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Structural Change or Logical Incrementalism? Turbulence in the Global Meat System

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Background

In the last ten years the global meat industry has encountered numerous critical events related to food safety and food quality. These events in turn have caused the industry to re-evaluate how the meat supply chain functions and how to service the new social attributes demanded in the market place. Issues like source-verified, non-GMO, and organic are becoming important sources of product differentiation. How should firms in the meat supply chain respond?

Several studies (Fearne, 1998; Viaene and Verbeke, 1998; Lobstein 2001; and Yeung and Morris, 2001) have described and assessed the drastic changes in the Western European meat industry due to food scares and consumer distrust in the regulatory system. The motivation for these studies relies on the catastrophic consequences of food safety scandals that directly affected this region. Events such as the Bovine Spongiform Encephalopathy (BSE) outbreak and its link to human neurological Creutzfeldt-Jacob disease (VCJD), the re-appearance of the Foot and Mouth Disease (FMD) after decades of free status, and concurrent biological and chemical contamination in food products, have shaken the entire European meat industry. As a result, the survival of this industry has been forced to evolve to high levels of coordination in the chain relationships and to a complex delivery of new social attributes (Gow and Goldsmith, 2002).

On the other hand, countries like the US, which have not faced in vivo such chaotic events, have implemented preventive measures and new regulations at the margin. Some experts (Schuff, 2001; Ginsburg 2001) believe that the current regulatory system is vulnerable requiring further action. Lobstein (2001) suggests that the meat industry should not simply take reactive and preventive measure but should be ready for unexpected food safety problems. Dailey (2001) also believes that to assure a trustworthy

meat system, new and solid alliances between governmental agencies and the meat industry are needed. According to Martin (2001) about 6 out of 10 Americans are concerned that Europe's BSE problem could affect the US; moreover, according to a survey from the Food Marketing Institute cited by the same author, the consumer faith in the US food supply has eroded from a confidence level of 84 % in 1996 to a level 10 points lower in 2000.

For the global meat industry the assurance of safe products and the supply of new social attributes could be a daunting task. According to Sporleder and Goldsmith (2001), events such as BSE, FMD, genetically engineered products, and animal welfare signal rising expectations for firms in the food and agricultural supply to deliver social attributes. According to these authors there are numerous mechanisms by which trust and food safety can be assured, the more traditional strategies involve governmental approaches while the more promising, given the new environment, involve firm-level and third party strategies, such as third party protocols, branding, indemnification, and vertical alliances and integration[i]. While it is clear how the European industry is responding, how should the US meat industry react?

Underlying Theory

There are two general theories of organizational adaptive change. From the complexity theory literature (Leifer, 1989; Stacey, 1995; Macintosh and Maclean, 1999) the concepts of entropy and far-from equilibrium portend the potential for organizations radically reconfiguring themselves as their niche compatibility becomes untenable. Operating far from equilibrium necessitates new strategic architecture which are not found through mild experimentation. An important component to the complexity view of

organizational transformation is the role of a major critical and external event that initiates this process of change. In relation to this study, food scares and the demand of new social attributes could be a external force that might or might not cause the industry to start a major process of fundamental change; like that which we see in Europe.

On the other hand, rugged landscape theory (Levinthal, 1997; McKelvey, 1999) and strategic management theory portend a more incremental (and limited) process (Quinn, 1980, Fredrickson and Iaquinto, 1989; Quinn et al, 1990; Mintzberg, 1994; Brown and Eisenhardt, 1997). Modern theories of strategy posit that radical moves are inconsistent with the fundamentals of the strategy process; a process described as logical incrementalism (Quinn et al, 1990). Because organizations are complex and strategy emerges from within the organization and not simply senior management (Mintzberg, 1994), long jump strategic changes envisioned in the complexity theory literature are unrealistic.

Similarly, rugged landscape theory states that firms move along peaks that represent multiple optima offering alternative organizational forms and business models (McKelvey, 1999). The ruggedness of the environment is a function of the number of attributes necessary for survival (industry complexity) and the degree of industry interconnectedness (Levinthal, 1997). Two stylized systems can exist: one heterogeneous with many peaks (organizational forms) and low maxima, and another with a singular dominant organizational form and a unique maximum. In their search for greater fitness firms gravitate toward peaks (successful models); an adaptation process. At the same time population forces are selecting organizational forms; a selection process. Firms can

therefore always be attempting to improve their fitness while at the same time the local peak they are climbing may be far from the global optimum, and the firm is doomed.

Research Objective and Methodology

These competing theories frame our research objective. We wanted to study how the meat industry is responding to the recent events involving food safety. We have two central questions regarding the industry's response; the rate of change, i.e., radical or incremental, and more importantly the rationale for this strategy choice.

In our quest to empirically answer these questions we faced a methodological dilemma. What data are available to study? How might one provide evidence about the strategic intent of our study industry, especially as it appears paradoxical in light of recent events? While this is partly a predicament of agribusiness research and the paucity of secondary data (Goldsmith and Dissart, 1998; Boehlje, 1999) it is also a predicament of strategy research. The grounded research approach[2] has proven quite successful when attempting to understand strategic intent in the present or when the subject is extremely dynamic[3]. A simple review of the recent literature pertaining to the meat industry reveals very little information about industry behavior at the firm or transaction level[4]. While numerous researchers admit that the food and agricultural industry is undergoing structural change, there has been no work, with the exception of Boland et al (1995) and Katz and Boland (2000) studying the implications of this structural change at the firm level. This has become even more evident with the recent crises related to food safety where the work is dominated by analysis from a policy and government perspective (see

[2] One good example is Brown and Eisenhardt (1997).
[3] Dynamics is particularly pernicious because even given a large N, stationarity problems dominate the problem.
[4] e.g. Macdonald et al, 1996; Buhr and Kim, 1997, Zaibet and Bredahl, 1997, Unnevehr et al 1997, Anderson ,1999; Drabenstott et al, 1999; Ollinger et al, 2000; Morrison and Katherine, 2001; Wachenheim and DeVuyst, 2001

Spriggs and Isaac, 2001). We argue there is a need for complementary firm-level research as consumers, policy makers, and the industry wrestle with how best to deliver safe food. We attempt to fill some of the gap of knowledge.

To accomplish this we have employed a simple yet unique approach to help yield some empirical evidence. It involves three empirical methodologies all focused on the same meat supply chain (Chicago, Illinois); 1) semi-structured interviews with supply chain managers; 2) videotaping retail meat cases to document exactly what is being sold, and 3) consumer interviews eliciting preferences (conducted by another research team, Swanson (2001)).[5]

The research process began with a review of the work conducted by Swanson (2001). Their survey tried to elicit how consumers think about their meat purchases. We followed up Swanson's work by visiting some of the same stores involved in the survey as well as interviewing mangers in their supply chains. While Swanson asked consumers what they wanted in the fresh meat case, we wanted to see what consumers were actually offered. With permission of management we were then able to videotape the meat case. We also interviewed managers from the store back to the packer to understand how meat is bought and sold in the modern US meat supply chain. By triangulating the survey, videotape, and interviews a clear picture could be drawn of how the supply chain was responding in a world of turbulence and why it was responding in that way.

The Swanson Study

The purpose of their survey was to better understand consumer's stated preferences for social attributes and their willingness to pay for those attributes.

[5] In terms of timing, the semi-structured interviews were conducted first in the winter and early spring of 2001. Swanson then conducted his survey in the late spring and summer (2001). Videotaping followed later in the summer of 2001.

Swanson conducted a consumer survey in the spring of 2001. This survey included 934 respondents from six supermarkets in the Chicago metropolitan area. The six supermarkets included two independent stores, two specialty meat stores, one cooperative supermarket and one natural grocery store. Income levels greater than $100,000 per year represented 20 percent of the customers in one of neighborhood, 50 percent in three other neighborhoods, and almost 75 percent in the last neighborhood. The majority of the respondents were women (at least 70 % across all the supermarkets) with ages mostly between 40 and 60 years old. 49% of the respondents were professionals, 18% housewives, and 17% retired. The surveys were handed out in the stores, filled out at home, and then mailed in with the postage paid envelope that was provided.

This likert-scale questionnaire listed 18 characteristics that influence meat-purchasing decisions among consumers. The characteristics can be grouped as followed:

1) *Attitude towards price*
2) *Quality perception like visible traits, quality grades, branded meats and taste.*
3) *Health concerns related to the absence of antibiotics, preservatives and hormones, the use of non-GMO feed, and organically produced meat.*
4) *Environmental and humane handling concerns.*
5) *Interest in convenience products such as pre-prepared and pre-packaged meats*
6) *Other issues related to the importance of package, locally produced meat, irradiation and slaughter practice (kosher and halal)*

Concisely summarizing their results, price was only moderately important comparable to health concerns such as no preservatives, antibiotics or hormones (Figure 1). Most important was product presentation, quality grades, and taste. Organic, environmentally friendly, and humanly-raised were relatively less important. While not completely mirroring, European consumer response (see Salvador, 2002; Gow and Goldsmith, 2002) these results do reflect some consistency with European consumer's attempts to reform the meat safety system and Martin's (2001) recent article in *Nation's Restaurant News.*

If these results are robust, one would conclude that consumers appear to prefer natural products and higher quality cuts, and they are willing to pay for it.

Semi-structured Interview and Direct Observation

Using a semi-structured interview instrument (Yin, 1994; Gummesson, 2000) and direct observation (Kumar, 1989), our research methodology analyzed three of the Swanson stores and their supply chains (plus three other stores for validation purposes). Four overarching questions were behind our approach; how does the US meat distribution system operate, how well is the chain operating, how is the chain responding to the turbulence in the global supply chain, and finally what is the degree of dissonance with respect to critical product attributes across the supply chain from consumers to packers.

The semi-structured interview instrument was structured in the form of a needs assessment (Johnson et al, 1987; Soriano, 1995). Needs assessment is a technique in business relationship management for suppliers to learn how their client's business operates. It specifically focuses on the day-to-day operations that the manager (interviewee) deals with. It elicits from that manager how business is done, where problems and challenges exist, and what would make the business run more smoothly. By conducting a needs assessment the supplier elicits from the client how their own product and service contributes to the client's success and where new sales and service opportunities might lie.

The needs assessment approach was particularly valuable for us when attempting to understand the impact of the recent market turbulence related to social attributes. While there has been much media attention to these issues, respondents may be biased in their responses when directly asked how the turbulence affects their business. Instead

with the needs assessment approach, the manager reveals how the business is performing, the satisfaction of their clients, and where they would like to see changes in the meat/animal products they are buying and re-selling. All business factors are "fair game" as the discussion is not preset to be about the social attribute issue. If a need arises on its own concerning, for example, source verification, one could then link environmental turbulence and an industry response.[ii] All interviews were taped and transcribed.

The needs assessments were compared within and across supply chains and with consumers as expressed in the Swanson study. All interviews were conducted with either, owners or senior or mid-level management. Sixteen managers were interviewed (Figure 2). Three were in meatpacking; two represented a national firm (P1) and one was a small independent (P2). Three wholesalers were interviewed; one represented a large national cooperative (W1), one a large regional cooperative (W2), and one was the buyer for a large regional retail chain (RC). Ten retail managers were interviewed, two managed a local mid-sized cooperative chain (CO), six owned or managed three independent retail stores (I1, I2, I3), one owned small speciality retail meat market (SM), and one was a case manager in a large regional retail chain (RC).

The interview instrument contained 170 open-ended questions. Not all questions were asked to all supply chain members because interviewees were heterogeneous representing the breadth of the supply chain and did not hold the same positions in management. Interviews were held on-site and lasted on average two hours. All but two interviews were tape recorded and transcribed. To analyze the transcripts we used a software program called QSR-N5 NUD*IST (Non-numerical Unstructured Data Indexing Searching and Theorizing).

Direct Observation

The in-site observations included four retail stores in the Chicago metropolitan area: two independent family owned supermarkets (I1 and I2), one cooperative community owned supermarket (CO), and one supermarket that was part of a large food-drug retail chain (RC). I1 and I2 were considered "high-end" supermarkets since their locations in wealthy neighborhoods (a western suburb and a northeastern district respectively). CO was associated with a more diverse and urban clientele; this store was located in a southern neighborhood. Finally RC was considered a super-store with a more aggressive marketing strategy and it was located in the same community as I2.

Besides their willingness to participate in the study, three factors were considered in the selection of the stores: 1) the aim of having the most heterogeneous group as possible, in term of type and size of the stores, consumer orientation, and demographic context; 2) the necessity of including high-end supermarkets where supposedly social attributes are more likely to be offered or addressed; and final, the participation of the stores in the in-depth interviews and the consumer survey[6]. There was very good overlap between in-depth interviews, meat case analysis, and the Swanson study.

The subject meat cases were systematically digitally videotaping making sure to capture individual products, their labelling, and packaging. Due to the focus of the study, only fresh meats were considered – processed, canned and frozen meats were not included. The meat categories were broken down as follows: Regular – fresh meat cuts traditionally offered in all meat departments; Enhanced – those products in which additional value was added to the regular product (i.e. stuffed chicken breasts as opposed

[6] It is important to mention that these four selected stores had each two managers interviewed, and a random group of their consumers (except for the case of RC) accounted 88 % of the respondents in the Swanson survey.

to regular chicken breasts); Low volume – those items which are not high in demand (i.e. lamb fries, pigs feet.) Within each category, the meat data was sorted into species type: beef, veal, pork, lamb, chicken, turkey and specialty. Specialty meats are those products such as rabbit, duck and Cornish hens. Observations were conducted at the end of the week (Thursday and Friday) when meat cases are generally at their fullest.

An important caveat with this kind of research is the robustness of the results. We recognized the limitations of such qualitative research and attempted to address, ex-ante, as many of the validation questions (see Goldsmith et al, 2001) as possible. Extensiveness (Yin, 1994) was addressed through cross-sectional data collection across supply chains as well as within supply chains. Triangulation was achieved through the semi-structured instrument that asked each chain member (whenever possible) similar questions framed in a similar way. By means of the meat case analysis through direcvt observation empirical evidence was also bolstered by factually verifying what managers claimed was consistent with what was in the meat case.

Results

Context

As mentioned above we focused on four retail stores which were subsets of the Swanson study and our supply chain interviews (Table 1). There were 530 fresh meat SKUs [7] across the four videotaped stores; 30% in the chain retailer, 32% in the co-op, and 22% and 16% in the two independent retailers (Figure 3). The chain retail store had 2.5 meat SKUS/1,000 sq.ft., the co-op 3.3, and the two independents 5.5 and 1.8 respectively. Thus the two independents differed in their retail focus with respect to meat. Of the six

[7] Individual products known as "Stock Keeping Units."

major species, beef comprised 39% of the SKUs, pork 21 %, poultry 30%, lamb 5% and veal 4% (Figure 4).

Over 90% of the SKUs originated from the major packers[8]. Of the 530 SKUs 27% were branded (Figure 5). The leading branded species was poultry (51%) followed by pork (29%). While 65% of the branded products originated from the large packers, there were 11 other brands[iii]. Contrary to what might have been expected from the Swanson survey, only 11% of the facings were natural,[iv] most of these originating from the large packers. Poultry was by far the leader among natural products (85%) (Figure 6).

Recent Food Scares

None of the interviewees were concerned about the recent food safety incidents. For example at the time of the interviews there had been a "BSE scare" in Texas which made not only the industry news but also the national news (Schuff, 2001). None of the interviewees raised the issue on their own when our needs assessment approach raised questions about performance of the supply chain. When prompted at the end of the interview, most had not heard of the incident and those that had, were unconcerned. At the end of one interview with a major national meat cooperative wholesaler, we asked how familiar he was with what was going on in Europe (meat scares and depressed meat consumption.) We asked whether any of his membership had asked about traceability or BSE, he replied, "not really." Pressing we asked if there had been any e-mail traffic from his member retailers. To this he said, "some." When asked what were member retailers asking, he stated simply, "if our meat was safe and I told them it was." We asked,

[8] Tyson, Perdue, IBP (now part of Tyson), Excel, Farmland, Smithfield, Gold Kist, ConAgra (Butterball), and Hormel.

"would an overnight fall in demand of 10, 20… even 70% be of concern to the membership." He replied, "did that happen in Europe?" We asked whether engaging in a planning exercise focused on the area of risk assessment and management might be of use to the membership, he thought that might be a good idea, but it was probably "…ahead of its time...."

In general, meat agents perceive that major events like BSE and FMD are external issues that have not really affected the domestic industry. However, most of the retailers and wholesalers recognized that BSE and FMD are part of their daily business conversations. Four of the five retailers -the specialty store, the two independent stores and the retail chain- admitted that a small proportion of their customers have inquired at least general questions about BSE and FMD. They perceived that the media has done a good job educating the public, particularly in the case of BSE. Only one retail chain manager noticed a decrease of meat sales when these two events were at their height. According to the managers of the retail chain and the independent store one, FMD caused more alarm in consumers than BSE, even though it is well known that FMD does not directly affect humans. The managers felt that consumer alarm around FMD was more based on the fear about meat availability and the possibility of higher prices.

One of the wholesalers noticed that meat recalls have become more common, but according to him, this increase in meat recalls is mainly related to better control procedures. Moreover, according to the store manager of I1, the number of meat recalls is insignificant compared with the tonnage moved by meat packers. The director of the Meat Division in W1 mentioned that meat recalls usually have a slight and temporary effect on the sales of the recalled cut.

Meat packers believe that one of the major changes in food sanitation in the last ten years is the implementation of Hazard Analysis and Control of Critical Points (HACCP). In general interviewees perceived that HACCP improved the handling of meat products particularly at the processor level. However, some interviewees –Carcass Sales Manager of M1 and Meat Department Manager of RC- suggested that this procedure should be extended to other players in the chain like producers and retailers. According to the safety manager of the major meatpacking plant, clean handling and food safety programs remain top priorities in their daily activities.

In general, meat agents are satisfied and confident with USDA and FDA regulations. Overall the managers all assumed that the current regulatory system guaranteed a wholesome product. One of the wholesalers also mentioned that in the meat supply chain nobody is really demanding greater control, different practices, or greater assurance in the commercialization of meat products.

Traceability

According to the meatpackers interviewed, traceability or source of verification in the meat industry is not currently necessary because cattle is "closely guarded and regulated." Furthermore, they felt, the implementation of such a system would require major transformations that the meat industry is not prepared for. The foremost efforts in traceability and source of verification are found in certain branded meat programs. For example, according to the small meat packer, Certified Angus Beef (CAB) is working on a system to track animals from birth in order to assure their black lineage. Currently, full traceability is not part of the CAB program. None of the meatpackers were aware of or interested in the high-level traceability systems that are been implemented in Europe.

Wholesalers and retailers also believe that currently there are not reasons to justify traceability or source of verification in "domestic" meat products. According to the meat specialty store manager and one of the independent store managers, consumers are really just worried about whether the product is domestic[9]. There was a uniformly high degree of trust of the US meat supply chain by the interviewees. (The most common complaint was about access to product and price.)

Table 2. Reasons that explain the absence of traceability or source of verification

	Interviewees
It is not necessary now, regulatory system works pretty well	5
Consumers are not interested in traceability of domestic meat.	5
Traceability systems are unfeasible and difficult to implement.	2

While the survey did not address the question of traceability, the meat case analysis revealed no evidence of source verification or traceable products. It is important to note that while the discussion of traceability is proceeding at a rapid pace in Europe, i.e. Britain's animal passport system, traceability is not in evidence in this study's meat cases, even in the 27% of the products that are branded and 11% that are "natural."

There are two ways to interpret these results; the first is that the meat industry is ignoring the larger forces affecting the world's meat supply chain. Alternatively these results could indicate a lack of change because the value proposition of changing the strategic architecture (see Prahalad and Hamel, 1990) does not exist for firms in the supply chain. Integrated firms argue they achieve a form of traceability because the

[9] We verified that this meant consumers preferred the domestic private label non traceable lamb product to an imported fully traceable branded lamb product originating from a high quality EU-style plant.

animals originate from their own barns. Also, for all meat packing plants there is full traceability back to the plant[10].

Quality

An important indicator of the evolutionary state of an industry is to assess the everday language that is being used by management (and labor) and with customers. As noted above "source verification" and "traceability" was not to be found in the meat case nor was it raised as a need by the managers. While much of the food industry may be differentiating, the US meat industry still is dominated by the broad and static grades and standards of the USDA. 39% (209) of all meat SKUs were beef. Of these, 10.5% were branded, incorporating company information and 51% had some sort of government grade (Prime, Choice, or Select.) the remainder had no information pertaining to quality. Of the SKU's with government grades, 5% were Prime, 68%, Choice, and 27% Select. One of the independents for example had over 78% of their beef SKUs with no quality information on the label or package. These results describe a commodity supply chain well in place, with retailers believing the foundation of the consumer proposition is price.

This was confirmed in our interviews as well. From the most elite meat market to the volume buyers, they all used the language of the USDA; "Prime", "Choice", and "Select" and their relation to price. Conversations with managers support the notion that there is only a limited need for more consumer information pertaining to US meat products. For example one of the lengthiest discussions we were involved with occurred between a manager and an assistant general manager as to their meat purchasing strategy.

[10] In a recent paper (2002) Gow and Goldsmith analyze the US system's preference for ex-post risk mitigation versus Europe's ex-ante precautionary principle.

They disagreed why they offered Select products; was it the leanness or the margin[11]? As well, the smallest and most exclusive meat shop we visited felt that the quality of meat coming through formal channels was quite satisfactory. His differentiation occurred through service, i.e. custom cutting. Finally, a meat manager in an independent in a high-end neighborhood responded that his greatest concern was price, not quality. He wanted to figure out how to compete on price if they were to invest in a store-brand of meat.

As opposed to the Swanson study, when the issue of quality was raised, the topics were not social attributes, but logistics and efficiency issues. Addressing these issues underlies the supply chain's overall satisfaction with the products emerging from the large packers. The packers have addressed a quality problem that has plagued the downstream part of the chain for many years. With advent of boxed-beef, and now tray packs (case-ready) a buyer of meat, i.e. wholesaler, retailer, or restaurant, is now able to "sell what they buy." In the past with a hanging carcass there were all sorts of opportunities for losses, from waste, trim, spoilage, poor processing, etc. The quality attributes processors in the last few years have concentrated on are; reducing purge (the liquid in the meat pack), presentation, uniformity of cut, shelf life, uniformity of packaging, quality of packaging, not to mention in-plant labelling and pricing. All these attributes make wholesaling and retailing a much less risky and more efficient endeavour. Retailers now know, much like with their center isle items, what is bought can then be sold. The packing industry has fundamentally addressed the perishability problem. Removed are many of the "games" associated with price, product shrink, and product quality. The retailer is able to reduce its labor demands in the meat section, open up

[11] Select grades are less expensive to purchase. When combined with a "lean" label, consumers are willing to pay a premium for a lower costing product. This occurred in a large cooperative grocery with a very urban clientele.

more selling space, dramatically reduce waste, eliminate the need to process hamburger, and better match supply with customer traffic flows. These efficiency attributes associated with the product not only help the large retailers but simplify business for the small retailer as well.

Price

Price was one of the dominant topics in the interviews. Price plays a key role in every transaction along the supply chain from producers to consumers. The manager of W1 mentioned that "price is an important factor since quality and specification are pretty much standard in meat products," particularly with beef.

By–in-large meat case SKUs are managed as commodities. Communication with suppliers is arm's length, and relationships are completely transactional[12]. Managers were asked indirectly about industry structure and access to product. All did not find that the limited number of firms inhibited their purchases. Most found the oligopoly competitive and it simplified the ordering process. One wholesaler commented that the four purveyors he normally dealt with was a good number, more would add unneeded complexity to the buying process and heterogeneity to the product and fewer would promote non-competitive behavior. Added to the industry mix were numerous "brokers" who add liquidity to the system and valuable competitive discipline.

It is important to understand the main drivers of the meat supply chain are perishability and volatile consumer demand. Access to product without wild swings in price is critical for the planning process both at wholesale and retail. A commodity model, as opposed to a differentiated product/service model is of value because it simplifies transactions and allows for ample substitutability. Buyers described a process

[12] (see Rackam et al (1990) for a discussion of transactional relationships)

of continually mitigating price and supply risk by varying to some degree the volume of business with any one supplier. One always keeps open access to alternative marketing channels to avoid being caught short or from being "held up." The largest retailers for example buy from the field for an additional reason; their demand exceeds the supply of one packer. Each packer too optimally supplies many buyers thus avoiding being overly committed to one buyer. One of the largest meat buyers in the study remarked that he had to buy all his meat in "a half hour," because his volume could move markets. If the market found out the chain store was planning a special on a particular cut of meat, prices would start to rise with each additional phone call the meat buyer had to make. Avoiding being caught short is a major need throughout the chain. Smaller buyers grumbled not about quality[13] or even so much about price, but about access to the product; whether the product came from their wholesalers or when they purchased directly from packers. They all agreed industry structure was not a limiting factor and found little need to change the system[14].

Purchasing decisions between retailers and wholesalers depend almost solely on price. Retailers, even in high-end markets, consider that price is a priority when dealing with meat suppliers. Interviewees described in detail about how price discovery occurs and how they protect themselves from "buying high." For retailers, this is one of the reasons they rely on multiple purveyors. Respondents (not including the meat-packer managers) uniformly agreed that big meatpacking plants offer the best prices.

Retailers are also price driven because, according to them, consumers focus on price in their meat purchasing decisions. Although managers from high-end markets, like

[13] Overall everyone along the chain and across store types was quite pleased with the product.
[14] One group of small independent retailers was intrigued by the idea of directly sourcing their product and is currently working with producers and University Extension to explore the idea of a private brand.

independent store two, mentioned the importance of other attributes such as service and quality, they also agreed that their customers were concerned about price. Two interviewees, one serving a high-end restaurant and the other a high-end independent store, mentioned anecdotes where customers switched to other stores just because of price. This result contradicts the Swanson survey where consumers, especially in high-income neighborhoods, ranked relatively low the importance of price in their purchasing decisions.

One meat manger in a high-end independent store conveyed an anecdote that had occurred earlier that week. He received a call from a customer he knew by name. She was calling on her cell phone from the meat section of a large chain store competitor where the roast was on sale for $1.00/ lb. (14%) cheaper than he was offering. She wanted to know, "did he think their quality was good?" Not only did she know the relative prices in both stores, but she was using the local "butcher" not to discuss quality narrowly, but quality in a broad commodity sense. Though only an anecdote, the story from this high-end retailer reflects on the current state of the meat value proposition in the US.

The meat case analysis supports the observations from the interviews. While the independent stores were the highest priced, the prices were not correlated with meat quality (Table 3). What the consumer was purchasing was store service and convenience. The generic red meats were all of similar grade and sourced from one of the large packers, but price was 53% higher on average in the independent stores. Brands across the four stores commanded a 42% premium over the generic or private label alternative. Yet, as noted above, branded and enhanced meat products are much more common in the

chain retailer than the independents. Not carrying unique meat products certainly appears to limits the independent's degrees of freedom as they try to compete with the larger chain stores.

Conclusion

Our results appear to show a very different response to the turbulence over the last ten years by the US meat chain when compared to the European industry. The U.S. chain appears to be taking an incremental approach focusing on price, labor and distribution efficiency, and product performance such as shelf life, trim, and retail readiness. Third party verification and government involvement beyond HAACP and the traditional inspection system are not evident. The major meat packers in the country appear to be satisfying the needs of downstream chain members whether they be chain store retailers or high-end independents. Even the most exclusive retailer is happy with the current offerings from the national meat packers.

Branding is still done on a limited basis and does not address such attributes as traceability, source verification, or organic. National meat packing companies appear to readily be able to serve the demand for social attributes and are able to use such marketing terms as "natural" or "angus," which may confuse rather than clarify product offerings for downstream chain members and consumers. Chain members are very clear in their language choice relying on standard USDA commodity grades (i.e. select, choice or prime) to describe and market/procure their products. The disruptive issues as BSE, FMD, and GMO did not arise as needs requiring attention. While chain members had heard of these issues, and could define them, they all felt secure with the current chain structure. Not only were the large packers well-positioned to deliver differentiated

products, large retailers too seem the most aggressive bringing new products into their stores. With respect to the meat case this seems counter-intuitive as the outer perimeter (fresh and ready-to-eat foods such as fish, meat, and bread) of the store holds the greatest opportunities for independent retailers to differentiate themselves. Instead of differentiating themselves with products, our smaller retailers differentiated themselves with service and shopping convenience.

Paradoxically the preferences as stated by the Swanson consumers were quite different from the store meat cases they were patronizing. While many respondents stated that social attributes were "very important" these attributes were only found in a limited way in the meat case. Those products that offered these attributes, "natural," were by-in-large poultry products, even though most meat in the meat case is not poultry. While Swanson et al describe significant demand for traceability and organic attributes, retailers did not see it as a high priority nor were they offering it in their meat case. The needs assessment results and the meat case analysis were consistent with each other. Supply chain members, especially those downstream, were not frustrated that they couldn't get the products their consumers were demanding. For them, in terms of product offering, the chain was working well.

We caution researchers working in this area of social attributes, that framing and biasing are real risks in this type of research. Not only is there a lot of media coverage, but the recent events in the industry have raised numerous new issues. Norms, language, and a common understanding of what is real, what is temporary, or what is permanent are still in flux. Neither researchers, policy makers nor the industry have the benefit of hindsight at this point in time to lend clarity to these issues. Therefore for researchers

working at the leading edge of these phenomena it is important to err on the side of neutrality and objectivity. In this research we attempted to address this issue by utilizing the needs assessment approach and direct video observation.

Are retailers being irrational not offering what consumers want or do consumer attitudes differ from their behavior? We argue, with the U.S. consumer, the fundamentals of price and pristine presentation dominate. Our data supports that. Not paradoxically these characteristics are compatible with the set of supplier competencies and the efficiency needs of the large surface retailers.

One general result summarizing all of our needs assessments, is that the chain is generally happy with the value package (price and quality) being offered. This seems paradoxical given the recent events in the global meat industry. Despite significant turbulence in the meat industry over the last ten years, U.S. chain has fundamentally changed little; it is still scale and commodity driven[v]. The European chain on the other hand is in the process of significant structural change in its push to provide a source verified and fully traceable product. The results of our study seem to indicate that the U.S. meat industry has reacted quite differently to the recent events concerning meat quality and traceability. One explanation is that the domestic markets between the US and Europe are so different that alternative supply chains structures are warranted. Are the food safety risks really any greater in the U.S. than in Europe? If so then the U.S. industry would appear to be taking huge risks. Or are the Europeans over investing in ex-ante control systems with higher capital and transaction related costs? This has interesting implications as European and US packers compete in many of the same global

markets, i.e. Japan. Are US producers at a competitive disadvantaged because of quality or are European packers at a disadvantage because of price?

What we may be describing is Levinthal's "rugged landscape" where competitive complexities are so great in the meat industry, that there are numerous peaks from which one can compete. There may not be one way to achieve safe meat, but numerous mechanisms, institutions, organizational forms, and supply chain structures. Thus what some might see as denial to obvious changes in the consumer environment, the US meat industry may simply be logically incremental. Only in hindsight will we know for sure.

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Figure 1. Swanson Meat Survey Results

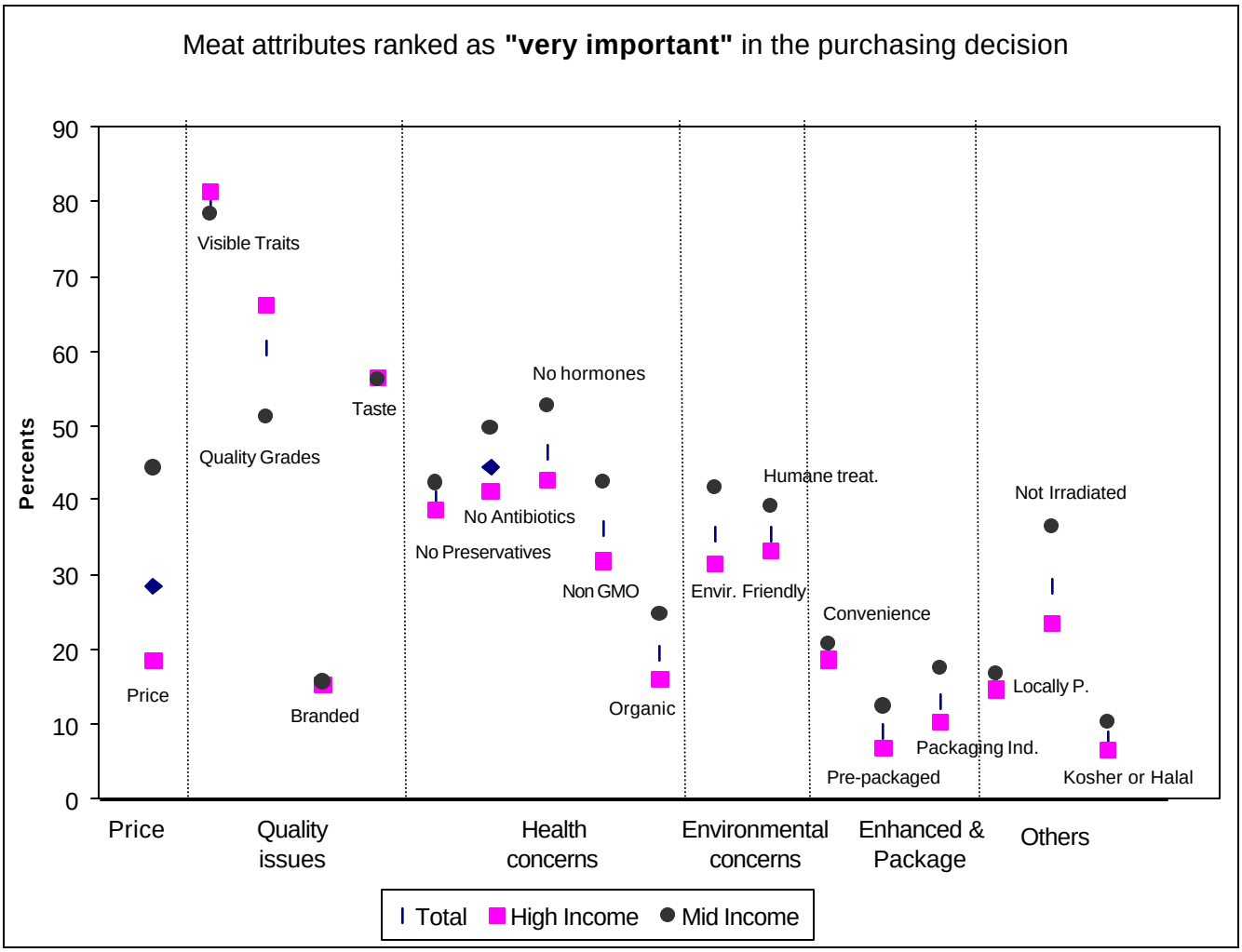

Figure 2. Research Methodology Overview

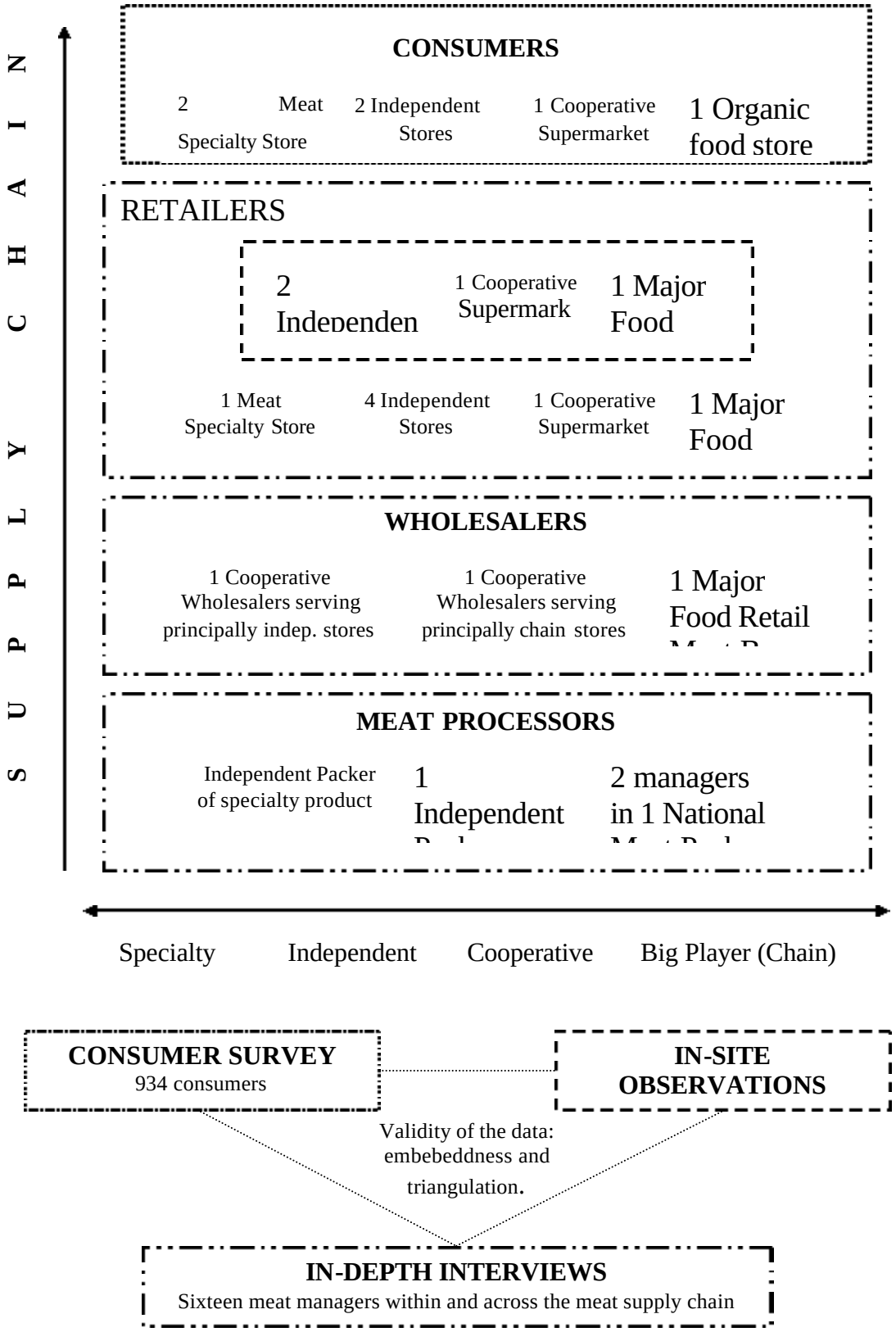

Figure 3. Percentage of Total Meat SKUs by Store (N=530)

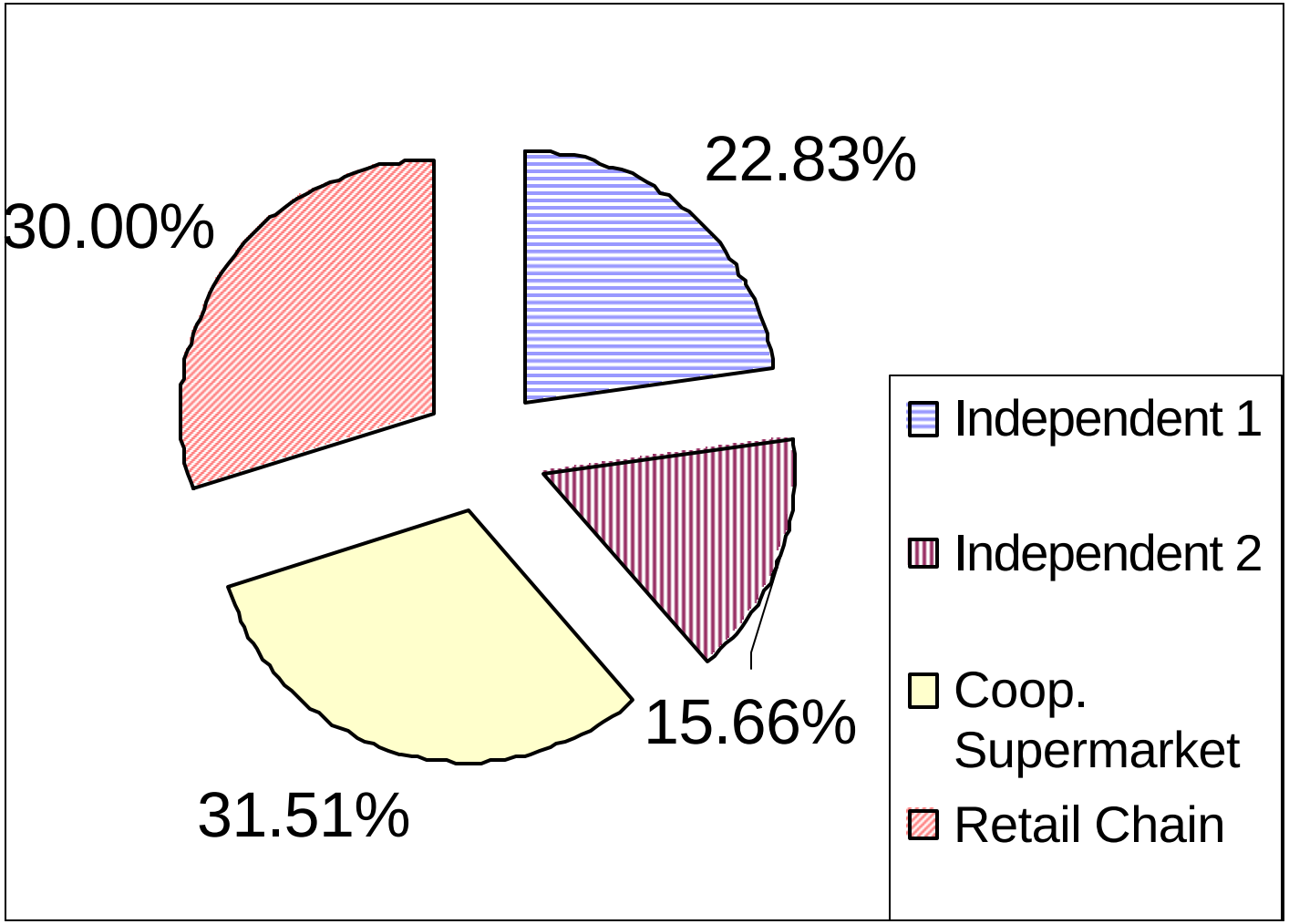

Figure 4. Meat SKU Breakdown by Meat Type (N=530)

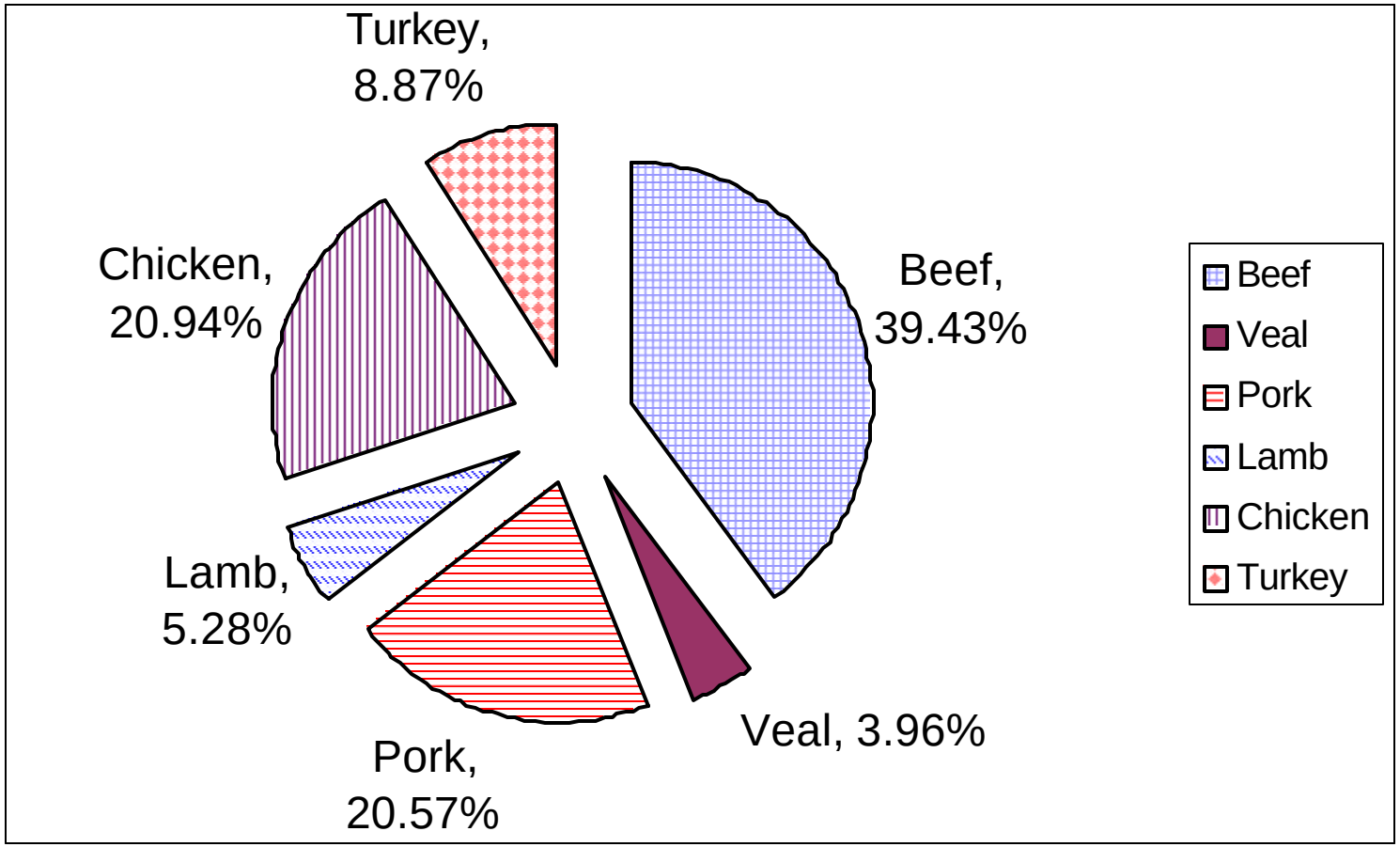

Figure 5. Meat SKU Branded Products (N=143)

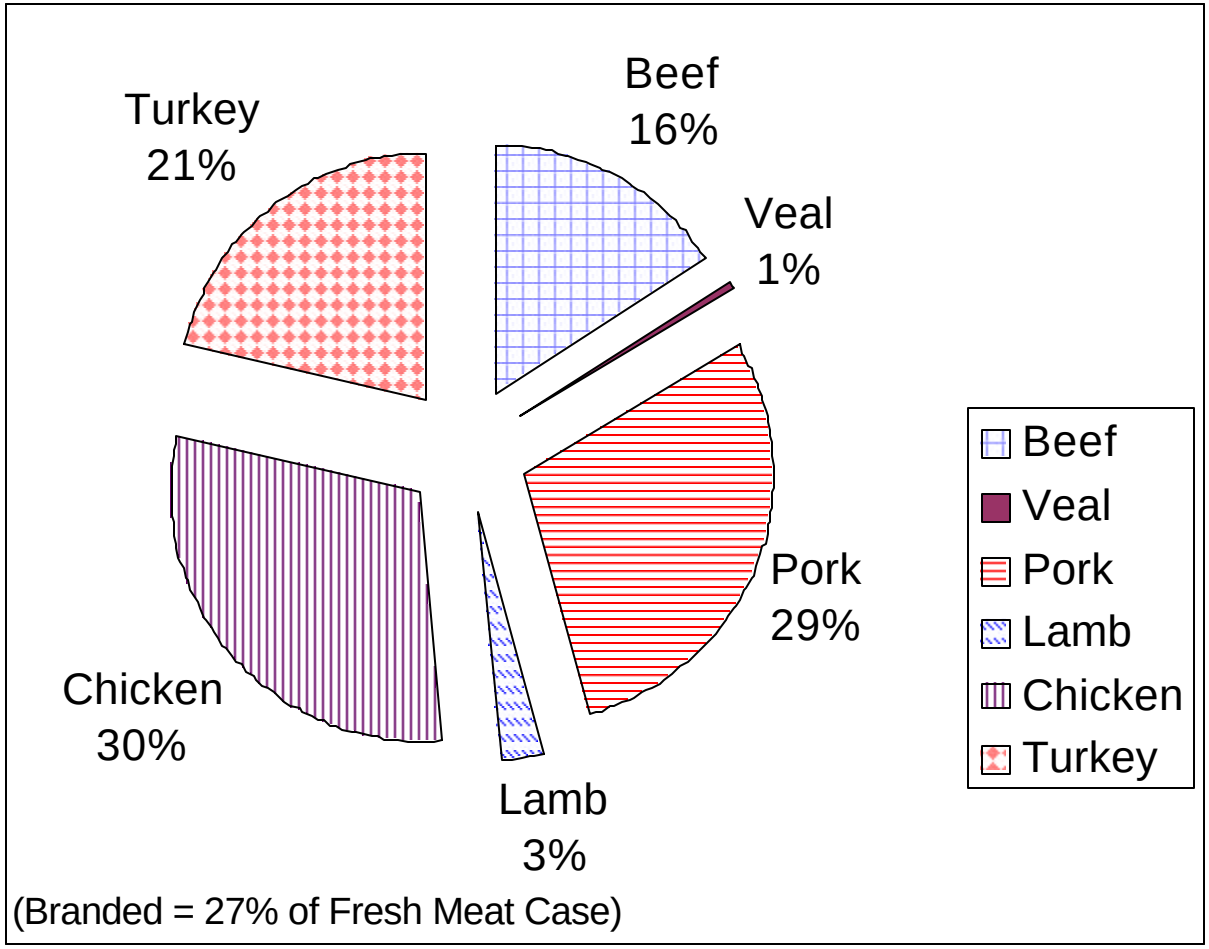

Figure 6. Meat SKU Natural Products (N=56)

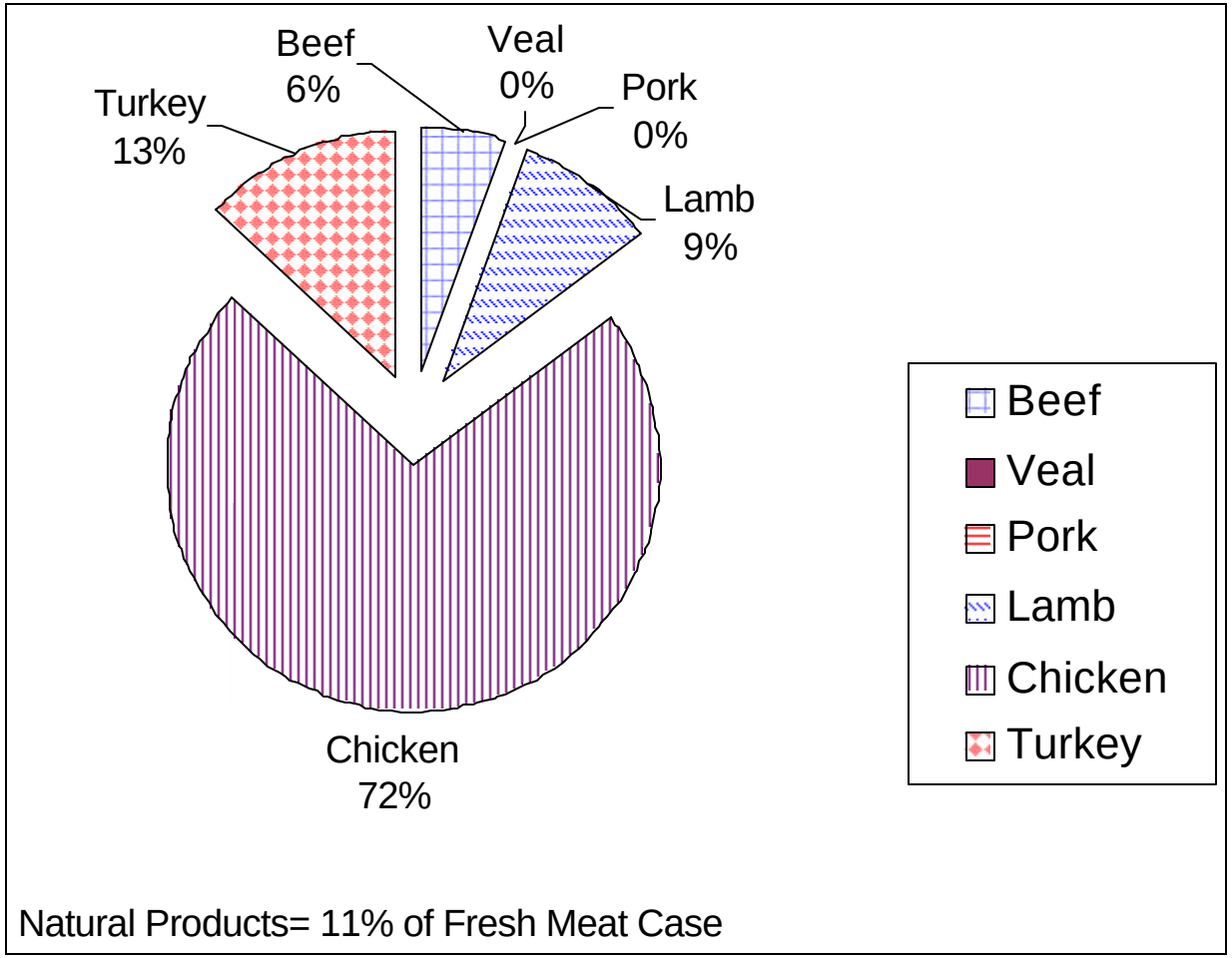

Table 1. Sample Store Profiles

	Approx. size	Income/fam.	Caucasian	Afric-Amer.	Latino	Others
	sq. ft	$	%	%	%	%
Independent 1	22000	94750	94.7	1.5	1.1	2.3
Independent 2	45000	126750	97.4	0.5	-	1.0
Coop.	50000	66000	39.2	51.5	1.2	8.0
Retail chain*	65000	*126750*	*97.4*	*0.5*	-	*1.0*

*

Income and demographic information was obtained from the consumer survey.
The retail chain did not participate in the survey, the values in this category were assumed to be similar to Independent store 2 since they are in the same neighborhood.

Table 3. Selected Meat Price Comparisons Across the Four Sample Stores

	I1		I2		CO		RC		
Meat Category/Product	**Brand**	**Generic**	**Brand**	**Generic**	**Brand**	**Generic**	**Brand**	**Generic**	**Private**
Ground Sirloin		3.19		**3.99**		3.79		**3.99**	
Porterhouse Steak Choice		6.99		8.99		7.99	**9.99**		
London Broil		4.99		**7.99**		5.79	5.99	4.99	
Pork Chop - Boneless Butterfly		4.59		**5.29**		5.09	2.64	0.99	
Boneless Pork Roast		4.39		**4.99**		**4.99**	2.99		
Tenderloin		5.49		**5.99**		4.99	**5.99**		
Chops				4.99	**2.19**	**3.29**			
Loin Chops		8.99		**12.99**		8.99		9.99	
Leg of Lamb			**5.99**	**4.99**		2.99		4.99	
BLSL Breast		**4.99**		3.99	4.59	2.49		2.99	
BLSL Breast (Natural)	**4.99**		**4.99**				3.99		3.99
Bone-In Breast			**3.39**	**1.49**					
Thigh		1.29		**1.99**	0.79	0.99			
Thigh		1.29		1.99	**0.79**	**0.99**			
Thigh (Natural)							**1.79**		**0.99**
Pinwheel (Thigh & Leg)						0.89			**1.49**
Whole Fryer	**1.59**		1.49		**1.29**	**1.19**			
Cut Up Fryer	**1.69**	0.79	1.59			1.39	1.59		
Turkey Tails					**1.29**	**1.49**			

Endnotes

[i] Some of these strategies and new marketing approaches are already taken place in the US meat industry. For instance, warehouse clubs, foodservice entities and some meat processors have started marketing campaigns of branded products to change meat commodity perception to a value-added category (Major 2001). Likewise, new initiative of vertical coordination between producers and processor to assure quality products and share financial risks are becoming common (Katz and Boland 2000). Government agencies, like the USDA, are supporting process-verification systems to control and verify each phase of meat processing (Castaldo, 2001). Nonetheless it is difficult to assess whether these strategies represent a current trend or isolated initiatives yet.

[ii] Interviews involved a cooperative wholesaler as well as a cooperative retailer. The cooperatives were particularly valuable because management needs to be very responsive to the membership due to unique governance structure. Any member concerns are generally transmitted as unmet needs for the procurement manager. This transparency provided important insights into the current state of meat demand and how well the chain was performing. For example, it would be hypothesized that SKU counts would be higher in the co-op retailer (ceteris paribus), and that was the case.

[iii]

Amish Brand, Bell & Evans, Burgers', Catelli, Chef's Requested, Chiappetti, Coleman, Flavor Best, Plantation, Rose's, The Turkey Store, Trail Boss

[iv] The notion of "natural" to can be misleading, because each natural program is certified, not defined by the USDA. The circumstances under which the use of the term "natural" may be used on the labeling of meat and poultry products are described in Policy Memo 055, "Natural Claims." Policy Memo 055 provides that the term "natural" may be applied only to products that contain no artificial ingredients, coloring ingredients, or chemical preservatives; and the product and its ingredients are not more than minimally processed. Minimally processed products that do not contain these types of ingredients, such as fresh meat and poultry, will automatically qualify for the use of the term "natural" on product labeling.

[v] Applying the concepts of Prahahlad and Hamel (1990) to the US pork industry, did integration address the productivity gap or the opportunity gap? Is the dominant model an architectural innovation (revolution) or a novel form of a continuous progression (evolution)?