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Forecasted Characteristics of the Grocery Industry in America: Factors to Enhance Viability in the Marketplace of the Twenty-first Century

Terence F. O'Brien
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Forecasted characteristics of the grocery industry in America: Factors to enhance viability in the marketplace of the twenty-first century

O'Brien, Terence Francis, Ed.D.

East Tennessee State University, 1994

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FORECASTED CHARACTERISTICS OF THE GROCERY INDUSTRY IN AMERICA: FACTORS TO ENHANCE VIABILITY IN THE MARKETPLACE OF THE 21ST CENTURY

A Dissertation
Presented to
The Faculty of Educational Leadership and Policy Analysis
East Tennessee State University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Terence F. O'Brien
August 1994
Approval

This is to certify that the Graduate Committee of
Terence F. O'Brien
met on the
8th day of June, 1994

The committee read and examined his dissertation, supervised his defense of it in an oral examination, and decided to recommend that his study be submitted to the Graduate Council and the Associate Vice-President for Research and Dean of the Graduate School, in partial fulfillment of the requirements for the degree of Doctorate in Education.

W. Hal Knight
Chairman, Graduate Committee

Signed on behalf of the Graduate Council

Associate Vice-President for Research and Dean, School of Graduate Studies
ABSTRACT

Forecasted Characteristics Of The Grocery Industry In America: Factors To Enhance Viability In The Marketplace Of The 21st Century

by

Terence F. O'Brien

The purpose of this study was to forecast what the competitive retail environment will resemble in the grocery industry in the year 2010, what measures a company must take to prepare to compete in the predicted environment, and what internal organizational structure will help to facilitate a company's competitive strategy in 2010.

The study was conducted using the Delphi Technique. It is a forecasting mechanism designed to build consensus using an expert Delphi Committee. The committee consisted of 55 professionals representing many fields closely associated with the grocery industry.

Two sequential survey instruments were utilized. Round 1 solicited narrative answers to 20 board questions related to the grocery supermarket industry. Round 2 was a 38 item instrument that was constructed using the material generated by the committee in their Round 1 answers. A Likert-type scale and probability factor were employed to determine agreement and establish the likelihood of the event occurring by 2010.

The study concluded that the grocery industry can expect some major changes in the next 15 years. Some of the significant findings were: super-stores will likely dominate as the format where people conduct their bulk shopping; small neighborhood stores, selling high quality, fresh, prepared, and/or ethnic food, will develop as the convenient option to the larger stores; the utilization of advanced technology to improve efficiencies will be an important part of a company's business plan; and, flatter organizations that emphasize cross-functional teams and empower people at all levels will be successful.

The study will help companies in the grocery supermarket industry determine what measures they need to take to remain viable in the year 2010 and begin planning for a long-range strategy.

PRINCIPAL INVESTIGATOR: Terrence O'Brien

The Institutional Review Board has reviewed the above-titled project on May 13, 1994 with respect to the rights and safety of human subjects, including matters of informed consent and protection of subject confidentiality, and finds the project acceptable to the Board.

Anthony J. DeLucia
Chairman, IRB
Dedication

This study is dedicated to my wife, Gail DeForge O'Brien. Born into very modest means, her pursuit of those values in life that are manifested by the truly good people has been extraordinary. She possesses those universal qualities that make the world function as well as it does. She is a dedicated professional, trustworthy friend, nurturing mother to our children, and most of all a loving wife. Her character is without question. Without her encouragement, support, example, help, and love, this work and the completion of the degree would never have been possible. She is simply the best.
ACKNOWLEDGMENTS

I want to first express my sincere gratitude to Dr. Hal Knight, my committee chairperson and advisor. His guidance and interest through the program and dissertation were an important part of my ultimate completion. With his broad understanding of leadership and administration, he was instrumental integrating the core program with the practical application of my private sector career.

A personal highlight for me in the program was coming in contact with Dr. Russell West. His ability to convey knowledge and provide unselfish assistance to people like myself is an example for everyone to follow. It will always be an inspiration to me.

Personal gratitude is also extended to Dr. Ed Stead for his role on my committee. His contribution from a business perspective helped solidify many of the main concepts in this work. His understanding of organizations and how they function will continue to impact me in the future.

My use of technology would still be minimal, if it were not for the patience and direction I received from Dr. John Anderson. I thank him for serving on my committee and think of him every time I use advanced computer software and technology.

I also want to thank Dr. Donn Gresso for his willing
assistance on my committee. His understanding of how fundamental management principles and philosophy can apply in public and private sectors was very helpful.

The professional assistance of Mr. Richard Carlson who served as my auditor and grocery industry analyst for review of the Delphi survey material was very important to the completion of this work. His expertise and analytical ability contributed greatly.

Special recognition goes to my two daughters, Molly and Erin. Not only are they the two nicest children in the world, their own educational accomplishments motivated me to complete this degree. This is a strange twist from a parent’s perspective.

Lastly, I want to thank my mother, Edith, and my late father, Francis Joseph, for instilling in me the value of education and giving me such a strong start. I consider myself very fortunate to be their son.
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Chapter 1

Introduction

If you don’t know where you’re going, any road will get you there. Anonymous

The ability to survive in business has become increasingly difficult. According to Senge (1990), “Few large corporations live even half as long as a person. The average lifetime of the largest industrial enterprises is less than forty years, roughly half the lifetime of a human being. The chances are fifty-fifty that readers of this book will see their firm disappear during their working career” (p. 17). These words resound in today’s world of business. The decline of some of the biggest and most respected corporations in the world has become something to be expected as part of the weekly business news. The weakened companies include such giants as IBM, General Motors, Sears Roebuck, Macy’s, and A&P Stores. These companies were once the most admired examples in their respective industries.

Many people ask why the decline must occur at all. In most companies that fail, there are many advanced signs that the organization is in trouble (Senge, 1990). For some reason, however, the companies do not recognize the potential threats, understand the significance of the
threats, nor construct a counter attack in time to ward off the impending failure.

Threats to organizations come from internal and external sources. Gareth Morgan in *Images of Organizations* (1986) placed emphasis on the necessity of organizations to understand themselves. The complexity of organizational characteristics can cloud the clear thinking that is needed to survive in today's dynamically changing world. "Any realistic approach to organizational analysis must start from the premise that organizations can be many things at once...If one truly wishes to understand an organization it is much wiser to start from the premise that organizations are complex, ambiguous, and paradoxical" (Morgan, 1986, p.321). In Morgan's view, it is the failure to understand internal strengths, limitations, and weaknesses that causes an organization to decline from its own ineptness and become its own enemy. The organization does not adjust nor adapt because it does not understand itself.

Failure to recognize external threats can have the same devastating effect as failure to understand internal factors. The companies that survive are those that recognize impending challenges from the outside. The life cycle of many organizations is cut short by failure to anticipate or identify those alien factors that cause their decline. New competition, new technology, globalization, work force diversity, product development,
and changing market characteristics represent just a few of the typical external forces against which companies must defend (Walker, Boyd & Larreche, 1992).

In today's fast-paced, capitalistic economy, organizations must meet the challenges of both internal and external threats in order to remain profitable. Social Darwinism, as it applies to business, is the essence of capitalism. The fittest organizations survive while the weak decline and eventually disappear through merger, sale, or bankruptcy. The question of how to sustain and maintain viability is the key to longevity. Deterioration of profitability leads to questionable viability.

Understanding how to position one's organization to meet the challenges of the future should be a major component of any company's long-range strategic plan (Albrecht, 1992). Few enterprises have more at stake with this responsibility than the grocery supermarket industry.

The grocery industry has a combined business activity of over $390 billion (Progressive Grocer, April, 1994). In spite of this large cash activity, the industry has many paradoxical characteristics. Profit margins are very small. One per cent (1%) net bottom line profit is considered to be satisfactory performance (Progressive Grocer, April, 1992). Competition is intense. The retail formats used to attract customers vary from low-end warehouse store formats with a basic shopping environment,
low prices, and little customer service to complex formats with embellished environments, extensive customer service, a large variety of elaborate specialty departments and, as a result, higher markups.

The marketing strategy of a particular grocery company can fall anywhere on the continuum from low end (limited selection, self-service, and low price) to upscale merchandizing with large selection, specialty sections, high service, pleasantly decorated interiors, and higher prices. A firm chooses a specific format in order to find the right formula for the consumer niche to which it is trying to appeal, and to develop distinctive contrasts to other competitors in the geographic competitive territory. The spectrum of strategic marketing schemes can be illustrated by the margins that the various formats require in their pricing formulas in order to remain profitable. Those margins range from 16.5% for a basic, no frills store to as high as 28% for a trendy, specialty, high service store (Progressive Grocer, April, 1992).

Competing in this milieu of consumer choice is difficult. Failing to identify the right formula and target the correct niche can lead to certain failure (Albrecht, 1992). A tremendous investment in capital cost, inventory, personnel, technology, advertising, and marketing leaves little room for error. Since operational costs are high and margins are slim, poor performance
cannot be tolerated for long. The question of how to remain viable in both the short term and long term is the challenge that grocery industry professionals face on a year to year basis.

In his book, The Rise and Decline of The Great Atlantic and Pacific Tea Company, William Walsh (1986) explained the most notorious example of decline in the history of the grocery industry. The giant retailer, A&P Stores, was the dominant force in the supermarket industry in the late 19th century and the first half of the 20th century. A malaise set into the corporate culture, and the failure to recognize and react to a changing business environment caused huge losses (Walsh, 1986). "The infection worsened over a score of years until some 3,000 stores and more than one hundred manufacturing and distribution facilities had been abandoned as incurable" (Walsh, 1986, p.11).

How could a company with the size and resources of A&P Stores fail to remain viable? What did it fail to recognize? What organizational flaws surfaced to cause its decline and almost its extinction? What lessons can be learned from A&P's struggle? Professionals in the supermarket industry must ask themselves these types of questions everyday if their entity is to survive (Walsh, 1986). Anticipating change, developing a vision for the future, and making the right strategic moves to stay competitive in any industry has become one of the most
important elements of today's business leadership (Senge, 1990). Knowing where you are going, what the future may resemble, and how an organization must function to be ready for the competition of the future are integral components for survival (Walker, et al. 1992). Long-range strategic planning and management based on research from the projected trends of technology and consumer preference, are now fundamental requirements in the supermarket industry (Mathews, 1992).

**Statement of the Problem**

Understanding the future competitive environment of the grocery supermarket industry has taken on even more importance as the industry prepares for the 21st century. Past failures provide ample evidence that grocery companies must devise a business plan that supports their viability and durability.

**Purpose of the Study**

The purpose of this study was to forecast what characteristics the grocery industry should exhibit in the next 20 years as the nature of the retail environment changes. The following areas were studied as they pertain to the results of the forecast:

1. The projected retail environment in which a company in the grocery industry can expect to have to compete in the year 2010.
2. The measures a company must be prepared to take in order to remain viable and profitable in that environment.

3. The internal organizational structure that will be necessary to facilitate and support a competitive strategy in that external marketplace.

Research Questions

The following research questions were developed for this study. A Delphi Technique was employed as the forecasting mechanism in order to answer these questions.

1. What will be the competitive characteristics of the grocery supermarket industry in the year 2010?

2. What will the typical grocery supermarket look like in the year 2010?

3. How can a grocery supermarket company begin to prepare itself in the 1990s for the changes that will be essential to remain viable in the forecasted competitive marketplace of the year 2010?

4. What changes in strategy and business plans will be imperative by the year 2010?

5. What type of internal organizational structure will be necessary to enable a grocery supermarket company to formulate, construct, implement, and maintain the business plan and strategy that will be established to successfully compete in the year 2010?
Significance of Study

The mission of every organization should revolve around serving the best interest of their stakeholders. In the private sector, this can only be accomplished by maintaining profitability over the long-term. Much is at stake for the investors, the associates, the community, the suppliers, the creditors, and the customers of the organization. This study will help grocery industry executives anticipate and be equipped for the competitive marketplace of the 21st century.

The collection, analysis, and summary of data pertaining to this study will be important to grocery manufacturers, wholesalers, and retailers. It should be a sound resource to assist companies with the establishment of a long-term business strategy and business management plan. Corporations will then be better prepared to meet the challenges of the future marketplace, remain viable, and fulfill the obligations they have to their stakeholders.

Limitations

The following limitations were relevant to this study:

1. The study is limited to forecasting the future competitive marketplace characteristics of the grocery industry.
2. The study is limited to the projected visionary recommendations of the fifty-five (55) expert participants in the Delphi Group.

3. The study is further limited by the returned responses to the two (2) survey instruments that were constructed for the Delphi Group.

4. The study is also limited by the nature of the Delphi Technique which indicates general trends, but does not carry high quantitative validity.

Assumptions

The following assumptions were considered relevant to the study:

1. The survey instruments were constructed as objectively as possible to ensure the responses represent the sequential development of accurate data from the Delphi Group.

2. The Delphi Group represented a cross section and an expert level necessary to make the responses true indicators of future characteristics of the grocery industry.

3. Adjusting to future competitive pressures will require companies to make some significant changes in their external operational methods and in their internal organizational paradigms.
Definitions

Forecasting

Forecasting is a process through which future events can be predicted, based on available facts, with some reliability (Linstone & Turoff, 1975).

Delphi Technique

The Delphi Technique is a forecasting process using a series of questionnaires for a complex problem, answered by experts in a particular field, to determine what the future may resemble (Delbecq, Van de Ven, & Gustafson, 1975).

Delphi Group

A Delphi Group is the group of experts who participate in a particular Delphi process (Linstone & Turoff, 1975).

Marketplace

The marketplace is the public arena in which business and commerce take place (Walker, et al. 1992).

Paradigm

A paradigm is a mental frame of reference that dominates the way people think and act (Abrecht, 1992, p.45).

Organizational Structure

Organizational structure is the internal system under which the parts of a organization are arranged to provide it with some guidelines for operation and control (Morgan, 1986).
Grocery Manufacturer

A grocery manufacturer is a person or entity that processes a raw material into a finished product for eventual sale in the retail grocery marketplace.

Grocery Wholesaler

A grocery wholesaler is a company involved in the buying of large quantities of grocery items from manufacturers and the reselling of those goods to retail customers.

Grocery Retailer

A grocery retailer is a person or company engaged in the sale of grocery items or commodities in small quantities directly to consumers.

Logistics

Logistics is the management science that is used to maximize the economic value of products by getting them to where they are needed at the right time and with the optimum efficiency (Webster, 1991).

Information Technology

Information technology includes the use of advanced computer hardware and software to assist in the operations of an organization by improving the timeliness and accuracy of vital information used to manage the activity of the organization (Keen, 1991).

Marketing Strategy

Marketing strategy is the pattern of present and planned objectives, resources deployments, and

**Overview of the Study**

The study followed the sequence of material described here.

Chapter 1 contains the introduction, statement of the problem, purpose of the study, significance of the study, limitations, assumptions, definitions, and overview.

Chapter 2 includes the review of relevant literature focusing on four areas: history of the grocery industry, history of organizational structure, future trends of the grocery industry, and future organizational design models.

Chapter 3 contains the description of the research methods and procedures, including the Delphi Technique.

Chapter 4 describes the procedures followed in Round 1 and reports the findings of the Round 1 Delphi questionnaire that was completed by the Delphi Group.

Chapter 5 explains the procedures used in Round 2 and reports the findings of the Round 2 instrument.

Chapter 6 contains the interpretations, conclusions, and recommendations of the study.
Chapter 2

Review of Related Literature

The review of the literature focused on four areas. The literature was examined and organized into the following major categories: (1) historical review of the grocery industry the last forty years; (2) historical review of typical organizational structure models during that forty year period; (3) grocery industry direction and trends; and (4) alternative future organizational structural designs.

Historical Review of the Grocery Industry

"Once upon a time, and not really that long ago, food was something edible that sprang from the soil, or that walked until we slaughtered it, or that swam in Earth’s waters until we captured it with spear, hook, or net" (Powledge, 1984, p.24). Today, it is not that simple. Americans in general are far removed from the food supply process (Powledge, 1984). The typical American family knows nothing about how food is raised, how it is processed, or how it is distributed. They simply go to the grocery store, choose what they want and purchase it. The supermarket has become the family farm of the technological, industrial, urban age (Powledge, 1984).

Powledge (1984) described the food system as we know it today. Disappearing are the family farms, the entrepreneurial fishermen, and the direct marketing
activity of local farmers. In their place is the modern supermarket supplied by corporate collective strength rather than singular individual initiative. Powledge (1984) offered an entire explanation of the current food supply system from the field, through processing, to distribution, retailing, and ultimate consumer consumption.

The American food industry has its strengths. The population uses the least percentage of net income to purchase food, 22%, versus the typical percentage in other western cultures, 40%. Diets are varied. Choices are unlimited. There is the advantage of one stop shopping, i.e., the supermarket.

The idea of the one-stop grocery store evolved in the late 1890's from the shops operated by the big tea merchants, but the stores remained tiny and sold their wares from behind the counter until 1916, when the Atlantic and Pacific Company introduced self-service as a cost cutting idea....Since then, supermarkets have grown with the nation, undergoing very rapid expansion during the suburban boom that followed World War II (Powledge, 1984, p.119).

The typical conventional supermarket that grew out of that post-war environment was 15,000 to 20,000 square feet, offered about 10,000 items, and focused on capturing its customers with service and convenience. Stores got slightly larger during the 1960s and 1970s, but the
industry held this basic description for over forty years. *(Progressive Grocer, April, 1973).*

Walsh (1986) explained the entire history of the giant of the early supermarket industry, A&P Stores. The rise of the chain is one of the greatest stories in American retail folklore. From a single door to door tea sales operation in 1859 to the largest retail company in the world by 1962, A&P Stores set the standard within the grocery industry for over a century. Their emphasis on local, friendly, convenient stores with low prices and consistent quality became the forerunner after which much of the competition modeled themselves (Walsh, 1986).

A&P's market dominance was so high during much of the 1930s and 1940s that the government even targeted them for anti-trust litigation. A&P controlled many aspects of the grocery industry with their more modern manufacturing plants, warehouses, and retail locations. Charges of unfair trade practices were actually levied against A&P Stores by the Federal Trade Commission with the result being "consent agreements" to cease and desist certain monopolistic control, particularly in the fresh produce trade (Walsh, 1986).

Walsh described a chain that by 1962 had sales of over $5 billion, and a total of 4,475 supermarkets. These two figures represented more than 30% of the total for all other chain store operators combined. However, it was
also in 1962 that A&P Stores experienced its first ever decrease in sales, a decline of 4% (Walsh, 1986).

After that time, the giant was vulnerable. The competition had gained a significant edge as the 1960s began. Walsh (1986) discussed the following reasons for the decline of A&P:

1. Failure to invest in capital expenditure programs.
2. Short term profit taking.
3. Slumping morale from new productivity expectations.
4. Failure to recognize the need to determine where to best locate stores to prepare for the new demographic geographical landscape in the post-War era.
5. Intransigence of unions to permit work rule revisions.
7. A multilevel hierarchical corporate structure and a culture that discouraged middle and upper management from making honest assessments.
8. Reliance on sales growth from new stores and inflation, rather than development of more consumer traffic in the older, existing stores.
9. Raising margins to maintain profitability, but failing to recognize the impact it had on driving shoppers away.
10. Inadequately staffing stores to cut costs at the same time its competitors were opening larger, better equipped and better staffed supermarkets (Walsh 1986).

The decline was slow and steady at A&P. Each year from 1962 through 1974 saw the closing of more stores, the loss of more market share, and growing unprofitable operations (Progressive Grocer, April, 1975). In 1974, the corporate executives commissioned the consulting firm of Booz-Allen to study the company and make recommendations for survival. Booz-Allen’s primary conclusions were:

1. The company’s current market strength was in the least attractive markets, i.e., no growth segment.

2. Facilities (stores and warehouses in particular) were either undersized or poorly utilized.

3. Personnel development and training had been neglected.

4. A large part of the company’s assets were committed to unprofitable areas in the heart of the chain’s geography.

5. A lasting turnaround would take several years to implement (Walsh, 1986, p. 168).

Walsh explained that as a result of this study, Booz-Allen recommended the closing of 1,254 unprofitable stores. This cut losses and allowed for large one-time tax write-offs, but also decreased the economy of scale that had once been A&P’s strength. The plan was
implemented. However, from 1974 through 1983, A&P continued to shrink, while its competitors grew. By 1983, the comparative statistics between Safeway and A&P showed how far the decline had progressed. At one time, Safeway was an upstart. By 1983, it had far surpassed A&P.

<table>
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<tr>
<th></th>
<th>Safeway</th>
<th>A&amp;P</th>
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<tr>
<td>Number of retail stores</td>
<td>2,507</td>
<td>1,022</td>
</tr>
<tr>
<td>Annual Sales—in billions</td>
<td>$18.6</td>
<td>$5.2</td>
</tr>
<tr>
<td>Annual Sales per store—in millions</td>
<td>$7.4</td>
<td>$5.1</td>
</tr>
<tr>
<td>Annual Net Profit—in millions</td>
<td>$183.6</td>
<td>$31.4</td>
</tr>
<tr>
<td>Earnings per Share in dollars</td>
<td>$3.26</td>
<td>$.84</td>
</tr>
<tr>
<td>Profit as per cent of sales</td>
<td>.0099</td>
<td>.0060</td>
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(Walsh, 1986, p.243)

Walsh considered the decline of A&P as corporate "suicide" (1986, p. 90). In his judgement, the trouble it experienced was instigated by its own hand. The failure to recognize the extent of the decline, make necessary market adjustments, and react to a changing retail grocery environment were inexcusable. As great a story as the growth of A&P was, the decline seems even more historically significant (Walsh, 1986).

Walsh recounted the fall of the largest food concern in America, A&P. For that reason, it represents the most classic example of decline. While A&P was in its retrenching mode during the 1960s and 1970s, other large supermarket companies were emerging. In addition to the

Concurrent with this growth of chains was the strength taken on by regional supermarket groups and even single independent operators. In many cases, these establishments were supplied by large wholesalers that could create the buying power to lower the cost of goods, in the same way that the large retail chains did. Pressure from the Federal Trade Commission that ensured the same volume prices were available to wholesalers encouraged this general mix of choices for consumers throughout the period 1962 to 1982 (Supermarket News, December 28, 1992). The largest wholesalers that appeared were Supervalu, headquartered in Minneapolis, Fleming Foods headquartered in Oklahoma City, and Wetterau in St. Louis, MO. These suppliers, combined with strong regional chains, such as Dominicks in Chicago, Shoprite in New Jersey, Stop and Shop in Boston, Publix in Florida, Ralph’s in Los Angeles, and Piggly Wiggly franchise operators in the southeast and midwest, provided a bona fide alternative to the chain store control of the food industry (Supermarket News, December 28, 1992).

A supermarket chain is defined as ownership of ten or more stores by one corporation or individual. During the twenty years from 1963 through 1983, the largest chains
never captured even 50% of the food sales. The chains accounted for 49.3% in 1983 (German, 1991).

German (1991) also described the typical store from 1963-1983 as a conventional layout. The size was 15,000 to 30,000 sq. ft., and the merchandising configuration within that limited space was the "cookie cutter" format with basic departments for grocery, produce, meat, dairy, frozen food, and bakery goods. The sections for such specialties as floral, pharmacy, in-store deli, in-store bakery, wine shops, and in-store restaurants did not become regular features until the larger superstores of 35,000 to 50,000 square feet were constructed in the 1980s (Supermarket News, Dec. 28, 1992).

Progressive Grocer in its Annual Report to the Grocery Industry each April ranks the top ten chains. The following lists show the contrast from 1961 through 1989.

<table>
<thead>
<tr>
<th>1961</th>
<th>1977</th>
<th>1989</th>
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<tr>
<td>5. American</td>
<td>5. Winn-Dixie</td>
<td>5. Winn-Dixie</td>
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</tbody>
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Six of the stores that were ranked in the top ten in 1961 disappeared from the list by 1989, and three additional stores from the 1977 list were also replaced by 1989.

The decade of the 1980s saw a different form of competition emerge that became a new challenge for conventional grocery companies. A report commissioned by the National Association of Wholesale Grocers and conducted by Anderson Consulting (1993) explained many of the developments over the last decade. Larger super stores were constructed with 50,000 square feet becoming a common size. A format developed in France, called twin stores (hypermarche), was tested in the United States with some success. These stores are usually 100,000 square feet and sell a combination of grocery products in one half and general department store items in the other. One of the most radical impacts has come from the proliferation of club store groups. This concept grew in the 1980s. The club stores charge a small annual membership fee to their customers, then specialize in volume sales, selling products in case quantities, and offering excellent pricing to those shoppers who can afford to purchase grocery commodities in large quantities. The club stores merchandise in a warehouse setting, using warehouse type racking and very little decor. The first clubs to appear were Sam's, Pace, and the Price Club. Their market niche continued to expand in
the 1980s. Even the ubiquitous K-Marts and Wal-Marts began merchandizing certain types of grocery products in the decade of the eighties. Their buying power made it feasible for them to promote such things as paper goods, pet food, soft drinks, snack foods, cereals, and, even in some instances, gourmet food with an international appeal. Each of these formats eroded grocery store sales and began to cause more concern as the 1980s progressed. By 1989, these alternative formats had captured 8% of the grocery purchases in America (Andersen, 1993).

Brock (1981) carried out a forecasting study on the grocery industry for the 1980s. In a broadly conducted Delphi study in conjunction with Progressive Grocer, he solicited opinions on nine categories relating mostly to retailing:

1. Industry Structure       6. Customers
2. Store Formats           7. Merchandising
3. Equipment              8. Supplier Relations
5. Employees

Brock, via his panel of industry experts, predicated many of the findings released by the Anderson report in 1993. The move to larger stores with expanded product lines, the continued pattern of industry mergers, the proliferation of pre-cooked microwaveable foods to service the households with both spouses working, the changing dietary habits of consumers to a more health conscious
diet, and the speculation that productivity enhancements would be derived from advancements in technology were some of the most significant findings in Brock's Delphi study (1981).

Brock cited flaws with his study, particularly in the response rate of the participants, and the lack of sufficient industry experts to accurately extend the conclusions to larger generalizations of specific trends. However, Brock's work represents the only attempt at a similar Delphi study that could be found. It has been referenced in many other research documents since its publication.

The trend toward mergers, larger stores and shelf ready foods was reported by Cain (1973). The need to anticipate the demographic changes in America, particularly the increased number of working women, required good marketing strategy. He warned of the new affluence that double income families would have that would necessitate a quicker service, oven ready foods, with less focus on price and more focus on convenience (Cain, 1972).

Goldman (1976, p. 54) suggested six key dimensions for a successful retailer to remain competitive.

1. The number of lines carried in the store.
2. The variety of products in each line.
3. The type store, i.e., self-service or partial service.
4. Prices and margins.
5. Size of store's trading area.
6. Physical size of the establishment.

Goldman also concluded that local independent supermarkets may be able to survive in the future because their managers have more flexibility than chain store managers to react to the local taste of customers and they likely know their market territory better than the chain store manager. The chain store has little local control due to the corporate hierarchy that dictates policy. Also, the chain store managers traditionally are transferred frequently, so they have very limited "feel" for the customer base that shops in the store (p. 61). The key, according to Goldman (1976), is finding the best combination of factors from the list above, get customers into the store, and get them to buy. That takes constant vigilance because competitors have the same goals.

Bloom (1978) wrote about those conditions that had begun to emerge as threats to the conventional supermarket. Convenience stores with easy access and fast service had started to actually take some sales away. Andersen Consulting (1993) reported that by 1980 convenience stores had captured almost 6% of food sales. This was in tandem with the first real development of larger superstores that survived on large volume, but could offer low prices. Another factor cited by Bloom was the difficulty controlling labor costs due to the
proliferation of new items. At the same time that productivity should have been improving with the addition of space and improved technology, it was offset in a negative sense by the costs associated with handling new items. The conventional neighborhood supermarket had to defend against all these factors: the service aspect, the larger store concept, and the need to carry the broadening number of new items (1978).

During the historical period that has been examined for significant developments in the grocery industry, there was a parallel historical period in which organizational structure began to evolve from limited beginnings to a more progressive, intellectual area of study.

**Historical Review of Organizational Structure**

Etzioni (1969) established three groupings into which organizations can be categorized. He labeled them: coercive, remunerative, and normative (p. 61). The coercive organization survives through threats, intimidation, and force. Examples would be a prison or high security psychiatric hospital. A remunerative organization is one in which the people participate willingly to gain some material reward, such as wage, fringe benefit, or other consideration. Profit making companies fall mostly in the remunerative classification. A normative organization retains its people through
persuasion and philosophy. The attachment of the participants is connected more to the good works that can be accomplished than to any material reward. Examples of normative organizations would be churches, civic clubs, and youth organizations (Etzioni, 1969).

Pfeffer (1982) discussed organizations and the different structures they may assume as a result of size and the industry in which they compete.

Big corporations exist to earn profits. But to earn profits, the corporation must maintain its hegemony over its work force. The organizational structure of the firm—the incentives, demarcated areas of responsibility, distribution of power, and so on—represent a system in large part contrived and consciously designed to perpetuate the capitalist's control over the firm's work force (p. 165).

Bureaucratic control, the development of rules, procedures, and formal roles within a hierarchy were trademarks of the grocery supermarket industry during the 1960s and 1970s. Walsh (1986) emphasized this in his treatise on A&P, and their resultant problems. The complicated chain of command hindered communication. Compliance with rules and corporate procedures handicapped middle management with its ability to react and solve problems efficiently. A stagnation can cause good ideas to die. It becomes too risky to offer them for fear of challenging the corporate power structure (Pfeffer, 1982).
Weber (1947) gave the term bureaucracy to organizations. The classic bureaucratic tendencies develop from non-active owners who entrust the operation of their business to trained professionals. The owner is more the investor than an on site owner/operator. As the explosion of production during the industrial revolution caused a greater concentration of people and activity, the hierarchical structure evolved as an alternative to the direct involvement of the owner (Weber, 1947).

Weber (1947, p. 330) defined a list of distinctive factors in a bureaucratic organization:

1. A hierarchy of offices.
2. Detailed specifications of job functions.
3. Recruitment and promotion based on merit.
4. Salaried positions with a career orientation.
5. Discipline and control from rules and regulations.

The grocery industry, during the 1960s and 1970s and in many cases through the 1980s, typified the Weberian model. (Progressive Grocer, April, 1988). The size of the organizations, the inventory control and product flow that had to be managed, the accounting requirements necessary, and the corporate marketing plans that had to be coordinated are examples of factors that encouraged centralized control. The personnel practices of those periods were designed to encourage compliance with systems
and procedures, rather than stimulate local, individual creativity (Hoy & Miskel, 1991).

One early theorist that recognized the handicap that resulted from vertical levels in large organizations was Rensis Likert. In *The Human Organization* (1967), Likert suggested that communication and participation could be enhanced if companies created *overlapping linkages* between levels in the hierarchy. His original idea of linking pins (1961), utilizing the supervisor as one link, was expanded to actually encourage shared responsibilities between superior and subordinate (1967).

In addition to his work on linkage, Likert also outlined a method through which *ad hoc* groups could be successfully constructed to solve cross-linking problems. The idea of utilizing a task force approach became a suggested mode through which difficult, complicated decisions could be made. Input from various levels and divisions within a company should result in a more thorough, correct decision (Likert, 1967). Likert's design evolved as a forerunner to some of the literature that would follow two decades later.

The slow, deliberate fashion with which decisions are made within a bureaucratic organization was discussed by Merton (1957). Bureaucratic organizations do not adjust. They act in rigid ways, demonstrating a severe resistance to change. Merton cited this as the one most obvious dysfunction of the Weberian model. Continuity may exist,
but protecting the status quo and doing the safe thing will likely bring about a decline in an organization that perpetuates itself from procedures (Merton, 1957).

Chris Argyris, a prolific writer on the subject of organizations, wrote in *Integrating the Individual and the Organization* (1964) that he agreed with Likert’s theory of a *modified formal organizational structure* (p. 202). In Argyris’s opinion, the more direct participation an employee has in the decision making in the company, the better the overall outcome will be. The contribution becomes a form of ownership, and should be cultivated with employees, particularly in those functional domains that do not require quick decisions or tremendous financial investment (Argyris, 1964).

In a study conducted for the United States Air Force, Van Riper (1966) defined the typologies of organizations and determined the following categories: Control, Production, Bargaining, Representative, Research, and Communal. The Weberian typology was identified with the Control aspect, i.e., the top-down method of managing. According to Van Riper, "The hazard of such a system lies, of course, first in the wastes involved in such interlocking controls: and second, in the tendency that no one at the top really has any idea of what is going on below...." (Van Riper, 1966 p.5).
Van Riper (p. 2) further listed what he called "internal policy issues" that divide organizations, regardless of what type organization it may be.

1. Privilege..........(versus)...........Equality
2. Authoritarianism...................Permissiveness
3. Centralization...............Decentralization
4. Expansionism.................Static Condition
5. Group..................................Individual
6. Monism.................................Pluralism
7. Symbolic Representation......Real Representation
8. Status..................................Contract
9. Justice.................................Mercy
10. Orderly Transfer of Power......No Means For Such

The aspect of Van Riper's issues, common to almost all large organizations, was centralized control. Van Riper (p.12, 34) concluded that, "although everyone is for decentralization, no one knows for sure how or when to do it". One early study that disagreed with Van Riper was conducted by Porter (1963). Porter found that, contrary to general belief, many large companies aroused positive attitudes in their employees that exceeded those opinions of a similar sampling in small businesses. Porter discovered that size made no difference, if the large organization provided a challenging job with growth, advancement, and recognition.
Crozier (1964) further explained the dysfunctions of structured, bureaucratic organizations. While rules and procedures provide some rationality and disciplined coordination, Crozier offered contradictory results from the hierarchical organization. The rigidity can cause poor communication, a reliance on rules instead of common sense, apathy and boredom from the routine, an emphasis on seniority that discourages individual achievement, and low productivity as a result of the central control (Crozier, 1964). Merton (1957) had also reported on the dysfunctions of the bureaucratic organization, particularly when it caused blind conformity and an impersonal work environment.

A new term was fashioned by Burns and Stalker (1961) to give an everyday description to Weber’s bureaucratic model. They referred to the structured organization as mechanistic. The contrasted, more progressive style they called organic. The mechanistic organization has the same basic characteristics as those first defined by Weber (1947).

Hoy and Miskel (1991) further commented on the differences between the mechanistic model versus the organic.

Mechanistic organizations favor division of labor and specialization. These configurations stress rules, regulations, and standard operating procedures. Coordination, control, and
communications are all formal and impersonal with power and knowledge concentrated at the top of the hierarchy. The focus is on disciplined compliance to formal directives from superiors. Emphasis is on vertical relations. In brief, relations are formal, impersonal, rigid, and clear-cut.

Organic organizations are the opposite. There is a wide sharing of responsibilities with individuals contributing as necessary. Few rules, regulations, and standard procedures exist. Coordination, control, and communication are informal and personal with power and knowledge dispersed throughout the organization, creating multiple centers of authority (Hoy & Miskel, 1991 p. 114).

The mechanistic reference by Burns and Stalker derived from the traditional social view of the industrial revolution. People were aware of the manufacturing processes that produced a finished product as a result of the systematized, synchronized movement of parts and materials. The transference of this process to describe an organization connoted an impersonal, systemized company methodology that was not receptive to direct intervention by individuals (Burns & Stalker, 1961).

Mintzberg (1989) had a parallel view of the shortcomings of the machine comparison. He explained the
analogy as one that "breaks down because an organization contains human beings and they have much different needs than machines" (p.141). Mintzberg called our world a society of organizations with the most prevalent form of organizational structure being the machine bureaucracy. To him, it was a highly efficient process that could create results, but at the expense of reducing human systems to apathetic robots (1989).

Abrahamsson (1977) postulated that the terms mechanistic and organic were synonymous with a newer terminology for organizations...closed or open. The closed system internalized itself, getting its energy and information from within its own structure, thus perpetuating its own strengths and weaknesses. An open system was more receptive to the external world and, thus, was more likely to learn from a variety of information sources, internal and external (Abrahamsson, 1977).

The designation of organizations as machines has continued to be used as a metaphor, even into the 1990s. Morgan (1986) in presented a similar theme of the mechanistic model. Morgan described the typical modern organization as "one in which life is often routinized with precision. People are frequently expected to arrive at work at a given time, perform a predetermined set of activities, rest at appointed hours, then resume their tasks until the work is over" (p.20). In Morgan's view (1986), since organizations are designed like machines,
they act like machines, and the work force takes on a behavior like the parts of a machine.

Morgan drew directly from Weber for some of his analysis. He attributed the origin of the machine model to Weber. Any organization that "emphasizes precision, speed, clarity, regularity, reliability, and efficiency achieved through the creation of a fixed division of tasks, hierarchical supervision and detailed rules and regulations" would qualify as a bureaucratic, mechanistic entity (Morgan, 1986, p. 25).

The classical management theorists, such as Fayol, Mooney, and Taylor, categorized a group of principles that have become synonymous with organizational structure: span of control, division of labor, chain of command, authority, centralization, discipline, and esprit de corps. Morgan explained that these principles still prevail today in modern organizations. They can be a strength when tasks are straightforward in a stable environment when the object is to produce the same product over and over (Morgan, 1986).

However, Morgan, as did Crozier (1964), found fault with the mechanistic organization. Severe limitations occur from slow adaptability to a changing environment, senseless red tape, and a dehumanizing effect on employees. When new ideas are needed to react to changing circumstances, they are lacking; or when initiative is needed, many employees demonstrate apathetic behavior and
take the position, "it's not my job; I only do what they
tell me" (Morgan, 1986, p.36).

Morgan finalized his description of the machine
metaphor by calling it a loss for both the company and the
employee. The employee enjoys no personal growth and the
company does not receive the full intelligent contribution
that the employee is capable of making. These same flaws
were cited by Walsh (1986) in the decline of A&P Stores.

Mintzberg (1979, 1989) identified a new
organizational structural framework, based on a
combination of Weber's original structural classification
and the more modern developments of a technological world.
The five parts of an organization in Mintzberg's (1989, p.
111) framework were:

1. Operating core--- made up of those people
   that actually do the work.
2. Strategic apex--- composed of top management
   officials.
3. Middle line--- constituted by the middle
   management group who carry out policy.
4. Technostructure--- those professionals
   involved with designing, planning, and
   training the activity, but who do not
   directly supervise.
5. Support staff--- comprised of non-production
   personnel who provide specific support, e.g.,
   computer, maintainence, and secretarial.
Mintzberg determined the larger the organization the more complex it would be (1989). He used retail chains, like the food industry, as examples of companies that have strong central control at headquarters for such functions as purchasing, pricing, and selection of items. As Walsh (1986) informed his readers regarding A&P Stores, Mintzberg recounted that the regions or divisions lack the autonomy to successfully market and maximize productivity due to the aloof top management in the strategic apex.

Mintzberg did construct a theoretical model that allowed for more flexibility in the operation of the component parts. His five part structure does provide for an expanded role of any particular part, depending on the problems of the organization at a certain point in time, or depending on the nature of the particular organization. He referred to the adaptability factor as adjusting the configurations. For example, in a professional organization, such as a hospital, the operating core is dominant. The skill, knowledge, and self-motivation of the staff is what causes the results to occur, i.e., curing patients. In a factory where the standardization of work imposes a mechanized structure, Mintzberg felt the technostructure would be the dominating segment. This function would be key to planning and organizing the activity of the middle line and operating core (1989). Mintzberg’s work has been identified as one of the first
links between traditional organizational thought and more modern developments (Peters, 1992).

Although he developed an historical understanding of the machine characteristics of organizations, Morgan (1986) went way beyond that one dimensional interpretation. To him, "organizations are many things at once!" (p.339). Through a process he called imaginization, Morgan (1986) encouraged his readers to imagine the different forms an organization can resemble. He specifically explored eight organizational metaphors. His analytical metaphors were:

1. Organizations as machines.
2. Organizations as organisms.
3. Organizations as brains.
4. Organizations as cultures.
5. Organizations as political systems.
6. Organizations as psychic prisons.
7. Organizations as flux and transformation.
8. Organizations as instruments of domination.

The multidimensional images of organizations presented by Morgan demonstrate the varied dynamics that can be occurring in an organization simultaneously. A combination of circumstances can produce a variety of results, good and bad. The important obligation for any group is to recognize the different stresses that could be at work and address them honestly, rather than ignoring or under-stating them. An organization that does not attempt
to candidly understand itself will eventually fail from its own ignorance (Morgan, 1986). Walsh (1986) used similar references to explain the failure of A&P Stores.

**Grocery Industry Directions and Trends**

As the world approaches the beginning of any century, there seems to be an even greater focus on the future. With the year 2000 very close at hand, the grocery industry has recently generated more futuristic material than may have normally been available. All phases, including manufacturing, wholesaling, retailing, and even consumer concerns over such items as healthy foods and the environment have received attention. No specific books could be found that address these issues. The industry has relied mostly on substantive articles in journals, industry related magazines, and some academic publications.

Cornell University sponsors a Food Industry Management Program. From material gathered in its 1991 Food Executive Program, McLaughlin and Russo (1991) published projections for the year 2000. The conclusions came from a "modified" Delphi Study. There was only one iteration, followed by group discussion to assist with prioritizing and narrowing the forecast.

The McLaughlin and Russo study (1991) dealt with the following general areas:

1. Sales/Product distribution within stores.
2. Technological developments.


4. Operational developments.

5. Overall implications.

The trends that were predicted by McLaughlin and Russo (1991) constituted a good foundation from which to discuss the future direction of the grocery industry. This forecast indicated that a much larger emphasis will be placed on the fresh and perishable departments at the retail level. This will be in response to changing dietary habits that coincide with the movement toward healthier lifestyles in general. Fresh fruit, vegetables, and grain products will grow by almost three percent of sales distribution, while meat sales will continue the same decline that began in the 1970s. Meat sales distribution are expected to shrink by almost four percent. The profitability of sales from the increase in fresh foods will become an important aspect of total store profitability (McLaughlin & Russo, 1991).

The improvements in the type and affordability of technological equipment was another finding in the McLaughlin and Russo study (1991). The Delphi participants predicted that technology will allow for greater sharing of information and a greater reliance on electronic data interchange (EDI). The study stated, "the more extensive application of scanning technology in a variety of areas will allow both retailers and
manufacturers to maximize their merchandising and advertising programs by operating more efficiently" (p.17).

The structural dimension reported in the study provided an interesting prognosis for the future. The participants predicted that the federal government would step in to preserve competition in the next decade and would stop the movement toward merger and consolidation that has been seen the last thirty years. Pricing for consumers would then be more likely to remain competitive. The authors also stated that, even though mergers may be halted, the trend toward larger stores and competition from mass merchandisers like Wal-Mart and K-Mart will quite possibly continue the decline of market share traditionally held by the conventional supermarkets (McLaughlin & Russo, 1991).

In the conclusion, McLaughlin and Russo (1991) that spoke directly to the essence of this study, ...."those food system participants who actively engage in the planning and forecasting process will be better positioned than their competitors to anticipate the future rather than reacting to it" (p. 19).

In an interview with National Association of Wholesale Grocers of America (NAWGA) president, John Block, published in Supermarket News (Zwiebach, 1993), the preliminary findings of a major research study conducted for NAWGA by Andersen Consulting were discussed. NAWGA is
the industry group that represents the food wholesalers in America. Mr. Block, former U.S. Secretary of Agriculture in the Reagan administration, explained that the Andersen study was commissioned "to give suppliers a better understanding of the value of the wholesaler in the food distribution chain" (p. 20). This was placed in concert with the a major report also released by the Food Marketing Institute (FMI), prepared by Kurt Salmon Associates, which focused on a new concept called Efficient Consumer Response (ECR). FMI is the industry organization representing the retail and manufacturing interests of the grocery industry. Both studies were futuristic and emphasize the "visioning" that is necessary in order to cope most effectively with the future. Partnering, alliance building, and open sharing of information to assist with cost reduction to benefit the consumer while, at the same time, not impacting profitability is a common theme of both studies.

The NAWGA study (Wholesale Food Distribution: Today and Tomorrow) by Andersen (1993), discussed the current status of the wholesale-supplied system. He reported:

1. Relatively flat sales.
3. Proliferation of complex trade deals.
4. Emergence and growth of alternative store formats.

To date, the report said, the wholesalers have been modestly effective in adapting to these market forces.
The sales of wholesalers have outpaced the increase of total grocery sales by one-half of one percent annually over the last ten years. Wholesaler, although caught in the merger game of the 1980s, have remained viable (Andersen, 1993).

Andersen outlined an eight point action plan for wholesalers in the next decade.

1. Establish a vision.
2. Establish an operational model and change team.
3. Reshape the organization to support the new model.
4. Assess physical distribution facilities.
5. Develop an information-systems plan.
6. Select priority programs.
7. Establish pilot learning programs.
8. Review the established vision.

The summary of the NAWGA futuristic study concluded with the following statement:

As we look toward the year 2,000 and beyond, fulfilling the role of "network optimizer" will become the minimum requirement for major wholesalers. Many will also choose to sell "market maximizer" services. Throughout the industry's history, wholesalers have shown an ability to meet market needs and competitive threats. Over the next decade, meeting the challenges discussed in this report will contribute significantly toward proactively
restructuring the wholesaler-supplier system to further increase its competitiveness (p. 21).

Salmon's report (1993) evolved from a joint industry task force that included the Food Marketing Institute, Grocery Manufacturers of America, Uniform Code Council, National Food Brokers Association, and American Red Meat Institute. "ECR is a process in which trading partners—grocery distributors (retailers and wholesalers) and suppliers—work closely together to bring better value to the consumer" (U.S. Distribution Journal, March 15, 1993, p. 22). It was estimated by Salmon (1993) that $35 billion could be cut from industry costs using the ECR principles.

The Salmon report (p. 9) suggested three concurrent programs to get started with ECR:

1. Create an environment for internal change.
2. Select partners for initial ECR alliances.
3. Develop an information technology investment.

There were four fundamental areas of focus in the FMI study regarding ECR. Each of the four items, when integrated as parts of a total program, would contribute to the aggregate savings. However, Salmon pointed out that the individual savings from each portion would be much smaller, if it is introduced as a separate, stand-alone segment. The full benefit was said to be based on implementation of all four strategies, not just a part of the total plan.
The following chart from Salmon (1993, p. 4) material outlined the savings potential.

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>OBJECTIVE</th>
<th>SAVINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Efficient Store Assortment</td>
<td>Optimize store inventory and space.</td>
<td>1.5%</td>
</tr>
<tr>
<td>2. Efficient Replenishment</td>
<td>Optimize time and cost</td>
<td>4.1%</td>
</tr>
<tr>
<td>3. Efficient promotion</td>
<td>Maximize system of trade and consumer promotion</td>
<td>4.3%</td>
</tr>
<tr>
<td>4. Efficient Product Development</td>
<td>Maximize new product development and introduction</td>
<td>.9%</td>
</tr>
</tbody>
</table>

Total 10.8%

With annual consumer spending of well over $350 billion, the 10.8 percent would create the estimated savings of $35 billion.

The largest overlap within the four areas mentioned above between all parties in the grocery system was determined to be logistics (Salmon, 1993). The distribution chain should enhance replenishment logistics. This strategy was described using four initiatives to improve productivity (Salmon, 1993):

1. A continuous replenishment inventory system to bring supply in line with the "rhythm of demand", matching it with the pace of consumer activity.
2. Flow through distribution systems to eliminate wasted space, handling and, therefore, time.
3. Pipeline logistic organization to highlight key product flow processes, focus on the total view of
the pipeline, and coordinate operations.

4. Pipeline performance measures to create tools to improve decision making and management control of the process.

From the replenishment logistics, Salmon predicted the following benefits that relate to viability in the future:

1. Faster cycle times and reduced inventory.
2. Reduced administrative expenses.
3. Reduced distribution operation costs.
4. Increased sales and reduced unsalables.

The integrated systems discussed in both the Andersen study for NAWGA and the Salmon study for FMI will rely heavily on technology and the sharing of information. The term most cited in the grocery industry to describe the use of such technology is electronic data interchange (EDI). The definition of EDI was stated by Fensholt (1992, August) as follows: "EDI is the electronic exchange of business information. In its purest form, it is truly a paperless system. At no point is key entry of data required" (p. 16).

The future of the industry seems headed toward some degree of open sharing of information, some of which was considered highly proprietary in the past. Retailers, for example, were very leery about sharing customer demographic information or sales volume of key items with anyone, including manufacturers. Fully integrated EDI
will require such sharing, if the full benefit of ECR and replenishment logistics is to be realized. Those companies that make the commitment first will be the most likely to survive into the 21st century (Fensholt, 1993).

EDI allows the exchange of information through the common Uniform Communication Standard (UCS) that has been adopted by the entire grocery industry. This began with the establishment of the bar coding system in the 1960s and has continued through 1993 with the advent of satellite communication capabilities. With the satellite system, information for such important functions as order entry, invoicing, creation of purchase orders, immediate feedback on sales volume, and point of purchase (POP) merchandising information can be transmitted literally anywhere in the world. The information is then available for quicker, more reliable decision making or to generate quicker response to maintaining the pipeline flow for replenishment (Fensholt, 1993).

One estimate on the benefit of true EDI in an ECR environment predicts a reduction of cycle time, the time it takes for a manufacturer to decide to actually make a product to the time a consumer actually purchases that product, from 104 days to 61 days (Hoffman, 1992). This reduction of time translates to less inventory on hand, less warehouse space tied up, and a real time reaction to manufacturing, driven by scanning data at the cash register that is then passed back down the system via EDI
to generate better decisions (Partch, 1993). The ultimate efficiency would be a paperless system that creates orders, routes the trucks, reconciles the shipping documents, generates an electronic banking transaction to pay the invoice, and shares sales information with those parties that can be more efficient from access to the information. EDI becomes a whole new way of doing business (Cohen, 1993; Fensholt, 1993).

Shulman (1993) prepared material that addressed both the concepts of ECR and EDI. He encouraged all parties in the grocery system to commit the resources to EDI, since, without technology, the concepts cannot be pursued. He briefed the food industry on the need for a task force to further develop the concepts of ECR through different phases, ultimately leading to full implementation. This group, in Phase I, will be examining the quantifiable side of ECR to determine the costs of the technology and benefits of an integrated UCS network. Phase II of this study will pose the questions related to actual implementation of ECR, and Phase III will then identify some early partners who may be able to experiment with actual implementation (Shulman, 1993).

The first Phase II ECR study was conducted during the summer of 1993 by Fleming Cos. with mixed results (Orgel, 1993). Fleming, the second largest food wholesaler in the United States, conducted the test in one of its largest divisions. The division was not identified. However, the
test found that "although some benefits were significant: 1) on hand inventory levels dropped (39%); 2) product turns were up (10%); 3) handling costs were down slightly; and 4) productivity was up (24%), these gains were offset by 1) a large loss in gross margin; and 2) a slight decrease in service level (out-of-stocks) to customers" (p. 13). In the same article, Mr. Dean Werries, the C.E.O. of Fleming, commented: "ECR is a complicated system which will have associated with it more pain than gain for wholesaler companies in the early stages....If the industry's response to ECR is 50% of what's expected, the supermarket industry will take another quantum jump in the late 1990's" (p. 13). Werries also was critical of the reluctance on the part of manufacturers to share important information with the wholesaler. He felt his company had shared far more than it had received, and this is contrary to the early principles of ECR. He felt that manufacturers should be more willing to divulge costs of production and marketing if true alliances are to be established (Orgel, 1993).

In a large round table discussion with twenty-one CEO's from the manufacturing, wholesaling and retailing industry that was published in Grocery Marketing (1993, March), Hoffman asked the participants a number of questions regarding the industry in the year 2001. The group developed some consensus around futuristic thinking.

1. Customer service will be most important.
2. Mass merchandising will focus on efficient distribution to provide the lowest possible cost.

3. Stores will be larger with more specialty sections.

4. Merchandizing will adjust to changing demographics in America and a multi-cultural population.

5. Value and convenience will continue to be important.

6. Technology will drive the system.

7. Some strategic consolidation will continue.

8. A greater concern for environmental issues will affect consumer purchasing, but probably there will be no "green" revolution.

9. Stores such as K-Mart and Wal-Mart will become bigger players in the sales of groceries.

10. To survive, it will require an organizational culture that accepts change, rather than resists it.

In the closing remarks of the round table, Hoffman (1993) addressed change.

"Losers" frequently resist change because it jeopardizes their comfortable habits. "Winners" are self-motivated to continually re-evaluate their attitudes, services, products, and paradigms to get in sync with the changing marketplace...Change is nature's law. It's both kind and cruel as it governs our lives. If we
don't change, we don't grow. If we don't grow, we aren't living...It is the visionary retailer and insightful marketer who influences the clock and creates new horizons (p.48).

In a similar group interview published in an earlier edition of Grocery Marketing, Friedrick (1993) synthesized some common points from her panel. Shopping should be more pleasurable. Traditional supermarkets are becoming obsolete. Improvements should be made in distribution. New channels of sales, like Wal-Mart and K-Mart, will increase their share of food sales (p.7).

Friedrick (1993) also listed current groupings of stores that are headed up and down. The prediction of those on the upswing were: Wal-Mart, K-Mart, Kroger, Winn-Dixie, Albertson's, Stop & Shop, Publix, and Vons. Those on the downward slide were: Safeway, A&P, and American Stores. Safeway's troubles relate to a leveraged buyout in 1987 from which it has never fully recovered. A&P, under German ownership, may have difficulty reacting quickly enough to American trends. American Stores has gotten so large that its operational, organizational efficiency is questionable.

The issue of food sales relating to new ethnic markets was researched by Mathews (1993). He described a new notion in marketing that should allow for growth in the next decade. Many areas of America, particularly Florida, Texas, California, as well as many large
metropolitan urban centers, have significant Latino, Asian, and African-American populations. The article pointed out the slowness with which the grocery industry sometimes reacts to the pace of immigration. The multicultural market will create a huge opportunity to those store operators who recognize how to prepare for the shopping tastes of the new Americans. The changing face of America should be looked upon as an opportunity, not a threat. At this point in time, one out of four Americans is a member of the one of the three largest ethnic groups.

Hoffman's round table (1993) also dealt with merchandising changes that were inevitable due to the changing demographic and cultural mix in America. Store operators would be remiss not to prepare for this development (Hoffman, 1993).

Another futuristic trend in the grocery business is the use of credit cards. Zwiebach (1993) reported that supermarkets were slow to use credit cards because of high fees charged by the banks. However, fees have come down and, as a reaction to the competitive pressure from the new players, Wal-Mart, K-Mart, and even convenience stores, grocery companies have been forced to participate.

In many instances, stores have set up their transactions on debit cards rather than on true credit cards. A debit card uses the customers' actual bank account by referencing the Personal Identification Number (PIN) much in the same way as an Automatic Teller Machine.
This form of payment is likely to become a frequent choice of shoppers in the next decade. Some stores may resist this change, but the industry as a whole will adopt it.

The environmental concern of the grocery industry received a great deal of attention during the late 1980s and early 1990s. A special report in Progressive Grocer by Bennett (1992) summarized the current status of the "green" grocery. The interest has faded somewhat. The hype has died as people became more concerned with the recession. The public consciousness, however, has grown. Consumers have become somewhat skeptical about helping the environment by buying certain products. People seem more interested in real solutions rather than advertising propaganda. Even though the rush to market "green" products has decreased, manufacturers and retailers continue to see a steady emphasis on recycling, reuse, and reduction of waste (Bennett, 1993).

The use of recycled material in packaging and the reduction of bulk packaging material have become two key factors that grocery manufacturers must review. This, combined with more environmentally friendly products, recycling efforts at the retail and wholesale level, and public education programs supported by the industry, indicate a major commitment to assist with solving the solid waste problem (Garry, 1992).
From the review of the literature about future trends in the grocery business, one can see the probable impact of technology, the emphasis on increasing productivity while reducing costs, the importance of anticipating consumer behavior, the likelihood of larger stores and more mergers, and the attention that must be placed on environmental issues. This study will assist those who may wish to understand more about the direction of these topics. The eventual consequences of the developments in the supermarket industry will affect most people. Society as a whole will be impacted directly by the success or failure, since the vast majority of the populace relies on the industry for their nourishment and nutrition.

**Future Organizational Structure Design**

The need to anticipate the best organizational design to best prepare for successful business operations as companies approach the 21st century has become a primary interest of many professionals who study the dynamics of business. These experts come from within the business world itself, from academe, and from the private consulting firms that serve as outside analysts to business organizations. This portion of the literature review drew from these three domains.

Senge (1990) discussed the futuristic organization as one based on learning and systems thinking. The learning will be team based, i.e., an internal organization in
which there is free thinking for every participant to contribute in his/her area through the use of intelligence, experience, and personal mastery. As a prerequisite to the full utilization of the model, the organization and the associates must learn how to learn to improve their ability to adapt, adjust, and constructively change (Senge, 1990).

In his book, *The Fifth Discipline*, Senge was very critical of the way in which companies are managed. They do not teach. They do not adjust quickly. To Senge, many companies exist to perpetuate and defend the status quo rather than honestly confront the issues that relate to future conditions the organization will face. Senge found fault with the bureaucratic Weberian model discussed in the historical section of this work. The inflexible structure becomes an impediment to necessary change. In fact, Senge pointed out, the recognition of the need to change is not even understood. He defined this phenomenon as corporate *learning disabilities*, the same term used in education to describe children who have difficulty learning.

Senge (1990, pp.18-25) listed seven learning disabilities found in many organizations:

1. *I am my position*—a condition in which people focus on just their job without understanding the larger goals of the organization.
2. The enemy is out there—a syndrome in which people look to find conditions outside the organization to blame when things go wrong.

3. The illusion of taking charge—a perspective where individuals try to convince themselves they are being proactive when, in fact, they are actually reacting to circumstances much later than they should have.

4. The fixation on events—an approach in which people look to specific events as causes to current difficulties and get stuck on the events rather than personal change that could correct the events in the future.

5. The parable of the boiled frog—a story that correlates the slow change a frog fails to recognize when water is gradually heated with the same principle that companies do not recognize slow changes in their environments.

6. The delusion of learning from experience—a dilemma that arises because company leadership often times is not close enough to the consequences of their decisions, thus they do not learn.

7. The myth of team management—all too often, companies try to give the appearance of team decision making, when in reality there are constant fights for control behind the scenes and the organization fails to integrate decision making.
Senge summarized the full impact of all seven learning disabilities by referencing a concept from Chris Argyris. Argyris (1970) called the process that blocks out new understanding skilled incompetence. Companies composed of structured people become proficient at keeping themselves from learning. Senge used the comparison to the Japanese as an excellent example of one culture out-pacing American industry the last twenty-five years because they were more focused, dedicated, and willing to adopt new methods, while the U.S. companies sat back and watched. The auto and electronics industries were two illustrative examples mentioned by Senge (1990).

Senge presented an organizational structure for the future based on components that would allow companies to find the "leverage--identifying the actions and changes in structures that can lead to significant, enduring improvements" (p. 114). Discovering the leverage can give a company the extra advantage which oftentimes is the difference between success and failure.

The recipe given by Senge to turn an entity into a learning organization, capable of finding the leverage, included the following main factors:

1. *Systems Thinking*—a conceptual framework, using knowledge and tools from the last fifty years, to help make general patterns of operation more clear through the use of feedback loops and organized learning processes,
even in intuitive ways, to facilitate change more readily (p.7).

2. Personal Mastery- the ability to continually clarify and deepen our own personal vision, focus our own energies, develop patience, and see reality objectively in both our personal and business lives (p. 141).

3. Mental Models- an imaging process whereby individuals contemplate how the world works and continually test new possibilities to accomplish better results (p. 174).

4. Shared Vision- the practice of developing shared pictures of the future within an organization that cultivate genuine commitment and ownership in the organization's objectives and how they might best be accomplished (p. 206).

5. Team Learning- the process of aligning and developing the capacity of a team to create the results its members truly desire. It builds on shared vision and personal mastery (p.236).

Senge’s outline for future organizational design stressed the general understanding of what the organization should be doing, combined with circular loosely defined relationships that allow the associates in the organization to contribute their best energy and ideas, instead of a linear well-defined structure that discourage individual initiative. According to Senge, optimum success will only come when true, unencumbered
learning is allowed to take place at all levels (Senge, 1990).

Beckhard and Pritchard (1992) developed a prescription for change toward a true learning organization. They too focused on vision-driven change in which the leadership understands the need to create an environment where the mission, the identity of the group, their relationships, the way work is addressed, and the entire culture of the organization are understood by all associates and openly discussed by top management. Change is viewed as something that is good...the status quo as something that must be challenged.

Beckhard and Pritchard discussed how to manage the typical resistance to change, so common in most organizations. They placed high emphasis on educational intervention when associates become fearful of change.

They listed sixteen characteristics (pp. 94-95) of a thriving organization:

1. A superior ability to sense signals in the environment.
2. A strong sense of purpose.
3. The ability to manage toward visions.
4. Widely shared knowledge of where the organization is going.
5. An open culture with open communications.
6. A commitment to being a learning organization, with policies and practices that support this stance.
7. Valuing data and using it for planning both results and improvement.
8. High respect for individual contributions.
9. High respect for team and group efforts.
10. Explicit-and continuing-recognition of innovative and creative ideas and actions.
11. High tolerance for different styles.
13. Structures that are driven by tasks.
14. High correlation between corporate or group visions and unit goals and strategies.
15. Good alignment between business goals and plans and the organization's capacity to perform.
16. The ability to successfully resolve the tension between high performance and continual performance.

Beckhard and Pritchard (1992) admitted that "they raised many more questions than they provided answers" (p. 96). It was their hope to stimulate leaders of organizations to find their own answers and develop their own plans of action after generally understanding the need to create a learning environment within their own sphere of influence.

Beer, Eisenstat, and Spector (1990) in The Critical Path to Corporate Renewal developed an approach very similar to Senge's. They too found fault with the lethargic, apathetic, passive mode taken by business in America during the last twenty years. Their solutions
centered on structure, climate, philosophy, and visioning. They listed six key points to successful revitalization for the future (p. 78). The strategy would involve energizing the associates with common vision, soliciting their participation in analyzing the problems and solutions, emphasizing the support from top management, implementing meaningful changes to constructively confront problems, and continuing to monitor the new strategy and make adjustments were needed to the renewal process (Beer, et al., 1990).

The mandated plan will be doomed from the start, when structural change is mandated from the top down through the issuance of new organizational charts and a few memos without dedicating the time and resources to corresponding training and education. Employees do not accept change well; in fact, they usually are more confused because officially the organization has said it has changed, but it functions like the same old place (Beer, et al., 1990). Team building was included by the authors as a key component of lasting change. Beer et al. advised that it should be implemented with a straightforward presentation to employees, but should not be imposed. Rather, team building should become part of the consensus building and visioning that the group constructs on their own.

Drucker (1992) called tomorrow’s best organizational model the symphony orchestra, one in which the CEO played the role of the conductor and each part of the
organization blended its role with the others just as the instruments do in a symphony (p. 330). Since the performers in a symphony know their parts well, they can take their direction right from the top. There is no need for intermediaries, i.e., a hierarchical middle management scheme.

In Drucker's model organization of the future, information will flow from the bottom up, not the top down. The most knowledgeable people who are best informed about the processes in the organization are those at the bottom (Drucker, 1992).

The future organization was also projected by Tom Peters in his most recent publication, Liberation Management (1992). In a rambling volume of literally hundreds of disconnected stories, Peters did discuss a common theme regarding the organizational structure of the future. That theme was very similar to Senge's. The title itself connotes the same message of team learning and systems thinking. Peters explained his organizational model of the future as one in which people will be free to think and contribute without the constraints of formal structure. Companies will be more fluid and effective when the hierarchies disappear (Peters, 1992).

The ability to quickly develop adhocracies, that allows groups to go in and out of existence as needed, will be a key element of organizational dynamics in the future (Peters, 1992). Employees will be expected to
learn rapidly and group themselves into knowledge centers where the specialized expertise will be applied immediately. The group will disappear and the different players will be absorbed elsewhere to again best utilize of their individual expertise (Peters, 1992).

Although there seemed to be a great deal of similarity between Senge and Peters, the latter does his best to disassociate himself from Senge's exact focus on learning organizations. Peters called them "maddeningly abstract or vague- and perpetually short on the specifics" (p. 385). The contrived disagreement by Peters of Senge seemed to be more an attempt to separate two very close philosophies than it did to actually identify specific differences. Learning organizations and liberation management overlap throughout.

Covey (1991) also elaborated on the most functional structure for the future. He, too, talked about dissolving the bureaucracies in favor of a flowing organization united behind its mission statement. The most advantageous position a company could assume is one in which the creativity and commitment of the employees will allow the organization to overcome old structure, systems, and paradigms (Covey, 1991).

Covey used the metaphor of the human body to explain his idea of the future organization:

The body is the best metaphor; it is the model organization. For example, the nervous system
transfers messages (information); the circulatory system passes nutrients (compensation); the skeletal system (structure) supports the stature; the respiratory system supplies oxygen (feedback) (p. 185).

Covey envisioned organizations in which the integration of functions and the different systems are continuous loops rather than specific, separate activities. This integration of activity creates a synergy whereby the sum of the total result is greater than the aggregate of the individual parts.

Another theorist who projected the need to revamp organizational structure was Powers. He predicted by the year 2015 that most organizations in industrialized societies will "become increasingly diverse, complex, and dynamic" (Powers, 1988, p. 68). He suggested that managers think thoroughly about design of the future structure in a particular company because much is still unclear. To Power, the surviving entities will be those that can match the structure to fit best with the purpose, strategy, and new technological environment in which organizations will be operating (1988). He did not recommend one particular structure. However, selecting the correct structure for each organization will be the difference between success and failure.

Tuttle (1968) presented material about the future impact of technology and its effect on future
organizational structure. He too foresees companies in which the traditional hierarchies disappear in favor of environments that unlock the human potential and blend it with technology to best capitalize on the synergy that can be created. This approach, grounded in a clear corporate, long-term strategy, will allow organizations the ability to adjust, react, and cope with new global competition issues (Hage, 1988).

In Shaping the Future (1991), Keen described contemporary American management as cumbersome and complex. The complicated structure rarely contributes to the mission or purpose. Instead, it often impedes. He offered a five point plan (p. 99) to reduce the complexity and stimulate creativity and commitment:

1. Target organizational simplicity of work procedures and coordination as a source of organizational advantage.

2. Design structure and location-independent organizations.

3. Facilitate the collaborative organization.

4. Repersonalize management.

5. Make it easier to communicate than not do so.

Keen had many parallel elements to Senge, Peters, Beer, and Morgan. He did not see the necessary change coming easily.

Organizations do not de-layer themselves...in response to the logic of simplicity....Leadership
has an added weight to push....Bureaucracy and bodies dampen innovation, communication, and service; fewer layers, fewer people, fewer administrative steps, and fewer sources of bureaucracy, error, paper, and procedures add to an organizational advantage that at the very least makes a company a healthier environment and probably contributes in the long term to a competitive advantage (p. 101).

One actual futuristic organizational structure experiment was reported by Weinstein (Weinstein, 1992). The article described the implementation of Teams Without Managers at a large food distribution warehouse, operated by Hannaford Bros., Inc., a food wholesaler in the northeast. The particular facility involved with the innovation was a new distribution center constructed near Albany, N.Y.

The company developed a prototype structure in which decision making has been done through the collaborative efforts of all associates from rank and file to corporate leadership, and in which the on-site day-to-day oversight of productivity and staff support functions, such as computer operations, inventory control, safety, sanitation, and training, actually rotate between associates on six-week intervals. The company uses a facilitator to coordinate the team participation, but does not interfere with team decisions. Teams actually elect
their own coordinators, and no coordinator can serve more than two nine-month terms. This forces everyone to step forward and play important roles (Weinstein, 1992). The coordinators are the new facsimile of the old, classic supervisor role.

Hannaford, in its first evaluation of the experiment, has seen improved productivity, morale, and company support. The associates have been very objective making decisions that are in the best interest of the organization as a whole, not just the employee group. As much as 18 percent of the paid time has been involved with planning and communication meetings. In spite of this, all items used to measure productivity, such as cases per hour and labor as a percent of sales are more favorable at the Albany facility than at any other Hannaford distribution center (Weinstein, 1992).

One Hannaford corporate representative was quoted as saying..."We didn't want a distribution center where everyone checked their brains at the door" (Weinstein, p. 102). This reference to the importance of the individual's thinking and creativity has been a theme that has run through this portion of the literature review. It has been cited in direct terms by every author. It would appear that focusing on integrated teamwork, and accentuating the importance of hiring minds, rather than hands, is illustrated by this section.
Summary of the Literature Review

The four portions of the literature review (history of the grocery industry, history of organizational structure, future grocery industry trends, and future organizational structure) exhibited a close connection to the evolution that business in the industrialized world has followed the last fifty years. The original model, the military and its mechanistic structures, were necessary at one point in time to provide direction in a world in which educational levels were lower, the general knowledge of the public was lower (prior to the electronic age), motivation was simpler, fewer questions were asked, personal satisfaction was easier to fulfill, communication was less important, and technology was not available to support information sharing at all levels.

The literature discussed above established a foundation and general chronology of where some of our organizational habits originated, how they became so pervasive, how they can be challenged and changed, and where organizations can take themselves to effectively compete and survive in the next generation. A successful grocery company must understand the history of organizational structure, the current status of its own structure and the impact on its viability, and the importance of developing a strategy for positioning itself with the best organizational configuration and business plan for the future. As organizations prepare for the
next century, these principles will apply more universally
to almost any organization, private or public, not just
the grocery industry, the subject of this research.
CHAPTER 3
METHODS AND PROCEDURES

Introduction

This chapter includes a description of the research design, Delphi Group selection, population, sample size, instrumentation, and pilot study.

Research Design

This study utilized a Delphi Technique to forecast the future characteristics of the grocery supermarket industry in the year 2010. In addition, the study attempted to predict the particular qualities of the internal organizational structure that a successful grocery company would possibly adopt to compete in the competitive environment at that point in time.

The Delphi process was developed by the Rand Corporation in the early 1950s. The earliest Delphi studies were conducted to forecast military and intelligence capabilities of the United States and the Soviet Union in the decade after World War II (Linstone & Turoff, 1975).

The Delphi functions by using the expert opinions of a select panel to obtain the most reliable consensus about a complicated topic that the panel has been asked to examine (Delbecq, et al. 1975). It has been applied to forecasting the future in many fields since its introduction in the military defense sector. Those include: health care, education, business, geo-politics,
technology, communications, agriculture, and the environment (Linstone & Turoff, 1975).

Linstone and Turoff (p. 4) established a criteria to determine the appropriateness of using a Delphi:

1. When the problem does not lend itself to precise analytical techniques but can benefit from subjective judgements on a collective basis.

2. When the individuals needed to contribute to the examination represent diverse backgrounds with respect to experience or expertise.

3. When more individuals are needed than can effectively interact in a face-to-face exchange.

4. When the time and cost make group meetings infeasible.

5. When disagreements are so severe or politically unpalatable that the communication process must be refereed and/or anonymity assured.

6. When the heterogeneity of the participants must be preserved to assure validity of the results, i.e., avoidance of domination by quantity or by strength of personality.

The subject of this study, the future of the grocery industry, met most of the criteria listed above. Item #5, regarding severe disagreements, did not fit the reasoning for utilization in this study. The subject was not that volatile to warrant invoking this motive. Because the other five reasons were very appropriate for this study,
the Delphi Technique was chosen as the process through which future conditions in the grocery industry could be prognosticated.

As previously stated, the Delphi process employs an expert panel to examine a particular subject. The panel is brought together by written communication. There is no face-to-face contact, nor is there any individual identity. "The Delphi is essentially a series of questionnaires. The first questionnaire asks the individuals to respond to a broad question...Each subsequent questionnaire is built upon responses to the preceding questionnaire. The process stops when consensus has been approached among participants" (Delbecq et al., 1975, p. 83).

A series of questionnaires, also called iterations, was employed in this study. Two thorough iterations were necessary to formulate a clear picture of the future grocery industry. Each iteration was constructed in the most objective manner possible to reach consensus on the research questions posed in Chapter 1.

"Defenders of the Delphi method point to its ordered and systematic construction and to the simple observation that the method works" (Brock, p. 56). There are limitations to the process. As a general forecasting device to predict the general trends in a particular industry, like the grocery supermarket industry, the Delphi seems to be as reliable a methodology as exists,
therefore, was selected as the analytical tool for the study.

The Delphi Technique has been criticized because of its reliance on subjectivity and personal opinion, rather than exact quantifiable data. "Because the number of participants is usually small, Delphi studies do not—and are not intended to—produce statistically significant results" (Gordon, 1992, p. 25). Random surveys using accepted research techniques that involve the general population are not useful because the average person is not acquainted with enough information to project the direction of specific industries. For this reason, more knowledgeable authorities in a particular industry lend more validity to the results of futuristic studies.

The jury of experts approach has pitfalls (Brock, 1981, p. 56). As Brock (1981), Linstone and Turoff (1975), and Delbecq et al. (1975) all pointed out, the personal interpretations of questions in the Delphi instrument, the American preoccupation with short-term thinking, a tendency to over-simplify complex problems, and individual bias for optimistic or pessimistic solutions can adversely impact the validity of the conclusions. However, since this study sought to predict the future, any process employed would have shortcomings. The future by definition does not permit exact quantifiable certainty. The Delphi process can only help determine general future trends based on today's
information and the expert prediction of members of the Delphi Group.

**Delphi Group**

"The key to a successful Delphi lies in the selection of the participants" (Gordon, 1992, p. 28). It is recommended that careful consideration be given to selection of panel members. Delbecq et al. (1975, p. 87) listed four qualities that respondents must possess in order to be effective:

1. Feel personally involved in the problem of concern to the decision makers;
2. Have pertinent information to share;
3. Motivated to include the Delphi in their schedule of competing tasks;
4. Feel that the aggregation of judgements of a respondent panel will include information which they too value and to which they would not otherwise have access.

In addition, each prospective participant should be contacted by phone or face to face, and the key aspects of the study should be explained. After this, the potential members should be written a follow-up letter to give them more detail and to solicit an actual acceptance to participate on the Delphi committee. It is suggested that a self-addressed, stamped envelope be included as a courtesy to facilitate the acceptance by the individuals who have been contacted (Delbecq, et al. 1975).
The size of the panel can vary depending on the problem that is being examined. There needs to be a sufficient number to ensure that the results of the study do, in fact, represent a true cross-section of experts. Some of the determination for the group size may be driven by how much analysis the researcher is willing to do. There is no exact formula (Delbecq, et al. 1975).

Three factors must be considered when constructing the panel: 1) it must be true group of experts; 2) the group must be large enough to represent an ample quantity of opinion; and 3) the group should come from a wide variety of backgrounds and experiences to create a balance of diverse opinion, when the topic is applicable for people from a wide scope (Linstone & Turoff, 1975).

The researcher employed all factors from Linstone and Turoff (1975) and Delbecq et al. (1975) in constructing the Delphi committee. The combination of strategy from these sources included selecting the correct group of true experts with important information to share, determining the proper number of people with the commitment and time to assist, ensuring that a variety of different types of organizations were represented, and sensing that people on the committee could learn from other participants due to this variety of representation.

To specifically outline the method through which the Delphi group was selected, a comparison to Linstone and Turoff (1975) is described.
The first prerequisite for recruiting members for the Delphi panel, true expertise, has been carefully determined by the researcher. Contact was made throughout the United States with individuals from various organizations that seemed to have an obvious interest in where the grocery industry is going in the next century. The researcher used personal contacts from his experience in the industry to start the initial assembly of the committee. With each of the initial conversations, the researcher explored the subject of appropriate experts with the professionals who were approached. The initial round of contacts led to an expanded group. Oftentimes, one person who was asked to be on the Delphi committee would enthusiastically suggest another person who was known to have the interest, educational background, real world experience, or involvement in a special project closely connected with futuristic planning and strategy. Approximately one quarter of the Delphi group was selected through this type of personal phone contact and referral.

In addition to this method, the researcher contacted many organizations blindly with no personal knowledge of any particular staff person. These organizations represented those types of companies that have a high profile in the industry and that most researchers conducting such a study would want to have as participants in the Delphi process. The companies usually referred the researcher to their public relations department or their
research and development section. After explaining the rationale behind this Delphi study and asking for an expert representative for the Delphi panel, most of the organizations were very cooperative. The researcher made sure to stress the need for a company management representative that had the combination of experience, education, and personal commitment to the industry to be a valued member of the committee. In most cases the companies directed the researcher to ideal Delphi candidates. In a few cases the researcher chose to bypass certain companies because of some indifference or lack of definite commitment to the study. This was indicated by the tone of interest expressed in phone conversations, through the failure to return phone calls after repeated attempts, or failure to acknowledge written correspondence. However, this means of contacting true experts was very successful. Approximately, one half of the members were gathered through this method.

The final way that individuals were chosen for the Delphi group was through examination of grocery industry journals and business periodicals. The researcher began reviewing articles in the spring of 1993 in a variety of publications that dealt with future developments in the grocery supermarket industry. From this review, the researcher contacted the author and/or someone quoted in a specific article, when a subject seemed to be closely related to the essence of this Delphi study. The
expertise of these people could be gauged from the content of the article and through further conversation upon making phone contact with them. The researcher was careful to solicit only those individuals that had the experience and background to fit Linstone and Turoff's (1975) criteria for true expert knowledge. Those individuals who were asked and accepted inclusion on the panel were keenly interested in this study and welcomed the opportunity to participate. Approximately one quarter of the Delphi committee was chosen through this method.

For this study, a panel of 55 people was utilized to conduct the first iteration. The researcher examined many Delphi studies and discussed the ideal number of participants with research professionals. It was determined that with highly experienced experts and well constructed representation from committed people in appropriate organizations that 55 would be a large enough number to meet criteria #2 of Linstone and Turoff (1975). That number would provide ample quantity of opinion.

The names and organization affiliation of the Delphi Committee are listed in Appendix D.

The 55 participants came from a variety of interests and backgrounds, all of which were in some way affiliated with the grocery industry. Those areas were: manufacturing, wholesaling, retailing, labor, academe, national grocery industry associations, agribusiness, nutritionists, and consumer advocacy organizations. This
variety of experts from the types of organizations listed above provided ample balance of diverse opinions to meet the criteria required in #3 of Linstone and Turoff (1975). Not only did the researcher consider that this group represented expert opinion through their seasoned educational and occupational experiences, they also were employed in organizations that have a big stake in the future of the grocery industry. This was evident when contact was made to construct the Delphi Committee. Almost everyone solicited was more than willing to assist with the study. However, their enthusiasm rose further when they were told that they would automatically receive a courtesy copy of the findings when the study was complete. Every member of the Delphi Group seemed very curious about the future direction of the industry, particularly as it may relate to the viability of their own organization and the stakeholders to whom they have responsibility.

The researcher was satisfied that an excellent panel was assembled, and that it met every criteria established by Linstone and Turoff (1975). The individuals totalled an aggregate of over 1,200 years of experience or contact with the grocery industry, and represented many organizations that have a vested interest in the future.

**Instrumentation**

The first iteration of the Delphi instrument was a questionnaire that allowed the panel participants the
opportunity to respond to broad issues (Delbecq et al., 1975). The anticipated time needed for a respondent to answer this iteration was approximately two hours. Panel members were advised of this before they were asked to formally agree to assist with the study. Brock (1981) cautioned that the researcher must be careful to keep the length of time necessary for completing the questionnaire reasonable. If the document is too long, it may cause hurried, less accurate answers. A commitment from the Delphi participants to be complete and thorough was fundamental to the validity of the study (Brock, 1981).

Narrative answers related to the issues listed below were requested from the group. The answers were analyzed by the investigator to find where the group had generated similar concepts, ideas, views, and visions of the future. The researcher reviewed the responses to each question and established a system on a personal computer to track the commonalities that began to shape from the first iteration.

From this analysis, a second instrument was constructed with narrower, more specific statements. The purpose of the second iteration was to establish strong concensus on the concepts that surfaced most frequently in Round 1. The instrument for the second iteration asked the respondents to acknowledge and accept, to whatever extent each was agreeable, the most commonly held views from the first questionnaire. A combination of a quantitative selection scales, a Likert scale for
agreement on the desirability of the event and a probability factor for the likelihood of the event happening, were utilized. Since strong consensus unfolded in the first iteration, the second round survey was structured to be the final round. Analysis of the second round established that the consensus had been developed to its fullest (Delbecq et al., 1975). It was determined that further iterations would have been redundant. The prediction of general trends, the rational for selecting the Delphi process, was served by the Round 1 narrative questions and the combined Likert scale and probability of Round 2.

The major areas from which the general questions for the first iteration were drawn are listed here. The subjects were grouped, based on their supporting reference, to help associate the strength of the substance for each question to important source from whom the question was derived.


5. Technology related to in-store operations  
(McLaughlin & Russo, 1991).


15. Training and educational programs (Hoffman, 1993).


17. Internal organizational structure and design (Hoffman, 1993).
18. Possible impact of organized labor (Hoffman, 1993).


In addition to the content questions, some brief biographical information was requested from the participants on the first iteration. The purpose of this information was to show each person's industry expertise through the positions the various individuals hold, and each person's years of experience in the food industry. Even though names were requested on the survey, all participants were guaranteed complete anonymity and confidentiality.

The specific questionnaire for the first iteration is included as Appendix A.

Pilot Study

A pilot study was conducted to field test the questionnaire for Round 1 of the Delphi instrument. The document was completed by fifteen middle and upper management people, representative of the same organizational mix that was used to conduct the main study. The pilot sample group was more regional in nature. The majority of the participants came from Virginia, Tennessee, and Kentucky.
The primary purpose of the pilot study was to test the structure, format, content, scope, and interpretation of questions to eliminate any ambiguity or vagueness that the Delphi panel may experience in the first iteration. After the selection of an optimum panel of experts, the next most important factor in the Delphi Technique is the construction of the instrument (Delbecq et al., 1975). The questions must be straightforward, clear, and easily understood to ensure the Delphi group, as a whole, returns answers specific to the intent of each question. Ambiguous questions result in poor feedback which likely produces weaker consensus and conclusions.

The pilot study provided the investigator with an opportunity to improve the instrument’s content and eliminate any obvious ambiguity. After reviewing the responses, the researcher discussed the questions with 10 individuals from the pilot committee. The researcher determined, from these interviews, if any substantive area was overlooked; how the wording could be improved to make the questions clearer; and, what general reaction the Pilot Study participants had to the study as a whole.

One finding unrelated to the questions was the slowness of the returns from the Pilot group. It took over four weeks to get all the surveys back. This was twice as long as planned. This response time was a preview to the same timing problem with Round 1. That survey took twice as long as planned also.
The two most important substantive areas that the pilot committee brought to the researchers attention were to include a more specific question on employee training, and to ask a direct question about the potential shortage of qualified workers. The Round 1 questionnaire reviewed by the Pilot committee only had a vague reference to these topics. They were included as questions in the final instrument.

There were a few minor suggestions on how to improve the wording in the questionnaire to make it more understandable. It was also suggested that a reference be made to the year 2010 in every question to help keep the Delphi committee focused on the futuristic time frame of each question. This recommendation was utilized in the final Round 1 questionnaire.

The Pilot committee's answers were excellent. Most were on a par with many of the responses from the main Delphi committee used to conduct the study. The answers gave the researcher an excellent preview of what to expect from the Round 1 answers. Except for the few suggestions cited above, the 10 people on the pilot committee who were interviewed by the researcher, endorsed the questionnaire. As a whole, they felt it would be an effective tool to initiate a future study of the grocery industry.
Summary

The committee selection and construction of the instrument described in Chapter 3 created the basis from which to proceed with the study. The Pilot Study helped sharpen the questions for use in the Round 1 survey. The first round findings and analysis are presented in the next chapter.
CHAPTER 4
ROUND 1 FINDINGS AND ANALYSIS

Introduction

As described in the previous chapter, this study was conducted using a Delphi process. This chapter includes a summary of how the first round questionnaire was distributed, the return rate from Delphi panel members, the method used to summarize the answers, the significant information that was provided by the collective group, and an analysis of that information. In the final portion of this chapter the plans for the Round 2 survey instrument are discussed.

Survey Distribution

The final list of Delphi committee members for this study was completed in early December, 1993. The previous chapter explained the rationale for committee selection. Packets were prepared that contained a cover letter with instructions, the Round 1 questionnaire, and a return self-addressed stamped envelope for the convenience of the participants (Brock, 1981). The packets were mailed to the 60 people on December 15, 1993.

Originally the researcher had hoped to have the first round distributed earlier in the fall, but the Pilot Study took longer than anticipated. This caused the first mailing to fall just before the Christmas holidays. The first round followed the same pattern as the Pilot Study and took twice as long as planned.
Only 25 surveys were returned in the first 30 days. There were many reasons for this. The questionnaire itself required narrative answers for Round 1 and the time commitment was difficult to meet at that time of the year. For professionals in the grocery business the holiday season is traditionally the busiest time of the year.

In addition, the weather in January, 1994, was some of the worst in recent memory. There was bitter cold, snow, and ice in the mid-west and eastern portion of the country, and earthquakes in California. Many participants were slow to respond because of the weather related complications.

The researcher followed up with a letter in mid-January to remind committee members who had not responded. This stimulated more returns. By February 1, 1994, 45 surveys had been received. At that point phone calls were also made to those who had yet to respond.

By February 15, 1994, 55 of the 60 surveys had been returned. Of the five not received, two people had actually lost their jobs after agreeing to serve on the committee and seemed to lose interest in the project.

The 55 respondents, a 92% response rate, provided a large enough group to have ample input and expertise to conduct the study. In addition, proper distribution was maintained among the different categories of groups that had been targeted for representation in the study (Linstone & Turoff, 1975).
Methodology of Content Analysis: Round 1 Questionnaire

As described in Chapter 3 and shown in Appendix A, the Round 1 survey required the respondents to create their own narrative answers to the 20 different questions. The interest and commitment of the Delphi Committee selected for this study is illustrated by the time and thought put into the answers. The group did not have any material to which to react. Every reply was initiated through their own effort. A few respondents did comment to the researcher that the Round 1 survey reminded them of a college take home exam.

The researcher found that the majority of answers were very thorough. The substantive comments by the 55 contributors contained ideas that were topically specific in some cases and very broad in others. As a total group, the collective material was specific enough to begin the first step of a consensus building process.

The researcher read each survey completely before beginning any content analysis. When the process to extract pertinent data was begun, the investigator only worked on one question at a time. For example, all answers to Question #1 were reviewed together and analyzed as a group before the answers to Question #2 were examined. With this system the researcher was able to keep ideas separate. Preventing material from overlapping into the recapping analysis of other questions was simplified.
The researcher created a summarizing technique using a personal computer. The system allowed for literal statements to be tracked and a notation made for any repetitive frequency of the same comment. This tracking system became the first indicator of any consensus and eventually the foundation for the formulation of questions for Round 2.

In addition to the researcher's objective content analysis, an independent reader/auditor was utilized to verify the information that was pertinent from the answers of the Round 1 Delphi instrument. This individual was selected because of his education, grocery industry experience, general reputation, and commitment to the profession. He has been affiliated with the different phases of the industry for over 30 years, has earned a Master's Degree, and has always been held in high regard by his peers.

The outside auditor read a large sample of the surveys and conducted his own examination of the material to validate the reliability of the researcher's effort. He did not have any knowledge of the researcher's findings until after he had finished his independent analysis. A comparison of the two parallel critiques was then made to ensure there was no bias by the researcher, nor any substantive points overlooked.

There was agreement on almost all the major topics within the surveys. The independent auditor did interpret
more emphasis from three factors to which the researcher had not attached the same importance in his review. Those were: 1) the use of alternative fuels in the future, 2) an increase of shared training programs between universities and industry, and 3) a reference to a national 36 hr work week by 2010.

The researcher and auditor discussed the items and decided they were not strong enough to stand alone for the construction of the Round 2 instrument (see Appendix B). However, the two of the three were included as a reference in an overview statement related to the general area of substance. Those were alternative fuels (#37), and emphasis on training and education (#29). The third, the 36 hr work week, was not included in Round 2. The auditor agreed that the mention of the 36 hr work week was not connected to any concrete area in the Round 1 results.

This assistance from the outside auditor gave credence to the conclusions reached by the examiner in Round 1. This content analysis validation is an important aspect in any Delphi study since there are no quantitative results to render exact -answers to the broad questions. Instead, the researcher must rely a general statements and comments, particularly in the first round (Brock, 1981).
Round 1 Findings and Analysis

A great volume of material was generated from the answers to Round 1. To provide as much clarity and organization as possible, each question was analyzed separately. Quotation marks are used in this section to designate specific comments that were made by different members of the Delphi Committee. These statements indicate their actual remarks. However, there are no citations accompanying the quotations. All Delphi participants were guaranteed anonymity. In fact, many of the professionals said they would not partake if there was any chance specific comments would be attributed to them. The quoted material has been identified by the researcher to emphasize the ideas and actual choice of words by the panel, rather than relying on less authentic paraphrasing.

Question # 1: What store formats do you see emerging that will likely be most successful by the year 2010?

There seemed to be an opinion across the board that much larger stores would be the norm by the year 2010. Almost everyone made statements like "stores will be larger"..."shoppers will be looking for a large variety, quality, and low prices and that need will be met by the larger store"..."70,000 to 100,000 sq ft will be common".

The only distinguishing factor from the group centered on the type of large store that would emerge. Some of the experts felt that a larger version of today's supermarket with a "variety of specialty departments
catering to the needs of the local demographic groups" would be the most successful store. The most often cited size was 60,000 to 70,000 sq ft. Many people on the panel felt that "these stores would be big enough to provide variety and an economy of scale for competitive pricing, but still be small enough to be user friendly and shoppable".

Many others participants stressed what they viewed as the inevitable development of the super-combo stores, such as the Wal-Mart and K-Mart proto-types of the mid-1990s. These enterprises would provide the double convenience of "one stop shopping for food and general merchandise, and compete much more effectively against the traditional markets". The ability "to buy in volume and distribute efficiently" were said by many to be the key to the success of the large combo-store. These stores will "draw from a large geographic territory and the consumer will adjust her/his shopping habits to shop less frequently, but spend more money when they do".

The Delphi participants were not supportive of the limited assortment store or Club store format that had been introduced in the 1980s. "Consumer acceptance of those formats will not be strong enough for them to make it" was a comment made by one person. The absence of any frequency of positive reaction to the limited assortment store or Club format showed the weak chances for their viability. There was a general opinion in Round 1 that
the consumer would expect more variety and a better shopping environment, and neither the limited assortment discount store or the Club store can fulfill these expectations.

The other format that did have a great deal of support in the narrative answers to Round 1 was the "small neighborhood, up-scale, specialty store" that would be a convenient option to the shopping trip to the large superstore. Many committee members made statements about "this opportunity developing to serve the high quality, prepared, fresh, or ethnic food". "This niche of the market may develop into a food boutique format, almost like the food courts in European cities." The panel participants discussed this specialty type store in other answers on the questionnaire (#5, #6, & #7) as well.

The only other major point garnered from question #1 was the obvious sentiment that the "typical independent, traditional, local supermarket that dominated the market from the 1960s into the 1990s will not survive". Panel members for the most part felt that these operators do not have the resources to compete with the larger corporations. They do not have the capital to expand and many of these stores are in commercial areas that are now land-locked, i.e., with no where to expand. A few people did say "the small operator could survive if they figure out as a group how to better pool their activity to take
advantage of some central programs like advertising, purchasing, and accounting.

In the answers to question #1 there were some preliminary comments about the growth of home shopping and home delivery. However, this potentiality received much more commentary in other answers later in the survey. Although it was not a specific option related to the store format emphasis in this question, home shopping was mentioned as an alternative by some contributors.

Question #2: How will the supply system for grocery supermarkets function in the year 2010?

The main theme developed from the answers to question #2 revolved around two principles that received considerable attention in the literature review of the study (Chapter 2). Those were Efficient Consumer Response (ECR) and Just-In-Time delivery (JIT).

The majority of the Delphi Committee referenced these concepts. The supply system in the year 2010 will be one in which "there is less inventory on-hand"..."more direct store delivery (DSD) from manufacturer to retailer"..."more cross docking of picked-to-order deliveries"..."more full pallet shipping"..."bigger price breaks for volume"...and a "much quicker response to consumer choice and taste". These quotes relate directly to the most common points discussed about ECR and JIT.

Another prediction made by many panel members was the excellent match between the principles of ECR and JIT and
the anticipation of larger stores. The point was made by many that "larger stores will accommodate these efficient supply system developments".

These ECR and JIT assumptions will be "made possible by integrated Electronic Data Interchange (EDI) which will allow for direct computer connection for all functions up and down the supply chain system". Though EDI is more closely associated with question #3, most respondents also discussed the integrated communication systems in their answers to this question since the two are so closely related. "ECR cannot work without EDI."

The comments about ECR and EDI were so pervasive in the answers to question #2 that no other predictions received any quantity of support. Some of the other points did include "trucks will continue to be the main mode of transportation"... "wholesaling will decline as DSD increases"... "the use of third party distributors will increase especially with Perishable commodities"... "independents may construct a network of regional supply centers"... "small specialty stores will need traditional suppliers"... "there will be more centralized produce supply".

None of these statements obtained more than two or three supporting committee members. There was no evidence of any competing concensus in the answers to question #2 except for the overwhelming support for the development of the ECR, JIT, and EDI programs.
Question #3: What technological changes will be standard in the external communication between manufacturers, wholesalers, and retailers by the year 2010?

The responses to this question had the greatest amount of agreement of any question on the Round 1 instrument. While many questions showed a large variety of possible future scenarios, almost everyone on the panel agreed with the future implementation of EDI programs. "Fully integrated EDI systems for such activity as automated reordering, production planning, inventory management, price changes, invoice reconciliation, and payment" was a statement by one person that represented the general support for EDI in most answers.

"The use of satellite communication to quicken the exchange of data along the information superhighways" was cited by most people as an almost certain eventuality. As a group, the panel stressed the goal of a "paperless system" that will "link parties at all levels" together. This will include agribusiness, manufacturing, wholesaling, and retailing. The "sharing of information more willingly" and a "partnership relationship" between the different levels will help control costs, "make production more responsive to actual consumer choice", and "eliminate unnecessary redundancy of paperwork and inventory in the system", according to the feedback in question #3.
As mentioned in the synopsis of first round answers to question #2, there will be a "direct connection between success of ECR and development of EDI". The Delphi participants often wrote about the two concepts interchangeably. The reality of ECR is impossible without the technology in place to facilitate it.

Other aspects of technology that were mentioned by some respondents indicate a much greater use of computers in the future of the grocery industry. "Much less human involvement"..."fewer sales people in the field"..."computerized plan-o-grams to layout stores"..."self-serve scanning by the customers at the checkout"...and even the "use of consumer computer data to forecast agricultural crops to meet demand at retail" will be part of the technology communication improvements by 2010.

One person did make an interesting observation concerning partnering and cooperation in his answer to question #3. Since the sharing of information will require an assurance that each party's motives can be trusted, this respondent questioned the implementation of more shared programs. "Until attitudes change and people's methods become more cooperative, any idea of partnering will not work. There is too much distrust and adversarial thinking." The message in these comments seemed to be the only hurdle to an improved EDI based
system that was discussed in both question #2 on the supply system and question #3 on technological changes.

Question #4: What technological developments will exist to improve and support in-store operations in the year 2010?

The answers to question #4 indicated that technology will play a role in many aspects of in-store operations. One of the most frequently mentioned developments was the increased use of front-end scanning data generated through the checkout process. "Scanning data will be used to feed automatic reordering systems, analyze the success of merchandising programs, and help identify demographic groups for target marketing." The expanded use of "Universal Product Codes (UPC) in the meat and produce industries will permit the same capabilities for those commodities".

The same ECR and EDI principles discussed in questions #2 and #3 were closely connected to the advancement of front end scanners. As each sale is registered, an automatic order file will be created to determine the best timing for reordering that item. Well over half the committee members said this integration will be a fundamental component of future store operations.

Computerized information from "frequent shopper cards will be better utilized to more scientifically study local demographics and psycho-graphic clusters". This information will help determine the "selection of items,
shelf space, pricing, and merchandising techniques" for a given market. Many Delphi panel members combined this concept of computerized frequent shopper cards with their answers to question #6 on future marketing methods.

Another development that received substantial support was the use of computers to help manage different key functions within the store. Store managers will have computer tools to "assist with labor schedules, energy use, productivity, inventory control, and cash receipts". Many comments focused on these advancements as strong possibilities for the year 2010.

"Widespread use of electronic fund transfers" was another technological benefit to store operations cited.

"Improvements in packaging and handling methods to increase shelf life of perishable foods" was mentioned by many panel members in the first round responses. It appeared that they see these improvements as both a productivity issue and a profitability opportunity. There will be "less waste and these foods will fit the consumer taste better in a world with an aging population who are more conscious of healthy eating". This sentiment was similarly expressed in the answers to question #7 on changes in consumer taste and product design.

**Question #5: What demographic changes do you think will emerge by the year 2010? How will they impact the grocery supermarket industry?**
The comments regarding anticipated demographic changes indicated that two major developments will occur by 2010. Other important trends were mentioned, but with less commanding Delphi committee support.

The two strong items, stated by well over half the panel in Round 1, were the growth of ethnic populations and the certainty of a much larger senior population.

"An increasing population of immigrants will cause a demand for more ethnic products". "Ethnic diversification of the U.S. population will force new product offerings to match changing cultural tastes and cultural preferences."

These two comments were typical of the emphasis that the committee felt ethnic foods will most likely receive by 2010. The expected growth of "the Hispanic community in many urban areas, especially the southwest and southeast, will be key factor in what types of foods the local supermarket will have to stock in those areas." "Inner city markets will be most affected by the ethnic marketing. This may be the largest growth segment in the entire food industry in the next 20 years." "Niche marketing and micro-marketing to reach this group will be common and necessary to compete in 2010".

Some participants expressed a view that the ethnic population would be associated in many areas with further economic polarization in America. The ethnic merchandising could include "low price stores with generic
products that are successfully marketed in low income, ethnic neighborhoods."

The second major demographic phenomenon, the increase in the senior population, captured a great amount of attention. "As the baby boomers advance in age, it has been predicted for years that America will have aging an population". The impact of a much older average age is expected to place many new demands on America’s social system. One panel member cited "a worse burden on health care costs, the social security system, taxing methods, housing, and even transportation systems".

The grocery industry will not escape a major impact from the aging population either, according to a vast majority of the Delphi group. "A demand for heat & eat meals, smaller portions by older customers, healthier products, smaller packs, bigger print on labels, and more service such as home delivery will all have an effect on the grocery industry." "Shopping will have to be made easier for the elderly. Home shopping and home delivery through the use of computers will be programs that stores will have to offer to cater to this segment". Another person suggested that "not only would older aged people be a larger target market of consumers, they will also be used as workers to supplement the work force at the retail level in those types of jobs that are not too physically demanding". Older people working in such "areas as bagging groceries or stocking shelves on a part-time basis
may be one type job that they can effectively do." This concept also fits with some of the feedback to the answer for Question #11 on the labor pool for the year 2010. Many panel members anticipate a "shrinking pool and older workers may help supplement that."

The other most cited factor from Question #5 was the "continued time pressures that families will face because both parents will be forced to work". Many participants felt that "economic pressures on the middle class will be worse than today" and the pace of life in general will be even faster. "The busy pace will encourage further need for convenience foods, in-store restaurants, and prepared meals for take-out."

This prediction was also made by many people in their comments to Question #1 regarding future store formats. The idea of capitalizing on the prepared food opportunity will be feasible with either in-store cooking facilities in the large super-store format, or through the emergence of the smaller, neighborhood specialty stores. This was covered in the recap of Question #1. In either case, it appeared from the committee's answers in Round 1 that the public will demand convenience, quickness, and quality.

Other single comments in the answers to question #5 showed the variety of thought from the group. One panel member felt that "as males take on new roles, they will have a huge affect on the type of products selected on a shopping list." Another mentioned a possible "movement of
more people to the rural areas to escape urban problems and this will cause a different kind of market". "A huge teenage market will develop" along with "a market for home shopping". The home shopping growth was mentioned in the answers to many questions throughout the first round Delphi questionnaire.

Question #6: How will marketing, advertising, and merchandising be conducted in the year 2010?

The Delphi group as a whole focused on target marketing of the very demographic clusters discussed in the answers to the previous question. The successful store operator in 2010 will use "front end scanning data, information from frequent shopper cards, and market research about the region in which it operates to target the types of clientele that will most likely patronize the store". The target marketing will be utilized to determine the advertising and merchandising techniques best matched to the "customer base". Some typical "items of importance will be: ethnicity, senior citizen concentration, professional neighborhoods, poorer economic areas, health consciousness of the area population, and possible interests in the use of technology for expansion of computer based activity."

Many people stated that they felt the "total target marketing process will be a collaborative effort between manufacturers and retailers since both will have such an
important need to have the right thing in the right place at the right time."

Future importance of the use of "in-store media and electronic video for use at the point-of-purchase (POP) to influence consumer response to actual item selection" were stressed. Many panel members explained different versions of "video for use on grocery carts, near product display locations, on the walls and ceilings." This emphasis indicated that America "will be an even more visual culture by the year 2010." Consumer behavior will be influenced "more by electronic media than print in 2010".

A third major point concluded from the answers to Question #6 in Round 1 was the role that computers will play in advertising and merchandising. "There will be more use of computer bulletin boards to advertise, and home shopping link-ups to actually conduct shopping." "The expanded connections from the information highways will allow someone to shop totally from home." One panel member said "it will no longer be necessary to go to the supermarket if the consumer does not want to. Virtual reality will allow a consumer to roam the aisle of their favorite supermarket and select merchandise which will either be picked up or delivered to the home." "A credit or debit card will be inputted on the computer to automatically pay for the items without any appearance at the store if the shopper so chooses."
A few other comments about advertising and merchandising developed in this question. "Support from manufacturers will be performance driven--no results/no money". One member said he felt that there will be more of an "effort to provide consumer education, especially regarding the health issue." The question of shelf space received some attention in this answer. Some committee participants were very skeptical about "any real partnering between manufacturers, wholesalers, and retailers, since the battle for shelf-space can determine ultimate sales and there is too much distrust and arguing to have a true partnership."

Clearly, the three main points from Question #6 had to do with target marketing, the use of electronic video and media, and the futuristic thoughts about the use of computers.

**Question #7: Will shifts in consumer tastes, product design, and lifestyle alterations affect the grocery supermarket industry in any measurable way? If so, please be specific with your examples.**

The Round 1 feedback from Question #7 was somewhat repetitive. Most of the main ideas that the committee enumerated had already been mentioned in the answers to the previous six questions.

The following quotes are indicative of those recurring ideas:
1. "An older and more health conscious population will want healthier fresh foods." "The perishable industry will have to adjust its systems to meet this demand."

2. "Continued ethnic diversity will require a store to carry products that fit the tastes of the cultural group in its market."

3. "Economic polarization will dictate a focus on specialized foods for different economic groups."

4. "Bulk home cooking will continue to decline. Because of fast-paced, two income families, there will be a greater need for easy to fix or prepared foods."

5. "Time constraints will actually cause more use of the computer to assist shoppers with decisions without leaving the house."

6. "More value and service will be expected, such as home delivery, pharmacies in stores, better value packs for families and new interesting foods."

The one subject that surfaced in Question #7 that had not received direct or indirect inference up to this point was packaging. Approximately one third of the Delphi group made a reference to packaging changes that would be required from an environmental standpoint. The reduction of waste at the original source of generation, i.e., at the time of production, "will be something consumers are expecting. There will more restrictions on landfills and space." Question #19 in this survey dealt directly with
environmental issues. The comments here in Question #7 demonstrated that these issues are on people's minds.

In addition, a few contributors included comments related to labeling and chemical additives in their answers. "The public will be more concerned about what it ingests and manufacturers are going to have to be forthright about the contents." It appeared from the first round that there is a close connection between "a more aware consumer and marketing requirements and that will become more pronounced in the year 2010."

The researcher found it notable that the panel cited so strongly the impact of environmental issues and labeling on consumer product choice.

Question #8: What do you feel the structural makeup of the industry will look like in the year 2010?

The strongest prediction extracted from the narrative answers in Round 1 for this question involved the high probability of "more mergers at both the wholesale and retail levels." This trend started in the 1980s and "will continue into the next century. There is too much to be gained from the economy of scale and size advantage, especially with the likelihood of larger stores pulling from larger market territories." These quotes were typical of over half the Delphi committee.

"Bigger stores and bigger companies" was what one person stated as the main emphasis in his answer. Another said "there will be less than 10 wholesalers and 10
retailers by the year 2010." Size seemed to be a key ingredient to the possibility for success in the future.

The discussion of size and industry structure revealed some very pessimistic predictions for independent store operators. These local business establishments have been the backbone of the grocery industry in many areas of the United States. However, a large portion of the panel anticipated that the "independent store operator will drop out." "They will not be able to compete with the K-Mart, Wal-Mart merchandising. Their more limited selection and higher prices will quickly lose the loyalty of the consumer from past eras." "Their only hope to keep their place in the industry will be to form associations that combine such things as purchasing, distribution, and accounting." This view of the movement toward merger and larger stores was already seen in the strength of the answers to Question #1. The predicted demise of the independent grocer was evident throughout the Round 1 survey.

Some repetitive material appeared again in the answers to Question #8. In the future "home shopping, home delivery, and entrepreneurial specialty retailers who cater to ethnic markets and prepared food will change the way we do business in the world of groceries" serves as a very representative quote from the group. These observations completed the essence of the data accumulated in the responses to this question.
Question #9: What changes do you think will occur at the national level pertaining to "industry relations" by the year 2010, i.e., the relationship between organizations such as NAWGA, FMI, NGA, GMA, or any other similar entities?

The Delphi panel exhibited a high degree of consensus on this question in their first round answers. There seemed to be obvious concern about past adversarial relationships between industry groups. This approach was said to often be "counterproductive". There was general agreement that "more cooperation of industry associations to help resolve common problems" will emerge in the next 15 years. The groups "may not formally merge, but will work together in industry alliances to lobby, conduct joint conferences, and cut expenses since many grocery companies must now have multiple memberships."

The possible merger of National Association of Wholesale Grocers of America (NAWGA) and the National Grocers Association (NGA) did receive some support. "This would create efficiencies and create a unified voice at the wholesaler level." "We do not need two competing voices for the same group of companies." However, the most clear sentiment deduced from the Round 1 answers was the consortium approach in which a general alliance between industry groups will occur "to speak as a unified voice on issues like government regulation, consumer education, and industry standards."
Question #10: What role do you see government playing in the grocery industry in the next 15 to 20 years? Please consider such agencies as the FTC, OSHA, NLRB, DOT, EEOC, EPA, or any other you feel will be important?

"More government regulation and enforcement in all these areas will develop by 2010. This includes state and local regulations." That quote sums up the most prevalent point of view expressed in the answers to Question #10. The aggregate seemed to expect general oversight from government to increase. This was the most apparent consensus.

Some specific areas mentioned by individual members fall under the general quote above, but can be noted separately here. "More environmental regulations, especially on recycling, packaging, and containers are coming, along with a greater review of food safety." "Nutritional labeling and truth in advertising are going to be more closely scrutinized." "The goal will be a risk-free existence."

"The EEOC will take on greater importance due to the increase of ethnic minorities in the work place." The role of ethnic groups has also been alluded to in other questions regarding product development, demographics, and store formats. This coincides with predictions by population experts that America is changing every decade and whites will no longer be the majority in the next century (Ehrlich & Ehrlich, 1990).
Other agencies that the group highlighted were OSHA and the EPA. "More safety regulations and requirements from OSHA and more EPA enforcement on water, air, underground tanks, and refrigeration gases." A few people did mention that "self-policing by the industry could prevent a great deal of this additional enforcement. This would allow government to be more supportive of business. It would not have to be the bad guy if the industry could solve its own problems."

The answers to Question #8 on the structural makeup of the industry indicated more mergers and larger companies. In the answers to #10 a few Delphi panelists mentioned that "the FTC could be expected to take a bigger role to enforce anti-trust laws to protect the needs of the smaller operators and encourage fair competition."

**Question 11: How may the available labor pool affect the grocery industry in the year 2010?**

The demographic prediction that "the aging of the baby boomers will create a society with a much larger percentage of senior citizens" was one of the strongest points to be derived from the answers to question #11. "These older people will require more service but there will be fewer workers to fill the need" was stated by one participant. The sentiment of the group predominantly revolved around a "shrinking labor pool".

Another related point made by many panel members was the affect the smaller pool could have on the quality of
the lower end jobs in the grocery industry. "Wages may raise and working conditions improve at retail because store operators will have to compete more to attract workers." "Reasonably priced labor will be a thing of the past", said one person.

Many people also commented about the "impact that immigrants could have to resupply the labor pool in the low wage unskilled jobs". The researcher found this to be one of the biggest surprises in the research. This observation, coupled with the answers in Question #6 associated with niche marketing to cater to particular ethnic groups, indicated a larger awareness than anticipated about the attention professionals in the industry give to the subject of immigration.

Since over one half of the Delphi committee members mentioned the inevitability of a smaller work force, there were many comments about "automation developing to compensate for the shrinking numbers." "Fewer people will be needed with the development of technology. The same amount of work will be done by less people." This point seemed to be associated with the answers to Question #3 on technological enhancements in the grocery industry. The principles of EDI and ECR may compensate for the anticipated smaller work force.

"Technical education and training will be necessary to meet the recruitment needs, so workers will have the skills to do the job". The focus on internal
training surfaced in many questions on the Round 1 instrument. In most cases, panelists felt the public schools would not provide the required programs to ready the workers. This will "make in-house training even more important in the future".

Other observations that individuals made in their answers to this question were "the expanded use of part-time workers" and the possibility that "seniors will provide a new large pool of part-time workers to fill in at the lower level jobs". The need to "supplement old age income" was a point noted from one panel member. This indicated the grocery industry may utilize the senior workforce more effectively in the future.

**Question #12: What do you feel the significance of organized labor will be by the year 2010?**

By far the majority of the participants felt that "organized labor will decline everywhere, including the grocery industry". This consensus was one of the strongest in the Round 1 questionnaire. The groups' responses seemed very short and to the point regarding organized labor.

A few people did remark that "labor could possibly regain strength since so much has been taken away from the working citizen in recent years". However, this was the minority view on the topic. The vast majority stated the significance of labor would decline.
The only other substantive item that came from the panel had to do with "unions becoming less adversarial and more cooperative in the future". Perhaps unions will seek "partnership arrangements to help companies watch the bottom line" was stated by one person. "This could create win-win situation". Again, only a few people brought up this aspect. Most felt organized labor will decline.

Question #13: Do you think there will be any shift in productivity expectations, either good or bad, by the year 2010?

The answers to this question began to show some redundancy with previous answers. Questions #2 and #3 that dealt with the supply system and technological improvements were closely associated with the essence of this question (#13). The researcher realized after the fact that this question could have been asked as a sub-question to one of the others. However, the comments and opinions were consistent from the group.

In many cases, the committee seemed to just restate versions of the answers from those other questions. "If the entire through-put of the systems follow the goals of ECR and EDI there will be tremendous productivity improvements at all levels." "Redundant costs can be eliminated with the help of technology." "Those who do not improve their productivity will disappear". There seemed to no question from the panel in general that getting more done with fewer resources will be paramount
to compete in the future. Technology and integrated systems should allow this to occur, based on the answers to this question and other similar questions in the instrument.

The importance of training and education was cited also. "The key to productivity will be training and retraining good employees to grow as technology grows." This notion received more attention in question #16 that dealt directly with the issue of training. It was interesting to see the group accentuate the importance of training in their answers to improved expectations of productivity.

There were two negative suggestions that productivity might actually decline. One person contended that "strictly government regulation on OSHA, EPA, and EEOC may make productivity improvements impossible. The cost of compliance could outweigh any technological advancement." Another party said that "the excessive use of computer technology will cause less personalized relationships which could be bad for productivity." These two isolated comments stood alone against the definite majority of opinion in Round 1 that productivity will improve greatly in the future in the grocery industry.

Question #14: What do you envision the organizational structure of the successful grocery company will resemble in the year 2010?
The researcher had designed this study for this question to be one of the most important determinations. The way in which a company will structure itself to effectively compete was a fundamental part of this investigation. The subject is cited specifically as one of the research questions (see p. 7).

The Delphi panel had strong consensus in Round 1. The concordance centered on "organizations becoming much flatter". The vast majority of the narrative answers included comments like "less hierarchy" with "decision making at lower-levels". Many people in the group mentioned "a greater reliance on cross-functional work teams who will be empowered to make decisions and be structured to react quickly to consumer needs".

In this first round, it appeared that most participants believed grocery companies will "become decentralized". "Computer technology may create the need for different structures, while traditional roles of the existing hierarchies will be eliminated". Companies that succeed will "be leaner and more prepared to react when necessary using in-house teams and third party contractors for special functions".

It was even commented by one person that "partnerships between retailers, wholesalers, and manufacturers will help direct a company’s decisions". This same viewpoint was stressed in the answers to Question #2 on the changes that can be expected in the
supply system. There will be a greater sharing of information and a cooperative approach to decision making.

A few panel members did say that nothing will really change from today's structure. In fact, one person stated "a corporate structure with centralized functions will be necessary to react in a changing business environment. A company will need strong corporate staffs to get things done." Not everyone saw the future of organizational structure the same, but clearly the feedback in Round 1 would indicate organizations will be flatter, leaner, and more apt to empower decision making at lower levels.

Question #15: Please describe what you think the management philosophy, corporate culture, and decision making style will be for the successful company in the year 2010?

The answers expressed by the Delphi committee for this question were very similar to those comments in the previous question about organizational structure. The companies will operate with "decentralized decision making, using cross functional teams for flexibility and responsiveness". "Strong leadership will be important, but that leadership will be to guide and encourage, not dominate and control".

Technology will "be important to quickly get information to make correct decisions in a consumer based economy." "Gone are the days of a production and manufacturing driven economy in America." Successful
companies will "give people what they want and not try to be all things to all people (consumers)". "The customer and employee will come before profit in designing an organizational philosophy. Profit will follow from good customer service and well trained employees. This will be the grocery industry's form of TQM". "Employees will share in decision making and in the positive economic results".

One specific statement stood out regarding a corporate strategy. "Central strategy may be necessary for some planning and financing requirements, but local store input to product selection and merchandising techniques will be important for a successful operation".

Although the committee did not articulate exact philosophies or corporate culture models in any real specificness, it seemed apparent from the material discussed in the answers to question #14 and #15 that most of the people are expecting organizations to change in the years ahead. They will take on the characteristics described above. No other strong alternatives were presented by anyone in the answers to this question.

**Question #16: What will the emphasis be on training and educational programs by the year 2010?**

"Those who don't stress training will become ineffective". This view was the main feedback from this question.
The committee was near unanimous that training and education will be important parts of a successful company in the year 2010. One of the most powerful points was the emphasis "that will be placed on internal training."

"Companies will be forced to assume a more active role in training, due to a lack of confidence in public schools." The researcher found the perspective on the ineffectiveness of public schools to be stronger than anticipated. The lack of confidence in public school education was stated by many Delphi panelists.

In order to "prepare their employees to use sophisticated technology and systems, companies will be forced to establish their own training programs."

"Internal training to meet the customer service needs and properly manage available information will be a must."

"Inter-active skills that emphasize team work must be taught. This will replace the traditional thinking that has always rewarded individual effort."

"Heavy internal training will be very important to maintain productivity with a major emphasis on computer technology." These types of statements portray the general sentiments of the majority of the group regarding training and education.

Question #17: What is your opinion of the career opportunities that will be available for current employees and future hires?

The question evoked two basic responses from the panel. First, many people maintained that "excellent
opportunities will exist for those people who are flexible and willing to learn to use new technology." "Since the grocery business is so basic to people's lives, good jobs will always be available." There were remarks about the huge task of feeding our population. At all levels "from agriculture through food preparation, people who want to work hard, apply themselves, and learn can expect to have plenty of opportunity." "With a shrinking work force why wouldn't there be more jobs for those who want them" was a comment from one person who combined some thoughts from his answer to question #11 on the labor pool.

"Team building skills will be very important." However, for those who "do not have technical skill, there will not be much. More specialization will build from some of the technical equipment in the future." Companies will be forced to provide training in this area, but "jobs will be available and they will probably be better jobs than what was seen in the 1980s and 1990s".

The second main point of view from the group centered on "less job opportunity at the upper and middle management levels." A sizeable number mentioned that "with flatter, less hierarchal organizations there will be fewer jobs executive/managerial positions." "This will result in more horizontal movement and a more results oriented reward system at the lower level". "Staff jobs will decrease as technology will replace some routine administrative jobs in areas like accounting, payroll,
procurement." The researcher felt this was somewhat of an expected perspective, since so many participants had earlier commented about how organizations would change and become flatter. This was a consistent position from the group.

No other strong consensus data developed regarding this question.

**Question #18: What influence will global competition have on the grocery industry by the year 2010?**

The impact of global competition on the grocery industry was reviewed with mixed comments by the Delphi panel in Round 1. The group perspective fell into three main content categories: 1) the impact of foreign companies on the U.S. marketplace, 2) new opportunities that will be available for U.S. companies that want to expand, and 3) the minimal effect of global competition on the U.S. grocery industry.

First, some feedback indicated "impact would be experienced through the probability of more foreign investment in the United States." "The foreign ownership of more and more U.S. companies is a foundation for more importing, and more global trade." Many people suggested that the aggressiveness of foreign companies is running ahead of the foreign expansion plans of U.S. grocery companies. "The foreign ownership is giving them a big foothold to market their consumer goods in America, and the slow erosion of trade barriers will make this even
easier in the future." "There will be a freer flow of products worldwide. The impact could be large on some specific commodities."

As established in previous questions (#5 and #6), the importance of ethnic groups received additional attention on the issue of global competition. "The increased influence of ethnic minorities will help establish specialty markets that will be a natural match to more international products." "Everyone will be competing for the ethnic markets. The competition will be fierce." It appeared from the general content of the answers that U.S. companies will serve themselves best by positioning as soon as possible to merchandise the right product types to defend against the impact of the foreign competition.

The second main finding in the content analysis for this question was the optimistic "opportunities that global competition will provide to U.S. companies." Many participants mentioned "the door will be open for more direct market entry by the stronger American corporations." "Global opportunities will increase. NAFTA was the first step. A true world market will develop next." "The smart companies will expand either with direct market entry or through joint ventures. Those who don’t will be left behind." This point of view should stimulate many companies to begin to make plans as soon as feasible to move forward into foreign markets. Many
people on the committee were very outspoken about this obvious opportunity.

The third group of responses was almost indifferent to the attention that global competition is receiving. This group, the smallest of the three but still a total of eight people, felt that global competition will "have a minimal impact on the retail grocery industry." The narrative answers were short by most people who took this position. The researcher could only gather that the "large national companies in the U.S. will easily prepare to fight the outside competition" and "develop better programs that have worked traditionally in the past." One person said "I just don't see things changing that much by 2010."

**Question #19: How will environmental issues change the manner in which grocery companies do business in the year 2010? Please use specific examples.**

The most likely factor related to the environment according to the group will be "mandated efforts to reduce solid waste through recycling and source reduction." This point was mentioned by almost all participants. They see government legislation that will put more authority behind the "packaging techniques and the increased use of recycled material".

"If companies are smart they will be able to gain a competitive edge and market a green image to improve their perception to the consumer." "Consumers will be more
sophisticated in how they choose products. They will watch for socially responsible companies. "Change will come from government mandates and voluntary industry programs. It will change the way business is done by 2010." Statements like these represent typical opinions in the collective answers. The researcher found it notable that many respondents saw the environmental issue one from which "a company will actually be able to establish an entire marketing strategy in the years ahead".

Other items that were frequently highlighted in answers were the "elimination of fluorocarbons", "biodegradable cleaners", "proper labeling for nutrition", "reduced use of pesticides", "use of alternate fuels", "tougher pollution laws", and the "difficulty with site selection for new store or warehouse locations."

**Question #20: Please comment on any other aspect of the grocery supermarket industry that you feel was overlooked in the questions above.**

The participants offered no other substantive comments in this section. There were only a few written remarks. Those statements were complimentary of the instrument and the thorough scope of the questions. One person did say "how could I add anything to this. You've covered everything possible. Excellent questionnaire."

The other representative comment from another person dealt with Round 2. "I can't wait to see Round 2 to see how you
sort through all of this material and construct the next survey. Good luck."

The open ended question, although not important from a feedback standpoint, offered the Delphi committee the opportunity to add their own remarks.

**Summary**

The insightful comments from the Delphi panel in Round 1 created an excellent foundation from which to move to the next iteration. All topical areas contained in the instrument received excellent commentary. The nature of the collective feedback from the group provided the quality and scope of information necessary to start identifying the most important future concepts and the initial consensus building. The strongest consensus positions from the answers were identified to assist with moving forward to determine what the grocery industry will resemble by the year 2010. That narrowing process continued with the Round 2 survey instrument.
CHAPTER 5
ROUND 2 FINDINGS AND ANALYSIS

Introduction

The purpose of this chapter is to relate how the second round instrument was constructed, distributed and analyzed. An explanation of the method used to organize and summarize the data from the 38 item survey is included. The scales used to explore the opinions of the Delphi committee are defined. The parameters assigned to interpret the quantitative feedback from the Delphi committee are explained. Each of the 38 items is analyzed.

Construction of Round 2 Instrument

The content analysis from the answers to Round 1 permitted the construction of a second survey. The purpose of the second survey was to continue the narrowing process and consensus building to answer the research questions contained in Chapter 1 (see p. 7). The investigator extracted those key substantive factors from the volume of information generated in Round 1 and developed a 38 item instrument. The second survey is contained in Appendix B.

The substantive content in all the answers to the Round 1 instrument was tracked by use of computer. The narrative comments were listed for exact reference and a count was made that recapped the number of times a particular point was made by different Delphi panel
members. From this summarized data, the researcher established which items received enough support to be considered for inclusion on the Round 2 questionnaire.

In most cases it was obvious that an item should be included. The Round 1 analysis in the previous chapter discussed the convincing support that many topics received. In order to establish a cutoff for determining adequate backing to merit further analysis in Round 2, the researcher used a count of seven. Any topic that received seven or more supporting statements from panel members in Round 1 was included in a Round 2 item.

With the volume of comments generated, there were many single statements that were not associated with any consensus. These types of comments were disregarded.

The second iteration utilized a Likert-type scale and a probability factor. Direct statements were made regarding specific topics associated with the future of the grocery industry. The instrument was constructed to separately pursue two important factors to help establish consensus (Warnick, 1988).

The first component, the Likert scale, was used to measure the extent to which the panel agreed that an event with potential impact on the grocery industry would evolve in the future. The Delphi Committee was asked to select a number on a continuum between '1' and '5'. The choice of '1' indicated that the respondent strongly agreed with the content of the statement. The choice of '5' denoted that
the respondent *strongly disagreed* with the statement. The choices between '1' and '5' were assigned lesser strengths of agreement or disagreement.

In addition, as a second analytical device, the panelists were asked to indicate, on a scale of 1% to 100%, the probability of the event actually occurring. A high percentage would indicate a strong likelihood of the event happening, while a low percentage would indicate it is less likely to occur.

**Distribution and Return Rate of Round 2 Instrument**

The surveys were mailed on March 25, 1994 to the 55 Delphi participants who had responded to Round 1. The packet included a cover letter, instructions, the instrument, and a self-addressed return envelope. The researcher requested a return date of mid-April for completion of the second iteration.

Most of the surveys were mailed back within the three week period. Telephone calls were made in late April to those who had not yet responded. All 55 surveys were returned by May 9, 1994. This verified one of the key principles discussed by Delbecq et al. (1975) regarding the selection of the committee. That is, it is crucial that the researcher recruit people who are sufficiently motivated and interested in the project to include the time in their schedules to complete surveys and share pertinent information.
Methodology for Data Summary

A computerized statistical program was constructed to assist with the quantitative summary of the data. The researcher used the frequency tables and the calculated mean for the two factors related to each of the 38 items.

Since the Likert-type scale was constructed on a continuum from '1' for strongly agree to a '5' for strongly disagree, the lower the calculated mean the higher the agreement among the Delphi committee. The choice of '3' was mid-range on the scale and indicated the lowest level of agreement.

The opposite applied to the probability factor. It was a percentage, on a scale from 1% to 100%, of the likelihood that the event would occur. The higher the calculated mean the higher the agreement within the committee.

In order to assign consistent interpretation to the probability mean in the discussion of the Round 2 results, ranges were identified and a probability statement constructed. The percentage ranges and the corresponding statements are:

1. 90% - 100% = almost certainly
2. 80% - 89% = high likely
3. 70% - 79% = very likely
4. 60% - 69% = likely
5. 50% - 59% = possible
6. 40% - 49% = not likely
7. 30% - 39% = very unlikely
8. 20% - 29% = highly unlikely
9. 10% - 19% = highly improbable
10. 1% - 9% = almost certainly improbable

A table displaying the means ranked in order for each item on the Likert scale and the percentage probability factor is contained in Appendix C.

Topical Groups for Round 2 Analysis

In order to better organize and analyze the findings, the 38 items in the Round 2 survey were grouped into the following topical areas, previously referenced in Chapter 3:

1. Future Store Formats (items #1, #2, #3, #4, #5, and #20)
2. Technology and Systems (items #6, #7, #8, #9, #10, and #26)
3. Marketing and Merchandising (items #11, #12, #13, #14, #15, #16, #17, #19, #36, and #38)
4. Industry Structure (item #18)
5. Lobbying Groups (item #21)
6. Governmental Impact (items #22, #35, and #37)
7. Work Force Issues (items #23, #24, #25, and #29)
8. Organizational Structure and Philosophy (items #27, #28, #30, and #31)
9. Global Economy (items #32, #33, and #34)
Each of these areas is discussed separately with the appropriate assignment of individual items to one of these groupings.

**Round 2 Findings and Analysis**

**Future Store Formats**

This section includes the summary of six items related to store formats. The items dealt with store size, layout, variety of departments, merchandising strategy, customer service issues, and anticipated consumer behavior.

**Item #1: Super-center combo stores of 100,000 sq ft or more, providing excellent variety and competitive pricing, will emerge as the most successful format by the year 2010.**

The mean on the Likert scale was 2.98 (SD = .79), indicating the panelists agreed that super-combo stores will emerge as the most successful format by 2010. The 2.98 was almost mid-range on the scale. The sentiment was not as strong as that shown for super-stores in item #2.

The probability mean was 55% that the committee felt it was possible that super-combo stores would emerge as the most successful format. In their individual responses almost one half the participants (48%) assigned a probability of less than 50% that of the super-center combo store, as was proto-typed by Wal-Mart and K-Mart in the early 1990s, would be the most successful.
Item #2: Super-stores of around 60,000 sq ft with a variety of strong departments, catering to the tastes and needs of demographic groups in the grocery store's market territory, will continue to be strong competitors in the year 2010, since they are more user friendly (shoppable) for the consumer.

The Delphi group gave very strong support to this store format option. The Likert scale mean was 1.96 (SD = .85). Ninety-four percent of the respondents chose a selection on the Likert scale between agree and strongly agree.

The probability factor was 75%, indicating it is very likely super-stores will emerge as strong competitors in 2010.

Item #3: Small unique stores, emphasizing factors such as fresh, prepared, high quality foods, or specialty products, will cater to niche markets in the year 2010, and provide an alternative for shoppers when strategically placed for convenience in neighborhoods.

That small specialty stores will cater to niche markets was agreed by the Delphi panel. The Likert scale mean was 2.20 (SD = .79). Ninety-six percent of the respondents chose an answer between agree and strongly agree.

The probability factor mean was 68%. The committee felt it is likely that neighborhood niche markets will appear by 2010 as an alternative to the larger formats.
**Item #4:** The Club format will experience little or no growth by the year 2010.

The consensus on the viability of the Club store format in the future was consistent with Round 1 descriptive comments. Seventy-nine percent of the panel selected an answer on the Likert scale between agree and strongly agree for a mean of 2.57 (SD = 1.08). This majority did not see the Clubs expanding by 2010.

The probability that the Club format’s growth will be stagnant was 64%.

**Item #5:** Limited assortment/low price/discount stores, selling primarily grocery items only, will not survive as a major alternative by the year 2010.

According to the committee consensus, limited assortment stores will not survive in the years ahead. The group mean was 2.96 (SD = 1.26) which indicated general agreement with the item.

The probability factor was 57% indicating the committee believed it possible that the limited assortment format would not survive to 2010.

A later item (#14) also addressed the limited assortment format as it related to placement in poor neighborhoods. The Likert mean for #14 was 2.98 (SD = 1.00). This indicated that if limited assortment stores have an application in the future, they will be matched to poorer neighborhoods.
**Item #20:** Unless they carefully find a niche and market directly to that niche, independent store operators will decline as a market force by 2010 due to the competitiveness and popularity of the large super-centers.

Raters agreed \((M = 2.33, SD = .87)\) that independent stores will decline unless they carefully reposition themselves as target market niche operators. Ninety-three percent of the respondents selected a Likert choice between agree and strongly agree.

The probability factor for the decline of independents was 72%, indicating it is a very likely eventuality.

**Technology and Systems**

The items grouped in this section include those related to the implementation and utilization of advanced technological systems in different phases of the grocery industry. The integrated use of these EDI systems was a theme that the committee established in Round 1. The items cover principles of distribution, expansion of electronic superhighways, use of scan data, electronic fund transfers, and productivity improvements that can be gained from increased use of computers.

**Items #6:** Many principles of ECR and JIT will be implemented, especially as larger stores emerge to capitalize on these principles.

The efficiency principles of ECR and JIT were strongly embraced by the Delphi group. There was strong
agreement on the Likert scale that the principles of ECR and JIT will be implemented ($M = 1.91, \text{SD} = .68$). All of the respondents chose an answer between agree and strongly agree.

The probability factor (79%) was one of the highest in the entire survey. This rate indicated that the committee believed it is very likely that ECR and JIT will be implemented.

**Item # 7:** By the year 2010, there will be extensive use of the electronic superhighways, with fully integrated UCS and EDI systems between manufacturers, wholesalers, and retailers. This will permit a paperless exchange of information for automated ordering, production planning, invoice reconciliation, price changes, inventory management, and payment.

The responses to this item showed strong agreement ($M = 1.61, \text{SD} = .81$), one of the highest in this study. Over half of the committee chose strongly agree.

The 84% probability factor for this item further supported the anticipated impact of technology on the grocery industry. The score indicated a high likelihood that integrated systems will be implemented.
Item #8: Scanning data from front end check-outs will be more effectively used in the year 2010 to automate reordering, shorten order lead time, identify successful merchandising practices, and help determine allocation of shelf space.

The committee's response to this item demonstrated strong agreement on the more effective use of scan data in the future (M = 1.37, SD = .53). This item had the highest concurrence in the entire study. All of the Delphi participants selected a choice between agree and strongly agree.

The 88% probability for this item was the highest in the study. The panel found it highly likely that front end scan data will be used more effectively in a variety of ways in 2010.

The use of scan data to more effectively compete in the future overlapped with many items on the survey. ECR, JIT, and EDI expansion will rely on front end scan data to be fully functional.

In addition, the items dealing with marketing and merchandising complemented with front end scan data. The information captured at the check-out will be most advantageous in determining how to market and merchandise grocery products, particularly with the emphasis being placed so heavily on target marketing by the Delphi panel in this investigation. This is seen in the feedback to items #11, #12, and #15.
Items #9: Computers will be more effectively used by store managers by the year 2010 to help control all store functions, e.g., labor schedules, energy use, productivity, promotional deals, and inventory levels.

The growth in the use of computers as management tools for retail store managers received support from the participants. All of the panel members chose options on the Likert scale between agree and strongly agree (M = 1.48, SD = .61).

The 87% probability factor, indicating high likelihood, was among the larger prediction rates.

Item 10: Electronic fund transfer (debit cards/credit cards/or store card) will be widely used by consumers to pay for their grocery purchases by the year 2010.

The committee agreed that electronic fund transfers will be widely used by 2010. The Likert scale mean was 1.89 (SD = .74). Ninety-six percent of the respondents chose a selection on the scale between agree and strongly agree.

The probability factor was 77%. This rating suggested that EFT will very likely be a common way to pay for groceries by 2010.
Item #26: With the anticipated improvements in technology, automation, and electronic super-highways, productivity gains in the grocery industry will be exceptional by the year 2010.

The agreement on the Likert scale was 2.48 (SD = .89). This indicated confidence in the positive effect of technology and EDI systems on the future of the grocery industry. Eighty-seven percent chose a rating between agree and strongly agree.

The probability factor mean was 68%, indicating likelihood of the productivity gains being exceptional because of the expanded capability of technology.

Marketing and Merchandising

This section covers the statistical reporting of those items related to marketing and merchandising techniques of the future. The topics include demographic targets, lifestyle issues, packaging improvements, use of electronic advertising, home shopping, and environmental perception.

Items #11: Ethnic markets will continue to grow by the year 2010, particularly in the urban areas. This will require store operators to match their product selection to the area cultural taste to successfully compete for this large share of the market.

Ethnic markets will continue to grow by 2010 and require the ability to match products to the cultural taste of ethnic groups in a store's territory. The
calculated mean on the Likert scale was 2.09 (SD = .78). Ninety-four percent of the Delphi group agreed with this potentiality.

The probability mean was 74%. Based on the strength of the Delphi panel's prediction, ethnic marketing is very likely to be an important dimension by the year 2010.

Item #12: Since senior citizens will make up a much larger per cent of the population in the year 2010, stores will best compete for this market by providing for special needs, such as healthier products, smaller packs and sizes, bigger print on labels and tags, and more customer service.

The Likert mean was 2.00 (SD = .89). This indicated considerable agreement by the Delphi committee that special programs will be necessary in 2010, if a store wants to compete effectively for the large senior citizen segment. Ninety-one percent rated the item from agreed to strongly agreed.

The probability factor was 75%. The committee predicted it is very likely a store will have to take special measures to best compete for the senior citizen shopper.
Items #13: With an even faster pace of life in America, and with continued decline of average household size by the year 2010, convenience foods, prepared foods, and in-store restaurants will be important features for successful store operators.

The availability of convenience foods and prepared foods to service the public in the future obtained high agreement from the Delphi panel. The mean on the Likert scale was 1.96 (SD = .73). All but one of the committee members chose a selection between agree and strongly agree.

The probability factor was 74%. The panel predicted it is very likely that stores will have to include the features of convenience, prepared foods and in-store restaurants, if they are to appeal to consumers.

The content and agreement of this item regarding lifestyle was matched well with the strong support in item #2 for large stores with multi-departments and item #3 on small niche markets. The responses to those items verified that either in a large store environment with a variety of departments or from a small specialty store, good prepared food will be very important to consumers.
Item #14: Economic polarization will become more pronounced by the year 2010 which will create the opportunity for low priced, generic, limited assortment stores in the poorer neighborhoods.

The responses to a previous item (#5) concerning limited assortment store formats suggested that this option would be one of the weakest and probably not survive in the marketplace of the year 2010. This item was worded differently. It offered the panel an option for limited assortment, discount stores as an alternative in poorer neighborhoods.

In that economic environment, the viability of limited assortment stores received some support. There was some general agreement that limited assortment stores may succeed, if targeted in poorer neighborhoods ($M = 2.98$, $SD = 1.00$).

The probability factor was 58%. There will be possible opportunity for low priced, generic stores, if they are strategically located in poorer neighborhoods.
Item #15: Target marketing, using more electronic media for specific demographic groups, will be the major marketing strategy in 2010. Front-end scanning information, frequent shopper card data, and micro-market research conducted by manufacturers will be data bases to support this effort.

The Likert mean for agreement on target marketing as a major strategy in 2010 was 1.92 (SD = .72). Ninety-eight percent of the panel agreed with the statement.

The probability factor was 77%. The use of target marketing to reach specific demographic groups will very likely be the major marketing technique by 2010.

Many other items in the second round were related to this item. Item #8 concerning the use of front-end scanning data, item #10 on electronic fund transfers, item #11 on the growth of ethnic markets, and item #12 on the large impact senior citizens interfaced with the subject of target marketing. According to results reported for those items and this one, front-end scanners will become a more important resource to identify who is shopping and what they are buying.

Item #16: In-store electronic video will be used extensively to influence consumer selection directly at the point of purchase by 2010.

The use of electronic video at point of purchase (POP) was not supported by the committee. The agreement for this merchandising technique was 3.13 (SD = .99), the
second lowest in the survey and one of two items which were not below '3' on the Likert scale mean. Over one half the committee did not agree with the statement.

The probability mean was 53%. As was noted on the reporting of the Likert score, this too was the second lowest probability factor in the study. The committee saw other methods to influence the consumer's purchasing habits. Target marketing (#15), computer bulletin boards (#17), and a responsible environmental image (#38) had higher probability factors.

Item #17: By the year 2010, there will be substantially increased use of computer bulletin boards to review products, make selections, and actually conduct shopping from the house or office through direct cable connection.

The Delphi members were positive in their view of how computer bulletin boards will be utilized by consumers to search out products and assist shopping. The mean on the Likert scale was 2.41 (SD = .96). Eighty-three percent of the group agreed that there would be increased use of home computers and computer bulletin boards.

The probability mean was 63%. The committee saw the increased use of home computers and direct cable connection likely opening up new avenues for advertising, as well actual home shopping.
Item #19: Home shopping through the use of computers will grow to be an important segment of the retail activity by 2010. As a result, the consumer, especially senior citizens and homebound, will have the option of ordering items from home, and either pick them up or request home delivery.

Based on the Delphi committee's feedback, the grocery industry will be actively involved with home shopping by 2010. The Likert scale mean was 2.24 (SD = .88). Over 90% of the respondents agreed with the growth of home shopping.

The probability mean was 69% indicating the likely growth of home shopping.

Item #36: Improved processing techniques, packaging methods, and food handling systems will increase shelf life and subsequently the market share of fresh items (produce, meat, fish, and dairy products).

The Likert mean of 1.82 (SD = .70) showed a high agreement that packaging improvements will allow foods to stay edible longer in the consumer's kitchen. From the strength of this answer, it would appear that the grocery industry will make strides in the next 15 years to lessen the perishability of fresh foods.

The probability associated with longer shelf life was 79%. The high probability indicated the committee had confidence that new techniques to increase shelf life are very likely.
Item #38: Since consumers will be better informed, companies with progressive marketing plans will be able to gain a competitive edge by being socially responsible to environmental issues and promoting that commitment to the consumer.

The committee felt that socially responsible companies will be able to develop effective marketing plans related to their commitment to environmental issues. The mean was 2.22 (SD = .89). Ninety-three percent of the panel chose a selection between agree and strongly agree.

The probability factor was 72%. The group's results showed that the industry and the public will most likely be more sensitive to the effect products have on the environment and will shop at those companies that demonstrate social responsibility.

Industry Mergers

This section includes only one item which dealt with mergers at the retail and wholesale levels of the grocery industry.

Item #18: There will continue to be more mergers at both the wholesale and retail levels through the year 2010 with the result being less than ten large wholesale and retail companies controlling the majority of their respective markets.

The Delphi panel agreed the trend for more mergers will continue (M = 2.70, SD = 1.08). Approximately one
fourth of the panel disagreed with the statement. The overall score indicated mild agreement.

The probability factor was 63%. The results were strong enough to imply mergers will likely continue to occur. Based on the panel's rating, there will be fewer wholesalers and retailers in the industry by 2010.

**Lobbying Groups**

This section includes only one item regarding industry associations and lobbying groups.

**Item #21:** By 2010, industry associations and lobbying groups will formulate a more cooperative approach to solving industry problems through the establishment of alliances. This will include such groups as NAWGA, NGA, GMA, UFFVA, and PMA, who now are often inclined to take adversarial positions.

Rates expressed moderate agreement with the concept of cooperative lobbying ($M = 2.47, SD = .98$). Eighty-two percent of the respondents chose a selection between agree and strongly agree.

The probability mean was 63%. Based on this ranking from the Delphi committee, it is likely some additional cooperative lobbying will materialize in the grocery industry by 2010.
Government Activity

This section includes three items specifically related to governmental activity and its potential impact on the grocery industry. The topics surround the general regulatory powers the government can exercise and statutory mandates that may develop from environmental legislation.

**Item #22:** The government will significantly increase its regulatory control over food safety, OSHA requirements, EEOC issues, and environmental regulations by the year 2010.

There was agreement within the Delphi group regarding the inevitability of more governmental regulations. The Likert scale mean was 2.24 ($SD = .98$). Ninety-one percent of the participants agreed with the statement. From the strength of the feedback the respondents believe the government will be more active in its oversight of the grocery industry.

The probability factor was 71%, another strong indication that increased government regulatory activity will likely occur.

**Item # 35:** There will be mandated legislation to reduce solid waste through source reduction (packaging) and recycling in the next 20 years.

The group agreed that mandated legislation to reduce solid waste can be expected in the next 20 years ($M =$...
1.86, SD = .87). Ninety-three percent chose a selection between agree and strongly agree.

The probability factor was 78%. It correlated to the positive score on the Likert scale. The opinions were strong that waste reduction and recycling will be mandated in the next 20 years.

Item #37: There will be more government regulation on environmental issues such as fluorocarbons, biodegradable cleaners, recycling, fuel emissions, food safety, and nutritional labeling by 2010.

The mean on the Likert scale was 1.69 (SD = .72). Based on the strength of this answer from the committee, more government regulation on environmental issues can be expected by 2010. All participants agreed with this item.

The probability factor was also high (81%). This indicated it is highly likely that the government will increase its environmental enforcement in the next century.

Work Force Issues

This section includes the reporting of those items related to the work force. The topics are the anticipated pool of workers, impact of immigrants, training and education, and organized labor.

Item #23: There will be a smaller pool of workers by 2010 which will increase the importance of training, upgrading the quality of jobs to reduce turnover, and
developing more automation where feasible to compensate for the shrinking pool.

The Likert mean was 2.17 (SD = .93). Eighty-nine percent of the panel agreed to some extent with the anticipated problems that could arise from a smaller pool of workers. The results from the committee indicated that measures to counteract the shrinking pool such as training, up-grading jobs to improve worker retention, and implementing automation for less reliance on people will be elements of a sound corporate staffing plan for grocery industry companies in 2010.

The probability factor was 71%. The group indicated it will be very likely that a smaller work force will cause companies to take special measures to adequately prepare for the year 2010.

Item #24: Immigrants will possibly help resupply the work force at the unskilled entry level as we approach the year 2010.

The panel agreed that immigrants may help resupply the work force at the unskilled entry level (M = 2.61, SD = .94).

The probability factor was 60% indicating that it is likely immigrants will be a resource to fill jobs at the entry level in 2010.

Item #29: Companies will be forced to assume a more active role in training and education in 2010, due to lack of confidence in the public schools and the need to
prepare employees to use more sophisticated technology and systems.

The mean on the Likert scale was 2.33 (SD = 1.01). Eighty-one percent of the people selected a score between agree and strongly agree. The committee indicated a lack of confidence in public schools and their ability to train students in the technical and systems areas.

The probability factor was 68%. The Delphi panel felt it is likely grocery companies will have to conduct more internal training, if they want to ensure their workforce is adequately prepared in 2010.

**Item #25: Organized labor will definitely decline by 2010 and be of little significance in the grocery industry.**

The responses to this item predicted a weakened role for organized labor in the future. The Likert mean was 2.70 (SD = .98). Eighty percent of the Delphi panel agreed with the statement.

The probability factor was 61%. The likely decline of organized labor by 2010 was predicted by the committee.

**Organizational Structure and Philosophy**

This section includes the responses to four items. The first deals with organizational structure. The second discusses corporate philosophy. The third and fourth review potential employment opportunities in the grocery industry.
Item #27: The organizational structure of the successful grocery company will be much flatter by 2010, with decision making pushed down to lower levels and a greater emphasis on cross-functional work teams to quickly react to consumer trends.

The Delphi panel agreed with the movement toward flatter organizations. The Likert mean was 2.11 (SD = .90). The committee in general embraced the notion of less vertical and more horizontal organizations with team oriented decision making. Ninety-one percent of the group chose a selection between agree and strongly agree.

The probability factor of flatter organizations and lower level decision making was 76%. This predicted a very likely chance that organizations will change and exhibit less traditional hierarchical characteristics by 2010.

Item #28: The most effective corporate philosophy will be flexible and consumer driven, using technology to keep information current and empowering employees at all levels of the organization to react quickly to changing circumstances.

The group agreed strongly that a more flexible philosophy receptive to change will be the most effective alternative for a grocery company in the future. The Likert mean was 1.74 (SD = .71). Ninety-eight percent of the panel agreed with the statement.
The probability factor for this item was 77%. The committee indicated it is very likely corporate philosophy will be more flexible and empower employees to use information provided by technology to adjust as quickly as possible to changing circumstances.

**Item #30:** Because of flattened organizations, there will be fewer upper and mid-management career opportunities by 2010.

The Likert mean was 2.30 (SD = .882), demonstrating some basic accord with the principle of less structure producing less career opportunity. Eight-nine percent of the group agreed with this statement.

The probability factor was 68%. This, too, showed a uniform collective position that administrative downsizing will likely result in fewer administrative positions.

**Item #31:** Because there will always be a need to feed our growing population, for those who are 1) flexible, 2) team oriented, 3) committed to getting results, and 4) willing to learn to use new technology, there will be excellent job opportunities in the grocery industry in 2010.

The Delphi panel's forecast for job opportunity in general was very positive. The mean score on the Likert scale was 1.85 (SD = .83). All but one person agreed to some extent with the statement.

The probability factor of favorable employment was 78%. It is very likely there will be excellent job
opportunities in the grocery industry in 2010, based on the panel's prediction.

Item #30 established the likelihood of fewer upper and mid-management jobs. The results of this item (#31) indicated the Delphi group felt employment opportunities in general will be good, although when contrasted to item #30, not necessarily in the upper and mid-management ranks.

Global Economy

This section covers three items related to the impact of global economic activity. One item discusses opportunities that may surface for U.S. companies. Another analyzes the impact of more foreign activity in America. The third reports on whether global competition will even be a factor.

Item #32: As a result of expanding global markets, American grocery companies will have excellent new opportunities in the next 20 years, either through direct market entry or joint ventures in foreign countries.

The Likert mean was 2.63 (SD = .96). The committee agreed that American companies will have excellent new opportunities in the next 20 years. Seventy-eight percent of the group chose a selection on the scale between agree and strongly agree.

The probability factor 63%. This indicated a likely possibility that the expanded opportunity from global markets will occur.
Item #33: With the growth of global competition, foreign investment and imported products will have an even larger impact on the U.S. grocery industry by 2010.

The participants viewed the impact of foreign companies in America slightly stronger than they did the impact of U.S. companies on foreign markets. The Likert mean was 2.38 (SD = .93). Eight-one percent of the group agreed with the statement.

The probability factor of 66% showed it is likely there will be more foreign activity in U.S. markets.

Item #34: Global competition will have a minimal effect on the retail grocery activity in the U.S. in the year 2010.

After reviewing the Delphi panel’s responses to the two previous items, #32 and #33, the findings of item #34 provided no real surprise regarding global competition in the grocery industry. The statement posed the opposite view of global competition, i.e., it will have little effect on retail activity in the U.S. The group mildly disagreed with the statement. The mean was 3.33 (SD = 1.12). This was one of two items whose mean was above 3.00, the mid-point on the Likert-type scale. Forty-nine percent selected either disagree or strongly disagree.

In this case the negative answer to the negative connotation of the statement actually can be interpreted as positive support for the impact of global competition.
The committee opinion upheld the findings of the previous two items with its disagreement in item #34.

The probability factor was low on this item (49%). It was another indication by the committee that global competition will be an area that will provide opportunity to the retail grocery industry in America in 2010.

**Summary**

This chapter reported the analysis of the Round 2 survey used to forecast characteristics of the grocery industry in the year 2010. The 38 items in the instrument were assigned to topical groups. The opinions of the Delphi committee were measured on two scales, Likert and probability. From the analysis of the data the grocery industry will change significantly in the next century. There was evidence of this, to some degree, in all 38 items.

Recommendations and conclusions for the grocery industry in 2010 will be developed in Chapter 6.
CHAPTER 6

Interpretations, Conclusions and Recommendations

Introduction

Chapter 4 dealt with the content analysis of the first round Delphi questionnaire. It began to establish the general consensus on what the grocery industry may look like in 2010. Chapter 5 reported the statistical analysis of the Round 2 instrument. That instrument established more exact consensus on the topical areas that were grouped in that chapter. From these opinions of the Delphi committee, the future characteristics of the grocery industry can be forecasted.

This chapter develops those expert opinions into conclusions and recommendations using the five research questions outlined in Chapter 1 to focus the discussion.

Research Question One Conclusions

The first research question was: What will be the competitive characteristics of the grocery supermarket industry in the year 2010?

According to the Delphi committee, the most successful store format will be the super-store, a store with approximately 60,000 sq ft of sales space offering a large variety of departments. It will sell just grocery related products, no general merchandise. This size and design will offer shoppers a large variety of competitively priced items. Although the square footage will be sufficient to provide an extensive layout, the
consumer will feel it is an environment small enough to comfortably shop.

The super-center was contrasted in the study against the 100,000 sq ft super-combo stores which will handle grocery items and general department store merchandise. These stores began to appear with increasing frequency in strategically placed locations at the same time that this study was conducted. Wal-Mart and K-Mart were the main national entities promoting this type of retail establishment. The Delphi committee predicted some success for the super-combo store. However, the analysis of the Round 2 statistical data indicated the super-combo stores will not be as well received as the super-stores that sell just grocery related items. In addition, there were many narrative comments in Round 1 that predicted shoppers will not feel as comfortable in the super-combo stores. The shopping environment was described as simply too big for some consumers, especially with the alternative of the super-store.

The study also forecasted that Club stores will experience little or no growth, and limited assortment discount stores, and independent store operators will decline.

The viability of the Clubs will be impacted by 2010 because they do not offer the service nor the pleasant surroundings of the super-store, or even the combo-store for that matter. There were historical economic
efficiencies associated with the Clubs, but with the size of the other formats and the improvement in integrated supply systems, the efficiencies will be realized by all large formats. All three large formats (super-centers, super-combo stores, and Clubs) will be able to capitalize on the economy-of-scale derived from high volume retail operators and size of sales space. This will eliminate any major pricing advantage the Clubs may have originally enjoyed when they appeared in the 1980s.

The decline of limited assortment stores by 2010 will also occur. The study addressed this format in two ways: a) as a general format competing against the other competitive formats, and b) as a targeted format for poorer neighborhoods. In both situations the Delphi panel predicted little success. The consumers will be more likely to direct attention to the super-stores where they will find competitive prices, greater variety, and broader services.

The independent store operators will also decline as a competitive factor by 2010. There was substantial evidence from the Delphi panel that independent stores will not have the resources to compete effectively against the larger store formats. The efficiencies associated with the principles of ECR and JIT cannot be equally gained by single store operators. The larger stores should be able to make the investment and successfully
implement those principles at the expense of the small business man.

One hope was shown for independent stores. If they carefully analyze the marketplace, they may be able to convert to specialty niche neighborhood stores. The success of this conversion will rest on their ability to target demographic groups, and emphasize ethnic food, quality fresh items, or prepared foods. Surviving as conventional supermarkets will be difficult for independents according to the forecast of the Delphi committee.

The final competitive force in the marketplace will be the resurgence of the small specialty shops. This alternative will emerge as a definite contrast to the larger stores. Even with the predicted acceptance and success of the super-stores, the convenience of the neighborhood food boutique will provide an interesting option. The smart small operator will be able to cater to ethnic tastes, specialty foods, healthy prepared foods, and demographic groups such as senior citizens or young professional families. Quality meat, produce, bakery, floral, wine and spirits, gourmet international foods and high quality take out food were cited as commodities that will fit well in the neighborhood niche format.

The development of small specialty shops was predicted by the Delphi committee on many different questions in both iterations. The consumers will be
receptive to a convenient alternative to the large store where the bulk of their shopping will be done. Opportunistic neighborhood specialty store operators will be able to capitalize on this segment of the grocery business. As discussed in the summary of independent store operators, conversion to a neighborhood specialty shop may be a shrewd choice for independents to consider as the marketplace changes and adjusts over the next 15 years.

No study of this type can predict with exact certainty the marketplace of the 21st century. Regardless of the format, corporate leaders and small businessmen will try to manage their companies to stay viable in 2010. That has always been the nature of capitalism and a free market system. However, the conclusion of this study was that two formats will emerge as main components of the competitive marketplace in the year 2010: a) super-stores as the most popular alternative for general weekly volume shopping, and b) neighborhood niche markets that will provide convenience and specialty foods for their particular target market. These two themes were the most supported by the Delphi committee throughout the study.

Research Question Two Conclusions

The second research question asked: What will the typical grocery store supermarket look like in the year 2010? Since the panel determined that the super-store will emerge as the most successful format, the features of
that option have been selected to answer this research question. Feedback from both iterations was used to describe the store's amenities.

The super-store will be carefully located to serve a wide population base, either by placement in a densely populated urban area, a strategically located suburban area, or a rural area with good highway access. It will be approximately 60,000 sq ft. The design will accommodate many internal departments, and still present an atmosphere conducive to pleasant shopping.

The variety of departments will include the typical core features of conventional supermarkets: grocery, meat, produce, dairy, deli, and bakery. However, the space will also permit expanded offerings such as floral, in-store banking, a pharmacy, specialty gourmet foods, ethnic foods matched to the cultural tastes of the area, an in-store restaurant, quality take-out foods, fresh seafood, and special display areas to heavily promote seasonal merchandise.

Service will be a key factor. Even with the diverse variety of departments, super-stores will be staffed with an adequate number of associates who are well trained in their department and who understand the importance of customer service. The Delphi committee repeatedly emphasized the importance of those factors in the study.

Another important characteristic will be technology. The store will be equipped with fully integrated systems
to optimize the management advantage from scanning data, electronic ordering systems, and on-line systems with suppliers. The backrooms of the stores will be arranged to accommodate the efficiencies from the ECR and JIT. The stores will be extremely efficient. Personal computers will be used by the store managers to help operate the stores wisely. This will include staffing schedules, utility management, and space analysis.

The final factor will be competitive pricing. The sales volume and efficiency factors will allow the store to set pricing strategies that will give the consumer excellent value. The Delphi committee expressed the combination of a pleasant shopping environment, a variety of choice, and low prices as the prescription for success of the super-store format.

Research Question Three Conclusions

The third research question asked: How can a grocery supermarket company begin to prepare itself in the 1990s for the changes that will be essential to remain viable in the forecasted competitive marketplace of the year 2010?

The Delphi process was defined earlier in the study as one in which general trends are established. In order to propose changes in the remainder of the 1990s that flow toward the general trend predictions for the year 2010, the researcher referenced the applicable topical areas that were used to group the Round 2 findings in Chapter Five. Recommendations related to each of the selected
categories will provide direction for a grocery company to begin preparation for the marketplace of the year 2010.

1. Store Formats: A company should begin to reconfigure its format to accommodate most of the features described in the super-store category, or position itself to compete as a neighborhood specialty store. Smaller sized stores will not be able to offer comprehensive services. The square footage will not permit it. However, learning how to cater to neighborhood market characteristics and cultural tastes is a challenge that could be undertaken in the remainder of this decade.

2. Technology and Systems: The first recommendation to prepare for the advanced technology and integrated systems of the 21st century would be to think futuristically about what hardware and software to purchase. The store operators need to invest in systems that can be expanded to accommodate the main principles of ECR and EDI. The systems must be able to interface via satellite communication and electronic superhighways with manufacturers, the supplier community, banking institutions systems, market research companies, and home computers. The prediction of more home shopping via home computers was strongly endorsed by the Delphi committee.

The second area that could be utilized as a forerunner to the totally integrated systems would be the analysis and use of front end scanning data. The check-out systems that existed at the time this study was
conducted were already capable of providing important information about the purchasing habits of consumers in the store. Developing a means to examine this data more effectively will help prepare a company for the sophisticated systems of the future.

The third recommendation for initiation in the 1990s would be to ensure key personnel throughout the organization up-grade their own knowledge and use of technology. The Delphi committee cited training and education as an area that could make the difference in the future. Those individuals and organizations that understand and use technology wisely will likely be the survivors as the industry moves toward 2010.

3. Marketing and Merchandising: Learning to more effectively use the concepts of target marketing would be the most important recommendation for store operators in the remainder of the 1990s. The successful companies will begin to use scan data, market research, and demographic analysis to develop strategic marketing plans. Improved merchandising plans can be achieved from better analysis of the data. Large store operators and smaller niche specialty market owners will need to determine who shops in their establishments and what items those shoppers will likely purchase. Grocery companies should not delay learning more about target marketing.

4. Government Activity: The anticipation of more governmental regulation was predicted by the Delphi
committee. In the 1990s grocery companies need to stay current with those governmental issues that impact their business. The Delphi panel forecasted more regulation in many areas affecting the grocery industry. Those included the EPA, DOT, OSHA, EEOC, NLRB and FDA. These government agencies could affect some important aspects of the grocery industry toward the end of the 1990s.

5. Work Force Issues: In the remainder of the 1990s it is recommended that grocery companies initiate programs to attract and retain workers. There were strong indications from the Delphi participants that the industry will face a work force shortage by 2010. Up-grading the quality of the jobs and learning how to minimize turnover will be efforts that will be worthwhile.

A second recommendation for the industry would be to develop internal training programs. The Delphi committee questioned the ability of the public school systems to adequately prepare the next generation of workers. Establishing better internal training programs in the 1990s, particularly in the areas of customer service and technology, will give astute companies an advantage.

6. Organizational Structure and Corporate Philosophy: The primary organizational recommendation for grocery supermarket companies for the remainder of the 1990s is to create flatter organizations. The Delphi committee predicted the successful companies in the next century will have less hierarchal structure, push decision making
down, and emphasize team work. Changes in corporate philosophy should parallel the structural changes. Companies should begin to develop more flexible thinking that encourages employee initiative and empowers decision making at the lower levels of the company. The companies that first implement these internal changes will be positioned to better compete in the next century.

Research Question Four Conclusions

Research question four asked: What changes in strategy and business plans will be imperative by the year 2010? Based on the collective opinions of the Delphi committee, the changes outlined below will be necessary if a company is to stay viable in the year 2010.

1. Companies will have to carefully select a format that matches their ability to perform, their resources, and their target market.

2. Companies will have to commit to installing the best technological systems available and train their people to use the technology to manage their business as efficiently and effectively as possible. This will include fully integrated EDI systems for ordering and inventory control, production planning, use of front end scanning data, electronic fund transfers for payment of purchases, invoice reconciliation and payment, and use of computers by store managers to improve profitability.

3. Companies will have to capitalize on the distribution efficiencies that will exist related to ECR,
JIT, and EDI systems. Those organizations that do not implement these programs will have difficulty surviving. The productivity gains associated with these programs will be an important ingredient of a profitable business plan.

4. Companies will have to understand the importance of market research and develop effective methods to analyze the demographic characteristics of their market territory. Choosing a business plan to match this market will be the most fundamental component of a successful store operator in the year 2010.

5. Companies will have to consider exploring new marketing and merchandising that will be affiliated with the predicted growth of home shopping.

6. Companies will have to stay informed about governmental regulatory activity that could adversely impact their profitability. Developing a business plan to cope with the regulations and possibly capitalize on certain issues, such as environmental responsibilities, will be a wise strategy.

7. Companies in the grocery industry will serve themselves best by encouraging industry lobbying organizations to cooperate more, either through actual merger or strategic alliances. The industry will have to lessen adversarial thinking and encourage a more unified voice.

8. Companies will have to adopt staffing strategies that encourage employee retention to combat the impact of
a shrinking work force, and focus on internal training and educational needs especially in the areas of technology and customer service.

9. Companies will have to restructure their internal organizations to be flatter. There will be a need for less hierarchy. Companies will need to push decision making down to lower levels, implement a cross-functional approach to problem solving with an emphasis on work teams, and empower employees to react to changing business conditions.

10. Companies will have to cultivate a corporate culture that is more flexible and consumer driven. It will have to match the parallel requirement of a flatter organization. The optimum philosophy will encourage employees at all levels to use the information that is generated by new technology to make decisions and react to changing circumstances associated with consumer demand.

11. Companies will have to keep a close watch on the issues related to an expanding global marketplace. They will need to take advantage of opportunities that may arise from freer trade and new foreign markets, but also protect their market share against the threat of foreign competition and foreign products.

**Research Question Five Conclusions**

Research question five asked: What type internal organization structure will be necessary to enable a grocery supermarket company to formulate, implement, and
maintain the business plan and strategy that will be established to successfully compete in the year 2010?

Some attention has already been given to future organizational structure in research questions three and four. The recommendation for the most effective internal structure is one with a much flatter hierarchy. It will be less concerned with the formality of someone's position, and more concerned with the contribution one can make in a team oriented environment. The traditional Weberian view of a layered organizational structure with a well defined chain of command will not work in the 21st century. Traditional bureaucratic tendencies in corporations will contribute to failure. This was a conclusive finding of the Delphi committee.

The study indicated organizations will want to be able to respond quicker to changes that occur in the marketplace. Technology will give them the necessary information with which to work. Employees will welcome, and probably expect, a greater role in decision making. A traditionally structured organization will not be able to service this more active style of team management.

A company will be able to capitalize on a flatter organizational structure if it effectively trains and educates, cultivates a flexible philosophy, and prevents excessive turnover. Employees at all levels will take more ownership in the operation of the company. Decisions will be better and quicker. The dynamic marketplace
forecasted for the grocery industry in the year 2010 will require such an internal organizational design.

Recommendations for Further Research

The scope of this study was very broad and examined major overview issues related to the grocery industry for the year 2010. Each major topical group established by the researcher in Chapter 5 is a subject large enough by itself to merit more in depth analysis as the industry prepares for the 21st century.

The first recommendation for future study is to take the major topics that evolved in this Delphi study and address each one as a separate research topic. The central topics of store formats, the use of technology, new marketing techniques, and organizational structure may be the most significant subjects needing additional study. However, the suggestion applies to all the topical areas. Depending on the future researcher's affiliation, each topic is significant enough to be studied in more detail to establish a more exact and more thorough grasp of future direction. This study claims to only make broad general predictions which is the stated purpose of a Delphi process. Individuals interested in a more precise business plan would be encouraged to pursue single topics, or a smaller group of topics in more depth.

The second recommendation for future study would be to develop a quantitative study of the individual topics that produces more hard data. One weakness of the Delphi
process is its reliance on general feelings and the general viewpoint on broad subjects. To provide more certainty regarding future developments in the grocery industry, future research should include more specific statistical analysis and more exact models from which accurate determinations can be made regarding an organization's strategic business plan.

Summary

The value of this study is its general forecast of what the grocery industry will look like in the early part of the 21st century. Organizations interested in the forecasted characteristics will be able to start positioning themselves to compete effectively in that environment from analyzing the main findings, conclusions, and recommendations of this work.

American companies have traditionally been focused on short term thinking because they are evaluated on the success of their short term results (Jacobs, 1991). This study should help broaden the perspective of the leadership community in the grocery industry and stimulate them to think about the longer implications of their decisions as the industry moves toward the next century. Based on the expert opinions from the Delphi committee that assisted with this study, this work should elevate the importance of futuristic strategic thinking. Since the grocery supermarket industry is one of the cores of our society, it is expected that other studies may follow
as the industry prepares for the 21st century. The characteristics predicted from this study and recommendations on how to compete in the forecasted marketplace of 2010 should be evaluated with similar future studies. People associated with the grocery industry, whether large corporation or single store operator, will be able to develop a successful prescription for the future from the findings of this study, combined with the collective conclusions of other comparable research.
REFERENCES


APPENDIX A

ROUND 1 QUESTIONNAIRE
INSTRUCTIONS: Attached are the questions for Round 1 of the Delphi instrument. The questions are all stated in narrative form. You will see that each question relates to a fairly specific topic. However, there will be some obvious overlap when discussing the issues, since many of them are interrelated.

Please answer the questions, using the space provided on the page. If more space is required, please use the reverse side. Please try to return the completed questionnaire by early January. A self-addressed return envelope has been provided in this packet. It is important for me to stay on somewhat of a planned time schedule through the winter and spring of 1994.

Thank you for taking the time to assist with this research for my doctoral dissertation at East Tennessee State University. As I told you previously, your collective answers to the Round 1 questionnaire will be analyzed, grouped for consensus, and the Round 2 questions will be formulated from these answers. It is anticipated that the responses to Round 2 will be shorter and will take less time. All responses will be kept anonymous. They will be used strictly for data analysis. Of course, all participants will be sent a courtesy copy of the final findings.

Terry O'Brien
171 W. Valley St.
Abingdon, VA 24210
Please fill out these brief biographical questions.

Name _____________________________________________

Current Position ________________________________

Organization ____________________________________

Years Affiliated With Grocery Industry ____________

Question #1

What store formats do you see emerging that will likely be the most successful by the year 2010?

Question #2

How will the supply system for grocery supermarkets function in the year 2010?
Question #3

What technological changes will be standard in the external communication between manufacturers, wholesalers, and retailers by the year 2010?

Question #4

What technological developments will exist to improve and support in-store operations in the year 2010?
Question #5

What demographic changes do you think will emerge by the year 2010? How will they impact the grocery supermarket industry?

Question #6

How will marketing, advertising, and merchandising functions be conducted in the year 2010?
Question #7

Will shifts in consumer tastes, product design, and lifestyle alterations affect the grocery supermarket industry in any measurable way? If so, please be specific with your examples?

Question #8

What do you feel the structural makeup of the industry will look like in the year 2010? (e.g. more mergers, or resurgence of independents, or impact of home shopping).
Question # 9

What changes do you think will occur at the national level pertaining to "industry relations" by the year 2010, i.e., the relationship between organizations such as NAWGA, FMI, NGA, GMA, or any other similar entities?

Question #10

What role do you see government regulation playing in the grocery industry in the next 15 to 20 years? Please consider such agencies as the FTC, OSHA, NLRB, DOT, EEOC, EPA, or any other you feel will be important.
Question #11

How may the available labor pool affect the grocery industry in the year 2010?

Question #12

What do you feel the significance of organized labor will be by the year 2010?
Question #13

Do you think there will be any shift in productivity expectations, either good or bad, by the year 2010?

Question #14

What do you envision the organizational structure of the successful grocery company will resemble in the year 2010?
Question #15

Please describe what you think the management philosophy, corporate culture, and decision making style will be for the successful company of the year 2010.

Question #16

What will the emphasis be on training and educational programs by the year 2010?
Question #17

What is your opinion of the career opportunities that will be available for current employees and future hires?

Question #18

What influence will global competition have on the grocery industry by the year 2010?
Question #19

How will environmental issues change the manner in which grocery companies do business in the year 2010? Please use specific examples.

Question #20

Open question.....Please comment on any other aspect of the grocery supermarket industry that you feel was overlooked in the questions above.

THANK YOU!!
APPENDIX B

ROUND 2 QUESTIONNAIRE
DELPHI STUDY

A FORECAST OF THE GROCERY INDUSTRY 2010

ROUND 2 QUESTIONNAIRE

TO: DELPHI PARTICIPANTS

Thank you for your excellent answers to the Round 1 instrument. The quality and scope of the material discussed by panel participants met every expectation I had envisioned. The collective perspective of what the grocery industry will resemble in the year 2010 began to take shape from those answers.

As I explained in earlier material, the questions to Round 2 should be much less time consuming. I appreciate everyone's effort initiating the narrative responses in Round 1. That commitment to this project was very rewarding.

Enclosed is the Round 2 instrument. You will see it is a more typical survey format. The statements are based on the answers received from all fifty five (55) participants in Round 1. I have conducted a content analysis of the input from the first set of questions and developed these Round 2 questions from those narrative comments. Those factors that showed a high degree of concensus in Round 1 have been formulated into the statements that you are asked to review in the Round 2 survey.

The specific instructions for the Round 2 responses are explained at the top of the document.

A self-addressed return envelope has been provided in this packet. In order for me to stay on schedule for the completion of the doctoral degree at East Tennessee State University, please try to return the Round 2 material by mid-April.

Thank you for your continued assistance with this dissertation study. I believe the final conclusions from the study will be of interest to people throughout the grocery industry.

______________________________
Terry O'Brien
171 W. Valley St.
Abingdon, VA 24210
INSTRUCTIONS: The statements below require two responses. First, please circle the number on the scale beneath each statement that best represents your opinion of the forecasted event, i.e., the extent to which you agree or disagree with it.

The second part of the response asks for a Probability Factor. Please indicate the per cent of probability that you feel is related to the statement becoming a reality. A high percentage will indicate a strong likelihood of the event happening, while a low percentage would indicate the development is much less likely to occur.

The following example demonstrates the use of the two parts to each answer:

1. Americans will eat healthier foods in the year 2010.

...1.........2...........3...........4.........5...
Strongly Agree     Agree     Strongly Disagree

Probability Factor (%):

1. Super-center combo stores of 100,000 sq ft or more, providing excellent variety and competitive pricing, will emerge as the most successful format in the supermarket industry by the year 2010.

...1.........2...........3...........4.........5...
Strongly Agree     Agree     Strongly Disagree

Probability Factor (%):

2. Super-stores of around 60,000 sq ft with a variety of strong departments, catering to the tastes and needs of demographic groups in the grocery store's market territory, will continue to be strong competitors in the year 2010, since they are more user friendly (shoppable) for the consumer.

...1.........2...........3...........4.........5...
Strongly Agree     Agree     Strongly Disagree

Probability Factor (%):
3. Small unique stores, emphasizing factors such as fresh, prepared, high quality foods, or specialty products, will cater to niche markets in the year 2010, and provide an alternative for shoppers when strategically placed for convenience in neighborhoods.


Probability Factor (%):

4. The Club format will experience little or no growth by the year 2010.


Probability Factor (%):

5. Limited assortment/low price/discount stores, selling primarily grocery items only, will not survive as a major alternative by the year 2010.


Probability Factor (%):

6. Many principles of ECR and JIT will be implemented, especially as larger stores emerge to capitalize on these principles. Some of the common practices by the year 2010 will be:

a) more DSD straight from manufacturer to retailer
b) more full pallet shipments
c) more crossing docking (orders picked at suppliers facility)
d) bigger incentive price breaks for volume
e) less inventory supply on hand at all levels in the system
f) quicker responsiveness to consumer choice


Probability Factor (%):
7. By the year 2010, there will be extensive use of the electronic superhighways, with fully integrated UCS and EDI systems between manufacturers, wholesalers, and retailers. This will permit a paperless exchange of information for automated ordering, production planning, invoice reconciliation, price changes, inventory management, and payment.

...1........2........3........4........5...
Strongly Agree       Agree       Strongly Disagree

Probability Factor (%):

8. Scanning data from front end check-outs, will be more effectively used in the year 2010 to automate re-ordering, shorten order lead time, identify successful merchandising practices, and help determine allocation of shelf space within the store.

...1........2........3........4........5...
Strongly Agree       Agree       Strongly Disagree

Probability factor (%):

9. Computers will be more effectively used by store managers by the year 2010 to help control all store functions, e.g., labor schedules, energy use, productivity, promotional deals, and inventory levels.

...1........2........3........4........5...
Strongly Agree       Agree       Strongly Disagree

Probability Factor (%):

10. Electronic fund transfer (debit cards/ credit cards/ or store card) will be widely used by consumers to pay for their grocery purchases by the year 2010.

...1........2........3........4........5...
Strongly Agree       Agree       Strongly Disagree

Probability Factor (%):
11. Ethnic markets will continue to grow by the year 2010, particularly in the urban areas. This will require store operators to match their product selection to the area cultural taste to successfully compete for this large share of the market.

Probability Factor (%):

12. Since senior citizens will make up a much larger percent of the population in the year 2010, stores will best compete for this market by providing for special needs, such as healthier products, smaller packs and sizes, bigger print on labels and tags, and more customer service.

Probability Factor (%):

13. With an even faster pace of life in America, and with the continued decline of average household size by the year 2010, convenience foods, prepared foods, and in-store restaurants will be important features for successful store operators.

Probability Factor (%):

14. Economic polarization will become more pronounced by the year 2010 which will create the opportunity for low priced, generic, limited assortment stores in the poorer neighborhoods.

Probability Factor (%):
15. Target marketing, using more electronic media for specific demographic groups, will be the major marketing strategy in 2010. Front-end scanning information, frequent shopper card data, and micro-market research conducted by manufacturers will be data bases to support this effort.

...1........2........3.........4........5...
Strongly Agree       Agree       Strongly Disagree

Probability Factor (%):

16. In-store electronic video will be used extensively to influence consumer selection directly at the point of purchase by 2010.

...1........2........3.........4........5...
Strongly Agree       Agree       Strongly Disagree

Probability Factor (%):

17. By 2010, there will be substantially increased use of computer bulletin boards to review products, make selections, and actually conduct shopping from the house or office through direct cable connection.

...1........2........3.........4........5...
Strongly Agree       Agree       Strongly Disagree

Probability Factor (%):

18. There will continue to be more mergers at both the wholesale and retail levels through the year 2010 with the result being less than ten large wholesale and retail companies controlling the majority of their respective markets.

...1........2........3.........4........5...
Strongly Agree       Agree       Strongly Disagree

Probability Factor (%):
19. Home shopping through the use of computers will grow to be an important segment of the retail activity by 2010. As a result, the consumer, especially senior citizens and homebound, will have the option of ordering items from home, and either pick them up or request home delivery.

...1........2........3........4........5...
Strongly Agree Agree Strongly Disagree

Probability Factor (%):

20. Unless they carefully find a niche and market directly to that niche, independent store operators will decline as a market factor by 2010 due to the competitiveness and popularity of the large super-centers.

...1........2........3........4........5...
Strongly Agree Agree Strongly Disagree

Probability Factor (%):

21. By 2010, industry associations and lobbying groups will formulate a more cooperative approach to solving industry problems through the establishment of alliances. This will include such groups as NAWGA, NGA, FMI, GMA, UFFVA, and PMA, who now are often inclined to take adversarial positions.

...1........2........3........4........5...
Strongly Agree Agree Strongly Disagree

Probability Factor (%):

22. The government will significantly increase its regulatory control over food safety, OSHA requirements, EEOC issues, and environmental regulations by the year 2010.

...1........2........3........4........5...
Strongly Agree Agree Strongly Disagree

Probability Factor (%):
23. There will be a smaller pool of workers by 2010 which will increase the importance of training, up-grading the quality of jobs to reduce turnover, and developing more automation where feasible to compensate for the shrinking pool.

...1........2........3........4........5...
Strongly Agree   Agree   Strongly Disagree

Probability Factor (%):

24. Immigrants will possibly help re-supply the work force at the unskilled entry level as we approach the year 2010.

...1........2........3........4........5...
Strongly Agree   Agree   Strongly Disagree

Probability Factor (%):

25. Organized labor will definitely decline by 2010 and be of little significance in the grocery industry.

...1........2........3........4........5...
Strongly Agree   Agree   Strongly Disagree

Probability Factor (%):

26. With the anticipated improvements in technology, automation, and electronic super-highways, productivity gains in the grocery industry will be exceptional by the year 2010.

...1........2........3........4........5...
Strongly Agree   Agree   Strongly Disagree

Probability Factor (%):

27. The organizational structure of the successful grocery company will be much flatter by 2010, with decision making pushed down to lower levels and a greater emphasis on cross-functional work teams to quickly react to consumer trends.

...1........2........3........4........5...
Strongly Agree   Agree   Strongly Disagree

Probability (%):
28. The most effective corporate philosophy will be flexible and consumer driven, using technology to keep information current and empowering employees at all levels of the organization to react quickly to changing circumstances.

...1........2........3..........4..........5...
Strongly Agree Agree Strongly Disagree

Probability Factor (%):

29. Companies will be forced to assume a more active role in training and education in 2010, due to lack of confidence in the public schools and the need to prepare employees to use more sophisticated technology and systems.

...1........2........3..........4..........5...
Strongly Agree Agree Strongly Disagree

Probability Factor (%):

30. Because of flattened organizations, there will be fewer upper and mid-management career opportunities by 2010.

...1........2........3..........4..........5...
Strongly Agree Agree Strongly Disagree

Probability Factor (%):

31. Since there will always be a need to feed our growing population, for those people who are 1) flexible, 2) team oriented, 3) committed to getting results, and 4) willing to learn to use new technology, there will be excellent job opportunities in the grocery industry in 2010.

...1........2........3..........4..........5...
Strongly Agree Agree Strongly Disagree

Probability Factor (%):
32. As a result of expanding global markets, American grocery companies will have excellent new opportunities in the next 20 years, either through direct market entry or joint ventures in foreign countries.

...1........2..........3..........4..........5...
Strongly Agree    Agree    Strongly Disagree

Probability Factor (%):

33. With the growth of global competition, foreign investment and imported products will have an even larger impact on the U.S. grocery industry by 2010.

...1........2..........3..........4..........5...
Strongly Agree    Agree    Strongly Disagree

Probability Factor (%):

34. Global competition will have a minimal affect on the retail grocery activity in the U.S. in the year 2010.

...1........2.........3........4........5...
Strongly Agree    Agree    Strongly Disagree

Probability Factor (%):

35. There will be mandated legislation to reduce solid waste through source reduction (packaging) and recycling in the next 20 years.

...1........2........3..........4..........5...
Strongly Agree    Agree    Strongly Disagree

Probability Factor (%):

36. Improved processing techniques, packaging methods, and food handling systems will increase shelf life and subsequently the market share of fresh items (produce, meat, fish, and dairy products).

...1........2........3..........4..........5...
Strongly Agree    Agree    Strongly Disagree

Probability Factor (%):
37. There will be more government regulation on environmental issues such as fluorocarbons, biodegradable cleaners, recycling, fuel emissions, food safety and nutritional labeling by 2010.

...1..........2...........3.............4............5...
Strongly Agree   Agree   Strongly Disagree

Probability Factor (%):

38. Since consumers will be better informed, companies with progressive marketing plans will be able to gain a competitive edge by being socially responsible to environmental issues and promoting that commitment to the consumer.

...1...........2...........3.............4............5...
Strongly Agree   Agree   Strongly Disagree

Probability Factor (%):
APPENDIX C

ROUND 2 QUESTIONNAIRE STATISTICAL RESULTS
### Means and Standard Deviation Scores of Likert Scale, and Probability Mean of Round 2 Survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Agreement</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Super-center combo stores, 100,000 sq ft or more, providing excellent variety and competitive pricing, will emerge as the most successful format in the supermarket industry by 2010.</td>
<td>2.98</td>
<td>.789</td>
</tr>
<tr>
<td>2. Super-stores of around 60,000 sq ft with a variety of departments, catering to the tastes and needs of demographic groups in the store’s market territory, will continue to be strong competitors in 2010, since they are more user friendly (shoppable) for the consumer.</td>
<td>1.96</td>
<td>.846</td>
</tr>
<tr>
<td>3. Small unique stores, emphasizing factors such as fresh, prepared, high quality foods, or specialty products, will cater to niche markets in 2010, and provide alternatives for shoppers when strategically placed for convenience in neighborhoods.</td>
<td>2.20</td>
<td>.789</td>
</tr>
<tr>
<td>4. The Club format will experience little or no growth by the year 2010.</td>
<td>2.57</td>
<td>1.08</td>
</tr>
<tr>
<td>5. Limited assortment/low priced/discount stores, selling primarily grocery items only, will not survive as a major alternative by 2010.</td>
<td>2.96</td>
<td>1.26</td>
</tr>
</tbody>
</table>
6. Many principles of ECR and JIT will be implemented, especially as larger stores emerge to capitalize on these principles by 2010.

7. By 2010, there will be extensive use of electronic superhighways, with fully integrated UCS and EDI systems between manufacturers, wholesalers, and retailers. This will permit a paperless exchange of information for ordering, production planning, invoice reconciliation, price changes, inventory management, and payment.

8. Scanning data from front end check-outs will be more effectively used in 2010 to automate reordering, shorten order lead time, identify successful merchandising practices, and help determine allocation of shelf space within the store.

9. Computers will be more effectively used by store managers by 2010 to control all store functions, e.g., labor schedules, energy use, productivity, promotional deals, and inventory levels.

10. Electronic fund transfer (debit cards/credit cards/or store card) will be widely used by consumers to pay for grocery purchases by 2010.
11. Ethnic markets will continue to grow by 2010, particularly in urban areas. This will require stores to match their product selection to the area cultural taste to successfully compete for this large market share.

12. Since senior citizens will make up a larger percent of the population in 2010, stores will best compete for this market by providing for special needs, such as healthier products, smaller packs and sizes, bigger print on labels and tags, and more customer service.

13. With an even faster pace of life in America, and with the continued decline of average household size by 2010, convenience foods, prepared foods, and in-store restaurants will be important features of successful stores.

14. Economic polarization will become more pronounced by 2010 which will create the opportunity for low priced, generic, limited assortment stores in the poorer neighborhoods.

15. Target marketing, using electronic media for specific demographic groups, will be the major marketing strategy in 2010. Front-end scanning information, frequent shopper cards, and micro-market research conducted by manufacturers will be data bases to support this effort.
16. In-store electronic video will be used extensively to influence consumer selection directly at point of purchase by 2010.

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<tr>
<td>3.13</td>
<td>.991</td>
<td>.53</td>
</tr>
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</table>

17. By 2010, there will be substantially increased use of computer bulletin boards to review products, make selections, and actually conduct shopping from the house or office through direct cable connection.

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<tr>
<td>2.41</td>
<td>.962</td>
<td>.63</td>
</tr>
</tbody>
</table>

18. There will continue to be more mergers at both the wholesale and retail levels through the year 2010 with the result being less than ten large wholesale and retail companies controlling the majority of their respective markets.

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<tbody>
<tr>
<td>2.70</td>
<td>1.08</td>
<td>.63</td>
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19. Home shopping through the use of computers will grow to be an important segment of the retail activity by 2010. As a result, the consumer, especially senior citizens and homebound, will have the option of ordering items from home, and either pick them up or request home delivery.

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<tbody>
<tr>
<td>2.24</td>
<td>.889</td>
<td>.69</td>
</tr>
</tbody>
</table>

20. Unless they carefully find a niche, and market directly to that niche, independent store operators will decline as a market factor by 2010 due to the competitiveness and popularity of the large super-centers.

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<tr>
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<tbody>
<tr>
<td>2.33</td>
<td>.869</td>
<td>.72</td>
</tr>
</tbody>
</table>
21. By 2010, industry associations and lobbying groups will formulate a more cooperative approach to solving industry problems through the establishment of alliances. This will include such groups as MAWGA, NGA, GMA, UFFVA, and PMA, who now are often inclined to take adversarial positions.

22. The government will significantly increase its regulatory control over food safety, OSHA requirements, EEOC issues, and environmental regulations by 2010.

23. There will be a smaller pool of workers by 2010 which will increase the importance of training, up-grading the quality of jobs to reduce turnover, and developing more automation where feasible to compensate for the shrinking pool.

24. Immigrants will possibly help resupply the work force at the unskilled entry level as we approach the year 2010.

25. Organized labor will definitely decline by 2010 and be of little significance in the grocery industry.

26. With the anticipated improvements in technology, automation, and electronic super-highways, productivity gains in the grocery industry will be exceptional by 2010.
27. The organizational structure of the successful grocery company will be much flatter by 2010, with decision making pushed down to lower levels and a greater emphasis on cross-functional work teams to quickly react to consumer trends.

28. The most effective corporate philosophy will be flexible and consumer driven, using technology to keep information current and empowering employees at all levels of the organization to react quickly to changing circumstances.

29. Companies will be forced to assume a more active role in training and education in 2010, due to lack of confidence in the public schools and the need to prepare employees to use more sophisticated technology and systems.

30. Because of flattened organizations, there will be fewer upper and mid-management career opportunities by 2010.

31. Since there will always be a need to feed our growing population, for those people who are 1) flexible, 2) team oriented, 3) committed to getting results, and 4) willing to learn to use new technology, there will be excellent job opportunities in the grocery in 2010.
<table>
<thead>
<tr>
<th>32. As a result of expanding global markets, American grocery companies will have excellent new opportunities in the next 20 years, either through direct market entry or joint ventures in foreign countries.</th>
<th>2.63</th>
<th>.958</th>
<th>.63</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. With growth of global competition foreign investment and imported products will have an even larger impact on the U.S. grocery industry by 2010.</td>
<td>2.38</td>
<td>.925</td>
<td>.66</td>
</tr>
<tr>
<td>34. Global competition will have a minimal effect on the retail grocery activity in 2010.</td>
<td>3.33</td>
<td>1.12</td>
<td>.49</td>
</tr>
<tr>
<td>35. There will be mandated legislation to reduce solid waste through source reduction (packaging) and recycling in the next 20 years.</td>
<td>1.85</td>
<td>.870</td>
<td>.78</td>
</tr>
<tr>
<td>36. Improved processing techniques, packaging methods, and food handling systems will increase shelf life and subsequently the market share of fresh items (produce, meat, fish, and dairy products).</td>
<td>1.82</td>
<td>.696</td>
<td>.79</td>
</tr>
<tr>
<td>37. There will be more government regulations on environmental issues such as fluorocarbons, biodegradable cleaners, recycling, fuel emissions, food safety and nutritional labeling by 2010.</td>
<td>1.69</td>
<td>.717</td>
<td>.81</td>
</tr>
</tbody>
</table>
38. Since consumers will be better informed, companies with progressive marketing plans will be able to gain a competitive edge by being socially responsible to environmental issues and promoting that commitment to the consumer.
APPENDIX D

THE DELPHI COMMITTEE
Manufacturers and Suppliers

Mr. James Mayo  
V.P. Sales, Western Region  
Frito Lay  
Paramount, CA

Mr. Mark Sauer  
V.P. Marketing  
C.F. Sauer Co.  
Richmond, VA

Mr. John Mayer  
National Sales Mgr.  
J. M. Smucker Co.  
Orville, OH

Mr. David Skarie  
V.P. Sales for Foods Group  
Ralston Purina Co.  
St. Louis, MO

Mr. Ralph Martin  
Dir. of Private Label Sales  
Nabisco Foods Group  
Atlanta, GA

Mr. Gynn Eller  
President  
Atlas Marketing  
Charlotte, NC

Mr. Norton Schonfeld  
National Sales Mgr.  
Kraft General Foods  
White Plains, NY

Mr. Max Hill  
President & Owner  
Hill Sales Brokerage  
Chattanooga, TN

Mr. Gene Laird  
Vice Pres. Sales  
Real Value Products  
Fort Worth, TX

Mr. Dennis Oleck  
Senior Mgr.  
Nabisco Foods  
Parsippany, NJ

Wholesaling

Mr. Richard Carlson  
General Manager  
Specialty Foods/PYA  
Jackson, MS

Mr. James Bolonda  
President, CEO  
Red Foods, Inc.  
Chattanooga, TN

Mr. Gary Conrad  
V.P. Distribution  
Richfood, Inc.  
Richmond, VA

John Goneau  
V.P. Warehouse and Trans.  
Smart & Final  
Los Angeles, CA

Lee Johnson  
Dir.-Retail Operation  
SuperValu Stores  
Pleasant Prairie, WI

Frank Czapor  
Dir.-Special Projects  
Twin County Grocery  
Edison, NJ

Mr. Bob Franklin  
Pres. & Partner  
Gateway Cold Storage  
Edina, MN

Steve Turnwald  
Vice President  
Nat’l Service Supply  
New Haven, IN
Retailers

Mr. Brian Pijanowski  
V.P. Grocery Operations  
Shaw's Markets  
East Bridgewater, MA

Mr. James Almsted  
Pres. & Owner  
Almsted's New Market  
St. Louis Park, MN

Mr. Lee Hirsch  
Senior V.P.  
Walmart-McLane  
Tacoma, WA

Mr. Steve Beaver  
Dir. of Operations  
Save Mart Supermarkets  
Modesto, CA

Mr. Lou Scudere  
V.P. Research & Site  
K-VA-T Foods, Inc.  
Grundy, VA

Mr. Richard Parent  
Operations Manager  
The Kroger Company  
Livonia, MI

Mr. Mark Heckman  
Dir. Market Research  
Marsh Supermarkets  
Indianapolis, IN

Mr. Greg Young  
Dir. of Grocery  
P & C Food Markets  
Syracuse, NY

Fresh Meat, Fruit and Vegetables

Mr. Ed Tucker  
Eastern Merchandiser  
California Summer Fruit Comm.  
Mechanicsville, VA

Mr. Rich Hutchins  
Corp. Dir. for Produce Procurement  
Fleming Cos.  
Oklahoma City, OK

Mr. Dick Pandolfo  
V.P. Sales & Marketing  
National Fish & Seafood  
Malden, MA

Mr. Keith Janhke  
Reg. V.P. Sales & Marketing  
Thorn Apple Valley  
Smithfield, MI

Mr. Gary Picket  
Corp. Produce Buyer  
Wal-Mart, Inc.  
Bentonville, AR

Mr. Al Diamond  
Dir. of Produce  
Mid-Mountain Foods  
Abingdon, VA

Mr. Gus Arrendale  
Dir. of Marketing  
Fieldale Farms  
Baldwin, GA

Mr. Gary Sisney  
V.P. Marketing  
Beef America, Inc.  
Omaha, NE
Labor Relations

Mr. Paul Sommerville, J.D.
Consultant
Sesco Management, Inc.
Beaufort, SC

Mr. Mason Dirickson
Dir. of Human Resources
Proctor Silex
Midlothian, VA

Mr. Brooks Eden
Managing Partner
Eden & Associates
Paoli, PA

Mr. Mason Dirickson
Dir. of Human Resources
Proctor Silex
Midlothian, VA

Mr. Tom Flaherty
Labor Attorney
Hutton and Williams
Fairfax, VA

Academe

Dr. Ed McLaughlin
Assoc. Prof.
Cornell University
Ithaca, NY

Ms. Martin Meloche
Assoc. Prof.
W. Michigan Univ.
Kalamazoo, MI

Mr. Richard Kochersberger
Asst. Prof.
St. Joseph's University
Philadelphia, PA

Food Industry Associations and Consultants

Mr. Tom Stenzel,
President of Board
United Fresh Fruit & Veg. Assoc.
Alexandria, VA

Mr. Bruce Gethin
Market Development
Food Plant Engineers
Yakima, WA

Mr. James Meece
President & Partner
OMI International, Inc.
Schaumburg, IL

Nutritionists, Consumer Advocates and Environment

Mr. Donn McCafferty
Health Educator (Ret.)
Vermont Dept. of Education
Lake Worth, FL

Mr. Mark Sementelli
Recycling Mgr.
Mobile Chemical Co.
Covington, GA

Mrs. Margaret McEwan, MS, RD
V.P. Consumer Information
Shaw's Supermarkets
East Bridgewater, MA

Mr. Mark Dowden
Pres. & C.E.O
Carolina Reclamation
Winston-Salem, NC

Mr. Louis Rothchild
Editor
Food Chemical News
Washington, DC
<table>
<thead>
<tr>
<th><strong>Agribusiness</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Michael Pereira</td>
</tr>
<tr>
<td>V.P. Marketing</td>
</tr>
<tr>
<td>Delmonte Fresh Division</td>
</tr>
<tr>
<td>Coral Gables, FL</td>
</tr>
<tr>
<td><strong>Dr. Tom Pierson</strong></td>
</tr>
<tr>
<td>Prof. of Food Marketing</td>
</tr>
<tr>
<td>Michigan State University</td>
</tr>
<tr>
<td>East Lansing, MI</td>
</tr>
<tr>
<td><strong>Ms. Nancy Sands</strong></td>
</tr>
<tr>
<td>Commodities Manager</td>
</tr>
<tr>
<td>Topco Associates</td>
</tr>
<tr>
<td>Skokie, IL</td>
</tr>
</tbody>
</table>
VITA

TERENCE F. O'BRIEN

Education:
- Loyola of Montreal, Montreal, Canada; History, B.A., 1969.

Professional Experience: