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ACADEMY OF MARKETING STUDIES JOURNAL

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LETTER FROM THE EDITORS

Welcome to the second issue of the *Academy of Marketing Studies Journal.* The Academy of Marketing Studies is an affiliate of the Allied Academies, Inc., a non profit association of scholars whose purpose is to encourage and support the advancement and exchange of knowledge, understanding and teaching throughout the world. The *AMSJ* is a principal vehicle for achieving the objectives of the organization. The editorial mission of this journal is to publish empirical and theoretical manuscripts which advance the discipline, and applied, educational and pedagogic papers of practical value to practitioners and educators. We look forward to a long and successful career in publishing articles which will be of value to the many communications scholars around the world.

The articles contained in this volume have been double blind refereed. The acceptance rate for manuscripts in this issue, 25%, conforms to our editorial policies.

As editors, we intend to foster a supportive, mentoring effort on the part of the referees which will result in encouraging and supporting writers. We welcome different viewpoints because in differences we find learning; in differences we develop understanding; in differences we gain knowledge and in differences we develop the discipline into a more comprehensive, less esoteric, and dynamic metier.

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NEED RECOGNITION BY OLDER CONSUMERS

M. Wayne Alexander, Moorhead State University

ABSTRACT

Marketers must focus attention on the decision process for products demanded by the large and increasing number of affluent older consumers. This study examined need recognition, the first stage in the process, through a series of interviews with 12 people over the age of 60. The respondents recognized needs for wearing apparel, shoes, air transportation, and specialized furniture but could not continue the decision process because search yielded insufficient alternatives. Older consumers had completed the decision process for food, housing, medical products, financial planning, recreation and personal services.

INTRODUCTION

For the next several decades the U.S. population will include a large and expanding number of older consumers. Several reasons account for this phenomenon. Since the turn of the century life expectancy has increased and will probably continue to some maximum age, perhaps 120 (Hayflick, 1994). Further, the "baby boomer" cohort group, the largest and most affluent in U.S. history, begins to turn 60 in the first decade of the 21st century. When the individuals in a large population cohort with high discretionary income live longer than their predecessors, marketers take notice (Moschis, 1992, 1994).

As they observe older consumers, marketers want to understand what happens as seniors progress through each step in the consumer decision process for their products. The research described below examines the decision process for several goods and services and focuses particular attention on need recognition, the first step in this process.

I conducted open-ended interviews with 12 people over 60 including three each who were in their sixties, seventies, eighties, and nineties (Alexander, 1996, 1997). The first two age groups included two men and one woman each and the last two reversed the ratios. The three respondents in the 60 to 69 group owned single family dwellings, one male in the 70 to 79 group lived in an age-integrated apartment building, and the remaining resided in an age-segregated apartment complex. All lived in an upper-midwestern community of 155,000 population.

I completed three interviews of 90 minutes duration with each respondent (Seidman, 1991), transcribed the 54 hours of audio taped responses and analyzed the transcriptions. Field notes written during and immediately after each interview and material written by the respondents for publication or for family members comprised additional sources of data.

The questions asked may have elicited concepts which the interviewees might not have otherwise mentioned. And even though they differed in age, education level, social class and

occupation, all were Euroamerican, financially secure, and long time residents of the area. These facts may have compromised validity.

Engel, Blackwell and Miniard define need recognition as "the perception of a difference between the desired state of affairs and the actual situation sufficient to arouse and activate the decision process" (1995, p. 176). The data indicate that older consumers recognize needs for some consumer goods and services. For other products elderly buyers either find the differences between desired and actual states too small to cause need recognition or have completed the decision process and moved on to post-purchase evaluation. For a variety of reasons the respondents recognized the need for appropriate wearing apparel, shoes, air transportation, and specialized furniture. However, the search process yielded few acceptable alternatives for these items.

GOODS AND SERVICES AROUSING NEED RECOGNITION

Clothing comprised the most telling need recognized by older consumers. As people age their bodies and preferences in clothing styles change. Wearing apparel designed for youth may neither fit aging physiques nor appeal to older tastes. Elderly consumers in the present study needed, but could not find, clothing fashioned for them. The needs crossed age groups but differed in type by gender. Women, regardless of age, defined the desired state of affairs as wearing apparel which fit, was styled for the older person, but did not make them look like old women. Yet the clothes available for sale were either designed for young people or made them appear older than they felt. (Also see Belleau, Broussard, Summers & Didier, 1994; Chowdhary, 1988; and Underhill, 1996). The findings support Moschis' (1992, 1994) contention that the demand for apparel declines in later life partly because of the limited availability of suitable clothing. "Most of today's shoes and clothes are developed for the young consumer," he states (1992, p. 216).

Not only style but function and size concern older shoppers. They need clothing, which can be easily fastened with aging fingers. Because the search process yielded few alternatives, some interviewees had Velcro fasteners fitted to their garments. Size caused problem recognition for two male respondents. Both a 63-year-old and a 74-year-old needed clothing in large sizes. Shirts or pants which fit were purchased in anticipation of need notwithstanding style.

An increasing number of people over 60 will not only need appropriate clothing but also possess the discretionary income to buy what they like. Yet the data indicate that the search process results in few alternatives. Clothing designers and manufacturers would do well to consider the clothing needs of older people and provide satisfactory options.

The respondents recognized a need for attractive and well fitting footwear. However, even though they purchased and wore shoes, the search process did not always yield alternatives with attributes which corresponded to their evaluative criteria. A 65-year-old male wore one pair of Nike athletic shoes to the exclusion of others he owned because the others hurt his feet. He wanted comfortable, leather dress shoes but the search process yielded no satisfactory alternatives. Another man, aged 78, purchased a particular style of low-cut

dress boot. However he could not obtain it in a narrow width, purchased a wider boot instead and inserted an innersole. And a 96-year-old woman complained that local shoe retailers did not carry her small size. She ordered a desired style of sandal from a catalog. On the other hand, several interviewees had successfully completed the decision process and wore shoes which they evaluated positively. A 96-year-old male found the athletic shoes he bought comfortable. A 93-year-old woman said the search process yielded three or four brands of the slip-on style she preferred.

The criteria respondents used to evaluate shoes included style, fit, and price but not safety even though sturdy footwear reduces the risk of falling (Gabell, Simons & Nayak, 1985; Tinetti & Speechley, 1989). Dunne, Bergman, Rogers, Inglin and Rivara (1993) found that few older people consistently wear sturdy shoes, defined as those with laces and nonskid soles. They include walking, athletic, and men's dress shoes but not canvas or women's dress shoes. Note, though, that four of the respondents in the present study purchased and wore shoes which could be classified as sturdy. Because function often gives way to style, shoe manufacturers might produce sturdy shoes in styles older consumers find attractive. Changing evaluative criteria is not usually easy, but shoe manufacturers and retailers should attempt to educate older people about the value of sturdy footwear.

Commercial airlines satisfied most of the interviewees' long-distance transportation needs. Several bought packaged excursions to overseas destinations, one had purchased tickets for a 14-day tour of European cities, and most traveled by air to visit friends and relatives. Need recognition led first to search for a travel agent or air line, then to an evaluation of the possible alternatives and finally to choice of an agent or carrier. Experiences generally met expectations and post-purchase evaluation yielded little dissatisfaction or dissonance. However, a 65-year-old married couple complained of the airlines' practice of overbooking. They had been involuntarily bumped on two occasions, received complimentary tickets from one airline, but that carrier declared bankruptcy before they could use the tickets. And the 93-year-old respondent nearly missed a connecting flight because an electric cart driver ignored her while picking up younger, more able passengers. She also protested that airplane restrooms were neither large enough nor arranged conveniently for older people. She chose to forego further air travel for these reasons.

The respondents particularly enjoyed organized tours because tour directors usually fly with the travelers to solve problems. As a result of the directors' activities travelers experience few glitches, their expectations are met, and post-purchase evaluation yields satisfaction. Airports may wish to create tour director type positions with the sole responsibility of alleviating aging travelers' problems. These problem solvers would meet older travelers at their gates as they deplane, order electric carts, provide information about connecting flights, help arrange hotel rooms for the night and point out restaurants and retail shops. Assistance becomes especially necessary when airlines cancel flights or incoming flights are late and connecting flights missed. While some airlines occasionally station employees at gates for late flights, none target older people and they limit the services offered to information about connecting flights.

Pleasing older, affluent travelers will become increasingly important to players in the air travel industry as the structure of airport ownership undergoes changes. Though most U.S. airports remain publicly owned, many communities will follow the example of Europe, Latin America and Asian countries and privatize their facilities (McKenna, 1996; Delays Can be Expected, 1996). As for-profit businesses, U. S. airports will need to compete with local retailers and increase the sales volume of their own shops (Reese, 1996). Anything an airport does to make flying more pleasant for the affluent older traveler can increase both passenger boardings and concourse retail sales. Airports and airlines which neglect their older consumers' needs will lose this market's travel dollars.

The infirmities which often accompany aging generate need recognition for products and services which help compensate for these disorders. Because of arthritis, for example, two of the oldest respondents experienced difficulty in arising from chairs. Though otherwise quite active, both needed canes to help them stand. At that, the 96-year-old man had to rock back and forth in order to arise. And arthritis forced a 71-year-old woman to choose chairs carefully. She experienced great difficulty in getting up from some styles. These older consumers recognized a need for specialized furniture. However, because they could find little information about chairs which might help them solve this problem, the need remained unsatisfied.

Furniture manufacturers and retailers should consider the unfulfilled needs for specialized furniture. Also, public and private institutions should probably ponder the needs of their aging clients as they purchase furniture. Churches and theaters, for example, might want to install chairs from which older consumers can easily arise.

SATISFIED NEEDS FOR GOODS AND SERVICES

The purchase decision process for some needs experienced by aging consumers had been completed to their satisfaction and were no longer extant. Elderly buyers had recognized a need, found acceptable products, purchased them, and experienced little post-purchase dissonance or dissatisfaction.

Though respondents located and purchased all the food items desired, two issues seem worthy of note. First, though medical conditions required some older consumers to follow specialized menus, supermarkets carried all foodstuffs needed to prepare meals. And the food service at the age-segregated apartment complex prepared special dishes for heart patients and diabetics. Second, the oldest of the respondents worried little about their diets. They ate what they wanted whether or not existing medical conditions called for specialized menus. At 93 and 96 years of age they believed heart disease and diabetes paled in comparison to the knowledge that they had already exceeded their expected life spans.

Although adequate housing comprises a problem for many older citizens (Margolis, 1990, pp. 77-105), all the interviewees had satisfactorily solved their housing needs. The youngest respondents lived in single-family dwellings purchased years earlier. Each realized that the desired end-state would eventually change, but until it did they were satisfied with existing housing arrangements. The 74-year-old interviewee lived with his wife in a multiple-

age apartment building. The lodging met all needs and he expressed little concern over a potential change in the desired end-state. The remaining eight respondents lived in an age-segregated retirement complex. Each had decided some years earlier to move into the complex and all expressed satisfaction with their decisions.

Older consumers purchase such medical products as eye-glasses, hearing aids, canes, walkers, and electric carts. The respondents expressed satisfaction with all but hearing aids. Three had purchased hearing aids though, for a variety of reasons, none wore the devices. First, compared to eyeglasses adjustment to a hearing aid takes much more time and effort. Second, because these amplification devices merely increase the volume of auditory stimuli and can not restore lost frequencies, sound quality suffers. Third, because hearing aids amplify all stimuli wearers cannot distinguish one voice from background noises. In summary, expectations about hearing aids weren't met, thus post-purchase evaluation yielded dissatisfaction, though no one returned the aids for refunds. Additional research is needed to determine why dissatisfaction occurred and what marketers can do to meet expectations.

All the respondents constantly evaluated the results of financial planning decisions made years earlier and all but one expressed satisfaction. In fact, two people's incomes increased after they retired. The exception was a 96-year-old woman who had sold a business years earlier, carefully budgeted her funds to last the rest of her life, but lived longer than she expected. She desired to continue living in the apartment she had occupied for several years, but had exhausted her financial resources. Impending insolvency resulted in internal search for alternative solutions to the problem.

Older citizens tended to satisfy recreational needs with a pattern of activities established some years beforehand. Several attended classes designed specifically for them on topics they chose. Others spent summers at lake cabins and winters in sun-belt states. Several vacationed by automobile or signed up for short tours of European and Asian countries. One man hunted and golfed. A number played bridge on a regular basis. They all watched some TV and most spent some time reading. The point here is that a truncated decision process operated; a problem was recognized, a solution remembered, and a decision quickly made. The one exception was a woman in her sixties. She enjoyed dancing but her husband did not. And though the existing and desired state of affairs differed, search apparently yielded few alternatives for they did not attend dances.

Health problems and declining energy levels created problem recognition for personal services. However, choice and purchase automatically followed problem recognition. Thus the health care system provided in-home assistance when one respondent broke her arm. And for those who did not feel up to cleaning their apartments or washing clothes, the retirement apartment complex supplied housecleaning and laundry services. In sum, these benefits became almost automatic once problem recognition occurred.

CONCLUSION

"With the emerging prominence of the mature market, several companies have begun to develop and promote products aimed at the aged population" (Moschis, 1994, p. 149).

These firms make mistakes, however, both when they treat older and younger consumers alike or assume they have a homogeneous older market. The results of the present study, therefore, may interest these companies as they attempt to analyze the consumer decision process for goods and services targeted toward the older market.

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GENDER-DECONSTRUCTING CONSUMPTION: SCALE DEVELOPMENT AND VALIDATION

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ABSTRACT

This article discusses the development and validation of a scale that measures consumers' tendency to construct or deconstruct traditional gender roles through their consumption choices. It presents data on the reliability and validity of the scale and discusses possible applications in business and consumer policy.

INTRODUCTION

Among the many social and historical changes that have occurred in this century, none is more important or has more far reaching implications than changes in the role and economic status of women. Unsurprisingly, these changes have had and will continue to have a profound effect on business and public policy. It is, therefore, imperative that businesspeople, consumer advocates, and public policy makers attend to developments in this area. This article provides a scale which can be used to monitor changes in consumption preferences that flow from the evolution of gender ideology.

THE CONSTRUCTION OF GENDER

The idea that women are inferior and should be subordinate has a history sufficiently long that it is deeply embedded in both language and custom. Its more subtle manifestations are, therefore, difficult to detect and even more difficult to change (Smith, 1987). To take just one example, women's sphere of influence and range of career opportunities have been limited by the restriction on women in combat, a restriction framed as a beneficent protection, but a protection that no woman could wave if she wished to obtain the opportunities that were its price. Asymmetries encoded in language are, if anything, even more difficult to unmask than those which take the form of custom (Larsen, 1993).

Fortunately, Jacques Derrida (1973; Culler, 1982), a prominent post-structuralist philosopher, has provided an insight which uncovers some of the hidden asymmetries. Language, he points out, is replete with dichotomous and apparently equivalent pairs: man/woman, male/female, boy/girl, husband/wife, mind/body, north/south, positive/negative, rich/poor, competent/incompetent. Derrida's insight is that the equivalence implied by the pairing of these terms masks an actual asymmetry. In each case, the first term in the pair is preferred or "valorized." This valorization is revealed in the fact that it sounds odd to reverse

the order of the terms when they are used together, i. e. say south and north, poor and rich, female and male. It is revealed, too, in the fact that the first term reflects the historical locus of power or value. Historically, the north has been more prosperous and powerful than the south (in both the US and the world), the rich more comfortable and respected than the poor, men more honored and obeyed than women. People in power have constructed the language code in such a way that it hides these asymmetries behind a falsely implied balance and, thus, makes them seem natural. Derrida and other post-structuralists unmask the conventionality of these distinctions, showing that they are rooted not in nature but in group interests and the exercise of group power.

Consumer researchers have long since pointed out that consumption, like these verbal dichotomies, is heavily gender coded (Courtney & Lockeretz, 1971; Davis & Rigaux, 1974; Gentry & Doering, 1977). It has more recently become apparent that the asymmetries uncovered by Derrida's linguistic analyses are manifest in gender coded consumption as well. For instance, Fontenelle and Zinkhan (1992) suggest that the experience of leisure is asymmetrical for women and men. The leisure of a woman is likely to be tied to that of her partner and children so that even on vacation, her needs tend to be subordinated to the needs of her family. The leisure of men, on the other hand, tends to be relatively free from constraint. In a similar vein, Wallendorf and Arnould (1991) found that Thanksgiving Day, a day of leisure and relaxation for men, often involves very hard work for women, who must cook the ritual feast, then clean up afterward. And Fischer and Arnold (1990) have shown that family Christmas shopping tends to be framed as a compulsory duty for women but as an optional pleasure for men.

Since language is at root a system of differences (Saussure, 1959), linguistic and social dichotomies are probably unavoidable. However, asymmetries in both language and custom can be "deconstructed" as well as constructed. That is, dichotomies can be reframed in such a way that they embody genuine balance or, even more instructively, in such a way that the once marginal term (or gender) becomes valorized. When the latter happens, the entire network of assumptions and socioeconomic relationships is cast in a new light, a light that discloses the hidden agenda and interests of those who created the original asymmetrical dichotomy (Culler, 1982, p. 150). A striking consumer behavior example of the more radical move is the recent actions of the Barbie Liberation Organization. This group surreptitiously switched the voice boxes on G.I. Joe and Barbie dolls. As a result, girls around the United States heard their Barbies proclaim, "Dead men tell no lies"; boys heard G.I. Joe perkily ask, "Want to go shopping?" (Associated Press, 1993). In this reversal, women are coded as powerful and violent mistresses of their domain. They are active and produce a ghoulish product--dead bodies. Men are coded as socially engaged consumers who are passive, compliant, and somewhat frivolous.

The practical, day-to-day importance of gender deconstruction in the consumer domain has recently been made clear by Frances Cerra Whittelsey (1993). Citing one example after another, Whittelsey shows that distinctions in the marketplace between male and female tend to be costly for women. She reports, for instance, that a given style of knit shirt almost always costs more in the women's department of a clothing store than in the men's. And laundering

the shirt at a dry cleaner is also more expensive for women, traditionally about 27 percent more for the same style of shirt. In New York, women generally pay more than men for a basic shampoo, cut, and blow dry at a hair salon. And though women buy about half of all new cars in the United States, they are not treated equitably by dealers. Compared with white men, white women pay, on average, about $150 more and black women about $800 more for the same car. In Whittelsey's analysis, the valorization of the male in the marketplace produces a cash bonus for males and a cash penalty for females. Thus, women have a very tangible economic interest in deconstructing the existing male/female distinction. Unfortunately, for the time being, most women and supportive men too seldom make the consumption choices that would promote this interest.

MEASURES OF GENDER

Since it is a social and linguistic construct, not a biological attribute, gender cannot be equated with sex. It is most often defined as a personality disposition and most often measured with the Bem Sex-Role Inventory (BSRI). The BSRI can measure the extent to which a given woman or man's personality deconstructs or constructs the gender distinction. Thus, Frable (1989) has used the BSRI to divide people into four groups: sex typed (feminine women, masculine men), androgynous (both feminine and masculine), undifferentiated (neither feminine nor masculine), and cross-sex-typed (masculine women, feminine men). Sex typed individuals validate the traditional link between sex and gender in their own personality and in their interactions with and judgements of others (Anderson & Bem, 1981). Androgenous, undifferentiated, and, most radically, cross-sex-typed individuals deconstruct the traditional link between sex and gender (Frable, 1989).

Useful as it is, the BSRI has had limited power to predict behaviors of interest. As Bem herself has pointed out, "the literature is littered with failed attempts to use the [BSRI] and Personal Attributes Questionnaire (PAQ) to predict a wide variety of gender-related attitudes and behaviors" (Bem, 1985, p. 196). Commenting on consumer behavior in particular, Meyers-Levy (1988, p. 522) has made a similar point: "Consumer behavior researchers have met with only limited success in relating sex roles to product perceptions." Frable (1989) argues that these failures may result from attempting to use sex typing, a personality disposition, in contexts where gender ideology, a belief system, would be a more appropriate predictor. While measures of gender ideology already exist (Antil et al., 1981; Kalin & Tilby, 1978; Spence, Helmreich, & Stapp, 1973), they measure broad social and political ideology. Our objective was to develop a measure of gender ideology which was consumption-specific, one which could be used to estimate consumers' tendency to construct or deconstruct gender distinctions through their consumption choices. Such a measure must be developed if we are to assess the effects of gender-deconstructing attitudes and behaviors and the effectiveness of treatments designed to foster these attitudes and behaviors in the marketplace.

Our scale was developed using procedures outlined by Churchill, 1979) and DeVellis (1991). Following the specification of the domain, two professors and two graduate students expert in consumer behavior and/or women's studies generated 52 items which, in their

judgement, tapped the tendency to construct or deconstruct gender through consumption choices. These experts were instructed to suggest consumption-related items that would produce a differential response in subjects disposed to support traditional, asymmetrical gender roles versus those disposed to question and resist traditional roles. The 52-item scale generated in this way was purified through four successive stages, each of which involved data collection, factor analysis, and the calculation of Cronbach's alpha. During the first two rounds of this purification process, twelve additional items were generated, two of which were eventually incorporated in the final scale.

To explore interrelationships among items in the initial set and to suggest new items, data were gathered and analyzed in three preliminary rounds in which 30, 27, and 65 subjects were used. In each of these three rounds, responses were factor analyzed using principal components analysis in SAS with the MINEIGEN > 1 and then successively more restrictive NFACTOR parameters. Item-to-total correlations and Cronbach's alpha were also calculated. The objective was to enhance construct cohesiveness and validity by identifying items that loaded on major factors, that held together as the number of factors was restricted, that had high item-to-total correlations, and that improved reliability (Nunnally, 1978). Items that performed poorly on these criteria were retained in successive rounds but were moved to the end of the scale so that they would not influence responses to items that performed well. There were 52 items and 10 factors with an eigenvalue greater than one in the first round, 58 items and 12 factors in the second round, and 64 items and 15 factors in the third round.

In the final round of the scale development and purification process, 67 subjects responded to the survey. The results for particular items were generally consistent with those in the preliminary rounds. Consequently, 11 items at the beginning of this scale were selected for the final scale, items that had been moved to the beginning because they had loaded on major factors and had good item-to-total correlations. Factor analysis on these 11 items yielded a two factor solution that explained 55 percent of the response variance. Cronbach's alpha was .87, and item-to-total correlations ranged from .48 to .68. When added to these 11, other items in the survey created new, relatively unstable factors and/or reduced scale reliability.

The scale was validated by examining with new samples its factor structure, its reliability, and its convergent/ discriminant and predictive validities. The subjects were students enrolled in business classes. Two sets of subjects were used to avoid an overlong survey and consequent fatigue. The first had 132 subjects (48 female, 84 male), the second 153 subjects (55 female, 98 male).

Table 1

1.	If a couple is buying a car, the man should take the lead.
2.	I would not want my boy to play with dolls.
3.	I would be reluctant to fly on a plane that had a woman pilot.
4.	A motorcycle is a male, not a female product.
5.	The use of power tools like chain saws and electric drills is more appropriate for men than for women.
6.	I believe women's hair should generally be cut and styled differently from men's hair.
7.	*Were one available, I might use the services of a female automobile mechanic.
8.	*A magazine like *Good Housekeeping* is proper reading for a man.
9.	Women should not wear suit coats cut like those customarily worn by men.
10.	On the whole, it is better that sewing be left to women.
11.	Plastic surgery is more appropriate for women than for men.

*Starred items are reverse coded.

FACTOR STRUCTURE

For both validation samples as for the development sample, factor analysis yielded a two-factor solution. For the first sample, the solution explained 49 percent of the response variance, for the second 51 percent. All factor loadings above .30 are reported for both samples in Table 2. The factor structure in the first validation sample is most clearly interpretable. Factor 2 taps attitudes toward gender typing in occupational roles. Items having to do with women pilots and automobile mechanics and male housekeepers load most heavily on this factor and do not load of factor 1. The item on boys playing with dolls may also cast males in the homemaker role while that on women wearing suit coats may cast females in a businessman role. Factor 1 seems to group responses to products and services. Consistent with this interpretation, the doll and suit items load on this factor while the more unambiguously occupational items do not.

The factor structure for the second validation sample is generally consistent with that in the first. All items that loaded on factor 2 in the first sample also load on it in the second. The same is true for items that loaded on factor 1, except for item 5. While most loadings are the same, the magnitudes have changed, so the second factor structure is less unambiguously interpretable than the first. Even so, there appear to be two relatively stable factors that explain a substantial proportion of the variance in attitudes toward products or services that construct or deconstruct traditional gender codes.

Table 2

	Sample 1 (n = 132)			Sample 2 (n = 153)	
Item	Factor 1	Factor 2	Item	Factor 1	Factor 2
5	.76		1	.79	
10	.73		4	.69	.36
4	.68	.33	10	.64	.41
11	.67		3	.60	.50
6	.62		6	.59	
1	.56		7	.52	.32
3	.78		11	.51	
7	.77		2	.49	.38
8	.64		5	.83	
2	.33	.42	8	.67	
9	.34	.39	9	.65	

Principal components analysis with a varimax rotation

RELIABILITY AND VALIDITY

Scale reliability was acceptable in all validation samples. For the first sample (n = 132), Cronbach's alpha was .83. Item-to-total correlations ranged from .37 to .64. Two weeks later, the scale was again administered to 108 of these subjects (43 female, 65 male) to assess test/retest reliability. The correlation between the first and second scores was .85. Individual item-to-item correlations ranged from .30 to .71 with most being in the .60 range. For the second sample (n = 153), Cronbach's alpha was .86. Item-to-total correlations ranged from .45 to .69.

The convergent/ discriminant validity of the scale was assessed using one scale which should and two scales which should not correlate highly with gender-constructing/deconstructing consumption. The scale which should correlate is Kalin and Tilby's (1978) Sex-Role Ideology Scale (SRIS). Since our scale is designed to be a consumption-specific sex-role ideology scale, it should correlate highly with more generalized sex-role ideology scales. This expectation was confirmed by the SRIS's .61 correlation with the first (n = 132) and .56 correlation with the second (n = 153) validation scale.

Our Gender-Constructing/Deconstructing Consumption (GC/DC) scale differs from other sex-role ideology scales in its focus on consumption. On this point of difference, it resembles materialism scales which also tap a tendency to consume. To confirm that the GC/DC did not merely tap differences in materialism, we measured level of materialism using Richins and Dawson's (1992) materialism scale. Consistent with our expectation that the GC/DC has a consumption dimension but does not tap general materialism, the correlation between the scales was .18 (n = 132) and .23 (n = 153).

The GC/DC is designed to measure a tendency to support or challenge traditional gender codes. To confirm that it does not merely tap a proclivity to monitor and comply with or violate the expectations of others (i.e. be feminist among feminists, traditional among traditionalists, or visa versa), we measured level of attention to social comparison information using a scale developed by Lennox and Wolfe (1984). The .11 (n = 132) and .17 (n = 153) correlations between the two scales suggest that the GC/DC does not measure a general tendency to construct/ deconstruct social conventions but is, rather, sex-ideology specific.

The high correlation between the GC/DC and Kalin and Tilby's (1978) SRIS establishes convergent validity but also raises a question: Do we need a new scale given this high correlation with the existing one? Our answer is that, in addition to being shorter (11 items rather than 30) and more reliable (.83 to .89 Cronbach's alpha rather than the .57 to .84 reported for the SRIS-- .74 and .72 for our samples), the GC/DC seems to have better predictive validity in consumer behavior contexts. We tested the predictive validity of the competing scales by regressing the composite scores on various gender-related consumption attitudes. Judging from the R^2 and the p-value of the regressions, the GC/DC outperforms the SRIS as a predictor of these attitudes.

The 46 items used as dependent variables included some suggested by our experts as measures of gender deconstruction that were not included in the final scale and others generated specifically for this test of predictive validity. Items measured attitudes toward progressive or nonprogressive business practices (e.g., I am more likely to purchase a company's products if I have heard it actively seeks to promote women employees), toward the sex-typing of occupations (I like to see women move into occupations traditionally held by men and visa versa), toward the sex-typing of consumption roles (A wife should be primarily responsible for purchasing the family groceries) toward product classes traditionally marketed to one sex or the other (I enjoy reading or watching science fiction), toward products that mark gender (It is a good idea to dress baby boys in blue, baby girls in pink), and toward specific brands that have been criticized for reinforcing asymmetrical gender distinctions (Barbie, Keystone Beer, Hooters Restaurants: My attitude toward Hooters Restaurants is positive). All items were measured on a 5-point scale anchored by strongly agree and strongly disagree. Half were administered to the first, half to the second validation sample.

While neither scale significantly predicted attitudes toward science fiction, handguns, sport utility vehicles, stylish clothing, traditional weddings, or Stroh's and Keystone Beer, the GC/DC did significantly predict attitudes on 35, the SRIS on 31 of the 46 dependent variables. Focusing on the 37 variables for which one or both scales were a significant predictor, the GC/DC had an average R^2 of .16, the SRIS of .10. The GC/DC, thus, appears to have considerable utility in predicting a broad range of consumption attitudes.

IMPLICATIONS FOR SOCIAL ACTION

The strong relationship between the underlying attitude tapped by the GC/DC and the broad range of consumption attitudes and behaviors measured in the tests of predictive validity have noteworthy implications for businesspeople and consumer policy makers. It

suggests that business practices or policy initiatives which change this underlying attitude will have important and generally progressive marketplace consequences, i.e., more employment opportunities, better products, and better service for women. And changes in attitudes toward asymmetrical gender codes are likely to be progressive because most people have a powerful economic interest in adopting the more liberal attitudes reflected in higher GC/DC scores: deconstructing gender distinctions makes the economy more efficient and leads to an increase in aggregate economic well being.

In his pioneering work on the economics of discrimination, Gary Becker (1971) has demonstrated that discrimination based on race and sex is a form of domestic protectionism that, like protectionism in international markets, reduces aggregate economic output. When employers discriminate in hiring, they must pay a wage premium to hire from an arbitrarily restricted labor pool. In addition to hurting themselves, they waste the skills of the groups they discriminate against. Likewise, when consumers discriminate in their buying, they pay a price premium for buying from an arbitrarily restricted pool of suppliers. They reduce their own standard of living and the standard of living of the groups they discriminate against. It is true that the group favored by those who discriminate (whites, males) may benefit, but their economic gain will be only a small proportion of the aggregate economy's loss. So even the favored group may be worse off in absolute terms than they would have been in a more robust economy that was unencumbered by the costs of racism or sexism.

While all may suffer, Becker makes it clear that the group discriminated against suffers the greatest loss. And the masking power of language and ideology notwithstanding, it is difficult to hide disadvantages from a disadvantaged class. Most victims of discrimination experience dissonance which alerts them to hidden asymmetries (Frable, 1989; Showalter, 1977). So disadvantaged groups--blacks, women--are likely to see through the cultural codes that legitimize and naturalize economic discrimination against them, though there are usually some group members who embrace language and ideas that limit their opportunities.

This tendency for a disadvantaged group to deconstruct injurious distinctions was apparent in our samples. As expected, women proved to be much more inclined than men to deconstruct the gender codes that disadvantage them. In both of our validation samples, women's GC/DC scores were much higher than those of men (Table 3). The attitudes reflected in these scores provides a firm foundation for social action in business and politics, for women's numbers (more than half of the population) and control of hundreds of billions in spending give them enormous potential economic and political power. The next two sections discuss options available to businesspeople, consumer advocates, and policy makers who wish to foster the deconstruction of gender codes.

The discrimination against women that Whittelsey (1993) shows is rife among American businesses creates a major opportunity for progressive businesspeople who want to combine doing good with doing well, for businesses can profit by deconstructing asymmetrical gender distinctions. A dry cleaner who charges women 27 percent more than men to launder a shirt is either earning an exceptional profit on cleaning women's shirts or subsidizing the below-cost price for laundering men's shirts with an above-cost price for women's. Assuming that the dry cleaning market is price-sensitive, a progressive dry cleaner could corner the

market on women's shirts by charging an equitable price. And the same is true in other markets where market failure takes the form of price discrimination against women (Becker 1971).

Table 3

Sample	Sex	Mean	SD	p-value of t-test
n = 132	female	30.79	7.89	.0001
	male	22.84	6.41	
n = 153	female	28.96	7.92	.0001
	male	22.06	7.47	

This equitable pricing strategy should work with women consumers who are price sensitive, regardless of gender attitudes. But in communities where GC/DC scores are already high or where research shows that scores rise when consciousness is raised, a business could earn good will and additional patronage by building a promotional campaign around the deconstruction of an asymmetrical gender distinction. Since the network of assumptions that undergird a distinction are most fully exposed when the implicit valorization is reversed, such a campaign might be most effective if it reversed the status of women and men. A dry cleaner might, for instance, abandon equitable pricing for one week and, with some fanfare, invert their competitors' practice by charging 27 percent more to launder a man's shirt. The same thing could be done in any market where a gender distinction harms women.

Price discrimination is an economically inefficient and relatively obvious instance of asymmetrical gender coding. As such, it may be comparatively easy to eliminate through direct competition. Less obviously asymmetric gender distinctions may be harder to identify and eliminate but may provide even greater long-term potential for a business to capitalize on progressive policies. It is easier for competitors to change to equitable pricing than it is for them to match good will won by being at the forefront of an important cultural change. Levi Strauss is an example of a company that has built a powerful brand name in part by being sensitive to cultural change (*Economist*, 1991). In a recent jeans commercial, they continue that tradition by positioning themselves at the forefront of efforts to deconstruct traditional gender codes. In the commercial, the figure in a dress that symbolizes a woman's restroom comes to life, takes off her skirt, and turns it into a rope. Climbing down the rope, she escapes the frozen immobility of the restroom door. As the commercial closes, she pulls on the rope and the circle that framed her on the door falls to the floor and splinters. She stand free and uncircumscribed, clad in Levi's jeans, traditional clothing of frontier males. In this commercial, Levi Strauss aligns itself and its product with women who consciously or unconsciously feel constrained by the gender codes that surround them. The company promotes the use of its product as an act of personal assertion through gender-deconstructing

consumption. Similar repositioning through gender code deconstruction is possible for many businesses and products.

While market forces and business activism can foster changes in gender perceptions, the upper echelons of corporate America are still massively dominated by males, who, judging from GC/DC scores in our samples, are relatively unconcerned about deconstructing asymmetrical gender distinctions. This result is unsurprising, for compared with women, men tend to be less concerned about socially responsible consumption in a variety of domains (Roberts, 1993). But the backwardness and resistance of men may not be that important. Women control hundreds of billions in their own income and even more in family income since they still do most household shopping (Roper, 1990; Schwartz & Miller, 1991). So if women consumers can be motivated to deconstruct gender codes through their consumption choices, businesses will be compelled to be responsive. They cannot afford to ignore the power of the purse.

Through education and lobbying, consumer organizations can play an important role in motivating women to deploy their economic and political power against harmful gender distinctions. For instance, Ralph Nader's Center for Responsive Law has published Frances Cerra Whittelsey's (1993) *Why Women Pay More: How to Avoid Marketplace Perils*, an example of effective gender code deconstruction by a consumer advocate. In this book, Whittelsey argues in the text (and Nader in the introduction) that women need to become more reflective and demanding consumers. Whittelsey educates women on business practices and products that do not serve their interests and explains how they can avoid and punish exploitation. The book has the merit of providing concrete examples of invidious gender distinctions that harm women and of effective consumer responses that deconstruct those distinctions. But it also has one potential weakness. In emphasizing the responsibility to be an informed consumer, Whittelsey may add one more burden to the already overburdened women who now spend an inequitable amount of time on child care and household shopping.

While educating consumers to be more conscientious is important, it may be still more important to reduce the search costs of the many women who, judging from GC/DC scores in our samples, are already disposed to be gender-deconstructing consumers. Efforts to foster green marketing and green consumption show the variety of ways in which this might be done. Taking a positive tack as some environmentalist organizations have done (Ottman, 1994), feminist and consumer organizations could present awards to businesses that have excelled in hiring and promoting women and/or in developing and marketing products that deconstruct traditional gender distinctions. Recipients could be encouraged to use their awards in product promotions. A more ambitious but more effective strategy would be to develop an equivalent of the green seal that has been used to mark environmentally friendly products (List, 1993). This would require the establishment of an institution to administer the seal and of guidelines on how to earn it. It would have the advantage of identifying progressive companies and products in the marketplace and, thus, allow women to recognize and reward gender equity while incurring very low search costs. Taking the more negative tack that Greenpeace has adopted in the environmental movement, groups like the Barbie Liberation Organization can continue to subject companies that victimize women to negative publicity. Since large

businesses generally dislike controversy, tactics of this sort could motivate some positive changes.

Finally, consumer advocates and individual consumers should not neglect political action. As Gregory (1987) has pointed out, the appropriate model here is the political and legal fight against racial discrimination. Since women constitute political majorities in most developed countries, they have been and will continue to be big winners when governments intervene to limit discrimination through laws such as The Equal Credit Opportunity Act of 1974 and to remedy past discrimination through regulations requiring affirmative action (Gleckman, Smart, & Dwyer, 1991). Even if laws do not explicitly forbid practices such as the kinds of gender-based price discrimination that Whittelsey (1993) has identified, government action can raise the perceived price of a legal challenge and, thus, make businesses more responsive to consumer pressures.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The principal limitation of this study is its use of a demographically restricted sample in the development and validation of the GC/DC scale--college business students. While young professionals are very important to most businesses and to policy makers, it is possible and even likely that these consumers may differ from other consumers, especially the elderly. So the most obvious extension of this study would be to validate the GC/DC scale with other demographic groups. Once validated with a relevant group, activists in business, government, and consumer organizations could use the instrument to evaluate efforts to encourage gender-deconstructing behavior. The level of GC/DC scores among various populations and the degree to which scores can be raised by initiatives such as those discussed above may indicate the degree to which political and consumer pressures can be mobilized to deconstruct gender distinctions that harm the interests of women.

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TEMPORAL CAUSALITY AND THE DYNAMIC INTERACTIONS AMONG MARKETING ACTIVITY WITHIN A MULTIVARIATE COINTEGRATED SYSTEM

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ABSTRACT

The main purpose of this paper is to discern the dynamic causal relationships (in the Granger (temporal) sense) among sales, advertising and prices in the context of the Portuguese car market. The present research (based on multiple cointegration tests preceded by various unit root or non-stationarity tests) is one of the first attempts at putting the sales-marketing mix analysis within a multivariate cointegrated system. The results, based on a three-step procedure (cointegration, VECM and VDCs) confirm that a strong one-way relationship $(A \rightarrow S\ ,\ A \rightarrow P)$ ***between advertising and sales (prices) is complemented by a feedback relationship*** $(S \leftrightarrow P)$ ***between sales and prices.***

INTRODUCTION

Basically, two approaches have been used in the past to estimate the relationship among sales (demand) and marketing-mix variables at various levels of aggregation. Most commonly, a regression model is estimated which includes e.g., advertising expenditure (or a proxy) among its explanatory variables and appropriate dynamics. The list of such studies is rather long; only Clarke (1976) reviews 69 of them. The second, and more recent, approach is to estimate a Box-Jenkins time series model as was done by Helmer and Johansson (1977), Hanssens (1980), Bhattacharyya (1982), and Heyse and Wei (1985).

The direction of causality is usually assumed to run from advertising to sales whereas the possibility of an effect of sales on advertising, whereby advertising budgets are set as a percentage of sales, although recognized (Schmalensee, 1972), it has received much less attention. Ashley et al. (1980) and Heyse and Wei (1985) present evidence supporting causality from consumption (sales) to advertising rather than the reverse.

The causal chain (among sales and other marketing activity such as advertising, price, and promotions) implied by the existing marketing paradigms still remains ambiguous. The issue, therefore, as to the dynamic causal relationships (even in the Granger temporal sense rather than in the structural sense) remains unresolved and is an empirical one [1].

In order to empirically resolve the issue of the direction of causation in a bivariate context, a lot of causality tests have been applied based mainly on the standard Granger (1969), Sims (1972), and the modified Sims suggested by Geweke et al. (1983). But the studies applying these tests suffered from the following methodological deficiencies:

(*i*) These standard tests did not examine the basic time series properties of the variables. If the variables are cointegrated, then these tests incorporating different variables will be misspecified unless the lagged error-correction term is included (Granger 1988).

(*ii*) These tests turn the series stationary mechanically by differencing the variables and consequently eliminated the long-run information embodied in the original level form of the variables. The error-correction model (ECM) derived from the cointegrating equations, by including the lagged error-correction term reintroduces, in a statistically acceptable way, the long-run information lost through differencing. The error-correction term (ECTs) stands for the short-run adjustment to long-term equilibrium trends. This term also opens up an additional channel of Granger causality so far ignored by the standard causality tests.

(*iii*) Moreover, although recently, there has been a beginning of the application of ECM in causality testing in the bivariate context, such as Baghestani (1991), Chowdhury (1994), Dekimpe and Hanssens (1995), Jung and Seldon (1995), Lee, Shin and Chung (1996), and Zanias (1994), there has been very little attempt at testing the Granger causality channel in a dynamic multivariate Marketing context through vector error-correction modelling (VECM), variance decompositions (VDC) and impulse response functions (IRF).

The primary purpose of this research is to conduct empirical tests to discern the dynamic causal relationships (in the Granger (temporal) sense rather than in the structural sense) among sales and other marketing-mix variables such as total advertising expenditures, and price in the context of the Portuguese car market.

As mentioned before, at the moment a very few works (only about three or four) exist on the application of ECM in testing Granger causality. But even these few works are set in a bivariate context, and also do not apply the techniques of variance decompositions and impulse response functions to Granger causality. This study will make an attempt to improve and extend the existing few ECM-based works on Granger causality in the following ways:

***(a)* It will try to discern Granger causality in a car market in a multivariate framework and within the environment of vector error-correction modelling. This analysis will also make use of the techniques - variance decompositions, and impulse response functions - to unveil Granger causality in marketing activity in a dynamic context [2].**

***(b)* The error-correction terms derived from the cointegrating vectors are arrived through Johansen's multivariate cointegrating testing procedure (in contrast to much of the pre-existing literature) which are then used as additional channels in order to identify Granger causation. Since this procedure identifies multiple cointegrating relationships and hence error-correction terms, this is an issue of crucial importance in Granger causality testing in a dynamic multivariate context.**

ECONOMETRIC METHODOLOGY

The following sequential procedures will be adopted:

Step 1: Cointegration and Causality

The cointegration technique pioneered by Engle and Granger (1987), Hendry (1986) and Granger (1986) made a significant contribution towards testing Granger causality. According to this technique, if two variables are cointegrated (i.e., share a common trend), the finding of no-causality in either direction - one of the possibilities with the standard Granger and Sims tests - is ruled out. So long as the two variables have a common trend, causality (in the Granger sense, not in the structural sense), must exist in at least one direction (Granger 1988; Miller and Russek 1990). And this Granger (or temporal) causality can be detected through the vector error-correction model derived from the long-run cointegrating vectors 3.

Step 2: Vector Error-Correction Modelling (VECM) and Exogeneity

Engle and Granger (1987) demonstrated that once a number of variables (say *x* and *y*) are found to be cointegrated, there always exists a corresponding error-correction representation which implies that changes in the dependent variable are a function of the level of disequilibrium in the cointegrating relationship (captured by the error-correction term) as well as changes in other explanatory variable(s). A consequence of ECM is that either Δx_t or Δy_t or both must be caused by ϵ_{t-1} which is itself a function of x_{t-1}, y_{t-1}. Intuitively, if *y* and *x* have a common trend, then the current change in *x* (say, the dependent variable) is partly the result of *x* moving into alignment with the trend value of *y* (say, the independent variable). Through the error-correction term, the ECM opens up an additional channel for Granger causality (ignored by the standard Granger and Sims tests) to emerge. The F-test applied to the joint significance of the sum of the lags of each explanatory variable and the t-test of the lagged error-correction term (or asymptotic χ^2-tests applied to the ECT coefficients jointly) will imply statistically the Granger exogeneity or endogeneity of the dependent variable. Here, one should acknowledge the concepts of weak and strict exogeneity within a cointegrated system, where weak exogeneity refers to ECM-dependence (i.e., dependence upon stochastic trends) and strict exogeneity to dependence on the sum of joint lagged differenced variables. F-tests or asymptotic χ^2-tests may be interpreted as within-sample causality tests but provide little evidence on the dynamic properties of the system which is given by the variance decompositions and impulse response functions which may be termed as out-of-sample causality tests (Bessler and Kling 1985) [4].

Toda and Phillips (TP) (1993) provide evidence that the Granger causality tests in ECM's still contain the possibility of incorrect inference; they also suffer from nuisance parameter dependency asymptotically in some cases (see TP for details). All of these indicate that there may be no satisfactory statistical basis for using Granger causality tests in levels or in difference VAR models or even in ECM. The sequential Wald tests of TP (1993) are

designed to avoid these problems. Asymptotic theory indicates that their limiting distributions are standard and free of nuisance problems.

Step 3: Variance decompositions (VDC) and Relative Exogeneity

The VECM, F-and t-tests may be interpreted as within-sample causality tests. They can indicate only the Granger causality of the dependent variable within the sample period. They do not provide an indication of the dynamic properties of the system, nor do they allow me to gauge the relative strength of the Granger-causal chain or degree of exogeneity among the variables. VDCs which may be termed as out-of-sample causality tests, by partitioning the variance of the forecast error of a certain variable into proportions attributable to innovations (or shocks) in each variable in the system, including its own, can provide an indication of these relativities. A variable that is optimally forecasts from its own lagged values will have all its forecast error variance accounted for by its own disturbances (Sims 1982).

EMPIRICAL RESULTS

The data base used for this study is a monthly time series sample of sales (S), and two marketing-mix variables, for the period 1988:1-1996:6 in the Portuguese car market. The decision variables included retail prices (P) and total advertising expenditures (A) for the leader brand (RENAULT) in the car market. The Portuguese market consists of twenty-five imported car brands, but the top seven account on average for 80.4% of the total market, with a standard deviation of 5.48%. The leader is a general brand, presented in all segments and represents an average market share of 15.9%, with a standard deviation of 4.95%. The sources of all these data are, respectively, the *Portuguese General Directorate of Transports,* the *Guia do Automóvel* and the *Sabatina* for the sales (in volume), retail prices, and total advertising expenditures series. The price and advertising variables are expressed in constant Portuguese escudos.

INTEGRATION AND COINTEGRATION PROPERTIES

The usual asymptotic properties cannot be expected to apply if any of the variables in a regression model is generated by a non-stationary process. Using unit root tests, I explore the properties of the S, A, and the P series. If a series contains a stochastic trend, it is said to be integrated of order *d*, *I(d)*. Differencing *d* times then yields a stationary series.

Table I reports the results of the Dickey-Fuller tests (DF) (Dickey and Fuller, 1979), Augmented Dickey-Fuller tests (ADF), and Phillips-Perron tests (PP) (Phillips and Perron, 1988) that the S, A, and P series might have up two unit roots. In no case is there significant evidence against the single unit root hypothesis. Thus the null hypothesis that both series are non-stationary in levels cannot be rejected. All test statistics for a second unit root, that is, a unit root in the first differences of the series, are highly significant. I therefore adopt the alternative hypothesis that the series are stationary in first differences [5].

Since the series contain a stochastic trend, I proceed with investigating whether they share a common stochastic trend. This refers to testing for cointegration which is a way of testing for a long-run equilibrium relationship among S, A, and P. Two variables are said to be cointegrated of order one, *CI(1,1)*, if they are individually *I(1)* and yet some linear combination of the two is *I(0)* (Engle and Granger, 1987). Under the assumption that a first-order model is correct, I test whether the estimated residual of the cointegrating regression is stationary. Specifically, I perform ADF tests in order to test the null hypothesis that the residual series of the cointegrating regression is non-stationary. Reporting a value of -3.70 an ADF test with one lag and with S as the independent variable rejects the null of no cointegration at the 2.5% level [6]. Since the cointegrating vector establishes an equilibrium relationship, the ADF test should not lead to a different conclusion if the cointegrating equation is estimated with A as the independent variable. With a value of -3.76 the result confirms this requirement.

Given the low power of standard unit root tests against fractional alternatives (Diebold and Rudebush, 1991) I apply the semi-nonparametric procedure suggested by Geweke ans Porter-Hudak (GPG, 1983) to the S, A, and P series. The GPH test avoids the knife-edged *I(1)* and *I(0)* distinction in the PP test by allowing the integration order to take on any real value (fractional integration). Table II reports the empirical estimates for the fractional differencing parameter. I find no evidence in support of the fractional alternative for any of my sample series. I therefore conclude that all series are integrated processes of order one and subsequently apply my analysis to the S, A, and P changes. This is a necessary step in order to test the cointegration of the variables. The results based on Johansen's (1988) and Johansen and Juselius's (1990) multivariate cointegration tests (Table III) tend to suggest that these three variables are cointegrated , i.e. have common trends. In other words, these three variables are bound together by long-run equilibrium relationships (either one or two as indicated by the test of null or alternative hypotheses through the maximum eigenvalue and trace statistics).

Table 1: Tests for integration

	Single unit root			Second unit root		
Series	DF	ADF	PP	DF	ADF	PP
S	-1.25	-1.41	-1.26	-17.5[b]	-13.5[b]	-17.5[b]
A	-1.84	-1.78	-1.81	-17.7[b]	-14.2[b]	-17.7[b]
P	-1.39	-1.52	-1.31	-18.4[b]	-15.8[b]	-17.9[b]

Notes: [b] Statistically significantly different from zero at the 0.01 significance level. The optimal lag used for conducting the ADF test statistic was selected based on an optimal criterion (Akaike's FPE), using a range of lags. The truncation lag parameter *l* used for PP tests was selected using a window choice of $w(s,l)=1-\frac{s}{(l+1)}$ where the order is the highest significant lag from either the autocorrelation or partial autocorrelation function of the first differenced series (see Newey and West, 1987).

Table 2: Empirical estimates for the fractional-differencing parameter $\tilde{d}$

Series	$\tilde{d}$ (0.50)	$\tilde{d}$ (0.55)	$\tilde{d}$ (0.60)
Sales (S)	0.086 (0.513)	-0.036 (-0.276)	-0.154 (-1.503)*
Advertising (A)	-0.031 (-0.179)	0.009 (0.058)	-0.165 (-1.313)*
Price (P)	0.037 (0.361)	0.072 (0.754)	-0.174 (-1.251)*

Notes: *d* is the fractional differencing parameter corresponding to the S, A, and P series whereas $\tilde{d}$ is the fractional differencing parameter corresponding to the S, A, and P change series ($d = 1+\tilde{d}$). $\tilde{d}$ (0.50) , $\tilde{d}$ (0.55), and $\tilde{d}$ (0.60) give the $\tilde{d}$ estimates corresponding to the GPH spectral regression of sample size $\nu = T^{0.50}$, $\nu = T^{0.55}$, and $\nu = T^{0.60}$, respectively. The *t*-statistic are given in parentheses and are constructed imposing the known theoretical error variance of $\frac{\pi^2}{6}$. The superscripts ***, **, * indicate statistical significance for the null hypothesis $\tilde{d} = 0$ ($d = 1$) against the alternative $\tilde{d} \neq 0 (d \neq 1)$ at the 1, 5, and 10 per cent levels, respectively.

Table 3: Johansen's test for multiple cointegrating vectors

Hypothesized number of cointegrating relationships		Test Statistics Maximum		Critical Values (95%) Maximum	
H_0	H_1	Eigenvalue	Trace	Eigenvalue	Trace
$r=0$	$r>0$	86.65*	79.32*	33.46	68.52
$r\leq 1$	$r>1$	45.78*	51.34*	27.06	47.21
$r\leq 2$	$r=3$	18.05	21.17	20.96	29.68

Notes: r indicates the number of cointegrating relationships. The optimal lag structure of the VAR was selected by minimizing the Akaike's FPE criteria. Critical values are taken from Johansen and Juselius (1990). * indicates rejection at the 95 per cent critical values

VECTOR ERROR CORRECTION MODEL AND GRANGER CAUSALITY TEST

The number of cointegrating relationships found in Table 3 will result in a corresponding number of residual series, and hence error correction terms (ECTs), to be used in the subsequent vector error correction model (VECM), results based on which appear in Table 4.

As stated earlier, cointegration cannot detect the direction of Granger causality, which will be done by an analysis of results based on estimating a VECM (Table 4). The relative contribution of the explanatory variables in explaining the variation in the dependent variable beyond the sample period will be done by variance decompositions (Table 4).

Sales - Results based on the VECM (Table 4) indicates that in the short run, each explanatory variable (A and P) significantly Granger-cause sales (as reflected in the

significance of the F-tests of the lags of the explanatory variables), but the proportion by which the sales (S) variable adjusted endogenously in the short run to its long-term equilibrium relationship with other cointegrating variables is nevertheless significant (as evidenced in the significance of the *t*-test of the lagged error correction term derived from the long-term cointegrating relationship). These findings are further supported by the post-sample VDCs (Table V). A substantial portion of the variance of S (65%) is explained by its own innovations (or shocks) in the short-run (say, at 3-month horizon) but only a small portion (31%) in the long run (say, 12-month horizon); shocks in other variables (A and P) explain about 40% and 28% of the shocks in the sales, respectively. One would expect that the impact of mix-variables will take some time to produce a cumulative effect on sales.

Advertising **- Results based on the VECM (Table 4) indicate that advertising remains econometrically exogenous, i.e. unexplained by the explanatory variables incorporated (as evidenced in the non-significance of both the F-tests as well as the *t*-tests). The VDCs (Table V) also confirm that finding, since even after 12-month horizon about 69% of the shocks in advertising are explained by its own shocks. The frequently used rule of setting advertising as a percentage of sales does not apply for this particular brand.**

Price **- The within-sample VECM results (Table 4) indicate that price was Granger-caused by sales and advertising and by short-run adjustment to long-term equilibrium trend (as evidenced in the significance of the F-tests and *t*-tests). The post-sample VDCs (Table 5) further confirms this finding but reinforce the role of sales and advertising in explaining a substantial portion of the variance of prices. About 62% of the shocks in prices (at the 12-month horizon) are accounted for by the shocks in S and A.**

Table 4: Temporal causality results based on vector error correction model (VECM)

Dependent variable	ΔS	ΔA	ΔP	$\epsilon_{1,t-1}$	$\epsilon_{2,t-1}$
	Significant levels of *F*-statistics			*t*-statistics	
ΔS	-----	0.03**	0.05**	-4.56***	-2.67**
ΔA	0.27	-----	0.15	-1.39	-0.97
ΔP	0.01***	0.05**	-----	-2.48**	-4.39***

Notes: The ECTs were derived by normalizing the two cointegrating vectors on *S*, thereby resulting in two sets of residuals. The residuals were also checked for stationarity by way of unit root testing procedures applied earlier and inspection of their autocorrelation function respectively. The VECM was based on an optimally determined criteria (Akaike's FPE) lag structure and a constant. *, **, and * indicate significance at the 1%, 5%, and 10% levels.**

Table 5: Variance decompositions (VDC´s)

Variable	Horizons	Sales (S)	Advertising (A)	Price (P)
Sales (S)	1	100.0	0.00	0.00
	3	65.25	24.75	10.00
	6	46.23	35.83	17.94
	12	31.42	40.31	28.27
Advertising (A)	1	0.00	85.84	14.16
	3	5.57	81.03	13.40
	6	9.68	72.38	17.94
	12	17.54	68.69	13.77
Price (P)	1	0.00	8.27	91.73
	3	4.45	12.03	83.52
	6	14.17	21.59	64.24
	12	32.86	29.61	37.53

Notes: Entries in each row are the percentages of the variance of the forecast error for each variable indicated in the rows that can be attributed to each of the variables indicated in the column headings. The decompositions are reported for one-, three-, six- and twelve-month horizons. Several alternative orderings of these variables were also tried, e.g., S - P - A and A - P - S. Such alterations, however, did not alter the results to any substantial degree. This is possibly due to the variance-covariance matrix of the residuals being near diagonal, arrived at through Choleski decomposition in order to orthogonalize the innovations across equations.

CONCLUSIONS

The main purpose of this paper is to discern the dynamic causal relationships (in the Granger (temporal) sense rather than in the structural sense) among sales (S) and two marketing-mix variables (advertising and price) at the firm level. The methodology employed uses various unit root tests, a semi-nonparametric procedure suggested by GPH, and Johansen's cointegration test followed by a vector error correction model and variance decompositions in order to capture both within-sample and out-of-sample Granger-causality among marketing activity.

The evidence of cointegration rules out the possibility of the estimated relationship being "spurious" and implies that Granger causality must exist among the variables in at least one direction, either unidirectional or bidirectional. The Granger causality may emerge either through the level of disequilibrium in the cointegrated relationships (captured by the ECTs) and/or the changes in the explanatory variables (as tested via the *F*-statistics for each). In other words, the VECM allow us to distinguish between "short-term" and "long-term" Granger causality (through the significance of the *F* and *t*-tests, respectively). In addition, the VDCs can discern the relative contribution of each variable in explaining the variation in a certain variable beyond the sample period.

Apart from pointing to the proper treatment of integrated series and from obtaining revised results for the sales-mix variables relationship at the firm level, the following important general conclusions are drawn. First, in the case of cointegrated variables, the error-correction term may prove of crucial importance in testing the direction of causality. Second, a strong one-way relationship $(A \rightarrow S\ ,\ A \rightarrow P)$ exists between advertising and sales (prices) is complemented by a strong feedback relationship $(S \leftrightarrow P)$ between sales and prices which are clearly shown for the RENAULT case.

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ENDNOTES

1. Causality is a subject of great controversy among economists. see, e. g., Zellner (1988). Interested readers could refer to a supplementary issue of the *Journal of Econometrics*, September-October, 1988 that includes studies discussing this issue. Without going into the debate, I would like to state that the concept used here is in the stochastic or "probabilistic" sense rather than in the philosophical or "deterministic" sense. Also the concept used here is in the Granger "temporal" sense rather than in the "structural" sense.

2. In an effort to examine the relationship between sales and advertising, or sales and price, some recent works such as Baghestani (1991), Dekimpe and Hanssens (1995), and Zanias (1994) have used multivariate causality tests and VARs including VDC and IRF. However, unlike mine, these causality tests were not conducted within the framework of Johansen's cointegrating tests and VECM. Zanias (1994) applied VECM in multivariate causality tests but did not apply Johansen's tests, VDC and IRF.

3. The VAR, being a system of unrestricted reduced form equations, have been criticized by Cooley and Le Roy (1985). Runkle (1987) is a good example of the controversy surrounding this methodology. It is debatable whether the method of identification employed by the simultaneous equation structural model which often relies on many simplifying assumptions and arbitrary exclusion restrictions together with the related exogenous-endogenous variables-classification (which are often untested), is superior to the identification procedure used in the VAR model. There is also a controversy within the VAR modelling as to whether unrestricted VAR or the Bayesian (restricted) VAR is superior to each other. Although in the context of exogeneity, the Bayesian VAR (which is restricted by priors), may beg the question of exogeneity, I applied Bayesian VAR (variance decompositions and Impulse response functions) and found the Granger-causal chain remaining mostly unchanged.

4. The results based on VARs, VDCs, and IRFs are generally found to be sensitive to the lag length used and the ordering of the variables. A considerable time has been spent in selecting the lag structure through FPE criterion. FPE method is based on an explicit optimality criterion of minimizing the mean squared prediction error. The criterion tries to balance the risk due to bias when a low order is selected, and the risk due to increase in the variance when a higher order is selected. By construction, the errors in any equation in a VAR are usually serially uncorrelated. However, there could be contemporaneous correlations across errors of different equations. These errors were orthogonalized through Choleski decomposition. In order to orthogonalize the innovations, a pre-determined triangular ordering of the three variables had to be made. In a small system like mine, one would expect the sales variable to respond more quickly to prices than to advertising. The innovations were orthogonalized in the following order: sales (S), advertising (A), and prices (P). The residual variance-covariance matrix being near diagonal, the results were not sensitive to alternative ordering of the variables based on alternative marketing paradigms.

5. Critical values at the 1% and 5% significance level, respectively, are -3.44 and -2.87.

6. Critical values for the ADF test are -3.59 and -3.34 at the 2.5% and 5% significance levels, respectively. These values differ from those used above as the asymptotic distributions of residual based cointegration test statistics are not the same as those of ordinary unit root test statistics (see Davidson and MacKinnon, 1993, p. 720).

MARKETING USING THE OTHER TEAM'S PLAYBOOK?: THE CASE OF WILLIAM REDMOND AND THE "NEW AGE" COLA WARS AND ITS IMPLICATIONS FOR MARKETING STRATEGY

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ABSTRACT

This article looks at a unique question: When does a departing executive's knowledge of his or her former company's marketing strategy and plans constitute a protectable trade secret under U.S. law? The recent case of Pepsico v. Redmond raised precisely such a question. In this article, after a brief overview of trade secret law, we will examine the competitive context and market situation which led the paths of Quaker, Pepsi, and William Redmond to all intersect. We will then examine the facts of the Redmond case and the recent decision issued by the Seventh Circuit Court of Appeals. We will then look at the implications of the Redmond decision for trade secret law, and more importantly, for executive recruitment and marketing strategy.

INTRODUCTION

In the 1995 season of the National Football League, the Dallas Cowboys pretty much had their way with every team in the league - culminating with their 27-17 victory over the Pittsburgh Steelers in Super Bowl XXX on January 28, 1996. The only exception was the Washington Redskins, who despite the fact that they finished the season with a losing record, defeated the Super Bowl Champions twice in the same season.

How did the Redskins accomplish this feat? While the hard work and determination of the Redskins' players certainly played a role, many football analysts attributed the team's victories to the unique circumstance of their head coach, Norv Turner. You see, Turner is the ex-offensive coordinator of the Dallas Cowboys. In fact, while it has been three years since Turner coached the Cowboys' offense, the offensive schemes and plays used by the Cowboys today remain - in large part - based on the offense Turner created. Thus, Turner's Redskins team - based on the ability of Coach Norv Turner to craft defensive game plans designed to stop the potent Dallas offense which he himself crafted - seemingly has a competitive advantage over the Cowboys which no other team in the National Football League has been able to duplicated.

Sports is fast becoming a big business. Likewise, big business often imitates sports. Victoria Cundiff (1992) (speaking about the business context, but whose comments would be equally applicable to football) stated that "sometimes an employee appears most valuable at the moment he announces that he is leaving to work for a direct competitor" (p. 302). This is precisely because the competitor can gain benefit from the valuable information about a company that he or she may bring from the former employer.

Recently, there has been an important case decided by the Seventh Circuit involving the Pepsi Cola Company and a senior executive who left the company to join a major competitor (Quaker). In deciding the case of Pepsico v. Redmond, the Seventh Circuit itself compared the company's circumstances to that of a football team, writing: "Pepsico finds itself in the position of a coach, one of whose players has left, playbook in hand, to join the opposing team" (Redmond, 1995, p. 1089).

In this article, we will examine the Pepsico v. Redmond case and its ramifications. The Redmond case raises the novel question of whether or not corporate strategy is a protectable trade secret. As such, the case sparks important issues for both the law of trade secrets and the practice of executive recruitment in marketing. Both of these matters will be addressed in the conclusion of this article.

TRADE SECRETS

Background

Most businesses rely - to one extent or another - on proprietary information as they seek to gain a competitive advantage in the marketplace. We (or more precisely our stomachs) encounter examples of such proprietary knowledge everyday, whether it be in the form of McDonald's™ secret sauce, the Colonel's recipe of thirteen secret herbs and spices at KFC™, or the method by which the cooks at Pizza Hut™ actually get the cheese inside the crust. Companies such as these obviously have a vested interest in maintaining the confidentiality of these recipes to maintain their advantage in the marketplace. In like fashion, customer lists and databases, engineering and manufacturing processes, and software and product designs, along with countless other examples, serve as the basis of many companies competitive advantage as well.

Observers have noted that most managers do not realize just how valuable and in need of protection their proprietary "information assets" are until they face the prospect that a departing employee could use the company's trade secrets against their former employer - potentially negating whatever competitive advantage such information gave to the company (Gleason & Engelberg, 1994). Almost all trade secret cases involve a claim made by a company that a former employee or contractor has misappropriated (or likely will misappropriate) information gained from an employing organization (Wiesner & Cava, 1988). Trade secret cases are an exception to the general principle that one can use information gained about one's competition. This is due to the fact that the information gained was intended to be kept confidential in the employment relationship and was "misused" by the former employee or

contractor (Peterson, 1995). A charge of trade secret misappropriation is thus, in effect, a charge of "stolen ideas" (Wiesner & Cava, 1988, p. 1081).

Some aspects of a business' proprietary knowledge can be protected by such legal devices as patents, trademarks, and copyrights. These forms of legal protection are rendered under federal statutory law and have rather well-established interpretations. In contrast, the concept of what constitutes a trade secret is much less uniformly understood across the United States in both the legal and business communities. This is because the trade secret concept is based upon common law and diverse state laws (Shockley, 1994). As such, courts have heretofore engaged in a state-by-state, case-by-case, fact-specific analysis which has led to a lack of uniformity in trade secret law between the states and even between industries (Feldman, 1994).

Only in the past decade has there been an attempt to standardize the codified state laws pertaining to trade secrets. However, while the Uniform Trade Secrets Act (UTSA) has been adopted by thirty-nine states and the District of Columbia, it has not been enacted in "uniformity" in all these states - having subtle variations and nuances added by various state legislatures (Samuels & Johnson, 1990). However, while patents and copyrights may have limited life spans, a trade secret has no time limitation (Epstein & Levi, 1988).

History

The trade secret concept was imported into the United States from British common law in the mid-Nineteenth Century (Martin, 1993). In fact, the first reported application of the trade secret concept in the United States occurred over 150 years ago in the case of Vickery v. Welsh (1837). Writing for the Supreme Court in the case of Kewanee Oil Co. v. Bicron Corp. (1974), Chief Justice Warren Burger wrote that "the maintenance of standards of commercial ethics and the encouragement of invention are the broadly stated policies behind trade secret law" (p. 481). Trade secret law thus both enunciates a public policy stressing that ethical standards are to be maintained in business relationships, while concomitantly, fostering innovation in the private sector by extending protection to proprietary knowledge (Martin, 1993).

Trade secret law is grounded in both tort and property law rights (Feldman, 1994). The emerging view is that a trade secret is a property right of an organization. A decade ago, the Supreme Court in Ruckelshaus v. Monsanto (1984) recognized that trade secrets defined under state laws are a property qualifying for protection under the takings clause of the Fifth Amendment. In the case of Carpenter v. United States (1987), the Supreme Court reaffirmed the property principle behind trade secret laws, stating that "confidential information acquired or compiled by a corporation in the course and conduct of its business is a species of property to which the corporation has the exclusive right and benefit" (p. 320).

The open question however, is whether a property characteristics of a trade secret are the primary - or secondary - legal consideration, due to the fact that the confidence inherent in the employment relationship must be broken first in order for any property concern to arise at all (Feldman, 1994). The leading proponent of this position was Justice Oliver Wendell

Holmes, who eighty years ago wrote in the case of E.I. du Pont de Nemours Powder Co. v. Masland (1917), that:

> **The word `*property*' as applied to trademarks and trade secrets is an unanalyzed expression of certain secondary consequences of the primary fact that the law makes some rudimentary requirements of good faith. Whether the plaintiffs have any valuable secret or not, the defendant knows the facts, whatever they are, through a special confidence he accepted. The property may be denied, but the confidence cannot be (p. 102).**

For over a century and a half, courts have wrestled with where to draw the line between the right of an employer to protect trade secrets and the right of an employee to carry out his or her livelihood (Wiesner and Cava, 1988). In Amex Distributing Co. v. Mascari (1986), the court reflected this struggle, remarking:

> **Conflicting social and economic policy considerations are present in each trade secret case. A business which may invest substantial time, money, and manpower to develop secret advantages over its competitors, must be afforded protection against the wrongful appropriation of confidential information by a prior employee, who was in a position of confidence and trust. At the same time, the right of an individual to follow and pursue the particular occupation for which he is best trained is a most fundamental right. Our society is extremely mobile and our free economy is based upon competition. One who has worked in a particular field cannot be compelled to erase from his (or her) mind all of the general skills, knowledge, and expertise acquired through his experience (p. 598).**

At the heart of most trade secret cases is a question of whether or not an ex-employee or contractor is using his or her "general knowledge" (which is of course legal) or confidential information gained from his or her prior employer (which could be considered the misappropriation of a "trade secret" (Martin, 1993).

<u>Definition</u>

Even in the majority of states where the Uniform Trade Secrets Act has been adopted, most courts follow the guidance offered in the 1939 Restatement of Torts (Hilton, 1990). Legal commentators have noted that the definitions offered in both are similar in both form and

intent, leaving "an indefinite line" between information that is proprietary and information that is in the public realm (Peterson, 1995).

The Restatement of Torts (1939, Sec. 757) states that a trade secret "may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know how to use it." The Restatement's definition thus does not attempt to precisely define what type of information constitutes a trade secret. Rather, the Restatement went on to list six factors that should be considered by a court in determining whether a given piece of information or knowledge should constitute a trade secret:

- *** The extent to which the information is known outside of (the) business;**
- *** The extent to which it is known by employees and others involved in (the) business;**
- *** The extent of measures taken by (the business) to guard the secrecy of the information;**
- *** The value of the information to (the business) and its competitors;**
- *** The amount of effort or money expended by (the business) in developing the information; and**
- *** The ease or difficulty with which the information could be properly acquired or duplicated by others.**

The courts have generally looked to the third and fourth elements of the Restatement's six-part test as being of paramount importance. In other words, courts will assess whether or not a trade secret exists in large part based upon both its novelty and its commercial value (Richey & Bosik, 1988). In regards to the first construct, a trade secret need not rise to the level of novelty to be "patentable" to be protected (Klitzke, 1986). Rather, for information to rise to the level of a protectable trade secret, it must only possess a "modicum of originality" that distinguishes it from common knowledge (Cataphote Corp v. Hudson, 1971). In fact, in the 1974 Kewanee Oil case, the Supreme Court held that secret corporate information is, by definition, novel, due to the fact that it cannot be considered in the domain of public knowledge.

In regards to the second consideration, a trade secret's commercial value, the Supreme Court stated in 1984 in the Ruckelshaus case, "because of the intangible nature of a trade secret, the extent of the property rights therein is defined by the extent to which the owner of the secret protects his interest from disclosure to others" (p. 1002). Thus, while much can be done after the fact to ascertain the commercial value of a trade secret, the actions taken by a company to protect its proprietary information before any issue arises about this information

occurs is a good indicator of the importance which the company placed on the information (Epstein and Levi, 1988).

The UTSA's definition of the tort of trade secret misappropriation closely mirrors that found in the Restatement. It states that a trade secret is:

> **Information, including a formula, pattern, compilation, program, device, method, technique or process, that:**
>
> **(i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means, by other persons who can obtain economic value from its disclosure or use, and**
>
> **(ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.**

Wiesner and Cava (1988), in a review of trade secret cases nationally, categorized trade secret cases as generally falling into one of two broad categories. These were first, cases involving technical or scientific information (involving everything from robotics to medical methods to chocolate chip cookie recipes) and second, cases involving "other business information" (involving substantial numbers of customer list cases, along with marketing and advertising plans and techniques). These authors analysis revealed that in this latter category of cases, companies have had difficulty prevailing.

Summary

This discussion of the development of trade secret law has set the stage for an analysis of a unique case, Pepsico v. Redmond. This case considers a question which has not been considered under the framework of trade secret law in the United States previously. This question is whether or not corporate strategy can be considered a trade secret, and whether an ex-employee with intimate knowledge of such information can be enjoined from using this information against a former employer. One business writer observed that the case of Pepsico v. Redmond was unusual for the simple fact that "defections of key executives, along with their inside knowledge, aren't unusual in business, but the resulting disputes rarely surface for public scrutiny in the courts" (Lazarus, 1994, p. 4).

PEPSICO v. REDMOND

The case of Pepsico v. Redmond occurred in the second phase of the so-called "Cola Wars." Throughout the 1980s and the early 1990s, Coca-Cola and Pepsi fought the first phase of this war. Billions of dollars were expended in marketing and product development efforts to sway customers from one company to the other (remember "New Coke"?). In the end, both companies gained market share and critical shelf-space in retail outlets, thereby squeezing out

smaller beverage makers in the process and making them the only casualties in the war (Hill & Jones, 1992).

In the mid-1990s, the "Cola Wars" entered a second, more complex period. Rather than being a bilateral conflict over soft-drinks, this phase of the "Cola Wars" was a multifaceted battle with multiple competitors and multiple markets. Due to the increased health consciousness and diverse tastes of American consumers, the popularity of so-called "new age" beverages has increased tremendously over the past few years. This category includes sports drinks, fruit-juice based drinks, and flavored teas. Coke and Pepsi did not lead the market into "new age" drinks. Rather, these companies largely played catch-up in responding to the leaders in the changing marketplace (Hill & Jones, 1992).

Coca-Cola responded to the changing marketplace by introducing its own line of fruit and tea drinks under the "Fruitopia" brand name and a sport drink under the "PowerAde" brand. On the other hand, Pepsi responded to this market shift by introducing a sports drink line (under the brand name, "All Sport") and forming joint ventures with the Ocean Spray Company (for fruit drinks) and with the Thomas J. Lipton Company (for tea drinks) (Collins, 1995).

Other major corporate players, such a Quaker, saw the emergence of the "new age" beverage category as a great opportunity as well. To supplement its own Gatorade sports drink (which was dominant at the time in the sports drink category), Quaker acquired the Snapple Beverage Corporation in late 1994. At the time, Snapple was the market leader in the fruit and tea-based categories of the "new age" market (Collins, 1995).

In order to integrate its Snapple acquisition with its existing Gatorade operations and create an integrated division and distribution system for the newly combined product mix, Quaker sought to hire experienced executives in the beverage industry. As is quite common in a competitive industry, Quaker turned to the ranks of its chief rivals in the beverage marketplace for talent. First, early in 1994 (prior to the Snapple acquisition), Quaker hired Donald Uzzi, a former executive with the Pepsi-Cola's North American Division (PCNA), to become head of its Gatorade division. After the Snapple purchase, Uzzi pursued some of his former colleagues at PepsiCo to join him at Quaker in its newly expanded beverage operations (Lazarus, 1994).

One of the Pepsico executives contacted by Uzzi was a ten-year veteran of Pepsico, then 35 year-old William Redmond. In 1994, Redmond was General Manager of PCNA's California business unit, which had annual sales of over half a billion dollars and accounted for over twenty percent of PepsiCo's profit from its entire North American operations. After being pursued by Uzzi for almost half the year to come to Quaker, on November 8, 1994, William Redmond accepted an offer to become the Vice President for Field Operations for Quaker's Gatorade Division (Redmond, 1995).

On November 10th, Redmond met with both PCNA's Chief Operating Officer, Brenda Barnes, and William Bensyl, PCNA's Senior Vice President for Human Resources to inform them of his decision. Upon learning of Redmond's decision, Bensyl told Redmond that PepsiCo would in all likelihood attempt to enjoin him from leaving to work for Quaker. True to their word, PepsiCo sought and obtained a temporary restraining order (TRO) against Redmond

on November 16, 1994 (Redmond, 1995). After a week-long hearing on the matter, a federal district court in Illinois sided with PepsiCo and issued an injunction on December 15, 1994. This court ordered that Redmond would be enjoined for a period of six months from assuming his new position at Quaker and would be forever barred from using or disclosing "any PCNA trade secrets or confidential information" (Redmond, 1995, p. 1093).

Why was PepsiCo so adamant that Redmond not assume his new position at Quaker - at least not immediately? It was because PepsiCo felt that Redmond had more than just "general knowledge" to offer to his new employer. Specifically, PepsiCo felt that Redmond had confidential information which would be of great assistance to Quaker. This information was not the formula for Pepsi or for a new sports drink. Rather, PepsiCo claimed that Redmond had left with knowledge of - if not a copy of - its playbook for competing in the new age drink market for the upcoming year, 1995. PCNA claimed that in his new position, Redmond would "inevitably disclose" confidential aspects of PepsiCo's strategic plans and tactics in his new position at Quaker which could give his new employer "an unfair advantage in its upcoming skirmishes with PepsiCo" (Redmond, 1995, p. 1093).

The Seventh Circuit Court of Appeals admitted that the circumstances surrounding the Redmond case were far different than that of the typical trade secret case found in legal annals, as there was no secret formula, recipe, design, or customer list involved (Redmond, 1995). In the next section, we will examine the unique set of circumstances that enabled PepsiCo's to prevail in its claim that its corporate strategy constituted a protectable trade secret.

<u>The Pepsi Playbook & Redmond's Position at Quaker</u>

Because of his high-level in the PCNA organization, Redmond had personally participated in both the formulation and implementation of PepsiCo's strategy on both a regional and national level (Redmond, 1995). Redmond, in his capacity as General Manager of PCNA's California division, had been responsible for implementing both the company's "pricing architecture", which encompassed PepsiCo's national and regional pricing strategies, and an innovative selling and distribution strategy, which PCNA has developed at a cost of several million dollars and tested in a pilot program in Redmond's region. Further, Redmond had specifically reviewed confidential documents which outlined Pepsi's strategy for its lines of soft and "new age" drinks for the year 1995. These included PCNA's strategic and operating plans, which included detailed information on such items as PepsiCo's plans for introducing new product offerings, as well as its promotional calendar and budget for 1995. Finally, Redmond was thoroughly familiar with PCNA's "attack plans" - which were programs by which PepsiCo dedicated extra advertising and promotions to specific events and specific market areas (Redmond, 1995). Taken together, Pepsi contended that William Redmond, in his new capacity with Quaker, would inevitably draw upon his specific knowledge of several key elements of Pepsi's playbook as he helped design and implement Quaker's marketing and distribution strategy for its Gatorade and Snapple products (Redmond, 1995).

In response, Redmond cited the fact that he had signed confidentiality agreements as a condition of employment with both PepsiCo and Quaker, as well as the point that unauthorized use of trade secrets was expressly prohibited by Quaker's Code of Ethics (Redmond, 1995). In Redmond's defense, Quaker attempted to show that Redmond was hired not because of his knowledge of PepsiCo's strategy and operating systems. Quaker noted the dissimilarity of the distribution systems used by it and Pepsi and asserted that a strategic plan and distribution strategy for integrating the Gatorade and Snapple product lines was already in place when Redmond was hired. However, the court found that in November 1994, when Redmond was hired, Quaker's plans were very sketchy and preliminary (Redmond, 1995).

The Decision

The Redmond case was brought under the Illinois Trade Secrets Act, which is in close conformity with the Uniform Trade Secrets Act (Perry & Wombacher, 1995). At the outset of its opinion, the Seventh Circuit court noted that the tension between an employer's right to protect trade secret information versus the right of an employee to pursue his or her profession is especially acute when the plaintiff is seeking relief from potential misappropriation of confidential information. As such, the standard necessary for injunctive relief to be granted should be very high (Redmond, 1995). In point of fact, the only case which had previously dealt with such an issue in the Seventh Circuit had come almost a decade earlier. In AMP, Inc. v. Fleischhacker, (1987), the court ruled that just because a person assumed a similar position at a competitor's company did not demonstrate, without greater evidence, that it would be inevitable that trade secrets would be disclosed which would cause "irreparable injury" to their owners.

What differentiated Redmond from AMP? In large part, the Seventh Circuit looked both to the temporal competitive situation of Quaker and to the conduct of WIlliam Redmond himself. The Seventh Circuit court found that even if Quaker's distribution system was in place and was dissimilar from that of Pepsico's, Redmond was still in a position to greatly influence not only Quaker's marketing strategy and distribution. Courts in the past have held executive employees to a higher standard in trade secret cases. This is due to the fact that they are more likely to produce more gain for an employer (due to their potential influence on strategic decision-making) than those who would be merely an implementer of policy (Klitzke, 1986). In like fashion, the Seventh Circuit found that his intimate knowledge of Pepsi's near-term strategy would mean that "unless Redmond possessed an uncanny ability to compartmentalize information, he would necessarily be making decisions about Gatorade and Snapple by relying on his knowledge of PCNA trade secrets" (Redmond, 1995, p. 1095). The Redmond court went on to conclude that:

> **The danger of misappropriation in the present case is not that Quaker threatens to use PCNA's secrets to create distribution systems or co-opt PCNA's advertising and marketing ideas. Rather, PepsiCo believes that Quaker, unfairly armed with knowledge of PCNA's plans, will be able to anticipate its distribution, packaging, pricing and marketing moves (Redmond, 1995, p. 1096).**

Legal experts have stated that the key element of almost every trade secret case is the conduct of the defendant (Klitzke, 1986). Observers have noted a company is more likely to prevail when seeking an injunction in a trade secret claim against a former employee if it can demonstrate "that the employee's past history suggests the likelihood of imminent use" of trade secret information (Feldman & Jackson, 1991, p. 511). In like fashion, the Redmond court also placed great emphasis on not only William Redmond's own conduct, but that of Quaker as well.

The Seventh Circuit upheld the district court's injunction - in large part - due to its belief that the history of Redmond's dealings with Quaker suggested that he and his new employer could not be entrusted to protect the confidentiality of the proprietary information Redmond had dealt with while in his capacity at PCNA. In the days leading up to the termination of his employment, Redmond had misinformed his superiors at PCNA about the nature of his position at Quaker (claiming that he was going to be the Chief Operating Officer of the combined Gatorade/Snapple operation) and the timing of his acceptance (telling them that he had only been offered his position at Quaker when he had, in fact, already accepted it) (Redmond, 1995, p. 1091). The district court thus found, and the Seventh Circuit affirmed, the following comment on the defendant's character:

> **Redmond's lack of forthrightness on some occasions, and out and out lies on others, ...leads the court to conclude that defendant Redmond could not be trusted to act with the necessary sensitivity and good faith under the circumstances in which the only practical verification that he was not using plaintiff's secrets would be defendant Redmond's word to that effect (Redmond, 1995, p. 1096).**

Both courts were similarly less than impressed with the forthrightness of the actions of Redmond's superior at Quaker, Donald Uzzi. Both Redmond and Uzzi had been very evasive (even in conflict with one another in their testimony before the district court) regarding both the status of Quakers marketing strategies and distribution plans for the combined Gatorade/Snapple operations and the question of Redmond's specific job duties in his new position (Redmond, 1995). Further, as evidenced by the fact that all three of the

individuals interviewed for the position that eventually went to Redmond were PCNA employees, Uzzi had expressed what the court labeled an ""unnatural interest" in hiring PCNA employees. Taken together, the Seventh Circuit agreed with the Redmond trial court's belief that the denials of both Quaker and its employees (Redmond and Uzzi) that they would not misappropriate (even inadvertently) the knowledge that Redmond brought from PepsiCo's playbook simply could not be believed (Redmond, 1995).

Thus, the Seventh Circuit upheld the lower court's ruling that granted the injunction issued on December 15, 1994, which prohibited Redmond from assuming his duties at Quaker before June 1, 1995 and from ever using or disclosing any of the trade secrets or confidential information he had gained through his employment at Pepsi-Cola North America (Redmond, 1995, p. 1097).

DISCUSSION

What are the ramifications of the Seventh Circuit's decision in Pepsico v. Redmond? The Redmond case is significant in and of itself due to the fact that over the years, as was demonstrated earlier, many types of proprietary knowledge have been recognized by courts across the land as falling under the domain of trade secret protection. However, the Redmond case is unique in that it is the first reported decision wherein a court has considered knowledge of corporate strategy - the corporate equivalent to Coach Norv Turner's playbook - to be protectable as a trade secret. If the Redmond interpretation is adopted in other jurisdictions, this could greatly add to realm of corporate "information assets" considered to be protected under trade secret law, while adding great complexity to the employment and recruitment process. As such, the Redmond case has potential ramifications both for trade secret law itself and the movement of executives.

William Hilton (1990) observed that the law pertaining to trade secrets in America is in need of substantial revision if it is to serve purposes other than that of being "a random tort" penalizing aggressive businesses and individuals. Because trade secret law is based either on common law or a codified version of it (in the form of the UTSA in most states), the law regarding trade secrets amongst the states has been demonstrated to not possess the uniformity of such other legal forms of proprietary information protection such as trademarks, patents, and copyrights (Samuels & Johnson, 1990). As such, calls for a federal trade secret law have recently been advanced (Pace, 1995).

In order to standardize trade secret law across the country and remove contradictions between state jurisdictions, perhaps it is time to "federalize" the concept and make trade secret protection primarily enforceable under federal, rather than state laws. At a minimum, the UTSA should be ratified in the ten outstanding states and states which have adopted the UTSA should work cooperatively to clear up discrepancies in the various state laws.

The second, and perhaps most important implication of the Redmond case is the potential "chilling effect" that the Seventh Circuit's designation of corporate strategy as a trade secret could have on executive recruitment and employee mobility. If this interpretation is picked up by other federal circuits and by state courts as well, companies may face potential

exposure to trade secret misappropriation charges any time they recruit a mid- to high-level manager from a competitor. This potentiality is due to the fact that knowledge of corporate strategy and tactics is part-and-parcel of an executive position. As such, any person occupying such a position of responsibility would be inextricably tied to the knowledge used to formulate and execute corporate strategy.

As a result, "headhunting" (the practice of recruiting executives from one company to another - often a direct competitor) could be seriously slowed or even ended in favor of in-house recruitment. This would be due to the fact that the former would result in no exposure, while the latter could result in tremendous exposure. Because such an interpretation could drastically change corporate recruitment and staffing practices and ultimately effect individual, industry, and national competitiveness, this ultimately should be a question of public policy. As such, this is a question which should be addressed by legislative bodies at the state and/or federal level.

CONCLUSION

Will Pepsico v. Redmond be the beginning of an expanded scope of trade secret protection throughout the states? Will it ultimately have an effect on executive recruitment practices? Only time will provide the answer to these questions. There is however, only one certainty regarding trade secrets for employers in the Nineties. Commentators have stated that the increased mobility of the workforce will lead to increased numbers of trade secret claims (Weirich & Glenister, 1993). Thus, employers should develop a proactive strategy for trade secret protection in their organizations (Phillips, 1987). This would include keeping tabs on their playbooks, as well as their formulas, their recipes, their designs....

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OF CUSTOMER SERVICE, PRODUCT PARAMETERS, AND SERVICE QUALITY: SATISFIERS AND DISSATISFIERS

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ABSTRACT

We examine the many definitions and dimensions of quality and attempt to reconcile the definitions that employees, managers, and customers view. We define positive and negative gaps and product sets. We conclude that customer service elements present in the negative gap are analogous to hygiene factors and in themselves can never totally satisfy while the product parameters evident in the negative gap are analogous to motivators, the primary reasons for purchasing.

INTRODUCTION

Quality has many definitions. Ask an engineering or manufacturing type and the answer you would most likely get is performance to specifications. In this vein, McDonalds is a quality operation. Ask a marketer and the definition you would most likely get is having "Superior Value Added" or "exceeding customer expectations". A Five Star Restaurant would then be considered high quality even though its operation would in all likelihood not approach the same consistency as seen in the average McDonalds Franchise. They are both right in their own frame of reference. The average consumer prefers more quality to less quality, wants the result to be defect free, reliability and safety but beyond that usually can not define explicitly the concept.

Quality has been talked about a lot but very few seem to do much on the subject. Ask anyone over the age of fifty and they will quite candidly admit that the level of quality of the typical American good or service has severely degraded from what they remember in the fifties. The search for quality is arguably the most important consumer trend of the 1980s and the decade of the 90's; consumers are now demanding higher quality in products than ever before. According to a Whirlpool Corporation study, nearly four out of five American consumers claim to be more demanding about quality now than in prior years. One major reason for the inroads the Japanese auto companies have made in the United States has been quality. It may be only fit and exteriors as some Detroit executives say, but whatever it is

customers want it and as a result are threatening Detroit's own survival. In an alarming admission, Buick in their 1990 ads proudly indicate that they are the *only* American car manufacturer in the top ten ratings of quality models, fifth place anywhere else would not get that level of boastful activity. In this day and age of the LBO and Junk bonds, if it can not be readily quantified in the short term, it is eliminated for cost savings. The result is short term profit that erodes a company's quality reputation so painstakingly built up for decades. A reputation is not a constant, it can as too many companies have learned the hard way vanish if not maintained. So Quality has been decreasing and to many consumers it has vanished.

There is little disagreement that quality (or more accurately the lack of it) is a major problem in our country today. However, unless it is more readily defined, quantified, understood, it can not be improved. In this paper, we discuss the concept of perceived quality, examine it from the customer's perspective, from the provider's perspective, and from the perspective of the manager. We propose that perceived quality differs significantly between all three entities. We propose that quality is indeed in the eye of the beholder and if a company wishes to prosper, it must first identify those elements its client base believes is important, create a quality product based upon those elements 0and then train his providers to meet the customer orientation of quality and not that of their own or management's.

QUALITY

Few academic researchers have attempted to define and model quality because of the difficulties involved in delimiting and measuring the construct. There are simply too many definitions of quality. To many quality means a condition of excellence implying fine quality as distinct from poor quality…Quality is achieving or reaching for the highest standard as against being satisfied with the sloppy or fraudulent. To others, differences in quality amount to differences in the quality of some desired ingredient or attribute. To many academics, Quality refers to the amounts of the unpriced attributes contained in each unit of the priced attribute (Garvin, 1988).

Crosby (1979, 1986) defines Quality as "conformance to requirements." and means a product should be built according to formally-stated specifications and Quality is achieved when a product is produced the way it's supposed to be. If a Cadillac conforms to all the requirements of a Cadillac it is a quality car. If a pinto conforms to all the requirements of a pinto then it is a quality car. Luxury or its absence is spelled out in specific requirements such as carpeting or rubber mats. Quality means both "better" and "cheaper", that is, any product or process can be made more efficiently (cheaper and faster) and more error-free. This is a difficult concept for American manufacturers to understand as Americans have traditionally seen quality and low cost as opposites since manufacturers have been concerned primarily with mass production of the cheapest goods in the largest quantity available. Quality is in fact not a function of higher costs and extra labor but rather one of design and production. Quality is a built-in feature of any object; low quality refers to bad planning as well as bad workmanship and production errors. Quality is not limited to only how well

specifications are followed, but also to the improvement of current production procedures and the specifications themselves. Low quality to the Japanese is seen as the result of inefficiency: a "good" product is both error-free and made as cheaply (efficiently) as possible. According to the prevailing Japanese philosophy, and seconded by Crosby and many manufacturing types, quality is "zero defects-doing it right the first time."

Gronroos (1989) distinguishes between "technical quality" (what is delivered) and "functional quality" (how it is delivered). He believes the "how" of service delivery-for example, the appearance and behavior of a restaurant waiter-is critical to perceptions of service quality. Process quality is judged by the customer during the service. Output quality is judged by the customer after the service is performed. The barber's conversation and apparent skill during the hair cut involves process quality; the appearance of the hair after the haircut involves output quality. A banker defined quality as it "is setting standards regarding customer needs and meeting them." A securities brokerage executive answered, "Service quality is true representation of the client's interest first and foremost." A product repair executive responded, "Service is a reasonable amount of time at a reasonable cost by a competent technician who does it right the first time." Thus we can truthfully say quality and its requirements are not easily articulated by either producers or consumers.

One of the most difficult challenges for industrial marketers is the ability to identify what the customer wants and then develop programs to deliver the desired level of service. One of the most important is the time dimension of quality which includes: 1. search qualities, which the customer can perceive prior to the purchase, and includes information about the product's expected performance and takes the form of information provided to the intended buyer. 2. experience quality, which is based on a post-purchase evaluation of the product, and 3. credence quality, which is involved with the overall credibility of the product offer. All three are distinct and a marketer may focus on the wrong one. For example, a marketing program may place all of its emphasis on information and credence. Information prior to the purchase could be conveyed through extensive sales literature and product knowledge by the salesperson. Credence could be created through use of image advertising, both for the product and the company selling it. The customer may be totally neglected after the sale, with no follow-up calls or assistance with minor problems. This oversight is the experience dimension of quality could cost future sales (Powers, 1988). Another area of service quality focuses on the difference between tangible qualities -- which the customer can see -- and intangible qualities such as reliability, responsiveness, assurance on the part of employees, and empathy by the firm for customers. Industrial marketers can improve quality by: 1) determining customer expectation level through market research, 2) learning customer perceptions of service level, and 3) taking action.

Quality is a different beast for service related companies. In labor intensive services quality occurs during service delivery, usually in an interaction between the client and the contact person from the service firm . The service firm may also have less managerial control over quality in service where consumer participation is intense (e.g., haircuts, doctor's visits) because the client affects the process. In these situations, the consumer's input (description of how the haircut should look, description of symptoms) becomes critical to the quality of

service performance. When purchasing goods, the consumer employs many tangible cues to judge quality: style, hardness, color, label, feel, package, fit. When purchasing services, fewer tangible cues exist. In the absence of tangible evidence on which to evaluate quality, consumers must depend on other cues. In most cases, tangible evidence is limited to the service provider's physical facilities, equipment, and personnel(Parasuraman et al., 1985, 1988, 1991). In judging product quality, customers often use intrinsic cues such as price, advertising , or brand name. Because of service intangibility, a firm may find it more difficult to understand how consumers perceive services and service quality (Gronroos, 1982).

In general these differences between service and product quality are true:

- **Service quality is more difficult for the consumer to evaluate than goods quality.**
- **Service quality perceptions result from a comparison of consumer expectations with actual service performance.**
- **Quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery.**
- **Service quality is a measure of how well the service level delivered matches customer expectations. Delivering quality service means conforming to customer expectations on a consistent basis.**

Quality can be examined via a variety of approaches. Some of these include:

1) ***The Transcendent Approach*****. Quality is viewed as a simple, unanalyzable property that people learn to recognize only through experience. Examples include art, music, and the performing arts.**

2) ***The Product-Based Approach*****. Quality is reflected by an ingredient or attribute of the product. The use of cashmere wool in clothing is illustrative.**

3) ***The User-Based Approach*****. This concept of quality is based on the buyer's assessment of quality. Determination of consumers' ideal points on preference maps for products is an example.**

4) ***The Manufacturing-Based Approach*****. Quality is considered in terms of engineering and manufacturing practice - conformance to specifications. The quality focus of the user-based approach.**

5) *The Value-Based Approach*. The value perspective considers the tradeoffs between quality and price. Thus, a very high-quality product carrying a price that is not feasible for most buyers., would display low value. The highest value represents the most favorable combination of quality and price.

Various dimensions have been used to characterized quality. These include: reliability, responsiveness, competence, courtesy, communications, credibility, security, assurance, empathy, serviceability, aesthetics {look, feel , sound and taste}, features, and perceived quality (Cravens, Holland, Lamb, & Moncrief, 1988). Reliability involves consistency of performance and dependability. Responsiveness concerns the willingness or readiness of employees to provide service. Competence means possession of the required skills and knowledge to perform the service. Access involves approachability and ease of contact. Courtesy involves politeness, respect, consideration, and friendliness of contact personnel. Communication means keeping customers informed in language they can understand. Credibility involves having the customer's best interests at heart. Security is the freedom from danger, risk, or doubt. Assurance is knowledge and courtesy of employees and their ability to convey trust and confidence. Empathy is the caring, individualized attention that our firm provides to its customers. Tangibles are those things the customer can see, such as physical facilities, equipment, and appearance of personnel. Even perfectly objective characteristics, however, are open to varying interpretation. Today durability is regarded as an important element of quality. Long-lived products are generally preferred to products that wear out more quickly. But that was not always true. Until the late nineteenth century, durable goods were primarily possessions of the poor, for only wealthy individuals could afford delicate products that required frequent replacement or repair. The result was a long-standing association between durability and inferior quality, a view that changed only with the mass production of luxury items made possible by the Industrial Revolution. The service quality challenge is to meet-or better yet, exceed-customer expectations(Berry et al., 1985).

In summary, quality has traditionally been defined in one of three ways. 1) *Quality is conforming to specifications*; quality of an item depends on how well it measures up against a set of specifications; a Mercedes may be a high quality car or it might be of lower quality than a Chevy if the Chevy conforms better to the design and performance standards for it. This definition is inadequate because it misses the difference in performance between products.

2) *Quality is fitness for use.* This approach is more user-oriented: "quality lies in the eyes of the beholder." Different users have different needs, and to the extent that a product is designed and manufactured to meet those needs, quality is dependent on how well it fulfills them. Individuals consumers are assumed to have different wants or needs, and the goods that best satisfy their preferences are the ones they regard as having the highest quality. This is an idiosyncratic and personal view of quality, and one that is highly subjective. For business travelers, the highest quality airline is usually the one with the best record of on-time arrivals and departures; for vacationers, it may be the one with the finest food, the quickest in-flight service, or the most interesting movies. In the marketing literature, it has led to the notion of

"ideal points": precise combinations of product attributes that provide the greatest satisfaction to a specified consumer. In the economics literature, it has led to the new that quality differences are captured by shifts in a product's demand curve. And in the operations management literature, it has given rise to the concept of "fitness for use." Each of these concepts, however, faces two problems. The first is practical: how to aggregate widely varying individuals preferences so that they lead to meaningful definitions of quality at the market level. The second is more fundamental: how to distinguish those product attributes that connote quality from those that simply maximize consumer satisfaction. This definition is incomplete because quality isn't entirely relative.

The aggregation problem is usually resolved by assuming that high-quality products are those that best meet the needs of most consumers. A consensus of views is implied, with virtually all users agreeing on the desirability of certain product attributes. However, this approach ignores the different weights that individuals normally attach to quality characteristics and the difficulty of devising an unbiased statistical procedure for aggregating such widely varying preferences. For the most part, these problems have been ignored by theorists.

A more basic problem with the user-based approach is its equation of quality with maximum satisfaction. While the two are related, they are by no means identical. A product that maximizes satisfaction is certainly preferable to one that meets fewer needs, but is it necessarily better as well? The implied equivalence often breaks down in practice. For example, books on best seller lists are clearly preferred by a majority of readers, even though few would argue that they represent the finest available literature. Similarly, consumers may enjoy a particular brand because of its unusual taste or features but may still regard some other brand as being of higher quality. In the latter assessment, the product's objective characteristics are also being considered.

3) *Quality is innate excellence.* This definition reflects the belief that although styles and tastes change, there is something enduring about works of high quality. They provide a standard against which other products are judged. Excellence, according to this view, is both absolute and universally recognizable; whatever it consists of-and the writers in this camp are distressingly vague on that point-we all know it when we see it. Michelangelo may not be your favorite sculptor, but it's hard to deny the quality of his work. This definition while recognizing the universal aspects of quality, lacks specifics (Garvin, 1988).

SERVQUAL

The Service Gap concept has been pioneered by Parasuraman, Zeithaml and Berry (1985). These gaps on the service provider's side can impede delivery of services that customers perceive to be of high quality. Explanations of the gaps are listed below:

Gap 1:	**Difference between consumer expectations and management perceptions of consumer expectations.**
Gap 2:	**Difference between management perceptions of consumer expectations and service quality specifications.**
Gap 3:	**Difference between service quality specifications and the service actually delivered.**
Gap 4:	**Difference between service delivery and what is communicated about the service to consumers.**

Perceived service quality is defined in the model as the difference between consumer expectations and perceptions (gap 5 in the figure), which in turn depends on the size and direction of the four gaps associated with the delivery of service quality on the marketer' s side(Zeithaml, 1988). These key discrepancies or gaps exists regarding perceptions of service quality and the tasks associated with service delivery to customers. These gaps can be major hurdles in attempting to deliver proper service.

The SERVQUAL survey used 22 questions which resulted in 5 dimensions which customer experience can be described: 1) *Reliability* is providing what is promised, dependably and accurately; 2) *assurance* is the knowledge and courtesy of employees and their ability to convey trust and confidence; 3) *tangibles* are the physical facilities and equipment and the appearance of personnel; 4) *empathy* is the degree of caring and individual attention provided to customers; and 5) *responsiveness* is the willingness to help customers and provide prompt service. Which one is most powerful? Reliability first, responsiveness is second, followed by assurance, empathy and tangibles. Most organizations are best at tangibles, which is the least important and perform lowest on reliability.

Our thoughts on extending the gap include product parameters: warranty, delivery, specifications, etc. to see if adding these would fundamentally alter the findings of the SERVQUAL.

We examine the gap concept from a related but different perspective: how the various components define and evaluate quality and each views the magnitude of quality service mistakes or positive statements. Three key groups include management, front line employees providing the service, and the customers receiving the service. In essence, we are attempting to relate differences not in expected or perceived service but in definitions of quality and importance of various attributes that make up quality. In terms of the service gap function,

we would expect to find considerable differences between each of the three key groups , which correspond to gap 1 (manager-customer), gap 3 (employee-customer), and gap 2 (manager-employee).

HYPOTHESES AND RATIONALE

Methodology

A two page (front and back) questionnaire having 50 statements regarding quality, 7 statements regarding results, and a set of six demographic questions was used. SERVQUAL's 22 questions were utilized as well as others describing product quality and 10 general questions regarding quality. Respondents were asked to rate on a 1 to 7 bipolar scale, how important he/she perceived these statements regarding quality. Two questions were asked regarding how many others would the customer tell if he/she were to receive unacceptable service or if he/she were to receive superior service. Five general questions were asked regarding degree of service, rating this entity overall, rating average service quality in the U.S., the degree of service which would cause you to be a regard customer, and rating this store versus all other like stores. Demographic questions included sex, age, marital status, residence, income level, and frequency of business with this entity. The questionnaire was extensively pre-tested before final usage.

Four different types of retail establishments were used. Permission was obtained from a national chain of general merchandise to interview in 2 of their stores in 2 different urban settings, a regional grocer in 2 different urban settings, a regional bank in 2 different urban settings, and a regional apparel store in 2 different urban settings. Graduate assistants, trained in survey usage, randomly chose patrons and employees at each of the 8 different stores.

Approximately 30 customers from each locale were chosen. In addition, samples from four separate levels of customer employees were obtained: 10 from contact employees (clerks, cashiers, support staff, those with daily contact with customers), 5 from their supervisors, 5 from management, and 5 from back office employees (shipping, accounting, computer personnel, those with no customer contact responsibility). Customers were asked all questions; employees were only asked the first fifty, that is no frequency or demographics were asked of them.

Table 1 shows the demographic profile of the respondents and Table 2 provides the questionnaire used. T-tests were made between customers and employees for the first fifty questions. Chi Square analysis was made between the various levels of employees. Factor analysis and discriminant analysis were also computed.

Table 1: Demographics of Respondents
468 Respondents; 48 Unusable Responses; 420 Usable Responses

	#	%
Level of Respondent:		
Customer	**211**	**50.24**
First Line Service	**80**	**19.04**
Service Supervisors	**51**	**12.14**
Back Office	**40**	**9.52**
Management	**38**	**9.04**
Store Type:		
Grocery	**140**	**33.33**
General Goods	**137**	**32.62**
Apparel	**143**	**34.05**
***Gender:**		
Male	**59**	**28.37**
Female	**149**	**71.63**
***Age:**		
Under 25	**29**	**13.88**
25-35	**42**	**20.10**
36-45	**60**	**28.71**
46-60	**45**	**21.53**
Over 60	**33**	**15.79**
***Marital Status:**		
Single	**33**	**15.79**
Married	**143**	**68.42**
Divorced	**24**	**11.48**
Widowed	**9**	**4.31**
***Residence**		
City	**124**	**61.39**
Country	**78**	**38.61**
***Income Level**		
Less than $15K/Yr	**29**	**15.34**
$15-25 K	**56**	**29.63**
$26-40K	**54**	**28.57**
$Over 40K	**50**	**26.45**
***Frequency of Business with Institution:**		
Daily	**23**	**11.22**
Weekly	**111**	**54.15**
Monthly	**50**	**24.39**
Quarterly or less	**21**	**10.25**

*** These demographic questions were only asked of customers, store employees were not asked.**

Table 2: Quality Survey Used

Please rate the level of importance given each statement based upon the scale below. The scale goes from 1 to 7 with 1= No Importance and 7=Extremely Important. Please circle the most appropriate number.

								Quality is:
1	**2**	**3**	**4**	**5**	**6**	**7**	**(1)**	**Having up-to-date equipment.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(2)**	**Having Visually appealing facilities.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(3)**	**Having Neat Appearing Employees .**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(4)**	**Having appealing Promotional material.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(5)**	**Doing things right the first time.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(6)**	**Setting and meeting high standards.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(7)**	**Offering convenient self-service.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(8)**	**Offering an extensive Warranty or Guarantee.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(9)**	**Offering a full product line.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(10)**	**Having a product which meets the manufacturer's specifications.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(11)**	**Having a Product or Service function as advertised when received.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(12)**	**Having Employees interested in solving customer problems.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(13)**	**Having Trustworthy employees.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(14)**	**Having Error Free Records.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(15)**	**Pleasing customers totally.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(16)**	**Having Consistent Service.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(17)**	**Being Notified when service will be performed.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(18)**	**Having Prompt Service.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(19)**	**Having a Willingness to help customers.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(20)**	**Responding to customer requests promptly.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(21)**	**Having On-Time Delivery of goods to customers.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(22)**	**Having an easily found Product or Service.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(23)**	**Having a Product or Service available when needed.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(24)**	**Instilling confidence in customers.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(25)**	**Feeling confident in using the service or product.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(26)**	**Having courteous Employees .**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(27)**	**Having Knowledgeable employees.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(28)**	**Having a no question return policy.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(29)**	**Having Convenient operating hours.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(30)**	**Providing Personalized attention to customers.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(31)**	**Having Customers' best interest at heart.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(32)**	**Understanding one's customers' needs.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(33)**	**Satisfactorily handling complaints**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(34)**	**Meeting or Surpassing Government Standards**
1	**2**	**3**	**4**	**5**	**6**	**7**	**(35)**	**Soliciting Customer Attitudes**

Table 2: Continued

Please rate your level of agreement or disagreement on the following questions where 1= total disagreement and 5=total agreement.

1	2	3	4	5	(36) Quality is being Competitively priced.
1	2	3	4	5	(37) Companies can encourage quality by rewarding superior performance.
1	2	3	4	5	(38) Quality can provide a competitive advantage for a company.
1	2	3	4	5	(39) Quality is the keystone to a company's marketing strategy .
1	2	3	4	5	(40) The Bigger the Company, the harder it is to provide quality service.
1	2	3	4	5	(41) A high reputation company produces only high quality products.
1	2	3	4	5	(42) The more expensive the good or service, the higher the quality.
1	2	3	4	5	(43) The Higher number of options, the higher the quality of product.
1	2	3	4	5	(44) The more advertising, the higher the quality of products.
1	2	3	4	5	(45) Name brands have higher quality than generics.
1	2	3	4	5	(46) Having an acceptable quality level is good business practice.
1	2	3	4	5	(47) High Quality means higher customer satisfaction.
1	2	3	4	5	(48) Superior Quality means exceeding customer expectations.
1	2	3	4	5	(49) Employees are happier when they provide good service and/or Products.
1	2	3	4	5	(50) Large companies have higher quality than small companies.

Please write in the most appropriate response:

(51) If you were to receive unacceptable service from this entity, how many others would you tell of the incident? ____

(52) If you were to receive superior service from this entity, how many others would you tell of this incident?_____

Answer questions 53 through 57 using the scale below.

Outstanding	Above Average	Average	Below Average	Poor
5	4	3	2	1

Circle the most appropriate number for each statement.

1	2	3	4	5	(53) What level of service would stop you from returning again ?
1	2	3	4	5	(54) What degree of service would cause you to be a regular customer?
1	2	3	4	5	(55) How would you rate this entity overall?
1	2	3	4	5	(56) How would you rate the average service quality in the United States?
1	2	3	4	5	(57) How would you rate this store versus all other like stores ?

Please check the most appropriate response for questions 58 through 63.

(58) Sex: ___(1) Male __(2) Female

(59) Age: ___(1) Under 25 __(2) 25-35 ___(3) 36-45 ___(4)46-60 ___(5) Over 60

(60)Marital Status: ___(1)Single __(2) Married ___(3) Divorced ___(4) Widowed

(61) Residence: ___(1) City __(2)Country

(62) Income Level: ___(1) Less than $15K/Yr. ___(2) $15-25K/Yr. ___(3) $26-40K/Yr.
___(4) $41-75K/Yr. ___(5) $ Over76K/Yr.

(63) How often do you do business with this entity?
(1) Daily (2)Weekly [3] Monthly [4] Quarterly [5] Less Often

RESULTS

In examining the 50 quality statements to the levels explored, two major items are to be examined: 1) those where the consumer (customer) perceives higher importance than that those of the company's employees (what we call 'negative gaps') and 2) where the company employees give higher credence than the customer ('positive gaps'). Appropriate statistical tests were run between employee and customer respondents; items chosen were at the .02 significance level. Table 3 shows those items for the negative gap; Table 4 shows those items which are positive gaps.

In the first case, the negative gap presents a list of items which the company needs to fill, that is, devote more attention to since the customers indicate these are significantly more important to them than do the employees note. In the second case, although the company and its employees may believe in its importance, the fact that the customers are not as impressed or concerned with the attribute as the employees (or company) indicates that less company attention and energy could be devoted to those particular items (and supposedly refocused on those where negative gaps exist). Positive gaps could be used for comparative advantage purposes but will not offset the ills produced by negative gaps. It is recommended that those items noted negative gaps be resolved first before any more attention be paid to the positive gap items in table 4.

Table 3: Negative Gaps:
Where Customer perceives greater importance than company or its employees.
[Product Parameters]

a.	Doing things right the first time (F=4.06, p<.003)
b.	Extensive Warranty/Guaranty (F=11.6, p<.001)
c.	Full Product Line (F=3.4, p<.008)
d.	Meeting product specifications (F=3.108, p<.015)
e.	No question return policy (F=18.383, p<.000)
f.	Convenient operating hours (F=4.729, p<.001)
g.	Competitive Pricing (F=4.101, p<.003)
h.	Having products available when needed (F=3.415, p<.028)

Interestingly, the company items, those in the positive gap list, are mostly qualitative. It is as though the explosion of the 80s 'customer service' lessons were taken to heart and management believes that concentrating on these items would end up with higher quality service and customer loyalty. But an examination of the negative gaps indicates the customer is more concerned with the 'nuts and bolts', pricing, being able to get the product when they want it, return goods without question. It appears that management has gone overboard with the touchy-feely items and have neglected the basics according to the customers.

Table 4: Positive Gaps:
Where the company and its employees give greater weight or importance than the customer.

a.	Visually appealing facilities (F=3.7, p<.006)
b.	Pleasing Customers Totally (F=2.76, p<.027)
c.	Willingness to help customers (F=2.932, p<.021)
d.	Responding to customer needs quickly (F=2.589, p<.036)
e.	Exceeding customer demands (F=2.532, p<.040)
f.	Instilling confidence in customers (F=2.599, p<.036)
g.	Courteous employees (F=2.875, p<.023)
h.	Knowledgeable employees (F=2.488), p<.043)
i.	Understanding customer needs (F=3.753, p<.005)

Examining differences between the various levels shows clearly the delineation. Upper management believes pleasing customers totally is much more important than all other levels (F=3.244, p<.023). Upper management and supervisors believe having a willingness to help customers is much more important than other levels (F=3.754, p<.012). Upper management and supervisors believe doing things right the first time is much more important than other levels (F=5.795, p<.001), for responding for customer requests promptly (F=3.161, p<.026), for having customers best interest at heart (F=3.190, p<.025), for understanding one's customers' needs (F=2.757, p<.043), for superior quality meeting or surpassing customer expectations (F=3.18, p<.025). It appears upper mgmt and supervisors rate these elements overly important while immediate support personnel come closer to rating where customers rate themselves.

Service is in the eye of the beholder. Joel Sneider, director of stores for Macy's says "Good Customer service is being in stock with the right goods at the right time at the right store." He might also have added with willingness to accept returns cheerfully and with no questions. That they are moving in the right direction, Macy's clerks don't have to leave customers in order to get authorizations for returns.

An interesting analogy to this finding would be Frederick Herzberg's motivators and hygienes (Herzberg, Monsner, & Snyderman, 1959). Herzberg (1959) concluded that two separate and distinct sets of factors influence motivation. Originally named satisfiers and dissatisfiers, the terms were renamed motivators and hygienes. Factors in the work environment (hygienes) could prevent dissatisfaction but did not contribute to motivation. Hygiene factors create dissatisfaction if they are not present. If present, dissatisfaction will be reduced but satisfaction will not result. Conversely, factors related to the job itself (motivators) influenced work motivation. When these factors are present, they may induce more effort but if they are absent it will not produce dissatisfaction.

If we exchange customer for employee, service/good for the job, sale for motivation, the analogy becomes even more striking. If customer service is not present, dissatisfaction is created. If it is present, it is never enough. You can never actually achieve full customer satisfaction If present, the customer service (service quality) aspects are soon evoked into

expectations, thus potentially creating dissatisfaction if unmet ("what have you done for me lately?"). That is, the more you raise customers' expectations, the more you have to provide, and the more chance you have to instill dissatisfaction by the occasional error. Customer service, especially those items as noted in the positive gap, are, we postulate, equivalent to hygiene factors; there can never be enough to totally satisfy the customer.

On the other hand, the product factors as noted in the negative gap, we postulate to be equivalent to motivators. Having the correct product (quality, options, working according to specifications and standards), competitively priced, when and where the customer wants it (availability/delivery), correctly working and guarantee to continue working (or to be replaced with no questions asked), motivates the customer. The best customer service in the world without having the correct product (or product parameters as we term those items in the negative gap list), will not motivate (i.e. result in a sale). As the Herzberg theory indicates, dissatisfaction is reduced but satisfaction will not result; that is, the customer feels good about the attention he is receiving but he/she still is not getting the product parameters desired.

However, having the correct product parameters with poor to nonexistent service need not be a death knell. Discount stores, the 47th Street Photo phenomenon in New York City, the self-service wholesale clubs, all exist and thrive without much customer service present. They exist because they provide to the customer the product parameters desired. Extra customer service would be fine but not at the cost of giving up the product parameters provided by the store. Satisfaction is a function of whether your expectations are met. With low expectations, the customer is satisfied with less (re the discount stores). However with increased discussion and promotions concerning customer service these past few years, customers are often demanding that advertised and more.

Further evidence of this 'gap' exists in examination of split factor analyses. Tables 5 and 6 provide a split factor analysis for both company employees and customers. The employees' factor analysis in Table 5 has factor 1 , not surprisingly, customer empathy with customer orientation as factor 2. The product oriented items can be seen in factors 3 and 4. Table 6 shows the customers' point of view. Factor 1 can be summarized as confidence in product and store. Factor 2 is the empathy factor. Factor 3 is an unusual item and can be summarized as not just having products work but making sure (from the store's perspective) it works and continues to work.

Tables 7 and 8 shows the results of a discriminant analysis. The univariate indicators which are significant are highlighted in the table. It is not necessary to list them all here but to merely note that they are nearly identical to the differences seen in Tables 3 and 4: customer empathy items as regards the store and the product parameters dominate as regards the customer. The multivariate statistic shows that indeed these factors are excellent discriminators and highly significant. The group versus predict matrix in Table 8 for the discriminant analysis correctly predicts 324 out of 415 for a not too shabby 78%. The Chi Square of 131 with a significance level of less than .001 indicates its success.

Table 5: Split Factor Analysis of Employees: Principal Components Varimax ROTATED LOADINGS

	1	2	3	4	5
Q1	-0.019	0.042	0.194	0.600*	0.071
Q2	0.276	0.169	-0.035	0.732*	0.069
Q3	0.518*	0.070	-0.006	0.487*	0.109
Q4	0.372	0.091	0.188	0.415	0.226
Q5	-0.015	0.387	0.132	0.482*	0.309
Q6	0.224	0.302	0.090	0.498*	0.179
Q7	0.114	0.039	0.498*	0.347	0.011
Q8	0.127	0.091	0.718*	0.062	0.297
Q9	0.017	0.089	0.453*	0.342	0.391
Q10	0.058	-0.013	0.054	0.123	0.685*
Q11	0.170	0.150	0.078	0.144	0.487*
Q12	0.072	0.640*	0.242	0.270	-0.032
Q13	0.261	0.339	-0.235	0.389	0.479*
Q14	0.220	0.354	0.146	0.303	0.341
Q15	0.138	0.700*	0.136	-0.004	0.125
Q16	0.243	0.721*	0.012	0.095	0.167
Q17	0.025	0.528*	0.388	0.149	0.321
Q18	0.193	0.735*	0.215	0.136	0.180
Q19	0.196	0.820*	-0.111	0.196	0.121
Q20	0.276	0.822*	-0.006	0.104	0.088
Q21	0.166	0.205	0.335	0.079	0.495*
Q22	0.437	0.248	0.121	0.118	0.508*
Q23	0.484*	0.290	0.213	0.096	0.483*
Q24	0.531*	0.237	0.067	-0.053	0.332
Q25	0.584*	0.170	0.194	-0.052	0.463
Q26	0.537*	0.229	-0.093	0.395	0.307
Q27	0.628*	0.196	-0.044	0.284	0.162
Q28	0.213	0.123	0.650*	-0.034	0.008
Q29	0.525*	0.043	0.264	0.147	0.337
Q30	0.748*	0.158	0.200	0.108	0.043
Q31	0.719*	0.291	0.176	0.122	0.015
Q32	0.697*	0.305	0.244	0.123	-0.013
Q33	0.463*	0.571	0.125	0.040	0.046
Q34	0.554*	0.074	0.315	0.139	0.254
Q35	0.388	0.142	0.579*	0.054	0.075
Variance Explained:	5.260	5.087	2.739	2.839	3.066
Percent of Variance:	15.029	14.534	7.825	8.111	8.759

Factor 1=3,23,24,25,26,27,29,30,31,32,33,34 'customer empathy'

Factor 2=12,15,16,17,18,19,20 'customer oriented' Factor 3=7,8,11,28,35 'product confidence'

Factor 4=1,2,3,5,6, 'neat and appealing' Factor 5=10,11,13,21,22,23 'product availability'

Table 6: Customer Split Factor Analysis: Principal Components Varimax ROTATED LOADINGS

	1	2	3	4	5
Q1	0.177	0.141	-0.115	0.545 *	0.226
Q2	0.103	0.012	0.070	0.726*	0.034
Q3	0.233	0.080	0.371	0.623*	-0.020
Q4	-0.105	0.387	0.219	0.532*	0.107
Q5	0.654*	-0.016	-0.053	0.270	0.306
Q6	0.668*	-0.024	0.106	0.243	0.363
Q7	0.056	0.048	0.232	0.176	0.642*
Q8	0.041	0.022	0.509*	0.131	0.369
Q9	0.206	0.025	0.203	0.076	0.579*
Q10	0.162	0.228	0.269	0.027	0.407
Q11	0.677*	-0.061	0.259	0.050	0.273
Q12	0.129	0.085	0.693*	-0.009	0.195
Q13	0.164	0.042	0.675*	0.085	0.121
Q14	0.112	0.289	0.433	0.247	0.386
Q15	0.115	0.260	0.541*	0.111	0.244
Q16	0.251	0.340	0.582*	-0.004	0.199
Q17	0.562*	0.116	0.314	-0.003	0.189
Q18	0.259	0.145	0.556*	0.193	0.049
Q19	0.294	0.171	0.504*	-0.034	0.050
Q20	0.698*	0.146	0.308	0.052	0.086
Q21	0.309	0.412	0.057	-0.047	0.518*
Q22	0.683*	0.342	-0.044	-0.017	0.199
Q23	0.360	0.492*	0.235	0.073	0.170
Q24	0.198	0.345	0.344	0.086	0.140
Q25	0.074	0.474*	0.130	0.091	0.295
Q26	0.691*	0.119	0.359	0.302	-0.128
Q27	0.637*	0.294	0.344	0.134	-0.149
Q28	0.050	0.304	0.249	-0.033	0.331
Q29	0.079	0.413*	0.032	-0.001	0.385
Q30	0.306	0.565*	0.218	-0.030	0.224
Q31	0.510*	0.414*	0.262	-0.017	-0.051
Q32	0.458	0.535*	0.256	-0.074	0.046
Q33	0.162	0.540*	0.323	0.146	0.001
Q34	0.032	0.728*	0.011	0.119	-0.041
Q35	-0.032	0.612*	0.054	0.143	0.077
Variance Explained:	4.824	3.806	4.019	2.002	2.564
Percent of Variance:	13.782	10.874	11.483	5.721	7.325

Factor 1=5,6,11,17,20,22,26,27,31 "Confidence in Product and Entity"

Factor 2=23,25,29,30,31,32,33,34,35 "Customer empathy' Factor 4=1,2,3,4 'neat and appealing'

Factor 3=8,12,13,15,16,18,19 "Making Sure Products Work Factor 5=7,9,21

Table 7: Discriminant Analysis between Customers and Employees:

UNIVARIATE F TESTS

VARIABLE	SS	DF	MS	F	P
Q1	3.775	1	3.775	2.531	0.112
Q2*	8.658	1	8.658	7.557	0.006
Q3	2.111	1	2.111	2.317	0.129
Q4	3.082	1	3.082	2.029	0.155
Q5	0.088	1	0.088	0.101	0.751
Q6	0.410	1	0.410	0.442	0.507
Q7	6.005	1	6.005	3.502	0.062
Q8*	54.293	1	54.293	39.530	0.000
Q9*	13.124	1	13.124	11.363	0.001
Q10*	9.292	1	9.292	8.305	0.004
Q11	2.139	1	2.139	2.125	0.146
Q12	0.751	1	0.751	0.662	0.416
Q13*	2.055	1	2.055	4.913	0.027
Q14*	5.394	1	5.394	5.050	0.025
Q15	0.236	1	0.236	0.235	0.628
Q16	0.793	1	0.793	0.995	0.319
Q17	0.257	1	0.257	0.186	0.666
Q18	0.336	1	0.336	0.461	0.498
Q19	1.253	1	1.253	1.942	0.164
Q20	1.681	1	1.681	2.482	0.116
Q21	1.142	1	1.142	1.025	0.312
Q22	1.706	1	1.706	1.858	0.174
Q23*	6.189	1	6.189	5.910	0.015
Q24*	5.493	1	5.493	5.507	0.019
Q25	0.526	1	0.526	0.626	0.429
Q26*	4.855	1	4.855	8.218	0.004
Q27*	6.331	1	6.331	7.413	0.007
Q28*	126.591	1	126.591	65.763	0.000
Q29*	12.586	1	12.586	16.563	0.000
Q30*	8.102	1	8.102	7.405	0.007
Q31	2.808	1	2.808	2.769	0.097
Q32*	8.631	1	8.631	9.918	0.002
Q33	0.156	1	0.156	0.177	0.674
Q34	0.070	1	0.070	0.050	0.823
Q35	1.286	1	1.286	0.728	0.394

MULTIVARIATE TEST STATISTICS

WILKS' LAMBDA = 0.658 F-STATISTIC = 5.621 DF = 35, 379 PROB = 0.000

Table 8: Group versus Predict Matrix of Discriminant Analysis

Table of Frequencies: Group (Rows) by Predict (Columns)

	1.000	2.000	Total	
1.000	168	41	209	
2.000	50	156	206	
Total	218	197	415	324/415=78%

Test Statistic	Value	DF	Prob
Pearson Chi-Square	130.989	1	0.000
Likelihood Ratio Chi-Square	138.991	1	0.000

All this reinforces the conclusions described earlier concerning the differences between customers and stores and the necessity to reinstill basics, not of customer service but of product basics--having the right product when the customer wants it at the time the customer needs it, guaranteeing its working or replacement with no questions asked, and at a competitive price. These items are what the customers indicate are very important and represent quality to them. Without these items present, all the touchy-feely customer service items in the world will not matter.

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