Consumer Attitudes: What They Say and What They Do

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Introduction

There are 3,000 US companies producing meat products with combined annual revenue of about $85 billion (Research and Markets Ltd., 2009). They produce about 40 billion pounds of beef products per year, and 30 billion pounds of pork. The objective of this paper is to present an overview of factors that affect consumer behavior regarding pork purchase and consumption which may allow the pork industry to maximize demand for pork in the marketplace and successfully compete with other animal protein sources.

Since 1975, US pork consumption has remained relatively constant at about 50 lb/person/year and is projected to remain at this level over the next 10 years (USDA, 2008a; Geisler, 2009). US beef consumption decreased from ~85 lb/person/yr in 1975 to ~60 lb in 1993, but has remained relatively constant since then (Figure 1). US chicken production has increased dramatically as has consumption (from ~25 lb/person/yr to ~60 lb/person/yr). While overall meat consumption has increased, beef consumption has been displaced by chicken consumption, particularly since the early 1990’s, while pork consumption has remained approximately the same. Increasing per capita pork consumption in the US may be less of an option than increasing the value of the pork being presented in the marketplace in order to maintain market share.

In 2001, the National Pork Board reported that 86% of Americans eat pork in a two-week period consuming it an average of 4.7 times in that period. Eighty-three percent of Americans eat beef in a two-week period consuming it an average of 3.7 times in the period. Seventy-three percent of Americans eat chicken an average of 2.6 times in a two-week period.

In 2008, the USDA reported that worldwide meat production breakdown was pork--42%, poultry--28%, beef--24%, and lamb/goat--6%. Current worldwide consumption reflects a similar breakdown (USDA, 2008b). In the US, the expenditure for pork has increased from about $80/person/year in 1985 to about $150 in 2005 (Figure 2). Over the same time period, the annual expenditure for beef increased from about $175 to about $275 per person per year, while expenditures for chicken increased from about $25 to about $150. Nearly 82% of fresh pork and more than 75% of processed pork is consumed at home (Plain and Grimes, 2005). Fresh meat consumption is affected by demand for healthful, safe food, environmental and ethical concerns, accidents, scandals and product safety incidents that have attracted negative media attention, changes in consumer tastes and preferences, the economy, as well as product palatability. Efficient transmission of changes occurring at the consumer level to the preceding production stages is a prerequisite for success. A consumer focus must be the central element for a product to succeed in an increasingly competitive and saturated market.
Who Are the Consumers?

We often speak of consumers as if they were one homogenous group. They aren’t!! “Consumers” may be current users of our product, users of related products, or potential new users. How we approach these consumers depends on their own intrinsic characteristics.

Consumers can be “grouped” in a variety of ways, but grouping by age is one of the most common because those in the same age category tend to have a good deal in common which reflects the dominant cultural values when they were growing up and entering into early adulthood. Today’s consumers can be divided into five generational groups: mature consumers, baby boomers, generation X, generation Y, and the millenials. The mature group is composed of consumers born prior to the end of World War II. There are currently about 66 million mature consumers who are 65 or over, down from 68 million in 2002. They have a median annual household earned income of $39,000 up from $24,500 in 2002 (Bureau of Labor Statistics, 2008a). They are loyal to the branded products they became familiar with early in their adult years. They want high quality products containing high quality ingredients. They aren’t especially interested in new products that make use of new technologies because they are cautious with anything representing change. There are approximately 45 million baby boomers, now between 45 and 65 years of age, with a median annual income between $68,000 and $79,000 (Bureau of Labor Statistics, 2008b, c). They are strapped for time. Prior to the economic downturn, they were willing to purchase convenience and spend money to make life easier (i.e. convenience foods). The approximately 24 million generation Xers are now between 35 and 44 years of age with an average annual income of $76,000 (Bureau of Labor Statistics, 2008d). This group is building families, and earning more and spending more than any other group. The 20 million members of generation Y are now between 25 and 34 with a median annual income...
of $57,000 (Bureau of Labor Statistics, 2008e). They are extremely brand conscious, set the trends, are ethnically diverse and have more diverse preferences than preceding generations. The number of generation Y members entering the work force and becoming parents has leveled off at about 36%. They want “gourmet” type foods but have limited cooking skills. Because many have young families, the current state of the economy has hit them hard. There are also 8 million “millenials” under 25 who are currently in the work force. They have a median annual income of $30,000 (Bureau of Labor Statistics, 2008f). They are the “computer connected” generation in every way. They collect and compare information, communicate and shop on-line. They are strapped for money but buy things that they like rather than those that are the best buy.

Consumer demographics have shifted: one-third of the population is over 55 and 31 million baby boomers will turn 65 over the next 10 years. In the future, food preferences and health priorities of older Americans will dominate because of the population shift. They prefer the foods on which they grew up and are concerned about calories, fat and sodium. It should be mentioned that the annual income of those in the workforce has been fluctuating downward over the last year. The total number still in the workforce has decreased dramatically as unemployment has risen to ~8.6% (Bureau of Labor Statistics, 2009). Price has become the most important factor in US consumer purchase decisions. These factors are likely to have a greater effect on buying behavior than any other in the near future. Retailers must adapt to that new reality in order to be successful (Jakobs, 2009).

Figure 2--Per capita expenditure for beef, pork and chicken from 1985 to 2005 (Consumer brand tracking study, 2006).
What Influences Consumption?

Consumption is influenced by convenience, perceived healthfulness, taste, the general consumption trends of a particular consumer’s generational group, and discretionary income. Today, >80% of all meals are consumed at home (Davis and Lin, 2005). Prior to 2006, the only food preparation method increasing in home-cooked meals was “heat and eat”. However, since the economic downturn, more than 50% of meals are prepared from scratch (Sloan, 2008). Convenience is important because more families have two working parents, mom is cooking less, and more single and retired people are preparing meals for one or two.

Many consumers still eat out frequently. Consumers eat out for a number of reasons: they don’t have to shop for food, for entertainment, to bring the family together, for menu variety, because they don’t have to cook or wash dishes, to celebrate a special event, and to save money. Twenty percent of Generation X consumers say they have decreased quick-service restaurant (QSR) spending in the past year (versus 24.4% of all consumers; Hume, 2008). Among those who say they have cut back, 47.3% say it is because they have less money to spend on dining. Fewer baby boomers (40.6%) and mature consumers (31%) cite reduced discretionary spending while 53.7% of Generation Y members cite reduced discretionary spending as the reason for their cutback. Consumers in the Generation X and mature groups are the most-frequent customers of full-service restaurants (FSRs); 50% of both groups say they purchase a FSR meal at least once a week. In addition, 63.8% of households earning $100,000 or more make FSR purchases at least once a week, compared with 32.6% of households earning $34,999 or less.

What Do Consumers Say They Want?

There is a discrepancy between what consumers say they want, what they think they eat and what they actually eat: They think they should, and do, eat less fat and sugar than they actually do; they think they should, and do, eat more dairy products and vegetables, and eat less bread, starch, and cereals, than they actually do. Since 1985, Americans as a whole have become much less concerned about the calories and the fat in their food. However, as the baby boomers age, this trend is changing.

To determine whether a food product is or will be acceptable, consumers consider sensory characteristics (appearance, taste, etc.), nutritional value, convenience, health impact, and other individual relevant aspects. Ninety percent of consumers say taste is a major factor in food selection, which may account for the proliferation of ethnic foods. The sensory, health and nutritional characteristics are generally the most important parameters in meat and meat product selection. Consumer perception of pork and its primary fresh meat competitors (beef and poultry) are quantitatively evaluated based on leanness, healthfulness, taste, tenderness and value. Consumer lifestyle needs drive their priorities. A shift from convenience to “value” as the deciding factor can have a significant impact on product demand.

Healthfulness is probably one of the most commonly acknowledged reasons for shifts in meat consumption. However, different consumer groups have different levels of knowledge about food products (fat content of meat from various species, presence of healthful micronutrients such as iron and vitamin B12, etc), different purchase motivations, different expectations, and different incomes. Healthfulness can mean low calorie, high nutrient (vitamins, etc.), low fat, high fiber, low saturated fat, and/or low cholesterol. Which aspect(s) are important to a particular group will depend on other priorities of that group.

Pork chop color is particularly important to consumers (Brewer and Hunt, 2001). Brewer and McKeith (1999) found that purchase preference for pale colored (PSE) chops was lowest; that for normal colored chops was somewhat greater (~2.7 units); while that for dark colored (DFD) chops was a great deal greater (~4.7 units). Overall appearance acceptability, which includes marbling and surface wetness, as well as pork color, was a better predictor of purchase intent of dark and normal colored chops than was color alone. However, color alone was a good predictor of purchase intent for pale colored chops.

Amount of visible fat may be the strongest visual cue for consumers considering purchasing pork at retail. In a 2001 study in our lab, ~76% of consumers think pork loin chops have less fat than beef prime rib, while ~21% think they have the same level of fat. About 38% think pork chops have less fat than chicken thigh meat, while ~48% think they are about the same (Brewer et al., 2001). The consumers indicated that they pick pork because they like it (80%), and to a lesser extent because of the nutritional value (25%).
Enhancement has become a common practice to improve tenderness and juiciness of very lean pork (Jensen et al., 2002). A variety of ingredients can be incorporated into the enhancement solution including phosphates to improve water-holding capacity, salt and flavor-enhancers, shelf-life enhancers (sodium lactate, sodium diacetate) and antioxidants (Jensen et al., 2002; Wicklund et al., 2006; Gooding et al., 2009). We asked consumers in retail supermarkets to evaluate color, purge in the package, texture appearance, overall appearance acceptability, and purchase intent of enhanced pork loins (Brewer et al., 2002). More than 36% would purchase “enhanced” pork. However, they expressed concern about ingredients on the label: phosphate (60%), salt (74%), and water (26%).

The perceived risk of food borne illness as a consequence of consuming contaminated meat products is a very real threat in the minds of today’s consumers. The subjective nature of risk perception is important in understanding purchase behavior. In the minds of consumers, in addition to food borne illness, food safety risk also includes spoilage and chemical residues such as hormones (Rojas and Brewer, 2008). Consumers appear to be willing to pay a premium for risk reduction; however, they are generally insensitive to the level of risk reduction (Prestat, 2001). Preferences are primarily affected by price differences and perceived risks. In the international arena, branding and certification programs that imply compliance with higher sanitation standards elicit higher prices (Quagrainie et al., 1998). This is especially likely in regions where animal diseases (foot and mouth disease, BSE, H1N1 virus) are current issues. Traceability, tracking a product from its origin through processing, is becoming a competitive advantage to today’s meat suppliers (Geisler, 2009). Product quality attributes and/or the actual manufacturing process can be verified or certified by a third party. These programs may become increasingly important as the food industry attempts to reassure consumers about product safety and to appeal to their social consciousness. According to USDA, the top three US restaurant franchises, accounting for approximately 35% of sales, place restrictions on production practices for animals used in the foods they sell (USDA, 2008b).

Natural versus Organic

According to USDA’s Economic Research Service, increasing sales of organic and natural food products are being driven by health-conscious consumers. Food products offered by natural foods supermarkets tend to be less processed and frequently are free of preservatives, hormones and artificial ingredients. Direct marketing through farmers’ markets continues to grow in the United States (Geisler, M. 2009). USDA data indicate that there were more than 4,600 farmers’ markets in 2008, up from 3,700 in 2004 (USDA, 2008a). These markets provide an outlet to consumers interested in purchasing “natural” and “organic” products.

Of importance is the fact that “natural” is less strictly interpreted than “organic.” The term “natural” can be used when products contain no artificial ingredients and are no more than minimally processed (FSIS, 2006). Examples of minimally processed foods include those that are smoked, roasted, frozen or ground. Certified organic means “agricultural products have been grown and processed according to specific standards of various state and private certification organizations.” Organic pork is raised in a system that promotes biodiversity, with minimal use of off-farm inputs and no antibiotics or growth stimulants.

Purchase Motives

Purchase motives include self-fulfillment, family well-being, enjoyment and pleasure, socialization opportunities, and budgetary constraints. Today’s consumer expects more quality and value than ever before. Consumers must understand their personal desires (i.e. to lose weight, consume “natural” foods, etc.). Before a consumer purchases a product, he/she must have a general concept of what the product is and what it has to offer. Both may be either realistic or unrealistic. A consumer who wants to lose weight may believe that fat-free cookies are low calorie and purchase them for that reason, unaware that the fat has been replaced by sugars and starches that contribute as many or more calories than the fat-free version. This exemplifies the potential inconsistency between facts and their perception by consumers. Consumers may evaluate product attributes quite differently from experts; thus, perception may conflict with scientific information. Altering demand, then, depends on improving perception of a product as well as improving the actual quality attributes of the product.

To put a successful product into the marketplace, we must understand the ultimate (final) consumer and give them what they want. Successful products (1) meet their preferences and needs; (2) are convenient for them; (3) offer a value according to them; and (4) most importantly, taste good.
What Do Consumers Do?

There are some distinct trends in the marketplace with respect to food choice: consumers want convenience, taste, “natural”, healthful products, especially those that can be prepared at home by those with few cooking skills, at a good “value”. However, the recent economic downturn has had significant effects on what consumers are willing to purchase (Jakobs, 2009). Two-thirds of consumers have cut spending on nonessential grocery items such as prepared meals, single serving packages, organic products, favorite brands, fresh produce and treats (NPD, 2008). More than 50% spent less in restaurants in January 2009 than in January 2008. Meals consumed at home have approached a 25-year high (249 meals/person) (NPD, 2008).

Actual food choice is a particular interest for the entire food production and distribution system; however, it is a complex phenomenon that is influenced by a number of variables. The “theory of reasoned action” says that behavior can be predicted by the conscious decision to perform the action (intention) which follows from thinking that the behavior is likely to have good consequences, that important others want us to engage in the behavior, and from our perception of how easy or difficult it is to perform the behavior. However, habit plays an important role in food choice when a food is consumed frequently. Fresh pork consumption is influenced far more by habit than by volitional intention (Saba and Di Natale, 1999). Intention, especially consumer attitude as to whether the product is “good” (versus “beneficial”), has more effect than habit on actual consumption of processed pork (ham, sausage, etc.). This may be because fat content, cholesterol, sodium, calories, and added ingredients are now evident on labels of processed and enhanced pork products. As the proportion of older Americans continues to grow, this is likely to become a more important factor in purchase intent.

Supermarket choice and pork product choice are interdependent. Consumers say they choose particular supermarkets because of (1) convenient operating hours, (2) certification of food products, (3) time constraints including operating hours, (4) proper packaging size, (5) shopping environment, (6) convenience to home, and (7) reasonable prices. Once a supermarket has been selected, some of the extrinsic considerations for pork purchases are (1) freshness (dated), (2) general product information, (3) perceived food product safety, (4) purchase convenience (location and time), (5) packaging size, and (6) palatability (Gallup, 2008; Prestat, 2001)

Once the decision to purchase a product from a given category (meat) is made, subsequent choices among a variety of products with various intrinsic and extrinsic characteristics must be made using “weighted” decisions (Prestat, 2001). Whether to choose pork chops or T-bone steaks will be determined by the personal weight placed on the various attributes going into the decision. For example, does quality and convenience offset price differential? What is the range of products available to choose from? In work in our lab, consumers were asked to “weight” the importance of various factors with respect to the satisfaction they expected to receive from consuming fresh pork products. Of the extrinsic factors, color, amount of visible fat and price were included in the top 5 factors carrying the most weight in purchase decisions. Brand, packaging, number of servings per package, store and whether or not pork was a “promotional” item were least important in terms of expected satisfaction. With respect to expected satisfaction upon consumption, tenderness was the most important attribute, closely followed by juiciness and flavor (Prestat, 2001).

This is the point at which consumer group demographics make possible some general predictions regarding the weights of various attributes in the decision making process. Consumers in the 45-54 yr age group spend the most on both beef and pork while those in the 35-44 year age category spend the most on poultry (Figure 3). This may reflect the increase in health conscious eating habits in the 35-44 year old consumer group and the operation of “eating habits” of the 45-55 year old consumer group. Yen et al. (2008) reported that dietary knowledge decreases the consumption of red meats such as beef and pork at home and away from home, but has no effect on the consumption of poultry or fish. Pork consumption is highest in the Midwest, followed by the South, the Northeast, and the West. Rural consumers eat more pork than urban/suburban consumers (Davis and Lin, 2005; Yen et al., 2008). In general, men consume 66% more pork than women. Consumption increases among both men and women until they reach the 50s then declines as they age (Plain and Grimes, 2005). Families with incomes of $20,000 or less are less likely to select higher quality pork while those with incomes over $50,000 are more likely to select it than those in other income groups.
For prospective in-home evaluation, we found that 40% of our consumer group chose lean chops (<1% intramuscular fat), 42% chose medium marbled chops (2-2.5% intramuscular fat), and 18% chose highly marbled chops (3-3.5% intramuscular fat; Brewer et al., 2001). In blind taste tests, the same consumers observed that lean chops (<1% intramuscular fat) to be least juicy and flavorful, while highly marbled chops were found to be the most juicy and flavorful. We found that very few of the chops evaluated at home were placed in the “would not buy” category suggesting that whichever chops a consumer selects, when prepared at home, they were rated as very tender, juicy and flavorful, and were in the higher purchase intent categories. In addition, when evaluated at home, sensory attributes for all chops were greater than when they were evaluated in the blind taste test on-site, indicating other factors (satisfaction of expectations, value judgments relative to “my ability to choose” and “my ability to prepare” pork, etc) were at work. These results support those of Schupp et al. (1998).

These observations have been supported by Rincker et al. (2008) who found that, with loins derived from pigs from a single genetic line with an ultimate pH in the normal range, almost 50% of consumers selected chops with less than 1.7% extractable lipid (intramuscular fat). However, intramuscular fat content had limited effects on tenderness, juiciness, pork flavor or oiliness.

**Consumer trends**

Sloan (2008) summarized the top ten food trends currently affecting the food industry (Table 1). The economic downturn is likely responsible for the fact that consumers are cooking more from scratch and the fact that entertaining is more likely to occur at home than in the past. Purchase of convenience foods such as ready-to-eat entrees has dropped off while purchase of box mixes that need some preparation have increased. There has been an increased interest in gourmet foods, which may be reflective of the change in population demographics with generation Y solidly in the workforce. However, because of the increased economic demands of parenting and the economy, they are the group most likely to cut back on
## Table 1--Top Ten Food Trends (Sloan, 2009)

| 1. Cooking Again! | Consumers eating at home more and are returning to one-dish meals, including casseroles, to stretch expensive protein sources. Many know someone in “desperate need” of cooking skills. |
| 2. Homeward Bound | Entertaining at home and grilling in the backyard rank right behind watching television, renting movies, and playing video games as the top entertainment activities Americans plan to increase. The majority of consumers would opt for a barbecue/cookout at home with family and friends vs. eating out. |
| 3. Gourmetization | Consumers have increased their culinary sophistication experimenting with new flavors, foods, and cuisines. In spite of the economy in 2008, more than half purchased specialty foods to treat themselves and for everyday meals at home. New/fabricated cuts of meat are hot culinary trends for 2009 (NRA, 2008). |
| 4. The New Pacesetters | Americans in the workforce and in their parenting years are the group most likely to cut back on restaurant visits, however they find ways to enjoy restaurant-style foods at home. Half say they don't know how to cook well. Two thirds of kids/teens eat at home with their family >5 days a week. Over 95% of households with kids serve ethnic foods regularly. Kids’ flavor preferences are expected to become more sophisticated. |
| 5. Little Luxuries | Although many consumers are being forced to cut spending on nonessential food items, they continue to splurge on indulgent small luxuries that provide satisfying “me time,” remind them of fun times and activities, or contribute to social event. Contrasting and exotic flavors will be a key theme in 2009. |
| 6. Scared Straight | Consumer confidence in food safety has plunged in the past year due to several large-scale incidents (melamine-contaminated infant formula, the Salmonella peanut butter outbreak). Nearly 60% of consumers have changed their buying habits rejecting products with safety and/or quality issues (Deloitte, 2008). Consumer safety concerns include improper food handling, imported food safety, and exposure to foodborne pathogens. Two-thirds of consumers are extremely concerned about the safety of products produced outside the U.S., particularly those from China, Southeast Asia, and Mexico. |
| 7. Changing Shades of Green | As economic pressures continue, the growth rates of green products and organic products have begun to slow. Consumers have shifted their organic spending to categories that are most closely tied to freshness or health (fruits, vegetables, meat, poultry, and milk). A natural claim is very/somewhat important to 32% of consumers, locally grown to 23%, USDA organic to 19%, and organic to 15% (Hartman, 2008). |
| 8. Me M.D | The high cost of prescription drugs and growing concern over the safety of prescription and over-the-counter drugs has prompted Americans to take health into their own hands. This creates a window of opportunity for functional foods. |
| 9. Thirsting for More | Americans continue to move away from sugary soft drinks in favor of bottled water, energy-drinks, and teas. |
| 10. Form Follows Function | Because of the tight economy in 2008, sales of frozen meals/entrée fell 3 to 5% while; dry packaged dinners increased 2.7%. Forty percent of shoppers purchased more canned, frozen, and boxed foods (FMI, 2008). Canned Spam sales (in dollars) increased 14% in 2008 (Nielsen, 2009). |
restaurant dining. But they admit to being very unsure of their cooking skills. Small luxury foods may be
the way many Americans are coping with the cutbacks in eating out. Consumers are currently very suspect
of the safety of their food and are interested in purchasing “green” and “natural” products. Americans are
taking health management into their own hands, creating a unique window of opportunity for foods with
perceived benefits.

Summary

A variety of forces are at work in the marketplace and subsequently influencing food choices more than
ever. The “baby boomer” generation is getting older; health with regard to food is becoming more of an
issue. Members of generations X and Y in the workforce are busy and have families. Generation Y and the
“millennial” are still quite price conscious. Because of the economic downturn, consumers are eating and
entertaining more at home more. Barbequing has returned as very popular method of entertainment with
a majority of consumers preferring it to eating out.

Because of the tight economy in 2008, sales of frozen meals/entrée sales have fallen while dry packaged
dinners that require some preparation (and addition of ingredients) have increased. This is a potential
new market for pork products or existing pork product utilization. The change in the profiles of the various
demographic groups (aging = different life stage) coupled with the economy and the reaction of consum-
ers have resulted and is expected to continue to result in changes in food consumption patterns (what is
consumed, where it is consumed, why it is consumed).

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