Working Paper 97-01
The Retail Food Industry Center
Printed Copy $22.50

Adoption of ECR Practices in Minnesota Grocery Stores

Paul F. Phumpiu and Robert P. King

Department of Applied Economics

University of Minnesota

February 1997

Robert P. King is the E. Fred Koller Professor of Agricultural Management Information Systems and Paul F. Phumpiu is a Ph.D. candidate in the Department of Applied Economics at the University of Minnesota. This research was supported by a grant from the Alfred P. Sloan Foundation.

The authors gratefully acknowledge Jack Uldrich, from the Minnesota Grocers Association, Craig Streich, from Cub Foods, and David Bell, formerly from Nash Finch, for their help in the design and implementation of this study. We also thank the store managers who shared their time and knowledge with us. Any errors or omissions are the responsibility of the authors.

Working Paper 97-1
The Retail Food Industry Center

Adoption of ECR Practices in Minnesota Grocery Stores

Paul F. Phumpiu and Robert P. King

Information on other titles in this series may be obtained from The Retail Food Industry Center, University of Minnesota, Department of Applied Economics, 1994 Buford Avenue, 317 COB, St. Paul, MN 55108-6040, U.S.A.

Adoption of ECR Practices in Minnesota Grocery Stores

ABSTRACT

Efficient Consumer Response (ECR) is an industry-wide, collaborative initiative to re-engineer the grocery supply chain. This report presents findings from a study of ECR adoption in Minnesota grocery stores. Data were collected through interviews with managers of forty stores that are broadly distributed over store sizes, locations, and organizational forms. The interviews focused on business practices and technologies related to inventory management and ordering, shelf-space allocation and product assortment decisions, and product pricing and promotions. Findings are presented from three distinct perspectives: (1) stores grouped by location (metro and out-state), (2) stores grouped by organizational form (corporate chain, independent chain, and single store), and (3) stores grouped by levels of an ECR "readiness index" that indicates the level of adoption for key business practices and technologies that support ECR initiatives.

The following general conclusions can be drawn from the detailed results presented in this report.

1. Location in the Twin Cities metropolitan area makes an important difference in implementing some components of the ECR initiative. On average, metro and out-state stores differ little with respect to store size or the adoption of technologies that support ECR. Metro stores are much more likely than out-state stores, however, to coordinate shelf space and product assortment decisions and pricing and promotion activities with outside trading partners.

2. On average, stores that are part of a chain, especially a large corporate chain, are making faster progress toward implementation of ECR initiatives than are single stores. However, three independently owned single stores were also among the most innovative of those we visited. In these stores, it appears that a visionary, energetic owner/manager is able to quickly respond to new opportunities.

3. ECR adoption and superior performance are closely associated. Stores with a high ECR "readiness index" have much higher sales per labor hour, sales per square foot, and annual inventory turns. We cannot determine whether ECR readiness leads to better performance or better performance makes it easier to adopt business practices and technologies that support ECR. We can conclude, however, that competitive forces will almost certainly drive more stores toward adoption of a wider range of technologies and business practices that support the ECR initiative.

In summary, ECR is changing the way Minnesota grocers do business, and adopting ECR practices goes hand-in-hand with better financial performance. Findings from this study suggest that stores of any size and organizational form that are willing and able to adopt new technologies, to develop cooperative relationships with their trading partners, and to respond to the unique needs of their customers will increase their chance of success in this competitive market.

Adoption of ECR Practices in Minnesota Grocery Stores

Paul F. Phumpiu and Robert P. King

Efficient Consumer Response (ECR) is an industry-wide, collaborative effort to re-engineer the grocery supply chain. ECR is aimed at increasing both intra- and interfirm efficiency and responsiveness to consumers. In the longer term, ECR is likely to have profound effects on the structure of the retail food industry, either through the strengthening of cooperation and coordination among independent firms or through increased vertical integration.

While the success of ECR depends on industry-wide adoption, the details of ECR implementation will almost certainly differ across firms in any segment of the supply chain, across geographic and market divisions within individual firms, and even across product categories within a single firm. Such differences in implementation can be beneficial, since they are the basis for organizational learning and for ongoing identification of best management practices in the context of ECR. One the other hand, the feasibility of many ECR practices depends on having a critical mass of firms using them.

The overall objective of this exploratory study is to describe ECR implementation in the retail store segment of the grocery supply chain in the Upper Midwest. Specific objectives for this study are:

1. To describe the operational and organizational changes retail grocery stores are experiencing with the implementation of ECR.
2. To identify factors that may explain significant differences in patterns of ECR implementation across firms and across major product categories.

Issues of particular interest include: (1) the effects on inventory and labor costs of changes in internal business processes, (2) changes in decision responsibility for core activities such as inventory management, space allocation, product assortment, and the use of promotions, (3) differences in ECR implementation in retail store chains and single stores, (4) differences in ECR implementation across major product categories, and (5) implications of ECR for firm and segment-specific employee training needs.

Data for this study were collected through a series of forty interviews with store managers. Interview questions focused on:

1. store and manager characteristics;
2. inventory management and ordering processes;
3. store layout, shelf-space allocation, and product assortment;
4. product pricing and promotion decisions; and
5. key challenges facing managers.

The forty stores interviewed for this study are not a representative, random sample of Minnesota grocery stores. Rather, the stores interviewed were chosen to ensure a broad distribution of store sizes, locations, and types. Therefore, findings from this study cannot be used to make formal inferences about all stores in Minnesota. Nevertheless, we believe our findings point to patterns of technology adoption and organizational change that are generally reflective of important trends in the industry.

In the sections that follow, we first provide additional information on the data collection procedures for this study. We then present parallel descriptive profiles of the stores in our study from three distinct perspectives: stores grouped by organizational form, stores grouped by location, and stores grouped by their level of adoption for ECR practices. Each perspective provides unique insights on patterns of ECR adoption and on relationships between ECR

practices and store performance. In the concluding section of this report, we summarize our findings and identify issues for future research.

Data Collection and Participant Profile

The data for the study come from interviews with store managers from a broad cross-section of Minnesota grocery stores. Many of these managers responded to a request for participation in this study that was made by the Minnesota Grocers Association (MGA). Others were chosen from the 1995 Grocery Industry Directory and Resource Guide published by MGA and contacted by phone or letter by the researchers.

Interviews were conducted during the spring and summer of 1996. After agreeing to participate in the study and scheduling an interview, managers received a confirmation letter and a short background questionnaire that was to be completed prior to the interview. A typical interview lasted approximately one hour and fifteen minutes. Each interview began with a review of the background information on the questionnaire. This was followed with questions about store information systems, inventory management and ordering practices, shelf-space allocation and product assortment decisions, and product pricing and promotion decisions. The interview ended with open ended questions about key issues facing the manager and the store. The interview protocol is given in Appendix A.

A total of forty supermarket stores across Minnesota participated in the study. In presenting our findings, we use three distinct store groupings. First, stores are grouped by location. Twenty-six of the stores in this study are in the Minneapolis-St. Paul metropolitan area; fourteen are in out-state locations that include small towns and cities such as Duluth and Rochester.

Second, the stores are grouped by organizational form. Seventeen of the stores in this study are part of a corporate chain consisting of eleven or more stores. This category includes distributor-owned stores, franchise stores within distributor-owned chains, and stores that are part of a distributor-supplied chain with eleven or more stores. Eight of the stores are part of an independent chain with from two to ten stores. Finally, fifteen of the stores are independently owned and not part of a chain. In some cases, these stores do share a common name and some aspect of their format with other independent stores served by the same distributor. In the case of corporate and independent chains, a conscious effort was made to select a single representative store or, if more than one store was selected from the same chain, efforts were made to select stores considered to be significantly different, from a management standpoint, by the owners of that particular group of stores.

An "ECR readiness" score was the basis for the third scheme for grouping the forty stores in this study. This score is simply an unweighted adoption rate for seventeen technological, organizational, and management practices that are considered to be necessary for the implementation the ECR initiative. These practices are listed in Table 1, along with adoption percentages for each. Some of these were identified from "best practice" publications prepared by the Joint Industry Project on Efficient Consumer Response. Others are included as a result of our own observations regarding the technological, organizational, and management practices that were likely to differ across supermarket stores. Adoption rates for individual practices vary from as low as 15% to 100%. By construction, the index of ECR readiness equals 100% when a store implements all of the seventeen practices of Table 1, and the index equals 0% when a store does not implement any of the practices in Table 1. Higher ECR adopters are considered to be stores

that are already practicing more than 75% of the seventeen store level ECR practices, moderate ECR adopters are stores that implement between 75% to 40% of the seventeen practices, and low ECR adopters are stores that have implemented fewer than 40% of the seventeen practices. There are eleven stores in the high ECR readiness group, fifteen in the moderate group, and fourteen in the low ECR readiness group.

Table 2 presents the distribution of stores under each profile. It also provides information on relationships among the three descriptive profile schemes. For example, of the twenty-four stores in the Twin Cities metro area, nine are part of corporate chains, eight are part of independent chains, and seven are single stores. On average, about 82% of the seventeen practices considered in Table 1 are implemented by stores in the high readiness category, 56% are implemented by stores in the moderate readiness category, and only 23% are implemented by stores in the low readiness category. It is worth noting that the average level of ECR readiness is similar for stores that are in the metropolitan area or out-state — approximately 50%. However, as a group, the seventeen corporate chain stores have a much higher index of ECR readiness than do the eight independent chain stores and fifteen single stores. Finally, there are single stores and independent chain stores in the high and moderate ECR readiness categories, and there are some corporate chain stores in the moderate and lower ECR readiness categories.

Findings

Findings from the forty store interviews are presented in this section. The presentation of results parallels the structure of the interview: store and manager characteristics, inventory management and ordering procedures, shelf-space allocation and product assortment, pricing and promotion decisions, and store productivity. In each table, findings are presented for each of the three store groupings.

Store and Manager Characteristics: Summary information on store and manager characteristics is presented in Table 3. When stores are grouped by location, there are only slight differences in average store size and selling area, number of stock keeping units (SKUs), and adoption of scanning technology. Similarly, there are few major differences in manager characteristics. It is noteworthy, however, that managers in out-state stores are more likely to have access to and use a personal computer. Much more significant differences are seen when stores are grouped by organizational form and by ECR readiness. Under the organizational form profile, corporate chain stores are larger, newer, and carry more SKUs than stores that are part of an independent chain and single stores. Corporate and independent chain stores are more likely to scan both coupons and merchandise than are single stores. Manager age, education level, and years of experience is similar across all three organizational forms. Managers of corporate chains are much more likely to use personal computers and to have incentive payments in their compensation package than are managers of independent chain stores and single stores. Similar patterns are seen in the ECR readiness profile. Stores with higher ECR readiness tend to be larger and newer, carry more SKUs, and are more likely to scan both merchandise and coupons. The managers of ECR ready stores tend to have higher levels of education and are more likely to use computers and have incentive payments as part of their compensation package.

Inventory Management and Ordering: Computer assisted ordering (CAO) and continuous replenishment practices (CRP) are key elements of the ECR strategy for efficient replenishment. Under CAO, scanner data are used along with reorder point formulas to automatically generate orders for high volume items, bypassing the need to base orders on visual inspection of the shelves. Under CRP, movement data are shared with a major supplier, who

generates orders for the store, taking into account not only the store inventory but also the costs of making deliveries. None of the stores we visited makes use of CAO or CRP. Many of the managers we interviewed were aware of these new practices, but they were generally reluctant to use them. Hence, at the store level, ordering is still based on visual inspection of the inventory on the shelf. In the case of dry groceries and processed goods, orders are assembled with the aid of a hand-held telxon unit and are generally transmitted electronically to wholesalers and manufacturers. Orders for produce and fresh meat are generally made up on a written order sheet and are transmitted verbally over the phone or by fax. Shelf tags with movement and/or reorder information can be seen as a first step toward the implementation of CAO because, if used properly, they contain information (e.g., average movement data or reorder points) that could be use to reduce the amount of guesswork when writing an order visually.

Summary information on inventory management and ordering practices is presented in Table 4. Again, there are few striking differences between stores with metro and out-state locations. Metro stores are more likely to scan incoming merchandise, especially direct store delivery (DSD) products, but out-state stores are more likely to use shelf tags that have movement and/or reorder information printed on them. Differences across categories are much greater when stores are grouped by organizational form. While nearly all stores transmit orders by electronic data interchange (EDI), independent chain and single stores are much less likely to transmit item movement data by EDI than are corporate chain stores. Similarly, corporate chain stores are more likely to use point of sale (POS) data on a regular basis for sales forecasting and analysis of movement for specific items, and both corporate and independent chain stores are more likely to provide training on scanner data quality for POS coordinators. There are also clear differences in

who makes ordering decisions across stores in these three organizational form categories. Ordering decisions for both dry groceries and promotional items are more likely to be centralized with the store manager or assistant store manager in single stores, while they tend to be delegated in both chain store categories. Finally, turning to the ECR readiness profile, the use of EDI transmission of movement data, scanning of incoming shipments, and shelf tags with movement and reorder information increases with ECR readiness. The use of POS data to support management decisions and the likelihood of training to ensure POS data quality also increases with ECR readiness.

Shelf-Space Allocation and Product Assortment: Category management is a central element in the ECR strategy for efficient product assortment. Under category management, individual items are grouped into categories defined to reflect consumer needs and perceptions. Procurement, marketing, and merchandising for a category are then coordinated under a single strategy tailored for the store's customer base. This is a complex task that requires not only the merchandising skills and direct knowledge of customers that would be found at the store level, but also data on broader market trends and product interrelationships that is more accessible to distributors and manufacturers. Therefore, category management often involves working closely with trading partners outside the store.

This segment of the interviews focused on the use of formal plan-o-grams in managing shelf-space allocation and product assortment decisions and on the extent to which these decisions are made with the help of outside trading partners. Plan-o-grams are computer generated plans for the arrangement of products on the shelf. In general, they are the product of intensive analysis of store movement data, supplemented with market level data on demand and price relationships for

products within a category. Plan-o-grams are often produced with the assistance of outside trading partners.

Summary information on shelf-space allocation and product assortment decisions is presented in Table 5. Looking first at the findings for stores grouped by location, there is little difference in the use of formal plan-o-grams for store shelf sets between metro and out-state stores, and store manager exposure to training on category management is similar for the two groups. In contrast, there are rather large differences in the degree to which shelf-space allocation and product assortment decisions are coordinated with outside parties for non-DSD products, with the degree of cooperation being much higher in the metro stores. It is likely that this is due simply to physical proximity. This may point to problems with widespread adoption of category management practices, however, since most stores are not located in a major metropolitan area that is home to the corporate headquarters of major food manufacturers and distributors. Turning next to the organizational form profile, corporate chain stores and single stores are more likely to use plan-o-grams and to have managers who have had some training in category management. Corporate chain stores are also consistently more likely to coordinate shelf-space and assortment decisions with outside trading partners. Stores that are part of an independent chain appear to be the least advanced in adopting these practices associated with category management. Finally, since most of the descriptive items included in Table 5 are part of the ECR readiness index, it is not surprising that percentage adoption rates for each practice increase with ECR readiness.

Product Pricing and Promotion Decisions: Product pricing strategies and promotion decisions are another component of a retail business strategy built around category management

practices. Coordination of these decisions with trading partners can be instrumental in reducing inventory build-ups that can be the source of inefficiencies throughout the retail food supply chain. Therefore, interview questions about pricing and promotion decisions focused primarily on the extent to which stores coordinated these decisions with distributors and manufacturers.

Summary information on pricing and promotion decisions is presented in Table 6. There are sharp differences in the responses of metro and out-state stores for all the practices that are related to coordination with outside parties. Metro stores consistently work more closely with trading partners than do out-state stores. This pattern is similar to that observed for shelf-space allocation and product assortment practices involving coordination with outside parties. On the other hand, there are only minor differences between metro and out-state store with respect to the use of telxon units for price verification and the use of customer and competitor survey data. Adoption patterns across stores grouped by organizational form are less clear-cut, partly because corporate stores are nearly equally divided between metro and out-state locations. While one would expect corporate chain stores to coordinate pricing and promotion decisions closely with the chain headquarters and, through headquarters, with other trading partners, it appears that chains give managers outside the metro area considerably more autonomy in adjusting prices and promotions to local market conditions. This has important implications for store level implementation of efficient promotions strategies being developed under the ECR initiative. Finally, for stores grouped by ECR readiness, there is a tendency for store-level autonomy to decrease with ECR readiness, but patterns here seem less pronounced than in other segments of the interview.

Store Productivity Measures: Ultimately, the success or failure of the ECR initiative will depend on the impact it has on performance in each segment of the retail food supply chain. During the interviews, we collected data that could be used to construct estimated values for three important store productivity measures: sales per labor hour, weekly sales per square foot of selling area, and annual inventory turns. The sales per labor hour measure was calculated by dividing weekly sales, as reported by the manager, by an estimate of weekly labor hours constructed under the assumption that full-time employees work 40 hours per week and part-time employees work 20 hours per week. The weekly sales per square foot of selling area measure was calculated by dividing weekly sales by store selling area, using figures reported by the store manager. Finally, annual inventory turns was calculated by dividing annual sales -- weekly sales as reported by the manager multiplied by 52 -- by the average inventory value reported by the manager. The values we calculated for these measures are only approximations. Therefore, they should be interpreted with caution. Also, it should be noted that two of the forty store managers interviewed did not provide the financial information needed to construct these productivity measures.

Summary information on store productivity measures is presented in Table 7. There are relatively clear differences under each of the three descriptive profiles. On average metro stores perform better for each measure than do out-state stores. However, lower sales per labor hour and weekly sales per square foot of selling area in out-state stores may not imply lower profitability, because labor and real estate costs are also lower in those areas. Turning next to summary figures for stores grouped by organizational form, corporate chain stores have the best average performance measures. Labor efficiency in independent chain stores approaches that of

the corporate chain stores, and both have much higher sales per labor hour than do single stores. In contrast, both independent chain stores and single stores have similar average values for annual inventory turns, and both perform at levels well below the average realized by corporate chain stores. Perhaps the most striking differences in average productivity levels are those seen across ECR readiness categories. For each measure, average performance levels for stores in the low ECR readiness group are only about half the average level for stores in the high ECR readiness group. It is not possible to determine whether adoption of ECR practices leads to better performance or strong performance facilitates adoption of ECR practices. It is clear from these findings, however, that there is a strong association between adoption of ECR practices and superior performance.

Summary and Implications for Future Research

The findings presented in this report are based on structured, but open-ended interviews with managers of forty Minnesota grocery stores. The stores ranged from very small independently owned and operated grocery stores to large supermarkets that are part of corporate chains, from stores located in the Twin Cites metro area to stores located in small rural towns, and from stores that are well on the way to implementing a wide range of practices associated with the ECR initiative to stores that are still using more traditional technologies and business practices. While not a random, representative sample, these stores do represent a broad cross-section of Minnesota grocery stores.

While we believe the primary value of our findings is in the details, we believe there are also three general conclusions that can be drawn from this study.

1. Location in a major metropolitan area makes an important difference in implementing some components of the ECR initiative. On average, metro and out-state stores differ little with respect to store size or the adoption of technologies that support the ECR initiative, such as scanning, use of EDI, analysis of POS data, and use of shelf tags with movement and reorder information. Metro and out-state stores differ significantly, however, in the degree to which they coordinate category management and pricing activities with outside trading partners.

2. Stores that are part of a chain, especially a large corporate chain, are making faster progress toward implementation of ECR initiatives than are single stores. This is to be expected, since large chains are able to spread the fixed costs of ECR adoption over a larger number of stores. It is also interesting to note, however, that three independently owned single stores were among the most innovative of those we visited. In these stores, it appears that a visionary, energetic owner/manager is able to quickly respond to new opportunities.

3. ECR adoption and superior performance are closely associated. We cannot be sure whether one of these factors "causes" the other. We can conclude, however, that competitive forces will almost certainly drive more stores toward adoption of a wider range of technologies and business practices that lower operating costs and support the ECR initiative.

The findings from this study reflect trends for a small number of stores in a limited geographic area. Our conclusions should, perhaps, best be viewed as hypotheses that need to be tested through survey research that collects data from a larger, more representative cross section of stores throughout the country. Based on the experience we gained through the interviews conducted for this study, we believe data to test these hypotheses can be collected using a carefully designed survey instrument. We also believe more attention needs to be given to collecting accurate data on a wider range of store performance measures, since improved efficiency and responsiveness to customers is the objective of ECR. Finally, if possible, a panel of firms should be surveyed periodically to gain a better understanding of the dynamics of ECR adoption and its relationship to store performance.

In closing, it is clear that, in one way or another, grocers are reinventing their stores in order to compete in a rapidly changing market. Scale economies realized through increasing store size or through replicating a format in multiple stores within a chain influence store investments in physical layout, new technologies, and information systems. Size is not the only factor in this transformation of the industry, however. Our results also suggest that stores of any size and organizational form that are willing and able to adopt new cost-saving technologies, to develop cooperative relationships with their trading partners, and to respond to the unique needs of their customers will be more likely to succeed in this competitive market.

Table 1. ECR Readiness Indicators

ECR Readiness Indicator	Adoption Rate in Stores Interviewed
Scan Merchandise	88%
Scan Coupons	33%
Manager Has Access to a Personal Computer	15%
EDI Transmission of Orders	98%
EDI Transmission of Movement Data	60%
Scanning of Incoming Shipments	40%
Shelf Tags Have Movement and/or Reorder Information	20%
Weekly Sales Forecasts Based on POS Data	65%
POS Coordinator Has Formal Training on Scan Data Quality	60%
Resets Based on Formal Planograms	20%
Non-DSD Resets Coordinated with Outside Parties	38%
Non-DSD Product Assortment Decisions Coordinated with Outside Parties	60%
DSD Reset and Product Assortment Decisions Coordinated with Outside Parties	40%
Manager Has Attended Training on Category Management	43%
Promotion and Pricing Decisions Are Coordinated with Outside Parties	53%
Telxon Units Are Used for Price Verification	80%
Store Uses Competitor Price Information	68%
ECR Readiness Score	53%

Table 2. Distribution of Stores by Profile Characteristics

Profile Characteristic	Location		Organizational Form			ECR Readiness			
	Metro	Out-State	Corporate Chain	Independent Chain	Single Store	High	Moderate	Low	
Metro Location	24	0	9	8	7	8	9	7	
Out-State Location	0	16	8	0	8	3	6	7	
Corporate Chain	9	8	17	0	0	8	7	2	
Independent Chain	8	0	0	8	0	0	5	3	
Single Store	7	8	0	0	15	3	3	9	
ECR Readiness Index	53%		49%	70%	43%	35%	82%	56%	23%

Table 3. Store and Manager Characteristics

Store Characteristics	Location		Organizational Form			ECR Readiness		
	Metro	Out-State	Corporate Chain	Independent Chain	Single Store	High	Moderate	Low
Store Size (Sq. Ft.)	42,379	40,526	61,257	29,725	25,757	70,669	42,507	17,895
Selling Area (Sq. Ft.)	33,828	31,210	48,425	24,438	19,500	56,384	32,800	14,214
Store Age	14	19	9	20	24	5	16	27
Total SKUs*	29,425	23,758	36,904	19,749	20,237	38,466	25,781	17,744
Scan Merchandise	83%	94%	100%	100%	67%	100%	100%	64%
Scan Coupons	33%	31%	41%	38%	20%	55%	20%	29%
Manager Characteristics								
Age	42	42	40	40	46	41	41	45
Level of Education (hs=1, ... , grad=5)	2.7	3.3	3.1	2.0	3.1	3.8	2.3	2.9
Years of Experience	11	13	10	9	15	11	10	14
Access to a Personal Computer	8%	25%	29%	0%	7%	27%	20%	0%
Compensation Includes Incentive Payments	38%	38%	59%	38%	13%	64%	47%	7%

* Five stores did not provide information on SKUs.

Table 4. Inventory Management and Ordering Practices

Inventory Management and Ordering Practices	Location		Organizational Form			ECR Readiness		
	Metro	Out-State	Corporate Chain	Independent Chain	Single Store	High	Moderate	Low
EDI Transmission of Orders	100%	94%	100%	100%	93%	100%	100%	93%
EDI Transmission of Movement Data	100%	94%	94%	38%	33%	100%	73%	14%
Scanning of Incoming Shipments	46%	31%	53%	25%	33%	100%	33%	0%
Shelf Tags Have Movement and/or Reorder Information	13%	31%	24%	13%	20%	27%	27%	7%
Weekly Review of Specific Item Movement Using POS Data	21%	19%	35%	0%	13%	45%	20%	0%
Weekly Sales Forecasts Based on POS Data	63%	69%	100%	38%	40%	91%	87%	21%
POS Coordinator Has Formal Training on Scan Data Quality	67%	50%	71%	63%	47%	91%	73%	21%
Dry Grocery Orders Made by:								
* Store/Asst. Store Manager	25%	25%	6%	25%	47%	0%	7%	64%
* Department/Night Manager	42%	50%	47%	63%	33%	55%	60%	21%
* Stocker	33%	25%	47%	13%	20%	45%	33%	14%
Promotional Item Orders Made by:								
* Store/Asst. Store Manager	50%	63%	35%	50%	80%	27%	40%	93%
* Department/Night Manager	29%	19%	35%	38%	7%	55%	20%	7%
* Stocker	21%	19%	29%	13%	13%	18%	40%	0%

Table 5. Shelf-Space Allocation and Product Assortment Decisions

Shelf-Space Allocation and Product Assortment Decisions	Location		Organizational Form			ECR Readiness		
	Metro	Out-State	Corporate Chain	Independent Chain	Single Store	High	Moderate	Low
Resets Based on Formal Planograms	21%	19%	24%	13%	20%	55%	7%	7%
Non-DSD Resets Coordinated with Outside Parties	46%	25%	71%	13%	13%	91%	33%	0%
Non-DSD Product Assortment Decisions Coordinated with Outside Parties	71%	44%	88%	75%	20%	100%	73%	14%
DSD Reset and Product Assortment Decisions Coordinated with Outside Parties	42%	38%	71%	0%	27%	100%	27%	7%
Manager Has Attended Training on Category Management	42%	38%	65%	0%	33%	91%	40%	0%

Table 6. Pricing and Promotion Decisions

Pricing and Promotion Decisions	Location		Organizational Form			ECR Readiness		
	Metro	Out-State	Corporate Chain	Independent Chain	Single Store	High	Moderate	Low
Store Adjusts SRPs from Zone Pricing/Price Book Guidelines	25%	81%	47%	25%	60%	36%	67%	36%
Main Distributor or Chain HQ Sets Prices on Promotional Items	83%	13%	41%	75%	60%	73%	33%	64%
Store Sets Prices on Promotional Items	17%	88%	59%	25%	40%	27%	67%	36%
Promotion and Pricing Decisions Are Coordinated with Outside Parties	71%	25%	65%	75%	27%	64%	60%	36%
Telxon Units Are Used for Price Verification	75%	88%	100%	75%	60%	100%	93%	50%
Store Uses Demographic Surveys of Customers	46%	38%	53%	38%	33%	73%	33%	29%
Store Uses Competitor Price Information	71%	63%	88%	87%	40%	100%	87%	21%

Table 7. Store Productivity Measures

Productivity Measure *	Location		Organizational Form			ECR Readiness		
	Metro	Out-State	Corporate Chain	Independent Chain	Single Store	High	Moderate	Low
Sales per Labor Hour	$109.08	$87.37	$116.77	$114.39	$75.39	$124.01	$104.61	$78.07
Sales per Square Foot of Selling Area	$10.54	$8.71	$12.42	$9.80	$7.10	$13.65	$10.70	$6.06
Annual Inventory Turns	27	22	30	23	22	37	26	16

* Two stores did not provide data needed to calculate productivity measures.

Appendix A
Interview Protocol

Background Information
(To be filled out by the store manager prior to the store visit)

Store Name and Address: _____
_____
_____
Phone number: _____
Manager's Name: _____

Store Characteristics: Store size:____ sq. ft. Selling area:____ sq. ft.
Backroom space:____ sq. ft.
Store age:____
Number of Store Departments:____
Average weekly sales:$_____ per week
Average number of transactions per week:____
Average inventory value:$_____

Annual Sales (check one)

___ Less than $2,000,000	___ $ 8,000,000 - $10,000,000	___ $20,000,000 - $30,000,000
___ $2,000,000 - $4,000,000	___ $10,000,000 - $12,000,000	___ $30,000,000 - $40,000,000
___ $4,000,000 - $6,000,000	___ $12,000,000 - $15,000,000	___ $40,000,000 - $50,000,000
___ $6,000,000 - $8,000,000	___ $15,000,000 - $20,000,000	___ $over $50,000,000

Total number of vendors:____
Total number of SKU's:_____
Percentage of SKUs from non-primary Distributor:____
Percentage of SKUs that are DSD:____

Full-time employees:____ Part-time employees:____

Number of employees with Managerial Responsibilities:____

Titles for managerial positions:	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Manager Characteristics: Your age:___
Your education:
(Check all that apply to you.)
___ High School
___ Some College
___ 2-year college degree
___ 4-year college degree
___ Graduate degree

Years of store manager experience:___
Years in current position:___
Years of asst. store manager experience:___
Other dept. manager positions held: _____ _____ _____
_____ _____ _____

Interview Protocol

The interview begins with a review of the Background Information form completed by the manager prior to the interview and with the following additional questions.

Background

- Is your store part of a chain? If yes, how many stores are in the chain?
- Is your store owned by a distributor? If not, what company is your primary distributor?
- In your store, what food products are DSD?

Information System and in-Store Information

- Tell us about your in-store computer system . Who has supplied it?
- Tell us about your in-store scanning equipment and usage.
- Do you get any reports based on your scanning data?
- Do you sell scanner data?
- Who is responsible for the quality of your scanner data?
- Did you and/or other employees receive any formal computer training? If yes, who provided it.
- Do you share any reports with store department managers?
- Do you also receive reports for your store's customer profiling? Who provides them?
- What about reports for projected SKUs product demands? Who provides them?
- How do you use these reports? How might you use them in the future?
- When do you transmit reports to department managers?
- How do you evaluate the work of department managers?
- Are department managers under any incentive or bonus payment plan?

Inventory Management and Ordering

- For products that are not under promotion (all information by department products). How do you order an item?
- Who is the order writer?
- How many times a week do you make an order?
- How frequently do you get product deliveries?
- Who writes orders for products under promotion that come from your main supplier?
- Who decides how much shelf space can products take and where to put them?
- How do you do communicate to suppliers when there are discrepancies between ordering and delivery?
- For products that come from your main supplier. How are products delivered?
- In the last two years, have there been any changes in the way this store orders its products?
- What about the number of varieties in products and the frequency of orders?
- In the last two years, have there been any changes in the procedures that you follow for ordering and receiving products? Explain.

Store Layout, Shelf-Space Allocation, and Product Assortment

- Have there been any changes in the layout of the store?
- How often do you reset the store?
- What prompted these changes?
- Who makes these decisions?
- Do you use a planogram when you reset your store? Who provides the store's planogram?
- Do you do minor changes in your planogram?
- When do you consider adding new sizes and new products?
- Who makes decisions for the location of products on shelves? How are these decision made?
- Who makes decisions for the assortment of products? How are these decisions made?
- In the last two years, what is your assessment about store level changes in the way you do the assortment of products, their location on shelves? What about the changes in the store layout? Explain.

Pricing and Promotion

- How are prices set in the store?
- Who makes pricing decisions?
- Do you receive information about local market prices?
- How frequently do you make price changes?
- Who provides you with price tags for DSD and non-DSD products?
- How are promotion decisions made and implemented? Who makes them?
- In the last two years, what is your assessment about changes in the way prices are set in your store? Explain.
- In the last two years, what is your assessment about changes in the way products are promoted at your store? Explain.

Key Issues

- What is the single most important issue, problem, or challenge for you in managing the day-to-day operations in your store?
- How do you think the changes in the retail food industry are going to affect the way you manage your store five years from now?