5	78
	Avg	45.0	28.2	21.8	44.2	139.2
	Max	71.0	37.5	40.5	78.5	198.0
	Min	22.5	20.0	4.0	6.5	78.0
	Max Possible	112	48	95	131	386.0

Table 2. Ranking Over Key Categories and Overall (4th Quarter 2001).

E-Grocer	Firm-quality sum	CRM sum	Product-quality sum	Range sum	Total
1 Giant Food	55.5	36	41	60	192.5
2 Marsh	68	26	26.5	60.5	181
3 Albertsons	43	29	19.5	80	171.5
4 Harris Teeter	56.5	28.5	35.5	50.5	171
5 Stop & Shop	52	34	18.5	62	166.5
6 Peapod	62.5	33	24.5	43.5	163.5
7 Bashas	63.5	22.5	22	52	160
8 Schnucks	45.5	27.5	27.5	54.5	155
9 Simon Delivers	40	24	26.5	60	150.5
10 Hy-Vee	49.5	29	23.5	47.5	149.5
11 Publix	38	31	30.5	48.5	148
12 Stater Bros	33.5	33	11.5	61.5	139.5
13 Net Grocer	35.5	27	30.5	37	130
14 Why Run Out	22.5	33	13	61.5	130
15 Walgreens	52.5	33.5	15.5	26	127.5
16 House Calls Online	40	29	19	39	127
17 My Web Grocer	32.5	26.5	12.5	54	125.5
18 Easy Grocer	31.5	21.5	22.5	49	124.5
19 Ingles Markets	39.5	20	12.5	49	121
20 Market One Stop	33.5	29.5	5.5	51	119.5
21 Ethnic Grocer	28.5	35.5	24	20	108
22 Price Chopper	47.5	14.5	14	19	95
23 Electric Food	19.5	30.5	18.5	21.5	90
24 Kroger	37.5	22.5	16.5	12.5	89
25 Grocery-Stork	30.5	17.5	27.5	11	86.5
26 Giant	38.5	25.5	14	7	85
27 Bluelight	37	26	2.5	17	82.5
28 Metro Food Market	35	14.5	22	7.5	79
29 Groceries Express	31.5	20.5	8.5	18	78.5
Avg	41.4	26.9	20.2	40.7	129.2
Max	68.0	36.0	41.0	80.0	192.5
Min	19.5	14.5	2.5	7.0	78.5
Max Possible	112	48	95	131	386.0

Table 3. Ranking Over Key Categories and Overall (4th Quarter 2002).

E-Grocer	Firm-quality sum	CRM sum	Product-quality sum	Range sum	Total	
1	Giant Food	71.5	26.5	36.5	56	190.5
2	Stop & Shop	63	30	24.5	50.5	168
3	Peapod	51	34	29.5	52	166.5
4	Marsh	53.5	28	18	62.5	162
5	Schnucks	58	29	18	54.5	159.5
6	Bashas	60	22.5	15	55.5	153
7	Simon Delivers	44.5	27.5	27	54	153
8	Harris Teeter	40.5	26.5	22.5	60	149.5
9	Hy-Vee	51	26.5	23	47.5	148
10	Albertsons	43.5	31.5	15.5	57.5	148
11	Publix	39.5	25.5	27	46	138
12	Net Grocer	13	27	32.5	40	112.5
13	Stater Bros	38	28	2	39.5	107.5
14	Walgreens	46.5	28	15	18	107.5
15	Why Run Out	28	31	2	39.5	100.5
16	Ethnic Grocer	19.5	26.5	12	25.5	83.5
17	Price Chopper	40	13.5	10	9	72.5
18	Groceries Express	33	22.5	10	2.5	68
19	Metro Food Market	42	7.5	15	1	65.5
20	Giant	33.5	5.5	13	1	53
	Avg	43.5	24.9	18.4	38.6	125.3
	Max	71.5	34	36.5	62.5	190.5
	Min	13.0	5.5	2.0	1.0	53.0
	Max Possible	112	48	95	131	386.0

selected. This approach results in a comprehensive E-Commerce evaluation tool, as can be seen from the example indicators presented in the Appendix.

The E-Grocery content-analysis tool spanned signals about the firm and signals about the products offered. Information collected included return policies, delivery options, pricing strategies, payment options, the use of feedback forms and other CRM tools, security issues, the use of customer profiles, measures of the ease of use of the web site, and coordination strategies for traditional grocery store format and E-Commerce operations, or bricks-and-

clicks overlaps. Product signals included nutritional information made available on the web site, background on agricultural-production practices, recipes, the range of products offered (including the brands for sale), and the use of “meal solution” or bundling strategies for food and non-food items.

An E-Commerce content-analysis approach, as applied here, essentially records instances of specific text, information, or tools occurring on a web site (Park and Stoel 2002). Content analyses provide a true customer-facing description of the E-Grocers marketing-communication strategy. Pres-

Table 4. Ranking Over Key Categories and Overall (1st Quarter 2004).

E-Grocer	Firm-quality sum	CRM sum	Product-quality sum	Range sum	Total	
1	Lowes Foods	53.5	33.5	24.5	79	190.5
2	Stop & shop	67	34	34.5	44.5	180
3	Peapod	51	34	34.5	52	171.5
4	Albertsons	51	34	24.5	59.5	169
5	Vons	56.5	29	31	51.5	168
6	Pavilions	56.5	29	31	51.5	168
7	Harris Teeter	49.5	28.5	26	62	166
8	Bashas	65	18.5	15	55	153.5
9	Schnucks	52	26.5	20	46	144.5
10	Giant	67	34	34.5	8.5	144
11	Simon Delivers	40	27.5	27	44	138.5
12	Sams Club	53	26	2	38	119
13	Stater Bros (Why Run Out)	29	21	9	51	110
14	Net Grocer	14	27	19	31.5	91.5
15	Your Grocer	27.5	26	2	31.5	87
16	Ethnic Grocer	19.5	29.5	18	16.5	83.5
17	Groceries Express	28.5	18.5	2	16	65
18	EGrocer	24	31	5	3	63
19	We Go Shop	42.5	15	0	0	57.5
20	Jerrys Foods	19	2	14	15	50
21	Grocery Wagon	25	17.5	0	0	42.5
22	Pinkdot	26	4	0	9	39
23	Bagboyz	26	13	0	0	39
	Avg	41.0	24.3	16.2	33.3	114.8
	Max	67.0	34.0	34.5	79.0	190.5
	Min	14.0	2.0	0.0	0.0	39.0
	Max Possible	112	48	95	131	386.0

ence or absence of indicators was recorded along with numerical (count) measures for key variables such as the number of food products available in a certain category. The tool was applied by one researcher each period to remove the potential of multiple reporter bias. Each E-Grocer's web site took between three and six hours to evaluate. A mix of pure-play (online-only) E-Grocers and bricks-

and-clicks (online plus physical stores) operations were evaluated each period.

Our definition of an E-Grocer informed the selection of web sites to evaluate: an E-Commerce operation which allows consumers to order a full range of food products, both perishable and non-perishable, for delivery or pickup. Specialized food E-Commerce sites (e.g., sellers concentrating

on single products such as tea or coffee) were excluded from this analysis. Various industry reports were searched prior to each deployment to identify all significant E-Grocers operating in the market. These sources included; *Supermarket News* Top 75 (<http://www.supermarketnews.com>), Top 100 (Internet) Retailers' (<http://www.stores.org>), <http://www.gmabrand.com>, <http://www.fmi.org>, and <http://foodindustrycenter.umn.edu/>. These sources reported major bricks-and-clicks and pure-play grocery sites.

For each of the simple indicators, scores of 0 (absence), 1 (presence), or ½ (uncertain) were assigned. Uncertainty was deemed important as an indication of potential lack of clarity in online presentation methods. For more complex indicators such as the number of products available in a particular category, ranges were established based on the observed data. E-Grocers offering significantly more items than the average number were assigned a score of 1, those close to the average ½, and those firms offering significantly fewer items than average in a particular category were assigned a 0 for that particular item. Each indicator was then assigned an importance criteria (weight) ranging from -3 to +3 in integer values¹. Each indicator score was multiplied by the assigned weight to achieve an end-variable score. End-variable scores were summed for each of the four factors—firm quality, product quality, CRM, and product range. In this way each E-Grocer can be described using a numerical score for each of the four factors. The final step in this process required the construction of a simple sum over the four factors. This allowed the creation of rankings for E-Grocers for each period (Tables 1–4), along with a comparison of the strengths and weaknesses within and between the factors for each firm. The maximum scores possible in each of the four factors are also included in the tables.

Over the four factors, several key indicators received particular attention and were allocated high weights (3 or -3, see Appendix). The presence/absence of these key indicators played an important role in the resulting factor totals. For the signals of firm quality key indicators included the clarity of presentation of the E-Grocer's return policy, privacy policy, and money-back guarantees; the ability to use coupons and loyalty (frequent-shopper) cards

when purchasing online; the range of payment options offered; and ties to stores (bricks-and-clicks). Key indicators for product quality were the provision of nutritional advice and information in the "Nutrition Facts" (NLEA) format and the availability and certification of detailed product descriptions, particularly those for production attributes such as genetically modified (GM)-free, organic, or enhanced animal welfare.

As previously discussed in Rha et al. (2001), communications with consumers are of great importance to E-Grocers. Key indicators of a customer-centered (CRM) focus include providing consumers ways to communicate with the firm within a few clicks (e.g., online feedback forms, e-mail addresses, and dedicated CRM phone numbers). Tools to build "community," such as consumer ratings and recommendations, provide evidence that the firm recognizes the power of word-of-mouth or viral marketing. Ease-of-search indicators received a heavy weighting in the ranking process for customer-retention and -attraction reasons.

Key indicators in the final factor, product range, included actual counts for representative products in various categories and the availability of foods for special dietary needs (e.g., allergies, diabetic/low sodium, and children's meals). Examples of creative bundling of food and non-food items were also assigned a high weight in this factor.

Findings

A changing set of E-Grocers were evaluated, scored and ranked in each of the four periods (Tables 1–4). Clearly the industry has a long way to go, with few operations scoring even 50 percent of the maximum possible (either in a factor or in aggregate). While the research team did not expect any single firm to offer all aspects evaluated by the E-Grocery content-analysis tool, the low scores are interesting and suggestive of the need for further focus and development that a typical operation should consider. By first considering the simple statistics we see a reduction in absolute performance within the industry as reported by the declining average total score and increasing distribution (Max-Min). Average scores for each of the four factors have also declined over the four periods, suggesting the industry is not enhancing E-Commerce strategies—at least those indicators assessed by the E-Grocery content-analysis tool. This said, there are stand-out

¹ This weight was based on earlier reported findings, the authors' previous studies, and survey data (Heilig 2002).

firms which, either through higher product-range scores (Albertsons and Vons/Pavilions), CRM (Ahold firms, see below), or overall above-average performance (Simon Delivers), have improved their relative and absolute scores.

In each period, both bricks-and-clicks and pure-play E-Grocers are present in the Top 10 list, although such a distinction has become increasingly blurred in most recent observations as Peapod more closely aligned with Royal Ahold stores and other pure-plays exited. Indeed, it is especially interesting to note the presence of four E-Grocers operated by Royal Ahold's U.S.-based unit. Ahold USA owns Giant-Landover (Giant Food), Giant-Carlisle (Giant), Peapod, and Stop & Shop. While a degree of consistency has been attempted across these four Ahold brands², differences still remain. An explanation perhaps follows the range of initial business models of the "brick" chains involved (especially in the case of Giant). The presence of three of the four Ahold firms with similar scores in 2004 (Table 4) is one indication of the emerging trend toward closely coordinated bricks-and-clicks firms often relying on turnkey solutions hosted or provided by external firms over individual pure-play E-Grocers. Such firms gain advantage by spreading their technical infrastructure and core strategies across all entries owned by the parent company while capitalizing on the names and market space owned by the individual (brick) brands. Another more-recently evaluated example is Vons and Pavilions—Safeway shares this format across each of its store brands.

By observing this industry through a period of shakeout and, more recently, additional expansion, we have started to see some maturation and possible success models for such ventures. At the end of 2001 a limited number of pure-plays appeared to lead the industry, with only moderate enthusiasm on the part of "bricks" toward entering the online arena. By the first quarter of 2004, no true pure-play ranked in our Top 10. This trend is in line with renewed interest in this sector—"bricks" appear to be strategically using online sales to extend their service capabilities and can do so by further capitalizing on their existing infrastructure (store picking versus a centralized warehouse-logistics system).

² An extreme example is Giant Food, which was not independently assessed in 2004 (Table 4), as Peapod now offers all ordering and fulfillment services. Prior to 2004 a separate web page, including online ordering, was managed by Giant Food.

Further examination of the firms evaluated across the four observations illustrates two other grocery retail trends worth mentioning. Walgreens.com (a drug store chain) and Bluelight.com (general retailer Kmart) are examples of non-traditional firms moving into the grocery space.³ Their E-Commerce strategies had varying degrees of success in 2001 prior to exit. Several other major players in these two categories (Wal-Mart and CVS Pharmacy) are also "in the grocery business" but have not yet moved these products to their online stores. Given the exit of Walgreens from our evaluation, there is little to encourage CVS from entering this space online even as they expand their in-store food sales—limited food-product lines and higher costs of handling those products would seem to constrain their enthusiasm. The absence of the nation's two largest food retailers, Wal-Mart and Kroger, should be especially noted, and is worthy of further investigation.

It is interesting to look more closely at certain E-Grocers that exited the business over the course of our study: Housecallsonline.com, Yourgrocer.com, Publix and Marsh. In the third-quarter 2001 evaluation (Table 1), Housecallsonline.com and Yourgrocer.com both scored very low in product quality. On the other hand, the firm quality and CRM scores for these operations were acceptable, close to the average of all E-Grocers. Their demise contradicts the assumptions of our research team and other analysts that managing customer relations is critical—possibly even paramount—to firm survival in service or quality-oriented E-Commerce. At the same time, we recognize that there must be a threshold level of products and product quality established before an E-Grocer thinks about building out the CRM factors. Likewise, there are firm-structure and financing variables not evaluated by our study that may have played a role in these firms' exit. Publix similarly highlights a dilemma with the results reported here. The E-Grocery content-analysis tool simply reports indicators of customer-facing E-Commerce strategies. Once again, even the best E-Grocery operation will fail if there is insufficient consumer demand or if the business model (e.g., logistics system) is not profitable. Marsh, on the other hand, was in the top rankings in the first two analyses, dropped in ranking in Q4-2002, and was

³ Note that observations on Bluelight.com in 2001 came prior to parent firm Kmart's bankruptcy restructuring and elimination of online food offerings.

out of the survey pool by 2004. Marsh still exists online, but did not offer a wide enough range of products to be evaluated in 2004. The reason for this is unclear.

Another interesting point over the course of the study is indicative of a general trend in the grocery business. While firms that are not primarily focused on groceries (Walgreens, Kmart) exited the E-Grocery sector, there has been a greater emergence of specialty focused E-Grocers. This created two basic challenges for this research:

(1) When is a firm an E-Grocer and when is it merely one of a growing number of “shopping services” that offer online order forms? Our decision in defining a shopping service focused on the range of groceries offered and the point of fulfillment for the order. This area may lend itself to further research, guided by what we learned evaluating firms such as Pinkdot.com and Bagboyz.com that barely cross our threshold of definition as an E-Grocer.

(2) When is a firm an E-Grocer and when is it an online supplier of a specialty food or food category? In the case of the latter, we screened for product range; operations offering a limited list of products were not evaluated in this study.

Future research should more fully consider these two questions and the approaches selected in answering them used in this study. Firms such as Ethnicgrocer.com and Jerrysfood.com are worthy of further analysis. Both offer full lines of products, albeit below the average of all firms in this study. They do so, however, with a specialty twist. Ethnicgrocer.com offers a range of foods aimed at ethnic cuisines which may not be easy to find in all communities. Jerrysfood.com offers a special service based on its unique location on Sanibel Island, FL, catering to condominium owners and renters by providing a bonded delivery and stocking service prior to weekend arrival. These market niches are examples of overarching demographic and grocery retail trends: the need to provide special services to an increasingly affluent but time-starved customer, and the influence of growing demographic diversity on food retailing. These trends have already affected in-store stocking, service, and promotion. Now we see them moving online. How they will fare in our future E-Grocery evaluations remains to be seen. Such specialty firms are often at a disadvantage in product-depth ratings but may have an opportunity to differentiate themselves through uniqueness, quality and service.

Conclusion

This paper presents a developing data set collected with a quantitative E-Commerce content-analysis tool applied to the nascent U.S. E-Grocery industry and illustrates considerable room for improvement in firms’ approaches to online retailing. Our repeated assessment provides the opportunity to see changes in this rapidly evolving industry and makes it possible to track improvements, degradations, timing, and possible reasons why firms enter or exit this business. It also can be used to benchmark businesses to industry standards, illustrating the need for constant refinement of the methodology. To avoid inconsistencies from evaluation point to evaluation point, weighting schemes need further validation from consumer surveys. Additional validation should compare E-Grocers’ stated strategies to those observed by content analysis. Given the attention placed on CRM solutions by the industry, future research using this methodology also should evaluate the ability to transfer traditional grocery customer-centered tools (e.g., frequent-shopper or loyalty programs) online and look for any unique CRM applications for the E-Grocery industry. Admittedly, this analysis is limited to a comparison of the visible E-Commerce strategies adopted, and should not be extended to comparisons of resulting firm and/or business-model performance measures (e.g., firm valuation or profitability). Likewise, the activities of Royal Ahold, Tesco (England), and others operating on several continents present opportunities for comparisons of food E-Commerce strategies based in cross-cultural research techniques. This international line of research has domestic implications with the emergence of immigrant-driven specialty grocers in both the traditional food retailing and E-Commerce environments. Such retailers are catering to recent immigrants and others who have developed a taste for a particular cuisine.

Market analysts have doubted the role of online food retailing mainly because of the uncertainty of consumer adoption. The unique nature of grocery products (e.g., perishability) differentiates grocery retailers’ business models from others selling books or computers. Moreover, it has been argued that grocery customers are price sensitive and would not be likely to pay additional service fees for their routine grocery shopping. Whether based on sales or on financial or customer-adoption metrics, few current E-Grocers are yet successful. However, there

is growing optimism in the industry as consumers seem to be willing to pay \$5 or higher service fees to save time and effort—especially households with children and single male consumers who do not like shopping for groceries. The current success and growth in the number of regional markets served by firms such as the Royal Ahold store brands (with Peapod), Safeway and Albertsons reflects increasing demand and adoption of consumers for online food shopping. Success stories (e.g., Tesco.com) are still rare, but much can be learned by examining evolving strategies and emerging performance. By applying the findings of this study to strategies linked to our four factors and implementing effective business models, online food retailers can find promising market opportunities.

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