Volume 9, Numbers 1 and 2 **ISSN 1095-6298**

ACADEMY OF MARKETING STUDIES JOURNAL

An official Journal of the

Allied Academies, Inc.

L. Jean Harrison-Walker
University of Houston-Clear Lake

Editorial and Academy Information
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Whitney Press, Inc.

Printed by Whitney Press, Inc.
PO Box 1064, Cullowhee, NC 28723

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LETTER FROM THE EDITOR

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Our editorial policy is 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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L. Jean Harrison-Walker
University of Houston-Clear Lake

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Articles for
Volume 9, Number 1

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ADVERTISING EXPENDITURE AND FIRM PROFITABILITY: AN INVESTIGATION

Confidence W. Amadi, Florida A&M University

ABSTRACT

It is generally accepted or believed that advertising increases sales. But does this increase in sales translate into increase in profitability? Does increase in operating expense resulting from increased sales eat up or neutralize the benefits of increased sales? This paper looks at the long-run relationship and causal implications between advertising and operating income. The findings indicate that the impact of advertising expenditure on firm profitability is not homogeneous across firms in the industry. Moreover, there is a strong and positive causal relationship that runs decidedly from operating income to advertising expenditure, meaning that increases in operating income Granger causes increase in advertising expenditure.

INTRODUCTION

Advertising is any paid form of non-personal communication about an organization, product, service, or idea by an identified sponsor, (Alexander, 1965:9). The role of advertising within an economy cannot be over-emphasized. Advertising and promotions are an integral part of our social and economic system, evolving into a vital communications system that gives businesses and consumers the ability to deliver carefully prepared messages to target audiences. "Advertising provides nearly all of the financing for commercial domestic broadcast television and approximately half of the financing for domestic cable television", (Blumenthal & Goodenough, 1998: 416). Expenditures in advertising and promotions have experienced tremendous growth in recent years. Between 1980 and 2002, their combined expenditure increased from $102 billion to $490 billion in the United States, (Belch & Belch, 2004:5). This represents a compound annual growth rate of 7.4%, and a substantial amount of resources expenditure. The question arises as to the extent and level of benefit provided to the sponsors of these communications. (Batra, Lehmann, Donald, Burke & Pae, 1995) find a strong and significant increase in the effect of advertising when the product category is new and growing.

The primary purpose of advertising is to sell something-a product, a service, or an idea. In other words, advertising is supposed to increase sales or market share of the sponsor. In view of the fact that the objective of a firm is to maximize shareholders' wealth as evidenced by the firm's stock price, the goal of sales increases and market share are only relevant to the extent that they enhance the profitability of the firm through increase in operating income. A firm's stock price is the present value of the cash flow the firm is expected to generate for the shareholders. This cash flow is largely determined by the firm's operating cash flow. Advertising expenditure entails the outlay of current resources in expectation of future benefits to the firm. The objective of this study is therefore, to

investigate the long-run relationship between advertising and operating income. The paper is organized as follows: the next section presents a brief literature review; section three deals with the data and methodology; section four results and final section contains the analysis and conclusion.

BRIEF LITERATURE REVIEW

This section presents a brief review of previous studies on the impact of advertising. For the purpose of this study, previous studies on the effect of advertising can be classified as studies on the market value effect, advertising budget determination, and the long-run impact of advertising.

Market Value Effects

Using a sample of 87 firms that announced advertising slogan changes, Mathur and Mathur (1995), examined its effect on the firms' market values. Based on the argument that "advertising slogan changes are driven by the firm's desire to improve its financial performance", and thus act as signals from the managers regarding their intent to improve the firm's future earnings, they utilized event study methodology to study the impact of such signaling on the market value of the firm. For the firms used in the study, they found that with an event study window of +2 and +10, announcement of changes in advertising slogan resulted in a 91 basis point increase in the return on investment. Conclusion, investors react positively to announcements of advertising changes, leading to higher market values to the firms.

Graham and Frankenberger (2000) examined the asset value of advertising expenditures of 320 firms with reported advertising expenditure for each of the 10 consecutive years ending in 1994, to determine the "effect of advertising expenditures on the financial performance by measuring the contribution made by year-to-year differences in advertising expenditures to the asset values and subsequent market values of publicly traded firms." Using the asset-earnings relation, earnings of a firm was modeled as a function of the firm's tangible and intangible assets. Advertising expenditure and research and development expenditures were used as proxies for the intangible assets that are not recorded in the balance sheet of the firm. Year-to-year differences in the advertising expenditures were used to measure changes in advertising. These changes were assumed to have impact on the firm's earnings five years into the future. The market value impact of advertising expenditure was captured by the relationship that the market value of a firm is a function of the net asset value of the firm, the net asset value being defined as the difference between the sum of the firm's tangible and intangible asset and liabilities. Their results indicate a significant relationship between advertising asset value and the firm's earnings. Also, the regressions show a statistically significant relation between firm market value and advertising asset value. Graham Jr., and Frankenberger studies were based on aggregate industry data as well as differenced data. On a firm level their results may not be applicable. In addition, they caution that "because we use changes rather than levels of advertising expenditures in our analysis, we can not make definitive statements regarding the asset value of absolute advertising expenditure levels."

Agrawal and Kamakura (1995) studied the impact of 110 celebrity endorsement contract announcements on the expected profitability of a firm using event study methodology. Their results

indicate that, on average, the impact of these announcements resulted in a 54 basis points cumulative abnormal return over the event window of 0 and +1. This suggests that celebrity endorsement contracts are generally viewed as a worthwhile investment in advertising. The authors point out that "measuring the overall effect of advertising expenditures on sales is problematic, and a direct assessment of the effectiveness of celebrity endorsement on a firm's profitability may be impossible. In addition, because advertising effects accrue over time, current profits may not accurately reflect the true profitability of a given campaign." As a result, the authors opted to use "the expected profit associated with a celebrity endorsement campaign." Thus the announcement effect reflects investors' expectation of the effect on the expected future cash flow of the firm, hence an increase in the firm's stock price and resulting abnormal return. Moreover, the authors also caution that the "announcements of such contracts could act as a signal to investors of the confidence a firm has in the superiority of its products or of its commitment to particular brands."

Erickson and Jacobson (1992) explored the extent to which R&D and advertising expenditures generate a comparative advantage that allows firms to earn above normal profits. After controlling for unobserved firm specific factors and the feedback between discretionary expenditures and profitability, their analysis suggests a "substantially lower accounting and stock market returns to R&D and advertising expenditures. Relying on the efficient market theory that only unanticipated changes in variables should affect stock returns, Erickson and Jacobson (EJ) regressed the estimates of unanticipated R&D and advertising expenditure and annual dummy variables that control for differences against stock returns. The unanticipated components of the expenditures were obtained from the error terms of the second-order vector autoregression. They found the coefficients on both expenditures to be substantially positive, indicating a statistically significant positive effect of these expenditures on stock returns. EJ argue that "firms with higher profits will also have higher stock returns. As a result, the correlation of stock returns with advertising and R&D expenditure, or at least part of it, might be a spurious association reflecting a joint association with firm profit performance." They showed that after controlling for the effects of firm profits by incorporating unanticipated return on investment in the regression analysis, the results indicate a significant increase in the explanatory power of the model. The coefficients of advertising and R&D expenditures decreased from a positive 3.317 and 4.649, respectively to negative values of –2.357 and –2.488, respectively. On the other hand the coefficient of unanticipated return on investment was a positive 2.918. They conclude that this "indicates that the stock market does not reward, in and of itself, spending on advertising and R&D.

Hasan, Hunter and Mathis III (2000) employ a simultaneous equations analysis to investigate the impact of promotional expenses on the performance and asset-liability management of savings and loan institution. Their results indicate that the relationship between promotional expenditures and performance as measured by return on asset (ROA) is not significant. The direction of the impact of promotion on the ROA was found to be negative. When the return on asset is decomposed into non-interest return on asset (NROA) and interest return on asset (IROA), a significant and positive relationship was found to exist between NROA and promotional expenditure.

Chauvin and Hirschey (1993) by regressing market value against cash flow, growth, risk, market share, and advertising and R&D expenditures provide evidence that advertising and R&D

expenditures have large, positive and consistent influences on market value of firms. They also found that "the valuation effects of advertising and R&D are typically greater for larger as opposed to smaller firms in both manufacturing and non-manufacturing sectors."

Most evaluations of marketing expenditures focus on the value of advertising to the sponsoring organization. Reibstein and Farris (1995) investigated the impact of marketing expenditures on the ultimate consumer. They find that the impact of expenditures, which result in an increase in distribution coverage for a product, benefits the ultimate consumer in the form of a social value as well as economic value. The social value is a consequence of easier access to the product, less compromised demand and higher consumer satisfaction. The economic value results from "within store and between store effects of greater distribution of brands or products" leading to a reduction in price to consumers.

The preceding review presents mixed results of the market value impact of advertising expenditure. The results are based either on event study methodology or on ordinary least squares regression results. The significance of a regression coefficient does not necessarily imply causality. Hence a methodology is needed that tests for the causal link between advertising expenditure and firm market value. This is one of the objectives of this study.

Advertising Budget Determination

Mitchell (1993) using a checks and balances methodology of survey, personal interviews, and case studies examined the nature, scope and dynamics of the advertising budgeting process, with the objective of identifying the methods used by a sample of firms in the United Kingdom to determine their advertising budgets. They find that 40.4 per cent of the sample firms used the task and objective method of setting advertising budget. The percentage of future sales method was used by 26.9 per cent of the respondents. 7.7 and 5.8 per cent used the percent of past and future sales, and fixed sums, respectively, by the respondents to determine their advertising budget.

Lee (1994) using the data from the U.S. brewing firms showed that the firm's advertising budget is an increasing function of its risk-taking attitude resulting from its realized poor performance as measured by either its return on equity or market share. Corfman and Lehmann (1994) examined how advertising budget setting, framed as a prisoner's dilemma, is affected by information on the competitive situation and characteristics of the decision maker. They found that the participants based their strategy on what they expected their opponents to do, what their opponents did last time, whether the competitive relationship was expected to continue, on market share considerations, and whether the subject's profit objectives were short- or long-term focus. Fairhurst, Gable and Dickinson (1996) applied an open-ended interview approach to examine the methods currently used to set advertising budget for large retailers. In an interview of 24 randomly selected manager/directors of advertising, all the respondents said they used the percentage of sales method to establish their advertising budgets. This method, according to the respondents, was used because it was traditional, and had always been used.

Metwally (1997) developed and tested a number of hypothesis to explain variations in the growth rates of advertising expenditure of consumer goods and services in Australia during the period 1975-1995.The results indicate that growth in advertising expenditure is strongly correlated

with growth in sales; that movements in market shares exerted a significant effect on the growth in advertising expenditure, and that the weight of advertising in the marketing-promotional-mix is a strong determinant of growth of advertising expenditure. Joseph and Richardson (2002) use agency conflict to examine the relationship between advertising expenditure, free cash flow and managerial ownership. They find that the fraction of discretionary dollar reinvested in advertising varies systematically with the level of managerial ownership. Specifically, they find that "changes in level of earnings have a significant impact on the advertising budget for the upcoming period." On the relationship between managerial ownership and advertising expenditure, they find that on average, for a firm with no management ownership, $0.262 of each discretionary dollar is reinvested in advertising. In the 0%-5% ownership range, "each percentage point of management ownership reduces the amount of the discretionary dollar reinvested in advertising by $.0612. For the 5%-25% ownership range, each percentage point of management ownership increases the amount of the discretionary dollar reinvested in advertising by $0.0136. Finally, in the 25% -100% ownership range, each percentage point in ownership decreases the amount of discretionary dollar reinvested in advertising by $0.0034." The pattern is very similar to the basic agency conflict between managers and owners of firms.

The Long-Run Impact of Advertising

Based on the association between abnormal stock returns and forecast errors of various components of earnings, and the belief that for discretionary outlays such as advertising, the sign and magnitude of the association between forecast errors and abnormal returns can provide information concerning the expected duration of benefits arising from these activities, Bublitz and Ettredge (1989) show that the market assessment of advertising is consistent with its assessment of short-lived assets. White and Miles (1996) propose that advertising decision making should be analyzed within a capital budgeting framework since advertising have significant inter-temporal effects on sales by influencing consumption habits. "These residual effects occur after the awareness of the product is created, product knowledge is transmitted, product preferences altered, and the advertising campaign stopped, typically carrying over into subsequent periods."

Overall, the brief review of the literature shows that while advertising expenditure results in increased sales, the duration of its impact is still a subject of considerable debate. On the market value impact of advertising, it is apparent that a direct measure of the wealth effect on shareholders can only be inferred from market reaction to the expected impact of the advertising expenditure on the firm's cash flow. Whether this expectation is realized in the long run is still open to research. The present study is aimed at filling that gap in the literature.

DATA AND METHODOLOGY

The data for this study, obtained from the Compustat database, are the annual operating income before depreciation (OIBD) and advertising expenditure (ADEX) for the period 1960 through 2000, for the household products industry (SIC 335). The choice of industry is completely arbitrary. The objective of advertising is essentially the same regardless of the industry. The

intensity, magnitude and choice of medium may differ across industries and even across firms, but the goal of shareholder wealth maximization is independent of the industry. The allocation of firm resources should reflect that goal. Of the 98 firms listed in the database, only 18 firms had sufficient continuous data over the study period. A list of the firms is presented in Table 1.

Establishing the long-run relationship between a pair of time series requires that the variables be cointegrated. If a series must be differenced *d* times before it becomes stationary, it is said to contain *d* unit roots and integrated of order *d*, expressed as *I(d)*. For two series y_t *and* x_t to be cointegrated, they each must be integrated of the same order d. Moreover, there must exist a vector β, such that the error term from the regression $(\epsilon_t = y_t - \beta x_t)$ is of a lower order of integration, *I(d-b)*, where $b>0$. According to Engle and Granger (1987), the two series are said to be cointegrated of order *(d, b)*. Cointegration implies that even though the two or more series themselves may contain stochastic trends, the series are linked to form an equilibrium relationship to which the system converges over time. The error term, ϵ_t, can be interpreted as the distance that the system is away from equilibrium at time *t*.

In order to investigate the long-run relationship between operating income and advertising expenditure, it is necessary to determine the integration of these variables for the firms under study. To achieve this, the augmented Dickey-Fuller (ADF) test of Said and Dickey (1984) and Said (1991) is employed. The test is based on the null hypothesis of unit root with drift process against the alternate of trend stationary process. The selection of the optimal lag length is based on the Akaike Information criterion (AC), multivariate (Hannan-Quinn, 1979) criterion (HQ), and multivariate (Schwarz, 1978) Bayesian (SC) criterion.

Given the integration characteristics of operating income and advertising expenditure variables for the firms, the Johansen maximum likelihood procedure is used to test for possible cointegration between the variables. Johansen, (1988; 1991) and Johansen and Juselius (1990) procedure is based on the error-correction representation of the vector autoregression VAR(*k*) model with Gaussian errors. Johansen and Juselius (1990) likelihood-ratio tests (Lambda-max and Trace tests) are used to determine the number of cointegrating vectors based on the maximum likelihood estimates of the cointegrating vectors. The lag length, *k*, is chosen by a combination of AC, HQ, and SC criteria.

Granger (1986; 1988) pointed out that if two variables are cointegrated, then Granger causality must exist in at least one direction. Granger (1969) describes a variable x_t as Granger causing another variable y_t, if the inclusion of lagged values of x improves the forecast of y. Engle and Granger (1987) point out that the standard Granger causality tests are inappropriate and misleading in the presence of cointegration. Standard Granger causality tests that are augmented with error-correction terms, obtained from the cointegrating relationship, are used to investigate the long-run effects. According to Engle and Granger (1987), such tests assure that valid inferences can be made on variables that are cointegrated.

STATIONARITY TEST RESULTS

The augmented Dickey-Fuller (ADF) test was conducted using the following regression model:

$$\Delta z_t = \alpha_0 + \beta z_{t-1} + \eta T + \sum_{s=1}^{p} \chi_s \Delta z_{t-s} + \mu_t \quad (1)$$

Where z_t is the time series, T is a time trend, and μ_t is white noise. The null hypothesis is that the time series z_t is a unit root with drift process: $\beta = 0$, against the alternate that z_t is a trend stationary process: $\beta < 0$. The test statistic is the t-value of β. The selection of the optimal *p* was based on the Akaike, Hannan-Quinn and Schwarz information criteria. The results, though not presented in the table, are available upon request. The results of the stationarity or unit root tests are presented in Tables 1and 2 for the variables in the nominal and growth rate forms, respectively, for each of the firms in the sample.

Table 1: Stationarity Test Results
Variable in Nominal Format β Coefficient (*t*-statistic in parenthesis)

Firm Name	OIBD		ADEX	
	Level	1st Difference	Level	1st Difference
AGI Anderson Group Inc (AND)	-3.715 (-3.7008)**	-1.4664 (-1.6306)	-0.7581 (-2.5943)	-0.7457 (-1.6363)
Astro Communications Inc. (AST)	-1.3799 (-1.8126)	-3.1368 (-3.0959)	-1.9106 (-2.534)	-1.7709 (-4.6689)**
Champion Spark Plug (CHA)	-0.6087 (-1.9089)	-1.2352 (-0.8775)	-1.9078 (-3.5449)**	-1.0854 (-2.3335)
CASA Blanca Industries Inc (CAS)	-1.1784 (-1.1604)	-4.4973 (-2.0437)	-1.5317 (-2.3043)	-1.3823 (-3.183)*
Latshaw Enterprises Inc. (LAT)	-0.334 (-1.9593)	-1.944 (-3.3088)*	-0.3075 -1.9036)	-1.7203 (-3.8043)**
Corning Inc. (COR)	-0.2511 (-0.9536)	-3.6253 (-2.413)	-2.434 (-0.8028)	-2.4492 (-3.2451)*
Duro-Test Corp (DUR)	-1.6436 (-2.0745)	-1.5138 (-0.5735)	-1.5969 (-0.8825)	-2.1384 (-4.0245)**
Environmental Tectonics Corp (ENV)	-31.286 (-2.0191)	-2.2747 (-3.6443)**	1.3697 (0.7006)	-0.8053 (-2.427)
SPX Corp (SPX)	3.6081 (1.8926)	-0.8353 (-2.543)	-0.3826 (-2.1095)	-0.9184 (-3.6369)**
Helen of Troy Corp Ltd (HEL)	-0.5458 (-0.8205)	-1.8675 (-5.1077)**	1.7531 (2.5233)	0.2927 (0.496)
Jetronic Industries Inc. (JET)	-0.8873 (-1.5564)	-2.2439 (-3.9385)**	-0.9151 (-1.8823)	-0.5141 (-1.0577)
Maytang Corp (MAYT)	-0.6692 (-2.1379)	-1.2256 (-3.5065)**	-0.4295 (-2.2604)	-1.2243 (-2.7547)
National Presto Industries Inc. (NAT)	-0.6892 (-1.7907)	-1.8454 (-4.0212)**	-0.3578 (-1.1504)	-1.5955 (-4.8615)**

Table 1: Stationarity Test Results
Variable in Nominal Format β Coefficient (*t*-statistic in parenthesis)

Firm Name	OIBD		ADEX	
	Level	1st Difference	Level	1st Difference
S L Industries Inc. (SLIN)	-1.0028 (-2.3734)	-1.5438 (-3.5825)**	1.4846 (1.2164)	-0.7234 (-1.4467)
Thomas & Betts Corp. (THOM)	-0.9558 (-1.2784)	-7.8867 (-3.8324)**	0.0580 (0.1537)	-2.6237 (-4.9467)**
Waters Instruments Inc. (WAT)	-0.3596 (-1.5272)	-1.1167 (-2.3981)	-0.2129 (-1.0748)	-0.8771 (-3.0503)
Whirlpool Corp (WHIR)	-2.5222 (-2.3299)	-1.2831 (-3.2273)*	-1.2759 (-1.8671)	-1.269 (-2.7969)
Applica Inc. (APP)	-0.2025 (-0.2818)	-1.1803 (-3.7705)**	-0.3451 (-0.7348)	-1.1646 (3.5386)**
Westerbeke Corp (WEST)	-0.8134 (-0.8635)	-1.0903 (-1.9909)	-0.7 (-1.9479)	-0.9351 (-1.935)

** Significant at 5% level, * Significant at the 10% level,

The results indicate that the characteristics of the variables differ considerably across the firms in the households industry. In the nominal form, only three of the firms (LAT, NAT and APP) have the operating income and advertising expenditure integrated of the same order, *I(1)*. In the growth rate form, six of the firms (AND, CAS, DUR, JET, THOM and WEST) have both variables integrated of order one. Another nine firms, (CHA, COR, ENV, SPX, JET, MAYT, SLIN, WAT, WHIR and APP) have the operating income variable integrated of order zero, while advertising expenditure variables are integrated of order one. The remaining two firms, (LAT and NAT) have the operating income and advertising expenditure integrated of order zero. Given that cointegration methodology requires that the variables be included in the analysis in there non-stationary form, variables that are I(0) will not be used in the cointegration model. Only the variables that are I(1) will be used to study the long-run relationship for the respective firms.

Table 2: Stationarity Test Results
Variable in Growth Rate Format β Coefficient, (*t* Statistic in parenthesis)

Firm Name	OIBD		ADEX	
	Level	1st Difference	Level	1st Difference
AND	-1.1209 (-2.522)	-2.3905 (-5.7293)**	-1.1025 (-2.2574)	-2.8094 (-3.2164)**
AST	-1.00625 (-3.0455)**	-1.8448 (-4.4453)**	N/A	N/A
CHA	-1.8328 (-3.2757)**	-3.2098 (-5.3147)**	-1.2571 (-2.697)	-2.2082 (-3.2773)**

Table 2: Stationarity Test Results
Variable in Growth Rate Format β Coefficient, (*t* Statistic in parenthesis)

Firm Name	OIBD		ADEX	
	Level	1st Difference	Level	1st Difference
CAS	-1.0326 (-2.4399)	-2.0723 (-4.2004)**	-1.2801 (-1.6318)	-1.0372 (-3.33)**
LAT	-1.337 (-4.1278)**	-1.9206 (-6.1162)**	-1.4027 (-3.0834)**	-1.3071 (--4.0357)**
COR	-1.675 (-5.4106)**	-2.3094 (-6.7463)**	-3.2949 (-1.7892)	-2.3001 (-4.1381)**
DUR	-1.0575 (-1.6969)	-1.7999 (-3.0068)**	-5.9399 (-3.9693)**	-2.33 (-4.3723)**
ENV	-0.8144 (-3.2557)**	-1.7613 (-5.9334)**	-1.6809 (-2.4446)	-2.2486 (-6.3797)**
SPX	-0.9406 (-3.2724)**	-2.2656 (-6.6323)**	-0.9193 (-1.8151)	-2.0764 (-5.6394)**
HEL	-1.1387 (3.3979)**	-2.0959 (--5.6396)**	-0.7953 (-2.8978)**	-1.9043 (-4.6219)**
JET	-0.9791 (-2.8343)*	-1.4597 (-3.3734)**	-0.4195 (-0.5977)	-1.9296 (-4.5847)**
MAYT	-1.251 (-4.3783)**	-2.0158 (-6.8186)**	-0.7785 (--1.4963)	-2.4896 (-9.192)**
NAT	-1.4119 (-4.729)**	-2.0056 (-6.4412)**	-1.8961 (-3.6871)**	-2.0548 (-6.2575)**
SLIN	-1.0753 (-3.1102)**	-1.9179 (-4.6565)**	-0.426 (-0.5625)	-1.8306 (-3.6938)**
THOM	-0.0702 (-0.163)	-1.2735 (-3.1477)**	-2.0307 (-2.142)	-2.1565 (-5.8233)**
WAT	-1.04 (-3.5447)**	-1.7738 (-4.9488)**	-0.8604 (-1.8711)	-1.7911 (-6.5261)**
WHIR	-1.3413 (-3.2306)**	-1.9118 (-4.0652)**	-0.7644 (-1.6937)	-1.8759 (-5.0843)**
APP	-1.0898 (-3.472)**	-1.9837 (-5.4378)**	-1.8223 (-2.6948)	-1.8957 (-5.096)**
WEST	-0.6253 (-1.7306)	-2.0216 (-4.1058)**	-1.4763 (-1.4198)	-1.7953 (-3.3173)**

** Significant at the 5% level
* Significant at the 10% level

COINTEGRATION TEST RESULTS

The use of the Johansen procedure requires the selection of the appropriate lag length for the VAR(*p*) model. The Hannan-Quinn and Schwarz information criteria are used to select the order

p that ensure the errors are approximately white noise. For all the series in the study, *p=1* is the upper bound value that ensures white noise. In order to determine the number of cointegrating vectors, the Lambda-max and Trace tests were conducted. The results of testing for the number of cointegrating vectors based on the Lambda-max test and the trace test are reported in table 3. The Lambda-max test tests the null hypothesis that there are r cointegrated vectors against the alternative that there are r+1cointegrated vectors. The trace test tests the null hypothesis that there are at most r cointegrated vectors against the alternative that there are 2 cointegrated vectors. The tests are performed using the unrestricted VAR, which assumes the existence of a deterministic linear time trend in the data. Both tests strongly support the existence of one cointegrating vector for most of the firms. However, the results are mixed, hence inconclusive, for AND and JET, but one cointegration vector was elected.

Next the Johansen's cointegration analysis was performed with cointegrating restriction on the time trend parameters imposed. The likelihood ratio (LR) tests, of the null hypothesis that the imposed cointegrating restrictions on the time trend parameters hold, are conducted to test the validity of the restrictions. The results are presented in table 4. The rejection of the null hypothesis implies that the test results of cointegration are invalid. The results of the tests indicate that the trend restriction is valid for all of the firms.

The cointegrating vectors for each of the firms are presented in table 4 along with the results of the likelihood ratio (LR) test on the cointegration restrictions on the time trend parameters. The p-values of the LR test indicate that for all the firms, the restrictions are valid.

Next is the estimation of the error correction model. Since the number of lagged variables necessary to obtain white noise in the cointegrating equation is one, the error correction model takes the form:

$$z(t) - z(t\text{-}1) = B.H'[z(t\text{-}1)',t\text{-}1]' + c + u(t) \quad (2)$$

for the case in which cointegrating restrictions on the time trend parameters are imposed or

$$z(t) - z(t\text{-}1) = B.H'z(t\text{-}1) + c.d(t) + u(t) \quad (3)$$

for the case without restrictions on the time trend parameters:

where:

z(t) is a 2-vector with components: z(1,t) = OIBD(t) and z(2,t) = ADEX(t)

H'[z(t-1)', t-1]' = e(t-1), is the 1-vector of error correction terms, with **H** the 3x1 matrix of cointegrating vector

H'z(t-1) = e(t-1), is the 1-vector of the error correction terms, with **H** the 2x1 matrix of cointegrating vectors.

c is a 2-vector of constants

d(t) is the 2-vector of deterministic variables, with components d(t,1) =1, and d(t,2) =t

u(t) is the 2-vector of error terms. t = 2 (= 1961), ……., 41 (= 2000).

Table 3: Likelihood Ratio Test of the Number of Cointegration Vectors, r

	Lambda Max Test H_0: There are r cointegrated vectors H_a: There are r+1 cointegrated vectors		Trace Test H_0: There are at most r cointegrated vectors H_a: There are 2 cointegrated vectors		Conclusion on the # of Vectors
Firms	r = 0	r = 1	r = 0	r = 1	
Growth rate of OIBD and ADEXP					
AND	21.9	14.6*	36.6	14.6	@
CAS	55.3	11.8*	67.1	11.8*	1
DUR	26.6	8.3***	34.8	8.3***	1
JET	18.9*	15.2*	34.0	15.2	@
THOM	34.9	3.9***	38.9	3.9***	1
WEST	14.5***	9.6**	24.2*	9.6**	1
Nominal Form of OIBD and ADEXP					
LAT	9.0***	3.4***	12.4***	3.4***	1
NAT	14.9**	6.3***	21.2**	6.3***	1
APP	12.2***	4.2***	16.4***	4.2***	1

*** Accept the null at 20%, 10% and 5% Levels of significance
** Accept the null at 10% and 5% Levels of significance
* Accept the null at 5% level of significance
@ Inconclusive result, 1 cointegrating vector elected.

The maximum likelihood estimation results for the vector error correction model (VECM) are presented in Table 5. Panel A displays the results for the variables in growth rate format, while panel B shows the results for the variables in nominal form..

The result of the VECM estimation is used to test the direction of causality between operating income and advertising expenditure. A causal link exists between the variables if the coefficient of the error correction term B1 and or B2 are statistically significant. Significance of the error correction term reflects long-run causality. For each firm, if both coefficients are significant, it indicates that causality is bi-directional. This implies that changes in operating income are Granger caused by advertising expenditure as well as changes in advertising expenditure being Granger caused by operating income. As evidenced in Table 5 Panel A, causality runs very strongly from operating income to advertising expenditure. In all of the firms studied, the coefficient of the

error-correction term (β_1) in the advertising expenditure VECM are significant with an average R^2 for the firms studied of 57.5%, with a high of 97.23% and a low of 26.34%. This contrasts significantly with the VECM for the operating income where the average R^2 is 21.76% with a high of 43.82% and a low of 1.4%. Except for CAS, bi-directional causality exists between the growth rates of operating income and advertising expenditure for all of the firms with cointegrated variables, although the causality is much stronger flowing from operating income to advertising expenditure as evidenced by the explanatory power of the VECM.

To further evaluate the effect of operating cash flow on advertising expenditure, the coefficient of the error correction term is multiplied by the coefficient of the operating income in the cointegration vector. The resulting product is an estimate of the long-run impact of operating income on advertising expenditure. It measures the rate of change of the change in advertising expenditure with respect to change in operating income. The results are presented in Table 6 along with the rate of change of the change in operating income with respect to advertising expenditure.

Table 4: Standardized Estimate of the Cointegration Vectors Based on the Johansen Procedure (Growth Rate of Variables)

Firms	With Restriction on the Time Trend Parameters			Without Restriction on the Time Trend Parameters		LR Test Statistic (p-value)
	ADEXP	OIBD	TIME	ADEXP	OIBD	
AND	0.1262	0.0365	1.0	1.0	0.2877	0.07 (0.7872)
CAS	0.104	-0.0196	1.0	1.0	-0.19	0.02 (0.8869)
DUR	-0.4061	1.0	0.4917	0.412	1.0	0.52 (0.4693)
JET	0.8866	0.6372	1.0	1.0	-0.7273	0.01 (0.9103)
THOM	1.0	-0.1274	0.1417	1.0	-0.1285	1.78 (0.1821)
WEST	0.0983	-0.0817	1.0	1.0	-0.8239	0.0 (0.9522)
Nominal Variables						
LAT	-0.149	1.0	0.0372	-0.1515	1.0	0.59 (0.4433)
NAT	-0.7721	1.0	-0.2199	-0.7821	1.0	0.97 (0.3249)
THOM	-0.0579	1.0	-0.4057	-0.0577	1.0	0.09 (0.7685)
APP	0.2278	1.0	-0.428	-0.2335	1.0	0.64 (0.4234)

Table 5: Maximum Likelihood Estimation Results for the VECM						
Panel A: Growth Rate of Variables						
Firms	ΔADEXP			ΔOIBD		
	β_1	C_1	R^2 (%)	β_2	C_2	R^2 (%)
AND	-4.417	69.46	38.14	-19.78	314.3	43.82
CAS	-9.584	165.4	97.23	0.6888	-11.33	1.4
DUR	3.539	-17.48	73.57	-0.2584	-1.0237	10.82
JET	-0.71 67	10.18	39.75	0.6829	-14.27	13.35
THOM	-1.5046	19.78	69.9	-1.0816	9.421	24.29
WEST	-4.045	55.65	26.34	9.227	-123.7	36.85
Panel B: Nominal Variables						
LAT	-0.272	0.131	9.2	1.699	-0.981	6.5
NAT	-0.26	-1.576	8.08	0.633	4.059	12.41
THOM	-0.343	-0.518	66.37	6.344	23.44	14.16
APP	-0.622	0.302	21.33	0.123	2.561	0.04

Table 6: Estimate of the Slope of the VECM		
Panel A: Growth Rate of Variables		
Firms	Dependent Variable: ΔADEXP Independent Variable: OIBD	Dependent Variable: ΔOIBD Independent Variable: ADEXP
AND	-0.0612	-2.496
CAS	0.1878	0.716
DUR	3.539	-0.1049
JET	-0.4567	0.6054
THOM	0.1917	-1.0816
WEST	0.3305	0.907
Panel B: Nominal Variables		
LAT	0.0405	1.699
NAT	0.2007	0.633
THOM	0.0198	6.344
APP	-0.1417	0.123

The result of the analysis indicates that there is a long-run positive relationship between capital expenditure and operating income. Increase in operating income results in increase in advertising expenditure except for AND and JET where an inverse relationship exists between growth rate in operating income and the change in the growth rate of advertising expenditure. In the case of the effect of advertising expenditure on changes in growth rate of operating income, of the firms where the error correction term is significant, the results are mixed. For AND, DUR, and THOM, there seems to exist an inverse relationship between increase in growth rate of advertising expenditure and changes in growth rate of operating income. Where as for CAS, JET and WEST, increase in growth rate of advertising expenditure results in a long-run increase in growth rate of operating income. In Panel B, the slope of the VECM for the firms in which the operating income and advertising expenditure are cointegrated in the nominal form, except for APP, there is appositive bi-directional relationship between advertising expenditure and operating income. Increase in advertising expenditure seems to increase operating income and vice versa. For APP, increase in operating income decreases advertising expenditure, whereas increase in advertising expenditure appears to increase operating income.

ANALYSIS AND CONCLUSION

The result obtained from applying the Johansen procedure on the relationship between operating income and advertising expenditure, provides a mixed insight into the nature of advertising expenditure for the household products industry. Of the nineteen firms studied, only ten firms exhibited long-run relationship between advertising expenditure and operating income. Among the ten firms, the relationship was not uniform. Six of the firms showed long-run relationship in the growth rates of the variables while the remaining four firms were cointegrated in the nominal levels of the variables. The cointegration analysis results provide some insight into the nature of the impact of advertising on profitability as well as the determinant of the level of advertising expenditure.

Firstly, the significance of the variation in the level of integration of the variables begs the issue of the data generating process across firms. Finance theory predicts that there should be a long-run relationship between the operating cash flow and capital expenditures. Since advertising is considered a capital expenditure, it should have a long-run impact on operating income. The existence of different orders of integration between these variables raises doubt about their long-run relationship and the advertising expenditure decision criteria.

Secondly, the impact of time on the long-run relationship between these variables is highly significant. Of the firms studied only one of them rejected trend restriction on the cointegrating vector. This implies that time is a relevant variable in establishing the long-run relationship between operating income and advertising expenditure.

Thirdly, the Granger causality test provides mixed results on the impact of operating income on advertising expenditure and vice versa. The result indicates that, for all but two of the firms studied, causality runs strongly from operating cash flow to advertising expenditure. This implies that the level of advertising spending is determined to a significant degree by the operating income. This runs counter to the efficient market theory on capital rationing, wherein capital expenditure is

supposed to depend on the profitability of investment projects and the unlimited ability of the capital markets to fund profitable investments. On the other hand, for the remaining five firms, the tests indicate and support the inter-dependence of operating cash flow and capital expenditure through the bi-directional Granger causality between operating income and capital expenditure.

Fourthly, the slope of the operating income in the capital expenditure VECM equation is positive for seven of the firms studied. The positive slope implies that increase in operating income increases advertising spending. The bi-directional causality implies that the resulting increase in advertising increases operating income and the cycle continues. On the other hand, the three firms with negative VECM slope indicates that advertising expenditure for these firms is a prompted by declining profitability. For the firms with negative slope on the operating income VECM, increase in advertising expenditure results in a decrease in operating income. For these firms advertising has a negative impact on shareholder wealth by decreasing operating income. Fifthly, this study seems to suggest that there is a significant gap between the dictates of financial theory and the practice of finance as it relates to advertising expenditure budgeting decision process. This issue merits further investigation to determine whether it is unique to the Household products industry. If not, what are the possible factors responsible for the inconsistency in the data generating process across firms in the same industry? And lastly, this study contributes to the literature in the following ways: it extends the work of Agrawal and Kamakura (1995) by providing a direct measure of advertising event on profitability, a concern the authors expressed in their paper. This study contradicts the spurious effect theory advanced by Erickson and Jacobson (1992) on the correlation between advertising expenditure and firm profitability by showing the bi-directional causality relationship between operating income and advertising expenditure. The findings of Lee (1994) regarding the linkage between advertising budget and firm poor performance is supported by the inverse relationship between advertising expenditure and operating income in some of the firms studied. In addition, the study, through the strong relationship between the growth rates of advertising expenditure and operating income, which is an indirect link to sales, lends support to Metwally (1997) who showed that growth rates in advertising expenditure is strongly correlated with growth rate in sales. growth. Finally, this study simultaneously supports the Bublitz and Ettredge's (1989) short-live asset theory as well as White and Miles's (1996) inter-temporal effects of advertising effect. This is shown through the mixed cointegration relationship exhibited by the firms studied.

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THE ACADEMY OF MARKETING STUDIES JOURNAL: AN ANALYSIS OF THE FIRST SEVEN YEARS

Michael W. Preis, University of Illinois at Urbana-Champaign
Gregory M. Kellar, Penn State University, Delaware County

ABSTRACT

This article provides a retrospective analysis of the first seven volumes of the Academy of Marketing Studies Journal. The analysis presents a profile of the journal including 1) article lengths and other descriptive characteristics, 2) the most prolific authors and institutional affiliations, 3) coauthorship patterns, 4) marketing topics researched, 5) citations and references, and 6) sizes of empirical data sets. Data compiled or available from retrospective analyses of other journals were used as standards of comparison against which to evaluate AMSJ. We conclude, based on the results of the analysis, that the journal is meeting its stated goals.

INTRODUCTION

A basic job requirement of marketing faculty at collegiate schools of business is the performance of original research and the subsequent publication of results in refereed journals. An individual faculty member's performance with respect to this requirement is frequently measured by the number of articles published (Hawes & Keillor, 2002). Among AACSB accredited institutions, the single most important criterion in faculty evaluations is journal publications (Tong & Bures, 1987). Thus, faculty researchers are vitally interested in the refereeing and publishing process.

With increasing numbers of faculty, and with greater pressure to publish in order to obtain tenure or promotion, competition has *de facto* caused the bar to be raised at many journals. According to *Cabell's Directory of Publishing Opportunities in Marketing* (2000), the acceptance rate at *JM* is 6-10%. P. Rajan Varadarajan, former editor of *Journal of Marketing*, notes "the rigor of the peer review process at this [*JM*] and every other major journal has continuously risen over the years and is destined to rise even further" (Varadarajan, 1996). A review of *JM* for the years 1993 through 2002 appears to support this viewpoint. In particular, in 1993 the average length of a research article in *JM* was 14.1 pages; ten years later, in 2002, this figure had grown to 16.0 pages. The situation is similar at the *Journal of the Academy of Marketing Science* (*JAMS*) and the *Journal of International Business Studies* where the increase in page-length of articles is attributed to 1) the theoretical foundations for articles becoming more sophisticated and comprehensive, and 2) the research methodologies becoming more rigorous, requiring more explanation (Malhotra, 1996; Inkpen & Beamish, 1994).

In addition to the increasingly high standards set by the top-tier journals, faculty at teaching institutions face other challenges in fulfilling their research responsibilities. For instance, it is commonly perceived among marketing faculty, especially at teaching institutions, that "many good articles were not being published because their authors came from small schools, or because the work was critical of established ways of thinking" (Carland & Carland, 1997). Faculty at smaller institutions have other challenges in accomplishing their research goals. Many of these faculty have more limited access to graduate student researchers, research assistants, expensive data bases, and other resources than their peers at research institutions. Heavy teaching loads present another hurdle. Colley and Volkan (2004) find that faculty at Ph.D.-granting institutions teach, on average, 11.7 semester hours per year (i.e., slightly less than four 3-credit courses per year) while faculty at accredited institutions granting masters degrees teach, on average, 16.1 semester hours per year (slightly more than five 3-credit courses per year). The most common reason cited for reduction of teaching loads is for publication in academic journals (Colley & Volkan, 2004). Thus, faculty that are employed at teaching (non-Ph.D.-granting) institutions are at a clear disadvantage. Not only do they suffer from the prejudice against articles from smaller school inherent in the review process and from a lack of resources (available to their peers at other institutions), they are also disadvantaged by a heavier teaching load. These conditions combine to make it difficult to compete in the increasingly intense peer-review process. Hence, researchers at non-Ph.D.-granting institutions may find many outlets for publication effectively closed to them.

In response to the growing need for publication outlets, the *Academy of Marketing Studies Journal* was started in 1997. When the Allied Academies first published the *Academy of Marketing Studies Journal* (*AMSJ*) the editors' stated goal was "to publish empirical and theoretical manuscripts which advance the discipline, and applied, educational and pedagogic papers of practical value to practitioners and educators" (Carland & Carland, 1997). This continues to be the stated mission of the journal (Wright, 2003).

The practice of publishing serial retrospective analyses is well established in the business and marketing literature (Hyman & Steiner, 1996). For example, analyses of journals include *Contemporary Accounting Research* (Carnaghan, Flower-Gyepesi & Gibbins, 1996), *Journal of International Business Studies* (Chandy & Williams, 1994), *Journal of Consumer Affairs* (Geistfeld & Key, 1986), *Journal of Finance* (Heck, Colley & Hubbard, 1986), *Journal of the Academy of Marketing Science* (Malhotra, 1996), *Journal of Advertising* (Muncy & Eastman, 1998), *Journal of Marketing* (Applebaum, 1947), *Journal of Business and Entrepreneurship* (Hyman & Steiner, 1996), and *Journal of Marketing Theory and Practice* (Randall, Miles & Randall, 1999).

The purpose of this study is to examine the content published in the first seven volumes (14 issues) of *AMSJ* in order to achieve a better understanding of how well the journal is achieving its mission and to gain a deeper appreciation of the position the journal holds within the marketing discipline. Specifically, we analyze and summarize article lengths and other descriptive characteristics, the most prolific authors and their institutional affiliations, coauthorship patterns, marketing topics researched, citations and references, and sizes of empirical data sets. When appropriate we make comparisons to other journals.

METHODOLOGY AND RESULTS

The number of serial retrospectives, examining the characteristics of articles published in a journal over a period of years, is growing. We rely on this literature for some comparative data. These earlier studies also provide a starting point to guide the analyses performed.

Description of *AMSJ*

Volume 1 Issue 1 of *AMSJ* was published in 1997. Since that time the journal has been published semi-annually. The most recent issue analyzed for this study was Volume 7 Issue 2 (2003), thus the first 14 issues of the journal are included in the analysis. The 14 issues contain 93 articles.

All manuscripts are double-blind reviewed. The primary criterion upon which manuscripts are judged "is whether the research advances the discipline…Key points include currency, interest, and relevancy" (Allied Academies, 2004). Articles are accepted for publication in *AMSJ* by two routes. The first route is through the conferences hosted by the Allied Academies, the parent organization of the Academy of Marketing Studies. Papers accepted for presentation at a conference are competitively judged and, if found deserving, up to 25% of the top papers are awarded Research Awards; receipt of a Research Award carries with it eligibility for publication in *AMSJ*. The second route to publication in *AMSJ* is through direct submission to the journal; the stated goal is to accept 25% of the articles submitted in this manner.

Length of Articles

The length of journal articles is frequently stated as average number of pages per article (e.g., Malhotra, 1996; Randall, Miles & Randall, 1999). For comparison purposes we have measured the length of articles by pages but we have also provided word-counts since the numbers of tables, figures, and references will greatly influence the page-count. Furthermore, word-count is more useful to authors trying to gauge the lengths of their manuscripts against manuscripts that have been published. With the widespread use of word processing software, word-counts are no longer cumbersome and time consuming. Word-counts referred to below include headings but do not include titles, references, endnotes, abstracts, tables, charts, or figures. As shown in Table 1, over the life of *AMSJ*, the average length of published articles is 4082 words (standard deviation 2206). The longest article contains 12,316 words and the shortest article contains 998 words. The average length has varied from a low of 2,756 words in volume 4 to 4,777 words in volume 5, with no apparent pattern to the variation.

Page-count per article is commonly used in retrospective analyses. Page-counts for the *AMSJ* volumes are presented in Table 1 to show comparable data. While there has been some substantial variation in the average page-length per article, the average length does not appear to have grown over the life of the journal. The most recent two volumes (6 and 7) have average page-lengths per article that are virtually identical to the overall average of 13.4. Thus, if length, either as word-count

or page-count, is used as a measure of rigor, it appears that *AMSJ* is maintaining a consistent and constant standard for acceptance of articles.

Table 1
Average Number of Articles per Issue and
Average Word-Count per Article for Each Year of Publication of *AMSJ*

Year	Vol.	Average Number of Articles per Issue	Average Page-length per Issue	Average Word-count per Article	Average Page-length per Article
1997	1	5.5	62.0	3,745	11.3
1998	2	5.0	65.0	3,807	13.0
1999	3	6.5	102.0	4,765	15.7
2000	4	5.5	46.5	2,756	8.4
2001	5	9.5	152.0	4,777	16.0
2002	6	5.5	74.5	4,403	13.5
2003	7	9.0	119.5	3,827	13.3
Overall		6.6	88.8	4,082	13.4

Use of Tables and Figures

Table 2 shows the average number of tables and figures per article for each volume. The average number of figures per article for each volume varies from a low of 0.2 to a high of 0.6 with an overall average of 0.4 and the average number of tables per article for each volume varies from a low of 1.3 to a high of 4.2 with an overall average of 2.4. There is no discernible pattern to the variations nor is there any explanation for the wide variation in the average number of tables per article.

Table 2
Average Number of Tables and Figures per Article

Year	Vol.	Average Tables per Article	Average Figures per Article
1997	1	1.9	0.2
1998	2	2.3	0.6
1999	3	2.9	0.2
2000	4	1.3	0.2
2001	5	1.5	0.5
2002	6	2.4	0.4
2003	7	4.2	0.2
overall		2.4	0.4

REFERENCES

Table 3 shows the average number of references per article per volume. Overall, the average number of references for articles published in *AMSJ* is 31.8, with a standard deviation of 25.0. This figure varies from a low of 14.5 references per article in Volume 4 to a high of 49.1 references per article in Volume 3. There is no apparent pattern to the variation in the number of references per article from one volume to another. The smallest number of references in any single article is 5 and the greatest number of references in any single article is 184. By comparison, for Volume 66 of *Journal of Marketing*, the average number of references per article is 71.3, with standard deviation of 29.9, a low of 22, and a high of 144.

Table 3
Average Number of References per Article

Year	Volume	Average References per Article
1997	1	23.8
1998	2	33.6
1999	3	49.1
2000	4	14.5
2001	5	38.7
2002	6	30.3
2003	7	27.4
overall		31.8

Conference Award Winners and Direct Submission Articles

Articles published by virtue of having won Research Awards at Allied Academies conferences have similar page-lengths, numbers of authors, numbers of references, and contain similar numbers of tables and figures as articles submitted directly to *AMSJ* for publication, as shown in Table 4. This demonstrates the uniformity of standards applied to articles published in *AMSJ*. That papers presented at conferences are of such quality has the effect of raising the standard of research at Allied Academies conferences, since papers of journal quality are being presented. The analysis presented in Table 4 applies only to Volumes 5 through 7 because data available from earlier conferences are incomplete.

Authors

Table 5 shows that of the 93 articles published in the first 7 volumes of *AMSJ*, 37 (39.8%) were sole-authored. Of the coauthored articles, 36 (38.7%) had two authors, 17 (18.3%) had 3 authors, and 3 (3.2%) had 4 authors. The mean number of authors per article is 1.85. There were 172

authors credited on the 93 published articles. Of the 172 authors, 30 authored more than one article, thus 142 different researchers published articles in *AMSJ*. The distribution of academic rank among authors is unknown.

Table 4.
Selected characteristics of Research Award winning articles and articles submitted directly to *AMSJ* (Volumes 5 through 7 only).

	Award Winners	Direct Submissions
Number of Articles	30	18
Mean Page-length	14.1	12.0
Mean Number of Authors	2.1	1.72
Mean Number of References	32.1	34.6
Mean Number of Tables	2.5	2.6
Mean Number of Figures	0.8	0.3

Table 5
Sole and multiple authorship of *AMSJ* articles

Number of Authors per Article	Number	Percent
1	37	39.8
2	36	38.7
3	17	18.3
4	3	3.2
Mean number of authors	1.85	---
Number of authors	172	---
Number of unique authors	142	---

In the first seven volumes of *AMSJ* 142 individual researchers authored or coauthored articles. Counting the number of articles on which each author's name appears, the most frequently published authors are shown in Table 6. Herbig, Larsen, and Wright authored or coauthored four articles each. Alhabeeb, Choong, Kamery, Maniam, and Pitts authored or coauthored three articles each. Eleven other researchers authored or coauthored two articles each. The remaining 123 researchers authored or coauthored one article each. Thus, *AMSJ* is providing many researchers with opportunities to publish since no single author has contributed more than four articles. This is in contrast to the authors of articles published in Volume 66 (2002) of *JM*, for example. Of the 77 coauthors published in Volume 66 of *JM*, 75 are unique (i.e., two individuals contributed to two articles). Of the 75 unique authors, 34 (45.3%) have contributed only one article to *JM*; the other 41 (54.7%) authors have contributed (in their lifetimes) to *JM* a total of 166 articles or an average of 4.0 articles each. Thus, more than half of the coauthors of articles published in Volume 66 of *JM*

have published more than one article in the journal and 22 authors have contributed 4 or more articles in their lifetimes.

Table 6
Most Frequently Published Authors in *AMSJ*

Author Name	Number of Articles
Herbig, Paul	4
Larsen, Val	4
Wright, Newell D.	4
Alhabeeb, M.J.	3
Choong, Peggy	3
Kamery, Rob H.	3
Maniam, Balasundram	3
Pitts, Sarah T.	3

Institutional Affiliations of Authors

Authors of articles published in *AMSJ* show a diverse range of institutional affiliations, including both universities and other types of organizations. The institutional affiliations of authors from academic institutions are shown in Table 7. Authors from five commercial or nonacademic organizations authored or coauthored articles but these institutions are not shown in the table. In compiling Table 6, if an article credited two co-authors with the same organizational affiliation as each other, this was counted as two authors from that institution. Similarly, if multiple articles were authored by the same researcher, that author's institution was credited for each such article. For this analysis, no distinction is made between sole-authored and coauthored works. One author listed two institutional affiliations and each was given credit for one article; all other authors cited only one institutional affiliation.

As shown in Table 7, authors of articles published in *AMSJ* represented 86 colleges and universities. The most prolific institutions are Christian Brothers University with 10 author credits, Southeast Missouri State University with 8 author credits, and Sam Houston State University, James Madison University, and Southeastern Louisiana University with 7, 6, and 5 author credits, respectively. Five institutions had 4 authors, 7 institutions had 3 authors, and 20 institutions had 2 authors. The remaining 48 institutions had 1 author each. By examining the websites of all of the academic institutions, 12 (14%) were identified as granting doctorates in business. The doctoral-granting institutions are: Concordia (Canada), Georgia State, Louisiana Tech, Michigan State, New Mexico State, Texas A&M International, Central Florida, Manitoba, Massachusetts at Amherst, Oregon, Utah, and Wisconsin at Madison Universities.

Table 7 Educational institution affiliations of *AMSJ* authors	
Number of Articles	**Educational Institution**
10	Christian Brothers University
8	Southeast Missouri State University
7	Sam Houston State University
6	James Madison University
5	Southeastern Louisiana University
4	Marshall University
4	Niagara University
4	The University of Montana
4	The University of Tennessee at Martin
4	Truman State University
3	Bellarmine University
3	Northern Michigan University
3	Texas A & M International University
3	University of Evansville
3	University of Massachusetts at Amherst
3	University of North Dakota
3	University of South Carolina Aiken
2	Central Washington University
2	Emporia State University
2	Ferris State University
2	Indiana University at South Bend
2	Lamar University
2	Macquarie University
2	Mississippi College
2	Moorhead State University
2	Multimedia University
2	New Mexico State University
2	Pittsburg State University
2	State University of West Georgia
2	University of Jyväskylä
2	University of Massachusetts Dartmouth

Table 7
Educational institution affiliations of *AMSJ* authors

Number of Articles	Educational Institution
2	University of North Carolina-Charlotte
2	University of Porto
2	University of Wisconsin-Stevens Point
2	Virginia State University
2	Western Carolina University
2	Yaba College of Technology
1	Anderson College
1	California State University San Marcos
1	California State University, Fullerton
1	Central Missouri State University
1	Central Texas College
1	Clemson University
1	Concordia University
1	Copenhagen Business School
1	Creighton University
1	Georgia State University
1	Indiana University of Pennsylvania
1	Jacksonville State University
1	Lander University
1	Long Island University/C.W. Post Campus
1	Louisiana Tech University
1	Michigan State University
1	Mid-Continent College
1	Middle Tennessee State University
1	Mississippi University for Women
1	Northern Illinois University
1	Northern Kentucky University
1	Nova Southeastern University
1	Penn State University, Delaware County
1	Southeastern Louisiana State University
1	Southwest Texas State University

Table 7
Educational institution affiliations of *AMSJ* authors

Number of Articles	Educational Institution
1	St. John Fisher College
1	St. Joseph's University
1	Tampere University of Technology
1	The University of Sydney
1	Union College
1	United Arab Emirates University
1	University of Central Florida
1	University of Houston-Downtown
1	University of Louisiana, Lafayette
1	University of Manitoba
1	University of Missouri-Kansas City
1	University of Oregon
1	University of San Diego
1	University of South Alabama
1	University of Utah
1	University of Western Sydney
1	University of Wisconsin - Whitewater
1	University of Wisconsin-Madison
1	University of Wollongong
1	Virginia Polytechnic Institute and State University
1	William Paterson University
1	Winona State University
1	Yeshiva University

Of the 86 colleges and universities shown in Table 7, 52 (60.4%) are currently accredited by AACSB (AACSB, 2004). Of those 52 institutions, at least 12 are doctoral granting institutions and account for 16 (17.2%) of the 93 articles. From observation, it appears that AACSB accredited business schools are larger and better funded than non-accredited colleges and universities. Thus, the diversity of colleges and universities, the proportions accredited and not accredited by AACSB, and the relatively small proportion of articles contributed by researchers from Ph.D. granting institutions demonstrate that *AMSJ* is fulfilling its mission of providing a publication outlet for researchers from smaller academic institutions.

Marketing Topics Researched

The first seven volumes of *AMSJ* contain articles on a wide variety of marketing topics. In order to classify each article according to the marketing topic or topics which form the basic theme or research question of the paper, we followed a three-step process. First, for each article we identified the primary research question. If the primary research question was not explicitly stated within the article, we wrote a question based on our understanding of the article. Second, we analyzed the research question to make a preliminary determination of the marketing topic(s) related to that research question. We began this step by establishing whether one or more of the 23 marketing topics identified by Randall, Miles and Randall (1999) provided an appropriate fit. If the previously identified topics did not adequately identify the research question of the article, we created a new topic. Third, we grouped the resulting preliminary topics, joining topics that are closely related. Note that this process focuses on the topic and not the industry.

An example will illustrate the process. We identified the research question of the article entitled "The Forecasting Accuracy of Five Time Series Models: Evidence from the Portuguese Car Market" as "which forecasting technique is most accurate?" We created a preliminary topic of "forecasting" as the most descriptive and accurate categorization of this research. Subsequently, we joined "forecasting" into the broader marketing topic of "marketing research." The empirical data utilized to answer the question come from the Portuguese car market but the automotive data were incidental to the main topic and hence the article was classified as neither "consumer behavior" nor "international marketing."

As Table 8 shows, the most commonly researched marketing topic addressed by articles in *AMSJ* is Consumer Behavior with 27 articles, followed by advertising with 11 articles, and Education with 7 articles. The least commonly researched topics addressed by articles in *AMSJ* are B2B, Channels, Industry Characteristics, Price, Retail, and training with one article each.

There is substantial similarity between the marketing topics addressed by articles in *AMSJ* and those appearing in other journals, such as *Journal of Marketing Theory and Practice* (*JMTP*). The percentage of all articles published on each subject during the first eight years of publication of *JMTP* (Randall, Miles & Randall, 1999) and the first seven years of publication of *AMSJ* are shown in Table 9. For both journals the most frequently researched topic is Consumer Behavior, accounting for 29% of articles in *AMSJ* and 14.1% of articles in *JMTP*. The second and third most commonly researched topics in *AMSJ* are Advertising (11.8%) and Education (7.5%), while for *JMTP* the topics are Sales and Sales Management (10.5%) and International (9.9%), respectively.

Citations and References

As shown in Table 10, the most commonly cited single journal is *Journal of Consumer Research*, and the second most commonly cited journal is *Journal of Marketing*. Undoubtedly the reason for the high number of citations from *JCR* is the high proportion of articles published in *AMSJ* on the topic of consumer behavior, as shown in Table 8. Although the number of citations from *JCR* is higher than the number of citations from *JM*, 44 (47.3%) articles in *AMSJ* referenced works from *JM* while 32 (34.4%) articles in *AMSJ* referenced works from *JCR*. *Journal of*

Marketing Research was cited by 38 (40.9%) articles in *AMSJ*; 92 articles from *JMR* were referenced. Table 10 shows only the journals that were referenced 20 or more times. As an indication of how important the Internet has become to researchers, websites were referenced a total of 48 times by 9 articles in *AMSJ*.

Table 8
Subjects of Articles Published in *AMSJ*, Volumes 1-7

	Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5	Vol. 6	Vol. 7	Total
Advertising		1	5	1		1	3	11
B2B							1	1
Channels			1					1
Consumer Behavior	5	1	2	2	7	5	5	27
Education	2	2		2			1	7
Ethics			1		1	2	2	6
Industry Characteristics							1	1
International		2	2	2				6
Legal	1			1				2
Marketing Management	1	1			1		3	6
Marketing Research	1	1			2			4
Price							1	1
Product/Offering				2			1	3
Relationships			1	1				2
Retail					1			1
Sales and Sales Mgmt.	1	2	1			1		5
Strategy					5	1		6
Theory					2			2
Training						1		1

Table 11 shows how many *AMSJ* articles referenced specific journals. As noted in the discussion of Table 10, *JM* articles were cited in more *AMSJ* articles (44) than any other single journal. Table 11 shows only those journals referenced in 10 or more articles in *AMSJ*.

Data Sets

The sizes of data sets used in empirical studies are quite respectable. After discarding one data set of n=10,000 as an outlier, the mean size of data sets is n=230. The largest data set has n=796

and the smallest data set used for analysis has n=35. Several small data sets, used for scale validation or qualitative studies, are not reflected in these figures.

Table 9
Percentage of all articles addressing specific topics during the first seven years of publication of *AMSJ* and the first 8 years of *JMTP*

	AMSJ	***JMTP***
Advertising	11.8	3.1
B2B	1.1	
Channels	1.1	5.2
Consumer Behavior	29.0	14.1
E-Commerce		2.6
Education	7.5	0.5
Environmental Marketing		2.6
Entrepreneurship		0.5
Ethics	6.5	1.6
Industry Characteristics	1.1	
International	6.5	9.9
Legal	2.2	
Logistics		3.7
Marketing Management	6.5	4.2
Marketing Research	4.3	4.2
Price	1.1	1.0
Product/Offering	3.2	2.1
Promotion Mix		2.1
Relationships	2.2	4.7
Retail	1.1	1.6
Sales and Sales Management	5.4	10.5
Services		6.3
Strategy	6.5	4.2
Theory	2.2	7.9
Training	1.1	
Transportation		3.7
TQM		3.7
TOTAL	100.4	100.0

Table 10
Sources cited most frequently in *AMSJ*

Source	# of citations	Articles citing
Journal of Consumer Research	126	32
Journal of Marketing	118	44
Journal of Marketing Research	92	38
Harvard Business Review	57	24
www.	48	9
Journal of Retailing	41	12
Journal of Business Ethics	34	8
Journal of Business Research	33	24
Doctoral Dissertation	32	8
Marketing Science	29	10
Advances in Consumer Research	29	9
Advertising Age	25	13
Journal of Marketing Education	24	6
Journal of Personal Selling & Sales Management	22	6
Journal of International Business Studies	20	5

Table 11
Journals cited in most articles in *AMSJ*

Journal	Number of Articles Citing Each Journal
Journal of Marketing	44
Journal of Marketing Research	38
Journal of Consumer Research	32
Harvard Business Review	24
Journal of Business Research	24
Advertising Age	13
Journal of Applied Psychology	12
Journal of Retailing	12
Psychology and Marketing	12
Academy of Management Journal	10
Marketing Science	10

Depth of Analyses

An in-depth analysis of the analytical techniques being utilized (applied) in *AMSJ* compared to *JM* is beyond the scope of this article, but a cursory analysis shows the level of sophistication is fairly high with over 67% of the papers being empirical in nature. Of those that are empirical, 25% use four or more analytical tools or procedures in their analyses. Only 34% of the articles employ just one analytical technique.

Comparison to Other Journals

A full analysis of other journals to compare to *AMSJ* is beyond the scope of this article. However, in order to have a standard by which to measure, we use some descriptive statistics we developed for Volume 66 (2002) of *Journal of Marketing*. The goal of *AMSJ* is not to duplicate *JM* but using *JM* as a standard, can demonstrate the quality of the research reported in *AMSJ*. Volume 66 of *JM* contains 28 research-focused articles (three articles are essays and are not counted in this analysis). The average number of authors per article is 2.64. None of the articles is sole-authored. Twelve articles have 2 coauthors, 14 articles have 3 coauthors, and 2 articles have 4 coauthors. Of the 74 authors of articles published in Volume 66 of *JM*, at least 44 (59.5%) are from doctoral granting institutions. The relatively high average number of authors per article and the high percentage of authors from doctoral-granting institutions both support the perception of a need for a journal focused on the research performed at teaching institutions.

Table 12 shows the mean number of some key statistics for *AMSJ* and *JM*. The mean length of *AMSJ* articles (12.9) compares favorably with the mean length of *JM* articles (16.0 pages). Figures are used more frequently in *JM* (mean of 1.9 per article) than in *AMSJ* (mean of 0.4 per article). All *JM* research articles contain at least one table or figure, with an average of 3.4 tables and 1.9 figures while 71 (76.3%) *AMSJ* article use at least one figure or table.

Table 12
Comparison of key indicators per article for *Academy of Marketing Studies Journal* (Volumes 1-7) and *Journal of Marketing* (Vol. 66)

	AMSJ	***JM***
Mean number of pages	12.9	16.0
Mean number of authors	1.8	2.6
Mean number of references	31.8	71.3
Mean number of tables	2.4	3.4
Mean number of figures	0.4	1.9

Citation of *AMSJ* in Other Journals

A search of the ProQuest® online database indicates that *AMSJ* has been cited twice in other journals. Both citations were in *Journal of Marketing Theory and Practice* and both citations were made by the authors of the *AMSJ* articles. Being cited in other journals indicates that *AMSJ* is fulfilling its purpose of publishing "empirical and theoretical manuscripts which advance the discipline." The *AMSJ* articles that were cited apparently were useful in supporting research reported in other journals.

CONCLUSION

Having examined every article published in the first seven volumes of *AMSJ*, it appears that the standards for publication in the *AMSJ* are relatively constant. The length of articles, the sophistication of the analyses, and the number of references cited indicate that the bar is being held steady. Researchers have examined a wide variety of important topics in marketing and the journal provides a broadly balanced and effective means of disseminating that knowledge. We conclude that the journal is fulfilling its dual purposes. Legitimate and valuable research on current, interesting, and relevant topics is being published in the journal. At the same time, the journal represents a credible publication outlet for manuscripts prepared by researchers at predominantly teaching institutions.

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I'M ON BEALE STREET, BUT MY LUGGAGE IS IN MEMPHIS…EGYPT?: DEPLOYING RFID-ENABLED BAGGAGE TRACKING SYSTEMS TO IMPROVE AIRLINE CUSTOMER SERVICE

David C. Wyld, Southeastern Louisiana University
Michael A. Jones, Southeastern Louisiana University
Jeffrey W. Totten, Southeastern Louisiana University

ABSTRACT

This article examines the adoption of Radio Frequency Identification (RFID) technology in the commercial aviation industry, focusing on the role of RFID systems for improved baggage handling and security. Based upon secondary and trade literature, the article provides a timely overview of developments with regard to the implementation of the technology in commercial aviation. Particular attention is given to the initiative of Delta Airlines, an industry leader in the testing and development of RFID systems for improved operations in baggage handling.

The article focuses on two major contributions that RFID promises commercial aviation: (1) improved customer service though better operational efficiency in baggage handling, and, (2) increased airport and airline security. RFID's promise in matching checked-bags with passengers as an anti-terrorist measure is explained; this has generated interest from both government and industry associations. Though RFID technology is experiencing widespread adoption across many industries, the authors find that commercial aviation is poised to be a leader in full-scale adoption of RFID systems for baggage handling operations. It is concluded that RFID technology holds distinct advantages over the currently used bar-code system for baggage handling.

INTRODUCTION

It's every business traveler's worst-case scenario, whether you have just landed in Alexandria, Egypt or Alexandria, Louisiana. You're standing at the baggage carousel, having flown in on the last flight arriving that night. A constant stream of bags of all shapes, sizes and colors circle past you, disappearing one by one as your "lucky" fellow passengers claim their prizes. After ten or fifteen minutes, the carousel stops spinning. At that point, you realize that your checked roller-bag has not arrived on the same flight as you.

Now, you are in "lost luggage hell," and while the airline may do its best to accommodate you, no compensation from the air carrier – whether in money, miles or drink coupons - cannot change one simple fact: How are you going to make that winning presentation to a major new client at 8 a.m. the next morning? You realize that the only clothes you have in your possession is the

warm-up suit you wore to be comfortable all day as you traveled, and your "killer suit" and "confidence tie" are likely sitting on an airport tarmac thousands of miles away, with no clothing store in the city that will open before the meeting (unless you happen to be in Las Vegas).

The system that you as a business or leisure traveler are dependent upon to correctly track your checked luggage to either the Memphis in Tennessee or in Egypt is based on correct readings along the line of a bar-coded label, bearing a 10-digit IATA (International Air Transport Association) number. Gartner's Research Director, Jeff Woods, commented that "bags are very well tracked right now" by the airlines and their bar code-based systems (cited in Morphy, 2004, n.p). Yet, this is little consolation when it is *your* bag that is lost. The baggage tracking systems of the world's airlines are mature, and even under the best of conditions, bar code technology works in correctly reading only 8 or 9 bags out of every 10. This means that the airlines continue to devote considerable time and energy to manually intervene to correctly direct the right bags onto the right flights, while spending great amounts of money to reunite passengers with their bags when the system breaks down.

Today, savvy airlines, even in their precarious financial positions, are seeing the shift to RFID (radio frequency identification)-based baggage tracking systems as a solid operational investment that can produce significant cost savings and demonstrated ROI. Airports as well are taking the initiative to shift to RFID-based systems, sensing the opportunity to produce better traveler satisfaction with their experience at a specific airport. In a deregulated world of airline and airport choices, these entities are combining forces to enhance customer service and give them a competitive advantage, perhaps for a significant window of time until such RFID-based systems are made mandatory.

In this article, we will examine the mechanics of how RFID-based baggage tracking works and the benefits it can provide. After a brief overview of RFID technology, we will look at the experience of Delta Air Lines, which is the first airline to publicly commit to taking the technological leap forward RFID-based baggage tracking. We will then examine the confluence of technology, terrorism, and yes, marketing, that will likely drive the adoption of RFID-based tracking of checked baggage throughout the world. The RFID movement is also being spearheaded by the U.S. government. It is clearly interested in securing the safety of the traveling public and with it, what financial viability the airline industry has left in the wake of the after-effects of September 11th and the decline in travel spurred by that awful tragedy, an economic recession, and record fuel prices. We will examine the government push in this area and concerns over passenger privacy. Finally, we will look at an alternative vision of the future of airline customer service, which may preclude the need for baggage service as part of the air passenger experience altogether.

WHAT IS RFID?

In brief, Radio Frequency Identification (RFID) uses a semiconductor (microchip) in a tag or label to store data. Data is transmitted from, or written to the tag or label when it is exposed to radio waves of the correct frequency and with the correct communications protocols from an RFID reader. Tags can be either active (using a battery to broadcast a locating signal) or passive (using power from the RFID reader for location). A firm may use a combination of fixed and hand-held

readers for reading RFID tags to gain as complete a picture as has ever been possible on exactly what is where in their operations. Reading and writing distances range up to 100 feet, and tags can be read at high speeds (Booth-Thomas, 2003). For a detailed explanation of the technology, see McFarlane (2002), Kambil & Brooks (2002), and Reed Special Supplement (2004).

The advantages of RFID over bar code technology are summarized in Table 1.

Table 1
RFID versus Bar Code Technology

Bar Codes	RFID Tags
Bar Codes require line of sight to be read	RFID tags can be read or updated without line of sight
Bar Codes can only be read individually	Multiple RFID tags can be read simultaneously
Bar Codes cannot be read if they become	RFID tags are able to cope with harsh and dirty
dirty or damaged	environments
Bar Codes must be visible to be logged	RFID tags are ultra thin, and they can be read even when concealed within an item
Bar Codes can only identify the type of item	RFID tags can identify a specific item
Bar Code information cannot be updated	Electronic information can be over-written repeatedly on RFID tags
Bar Codes must be manually tracked for item	RFID tags can be automatically tracked, eliminating
identification, making human error an issue	human error

RFID tags have been described as being a "quantum leap" over bar codes. Inc. Magazine characterized RFID versus bar codes as "like going from the telegraph to the Internet" (Valentine, 2003, n.p.).

As noted in an interview last year with the *Harvard Business Review*, William Copacino, Group Chief Executive Officer for Accenture's Business Consulting Capability Group, interest in RFID is picking up significantly throughout the global business community today. This is due not only to the fact that prices are rapidly dropping for both the RFID tags themselves and for the readers to sense them. More importantly, the technology is proving to provide significant improvements in operations and efficiency over traditional methods, while affording companies the concomitant opportunity to improve their security and customer service strategies (opinion cited in Kirby, 2003). From the perspective of Deloitte Consulting (2004), if RFID is viewed as simply an alternative means of identification and labeling to bar code technology, then businesses will have a "lost opportunity" on their hands. This is because RFID technology offers the opportunity for transformative change in internal business processes, supply chain management, and customer service.

BAGGAGE AND AIRLINE CUSTOMER SERVICE: THE CASE OF DELTA AIRLINES

The critical link in customers' minds between seeing their luggage on the baggage carousel upon arrival and their perception of the quality of an airline's service offering has been empirically proven. Each year, professors Brent D. Bowen (University of Nebraska Omaha) and Dean E. Headley (Wichita State University) produce their *Airline Quality Rating* report. These researchers' analytical methodology ranks airline performance in the United States, based on a weighted average of four key performance measures. These benchmarks have been validated as key in determining consumer perceptions of the quality of airline services. The four measures, drawn from data that the airlines are mandated to report to the U.S. Department of Transportation, include: (1) On-time arrivals, (2) Mishandled baggage, (3) Involuntary denied boardings, and (4) Twelve areas of customer complaints. Several airlines in the U.S. that have performed well in the quality survey, including Southwest, JetBlue, and Midwest Express, have touted their rankings in Bowen and Headley's (2004) report in their advertising campaigns.

Such has not been the case with Atlanta, Georgia-based Delta Air Lines. Based on the recently released Airline Quality Rating 2004 report (as seen in Table 2), Delta has now fallen to last among the twelve major U.S. airlines in consumer perceptions of service quality. To put this in perspective, while the airline's composite quality rating has actually improved over time since 2000, in that same time frame, Delta's competition has been making marked improvements in the service components that matter most to airline customers.

Today, Delta is a firm embroiled in the turmoil that is the American airline industry today. Facing rising fuel costs, a downturn in business travel, an uncertain economy, and discount competition, *all* the established, legacy carriers in the U.S. are struggling financially and operationally today, with prominent carriers such as US Airways and United barely surviving (e.g., see Tully, 2004). Delta itself has been the subject of bankruptcy rumors, and it has conducted lay-offs and closed its major hub at the Dallas/Fort Worth International Airport to stave-off its demise (Perez, 2004). In September, CEO Gerald Grinstein announced a comprehensive overhaul plan, including laying off thousands of employees, and got initial agreement from its pilots union to the recall of retired pilots on a limited basis (Fein, 2004; Weber, 2004). In the wake of September 11th, American airlines are finding that without the ability to raise fares or to spend lavishly to improve customer service, they must improve their operational efficiencies and performance to survive today.

One particular area of weakness for Delta has been its handling of air travelers' checked-in luggage. In fact, according to the recently released 2004 report (which uses annual data as of the close of 2003), Delta's mishandled baggage rate increased from 3.57 in 2002 to 3.84 in 2003. As can be seen in Table 3, Delta still remains below the industry average rate of four lost bags per 1,000 passengers. However, Delta's own performance is impacted by that of Atlantic Southeast Airlines (ASA), Delta's regional partner throughout much of the United States. ASA "earned" *the* lowest quality rating of *all* airlines operating in the United States, regardless of size. Luggage service is a particularly sore point for Delta's code-sharing partner, as ASA's rate of 15.41 mishandled bags per 1,000 passengers is almost *four times* the industry average.

Table 2
2004 Airline Quality Ratings

Rank	Airline	AQR Score
1	JETBLUE AIRWAYS	-0.64
2	ALASKA AIRLINES	-0.74
3	SOUTHWEST AIRLINES	-0.89
4	AMERICA WEST AIRLINES	-0.89
5	US AIRWAYS	-0.96
6	NORTHWEST AIRLINES	-1.02
7	CONTINENTAL AIRLINES	-1.04
8	AIRTRAN AIRWAYS	-1.05
9	UNITED AIRLINES	-1.11
10	ATA AIRLINES	-1.17
11	AMERICAN AIRLINES	-1.24
12	DELTA AIR LINES	-1.24
13	AMERICAN EAGLE AIRLINES	-2.10
14	ATLANTIC SOUTHEAST AIRLINES	-5.76
	INDUSTRY AVERAGE	-1.14

Source: Bowen, Brent D., and Dean E. Headley (2004), *Airline Quality Ratings 2004*, W. Frank Barton School of Business, Wichita, Kansas. http://www.unomaha.edu/~unoai/aqr/2004%20synopsis.htm.

Despite years of trying to improve the quality of its baggage-handling systems, Delta has seen the performance of its current bar code-based system flat-line, with bar-coded labels being successfully read by scanners only 85 percent of the time. According to Delta spokesman Reid Davis, the airline faced the fact that it had "reached the end of the improvements that could be accomplished without new technology" (cited in Rothfeder, 2004, n.p.). Of course, just because a bag is not scanned correctly, does not mean that your bag will end up in Wichita Falls when you were heading to Wichita. In the end, Delta estimates that only .7% of all checked luggage is actually "lost." However, the airline spends upwards of $100 million each year to return these bags to their rightful owners and provide compensation to passengers whose luggage is never found (Collins, J., 2004).

Table 3
Mishandles Baggage Reports for U.S. Airlines - June 2004

Rank	Airline	Reports per 1,000 Passengers
1	JETBLUE AIRWAYS	2.81
2	AIRTRAN AIRWAYS	3.02
3	SOUTHWEST AIRLINES	3.16
4	HAWAIIAN AIRLINES	3.18
5	ALASKA AIRLINES	3.32
6	CONTINENTAL AIRLINES	3.32
7	AMERICA WEST AIRLINES	3.55
8	NORTHWEST AIRLINES	3.80
9	ATA AIRLINES	3.80
10	UNITED AIRLINES	3.83
11	US AIRWAYS	4.10
12	DELTA AIR LINES	4.23
13	AMERICAN AIRLINES	4.66
14	EXPRESSJET AIRLINES	5.29
15	AMERICAN EAGLE AIRLINES	9.00
16	COMAIR	10.21
17	SKYWEST AIRLINES	10.71
18	ATLANTIC COAST AIRLINES	13.42
19	ATLANTIC SOUTHEAST AIRLINES	13.97

Source: U.S. Department of Transportation, *Air Travel Consumer Report,* August 2004.
http://airconsumer.ost.dot.gov/reports/2004/0408atcr.doc.

Delta's top management has decided to tackle its "bag problem" head-on, looking to RFID technology as the means to end of providing far-better luggage service to its passengers. In the fall of 2003, Delta implemented a pilot test of an RFID tracking system for checked luggage on flights between Jacksonville, Florida and its hub in Atlanta, Georgia. In this testing program, Delta tracked 40,000 passenger bags equipped with radio frequency identification (RFID) tags from check-in to loading on an aircraft. As can be seen in Table 4, the RFID-enabled system provided far superior reading accuracy than the legacy bar code-based system. In the spring of 2004, Delta implemented

another pilot RFID baggage-tracking system at its Cincinnati, Ohio hub, producing similar results (Murray, 2004).

Table 4
Results from Delta Air Liles Pilot RFID Test in Jacksonville

Errors per 40,000 bags	RFID	Bar Code
Worst Case	1,320 (96.7%)	8,000 (80.0%)
Best Case	80 (99.8%)	6,000 (85.0%)

Source: AIM Global (2004).

Through the two test programs, Delta learned several valuable lessons. It saw that tag antennas could be damaged by the static electricity generated along the conveyor systems (Collins, J. 2004). It also found that the lowest scanner accuracy rate (96.7%) was found when attempting to scan bags inside the unit load devices (ULDs), the large containers pre-loaded with checked luggage that are then loaded onto the plane. The ULDs are made of metal with canvas doors, and the metal housing impeded the radio signals. Delta plans to coat the ULDs with a material that can better reflect the radio waves (Brewin, 2004a). While the test programs were conducted in rather neutral weather environs, concerns were raised over the ability of the tagging systems to function in harsher environments, such as at Delta's western hub in Salt Lake City, Utah (Murray, 2004). Finally, there is a famous American commercial from Samsonite that shows a gorilla in his cage, tossing the bag around and eventually stomping on the suitcase. The obvious message is that checked bags are not always handled "delicately" by the humans or the machinery as it passes through baggage systems. Thus, it must be noted that baggage handling itself can damage or detach labels/tags, and concerns over the durability of the RFID-tag are genuine.

Even with limited capital to invest in IT projects, in July 2004, Delta became the first airline to commit to having RFID-enabled baggage tracking in place system wide by 2007. Delta plans to use passive tags, which will cost the airline 25 cents each initially. However, the airline hopes that the cost of the tags will drop to approximately 5 cents a unit by the time the system is fully implemented in 2007 (McDougall, 2004). Delta estimates that the full implementation cost of its RFID-based tracking system will ultimately fall somewhere between $15 and $25 million for its 81 airport locations. Delta has not yet announced plans for deploying the RFID-based system with its code-sharing partners, which would greatly raise the number of airports worldwide for implementation and the cost and complexity of the overall project (Murray, 2004). While this represents a significant investment, the ROI equation shows that this cost can be recouped in far less than a single year. This makes Delta unique, as it is one of the few examples to date in *any* industry where the decision to invest heavily in automatic identification technology is based on the desire to dramatically improve customer service.

Delta's RFID-enabled baggage system will give the company the ability to track a bag from the time a passenger checks it in at his/her departing airport till the time the bag is claimed at the

baggage carousel at the arrival airport. At check-in, the RFID tag's serial number will be associated with the passenger's itinerary. Delta will position fixed readers at check-in counters and on conveyor belts where the bags are sorted. The airline will also equip baggage handlers with portable readers and outfit aircraft cargo holds with readers built into them. RFID readers can also be positioned to scan bags as they are loaded and unloaded from the unit load devices (ULD the large containers that are loaded onto the plane). Through this surveillance system, Delta should be able to all but eliminate the problem of misloaded and misdirected checked luggage, and the attendant costs of reuniting the lost bag with the passenger. Ramp and flight crews will be able to make certain that the right luggage is on board before an aircraft takes off. And, in the event a passenger's bag is misdirected, Delta can instantly locate the bag through its RFID reader and more quickly route it to the passenger's destination. Pat Rary, a Delta bag systems manager, illustrated the fact that RFID will allow the airline to take proactive customer service steps on baggage problems. He observed that: "With this technology, we won't have to wait for the customer to come tell us that the bag is lost. We can tell the customer it's on the wrong plane and start responding before it's a crisis. Eventually, RFID should be able to signal an arriving passenger's cell phone with news of how long it will be before the bag is on the carousel" (cited in Field, 2004, p. 61).

Rob Maruster, Delta's Director of Airport Strategy, recently commented in *Airline Business* that RFID tracking: "will transform the airline on the ramp as much as radar did to transform air traffic control. When that happened, it was as if a light was turned on and people said, oh, so that's where the planes are. This technology will do that for bags. People will say, oh, so that's where the bags are" (cited in Field, 2004, p. 60). Delta's ultimate goal is to have a baggage tracking system that will have a "zero mishandling rate" (Brewin, 2004a, n.p.).

RFID AND BAGGAGE SECURITY

Unfortunately, in our post-September 11th world, there are worse things that can happen in the air or at the airport than losing one's luggage or even eating the "Chef's Surprise" at the airport restaurant. The twin, nearly simultaneous jet crashes in Russia in August have now been attributed to in-flight bomb detonations by Chechan female suicide bombers, raising fears that suicidal terrorists could use similar methods to attack the West (Hosenhall and Kuchment, 2004). While enhanced physical passenger screening, such as that just announced by the Transportation Security Administration (TSA) in the U.S., can deter such would-be suicidal terrorists, since September 11th, the airline industry and national governments have placed renewed vigilance on screening both carry-on and checked bags for explosives and on making sure that all checked bags are matched to passengers who have actually boarded the aircraft. Writing in *Management Services*, Philippa Collins (2004) observed that one of the very real near-term applications for RFID technology is the prospect that a passenger's checked bag will be able to tell security personnel and the airline if it has not been properly screened.

The need for matching passengers with checked luggage has been at the forefront of anti-terrorism concerns ever since the in-flight bombings in the 1980s that took down a Pan American 747 over Lockerbie, Scotland and an Air India jumbo jet over the Atlantic. Out of this concern, airlines must routinely remove bags from aircraft when a passenger fails to board, out of fear that

a homicidal, rather than suicidal, terrorist would attempt to down an airliner with a bomb in an unaccompanied, checked suitcase (AIM Global, 2004).

Often, this is a time-intensive, laborious process, which can delay flight departures indefinitely, as ramp workers face the daunting task of finding the bags in question out of the hold of an aircraft or from the ULDs. Airport operations managers and airline flight crews will often tell horror stories of how the inability to find the one or two targeted bags of a non-boarding passenger in and amongst the bags of 300-400 passengers on a jumbo jet has caused flights to be delayed for hours, costing the airline countless amounts of goodwill amongst the passengers, even if such measures are done precisely to safeguard their transit and their very lives. Thus, airports are also very interested in providing better baggage tracking as part of their customer service equation.

In Florida, the Jacksonville International Airport installed an RFID-based system in 2003 to direct checked luggage through their newly installed baggage handling system. The city's airport authority and the Transportation Security Administration (TSA) jointly funded the Jacksonville system. The contractors for the Jacksonville Airport project included FKI Logistex and SCS Corporation. The Jacksonville system was designed to only handle outbound luggage, directing checked bags from the check-in counter through explosive detection screening and on to the correct terminal serviced by the respective airlines. All checked bags have a bar code label affixed to them, with approximately 12% receiving an additional RFID tag, due to their being selected for special screening attention by a computer-assisted passenger profiling system (CAPPS) (Trebilcock, 2003).

The Jacksonville pilot program tested the effectiveness of both disposable and reusable tags. Passengers checking in on the north side of the airport who were selected by the CAPPS had a disposable tag attached to their luggage, while those checking in on the airport's south side had a reusable, credit card size tag affixed to their checked bags. Each reusable tag costs $2.40, and each disposable tag costs 63 cents. Van Dyke Walker, Jr., Director of Planning and Development for the Jacksonville Airport Authority, believes that his airport's system is a precursor of what is to come. He commented that "RFID is the future of airline baggage tracking, and we want to be ready" (cited in Trebilcock, 2003, p. 40).

Las Vegas' McCarran International Airport is considered to be an ideal proving ground for RFID baggage tracking, due to the fact that the vast majority of the passengers using the airport either begins or ends their journeys there. In fact, as Las Vegas sees only 8% of its passengers connecting to other flights at its airport, a rate that is only second to Los Angeles International Airport (Anonymous, "Tag Tracking," 2003). Las Vegas' system is designed to track all checked luggage, routing bags through bomb detection screening and on to the proper aircraft. From the perspective of Randall H. Walker, McCarran International Airport's Director of Aviation, the RFID-enabled baggage handling system "becomes a win for all concerned: the traveler, the airport, the TSA and the airlines" (cited in Anonymous, "Hong Kong Airport Picks RFID Baggage Tracking," 2004). In 2005, the TSA is slated to have similar systems in place at both LAX and Denver International as well (AIM Global, 2004). Alaska Airlines also uses the tags on its international flights out of San Francisco International Airport (Woods, 2004, n.p.)

Internationally, RFID-based baggage tracking systems are being tested in Narita, Japan, Singapore, Hong Kong, and Amsterdam (CNETAsia, 2004; Atkinson, 2002). In fact, the RFID baggage tracking system being installed at Hong Kong International Airport is regarded as the

largest automatic identification system to be developed and deployed to date in Asia. Hong Kong's airport is one of the busiest in the world, handling approximately 35 million passengers each year. Y. F. Wong, who heads Technical Services and Procurement at the Airport Authority of Hong Kong, believes that the airport's investment in RFID technology is essential, as it addresses the need for improved customer satisfaction, while also enabling increased levels of security assurances (cited in Anonymous, "Hong Kong Airport Picks RFID Baggage Tracking," 2004). According to John Shoemaker, Senior Vice President of Corporate Development at Matrics, who will supply the airport with upwards of 80 million smart labels over the next five years, "What is key about Hong Kong International is that it is deploying this system to also save money" (quoted in J. Collins, 2004, n.p.).

RFID baggage tracking is thus a means to an end for airports - with the end being improved baggage security. Simon Ellis, a supply-chain futurist at Unilever, recently observed that: "Security is just a sub benefit of visibility. Knowing exactly what is where gives you better control..., and if you have better control you have better security" (cited in Atkinson, 2002, n.p.).

CONCLUSION

In a widely read article in *Scientific American*, Roy Want (2004) predicted that airline baggage tracking would be one of the first commercially viable RFID applications. The potential market size is outstanding, as the world's airlines currently handle approximately two billion checked bags annually (Anonymous, "Luggage Tracking Trial by Delta Air Lines," 2003). In the view of AIM Global (2004), with the proven accuracy and effectiveness of RFID-enabled baggage tracking, it may just be a matter of time before the TSA mandates that such automatic identification technology-based systems be employed in the U.S. However, such mandates, whether in the U.S. alone or in conjunction with other civil aviation authorities worldwide, would raise a multitude of issues. These include who will bear the costs of such systems, the need for standards, and the need for international airlines that fly to the U.S. and/or interconnect with U.S.-based carriers to employ such RFID tagging.

Paul Coby, Chief Information Officer of British Airways, believes that the airline industry needs to work together to ensure that investments in technologies such as RFID will yield the fullest possible ROI and customer service benefits. He suggested that the International Air Transport Association (IATA) should play a leading role in driving this technology, so as to ensure that the industry adopts common standards. Coby commented, "for technology to fully bring business change, the whole industry needs to move forward" (cited in Thomas, 2004, n.p.). In June, Delta and United jointly proposed an RFID-specification for baggage to the IATA (Collins, J., 2004).

The need for a unique air transport standard is obvious for the not-so-distant future, looking to the day when luggage will contain items with their own RFID tags, say on Gillette razors, Benetton shirts, and items purchased from Target, Wal-Mart, Metro, or countless other retailers. Wal-Mart has mandated the use of tags on merchandise it purchases from key suppliers by January 2005 (RFID Journal, 2003), thus prompting other retailers to follow suit, or at least begin investigating the technological investment such a move to RFID will require. For example, Boscov's see customer service benefits in terms of reduced stock-outs, yet worries about the tag and infrastructure costs (Sullivan, 2004a). Tesco (U.K.) announced plans to expand its RFID test project

to include eight big-name packaged-goods manufacturers like Proctor & Gamble (Sullivan, 2004b). Others, like Federated's Lazarus store in Columbus, Ohio, and restaurants in Texas have seen improvements in customer service in terms of improved sales transactions (Coupe, 2003; Dunne and Lusch, 2005, p. 405). However, retailers will need to address the issue of consumer privacy, much like the airlines must do (Dunne and Lusch, 2005, p. 306; Lacy 2004).

It is even more important when one considers that the aircraft itself will likely have key parts tagged with RFID sensors in the near future. Boeing and Airbus are taking the lead in outfitting their new passenger jets, the 7E7 and A380 respectively, with RFID-tagged parts to provide a new level of historical and performance information on the key components. The two dominant commercial aircraft manufacturers are cooperatively working to produce industry standards, which is especially important since they share seventy percent of their supplier base (Tegtmeier, 2004). Likewise, Federal Express and Delta have pilot tested equipping both flight deck electronics and engine parts with RFID sensors (Brewin, 2004a). Thus, in only a matter of a few years, commercial airliners will be perhaps one of the most concentrated locations for RFID tags, making standards a necessity for avoiding problems with signal collision and information overload.

Tracking luggage with RFID may not be the only automatic identification technology we will see in use at the airport. By 2015, the International Civil Aviation Organization (ICAO) has proposed putting RFID chips in the over a billion passports worldwide. This move, while drawing fire from civil rights groups around the globe, may become a reality, all in an effort for the airlines and civil authorities to have better insights into who exactly to let on their aircraft (Jones, 2004). Likewise, the United States' Transportation Security Administration (TSA) has begun looking to how to use RFID-tagged boarding passes to improve airline security. The goals would be both to enhance airport security by giving facility security the ability to track passengers' movements within the airport and to speed passengers through airport security lines. The latter would be accomplished by linking the issuance of boarding passes to the proposed "registered traveler" program. This would allow frequent fliers who have been through a background check to be given specially tagged boarding passes, which they could then use to be directed through special, "fast lanes" at security checkpoints (Brewin, 2004b).

The TSA is investigating the RFID-enabled boarding pass concept in concert with a number of other airport security initiatives in the United States. However, working in conjunction with the Federal Aviation Administration's Safe Skies for Africa Initiative, RFID-tagged boarding passes are already being deployed in an undisclosed number of African states (Brewin, 2004b). There are concerns however as to how this data will be utilized in airport security. From a practical standpoint, critics have scoffed at the jumble of data that would be created by trying to track thousands of passengers simultaneously in an airport. Privacy advocates also object to the invasiveness of the tracking, leading one to ask, "Are they going to track how long I spend in the ladies' room?" (cited in Brewin, 2004b, n.p.).

There is also concern that airports, in their push to provide wireless access for patrons, may find that such Wi-Fi systems can conflict with RFID tracking innovations. In fact, in mid-2004, Northwest Airlines discovered that the wireless communication system used by its baggage handling operators was overwhelmed by a new Wi-Fi antenna installed by AT&T Wireless Services. The

problem was alleviated after AT&T agreed to adjust its power levels, but it seriously impinged on Northwest's own wireless systems for a time (Schatz, 2004).

On a final note, moving to RFID may be the only way airlines may be able to even continue handling checked luggage in the future, both from a security and a cost standpoint. In fact, one company, the British-based low fare carrier, Ryanair, has announced its intention to eventually stop providing checked baggage service altogether. Michael O'Leary, Ryanair's maverick CEO, believes that by banning checked luggage, the cost of flying each passenger could be cut by at least fifteen percent. This would be due to the elimination of the staff needed at check-in counters and in baggage handling operations. Not only would there be a direct cost savings for Ryanair, but there is the very real prospect for improved service, as passengers would get through the airport much faster and that their aircraft could be utilized more productively. The latter would be due to the quicker turnarounds that the airline could achieve by not having to load outbound and unload inbound aircraft luggage holds (Noakes, 2004).

Over the next few years, Ryanair has planned to take steps to modify its passengers' mindsets regarding their baggage to encourage them to carry more of their baggage with them on board. The airline has already raised the weight limits for carry-on bags, while hiking its fees (up 17%) for overweight checked luggage. O'Leary even intends for the airline to begin giving passengers a small rebate if they choose to not check a bag sometime in 2005. While Ryanair's competition scoffs at O'Leary's luggage-ban plan, he notes that other innovations in the airline industry, including the elimination of paper tickets and web-based travel booking, drew similar derision when they were first introduced (Noakes, 2004; Johnson and Michaels, 2004).

While the Ryanair gambit may prove to be prescient, for the near term, passenger luggage service will continue to be a cost of doing business for airlines. Gene Alvarez, an analyst with Meta Group, predicts that RFID-based baggage tracking will become standard throughout the airline industry over the next decade (op. cited in Brewin, 2004c). In the end, the world's fleet of commercial airliners may well become the most RFID-equipped vehicles on earth.

A mid-September survey by software supplier Wavelink found that approximately four out of five Frontline Conference and Expo attendees were currently piloting the technology or planned to do so in the next two years. Key concerns of the company executives included cost, lack of standards, and an early, untested market. Yet they expect adoption of the technology to grow, as it matures and benefits become reality (Gonsalves, 2004). However, as supply chain consultant Scott Elliff argues, all the new technology "simply isn't a substitute for superior business practices" (Elliff, 2004). The airline industry needs to remember this and, better yet, implement better business practices.

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PERCEPTIONS OF RELATIONSHIP MARKETING ACTIVITIES BY SERVICE PERSONNEL IN THE HVAC INDUSTRY

Doris M. Shaw, Northern Kentucky University

ABSTRACT

This paper examines the attitudes of technicians and contractors of small HVAC firms in regard to how they view relationship marketing activities. A survey was utilized to gauge their perceptions regarding relational marketing activities deemed necessary to develop long-term relationships with residential customers. In this regard, a customer process model was used to delineate relational tasks required during pre-sale, sales, and post-sale interactions. Research findings showed that certain activities were evaluated as being more important than others. Furthermore, differences were found between how service technicians and contractors viewed the relative importance of relational tasks deemed important to their industry.

The implications of the results should be especially interesting to small HVAC contractors contemplating how to remain competitive in today's marketplace. These contractors and their service technicians are trained to be product experts. Yet, it has been suggested that they extend their focus to marketing tasks to improve firm profitability via the development of long-term, mutually-beneficial customer relationships. An analysis of the perceptions of relational activities from both technician and contractor viewpoints is a first step in grasping what soft skills need to be developed through coaching, motivating and training. This study suggests that both contractors and technicians both are in need of understanding the value of being customer focused, and not just product focused.

INTRODUCTION

The execution of a well developed marketing process is crucial to the success and continued existence of all firms operating in the current marketplace. Typically, an integral part of this process has involved the hiring and training of a sales staff responsible for finding and convincing customers to engage in mutually-beneficial exchanges. Yet, current advancements in marketing thought have shown a paradigm shift away from the facilitation of exchanges with increased focus on customer relationships. The American Marketing Association has even changed its definition of the term "marketing" to put greater emphasis on this notion. A recent issue of *Marketing News* presented the new definition of marketing as— "an organizational function and a set of processes for creating, communicating, and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders."

Placing emphasis on customer relationships is not new a myriad of companies that have employed related strategies over the years in order to differentiate themselves from their

competitors. Toyota entered the upscale automobile market in the mid 1980s when it began marketing its Lexus automobiles in such a manner. The Lexus division of this firm combined high-quality products with value-added services to set itself apart from other automakers. The exemplary execution of Lexus' customer relationship strategy has allowed the firm to build and retain a loyal customer base. Central to building a loyal following has been their focus on firm-customer interactions.

Liljander and Strandvik (1995) used the term *episode* to denote any buyer/seller interaction with a specific beginning and end. In the case of Lexus, each interaction that a customer had with any of their employees during pre-sale, sales, or post-sales encounters would be considered an episode which formed the foundation for an ongoing relationship. Lexus' sales representatives are deemed integral to providing pre-sale product, financing, and service information, in addition to forging buyer/seller relationships during the sale by performing tasks such as demonstrating how to properly use and care for car components. Sales representatives also contacted customers after the sale to ensure customers are satisfied and not experiencing any problems.

However, it is Lexus' service technician personnel that interact with customers the majority of time after a sale, and these post-sale interactions have been found to be crucial to the development of long-term customer relationships. Technicians are trained and compensated not only on how to resolve mechanical problems, but also on how to manage customer relationships. Additionally, Toyota tracks and analyzes the dynamic nature of customer relationships by examining the outcomes of individual episodes in order to understand their impact on customer satisfaction, retention, and referrals.

While a similar type of customer relationship process might be used by a myriad of large organizations, it is much harder for smaller firms with less resources to operate in such a manner. Many small firms are entrepreneurial ventures and although opportunity focused, they frequently lack competencies in the management of customer relationships (McGowan et. al 2001). Additionally, employee roles in small companies are often loosely defined such that job responsibilities can span across many functional business areas.

Small firms in the fast-growing Heating, Ventilation, and Air Conditioning (HVAC) industry provide an excellent of this fact. A report by the U.S. Small Business Administration revealed that approximately 90 percent of HVAC firms are considered *small*, and employ less than 20 people (Office of Advocacy 2001). The majority of the contractors that own such ventures usually perform sales and service activities. Moreover, they rely on their staff of service technicians for customer relationship management, sales leads, and cross-selling, in addition to their customary installation and maintenance duties (Hall 2003; Greer 2001; Siegel 2000). While the majority of HVAC technicians have received formal training on the installation, maintenance and repair of increasingly sophisticated products in their industry, minimal, if any, education is provided to them regarding customer relationship management or selling. John Hall, an industry analyst, stated- "Contractors hire based on mechanical aptitude and attitude…and then ask technicians to develop soft skills like customer relationship building and problem solving…these skills can take a company to the top of the charts." (p. 23)

Research has suggested that those whom are in closest contact with customers are positioned best to understand customer needs and ensure their satisfaction (Day 1994; Sheth and Parvatiyar

1995; Silverston 2002). The amount of time technicians spend in the homes of potential and existing customers positions them to serve as the primary vehicle for building and sustaining mutually-beneficial relationships based on their customer interactions.

As contractors have begun to realize that the technicians they employ need to know more than the technical side of the business, the relationships management activities they should perform are not clearly defined. For instance, a HVAC industry consultant stated at a recent Air Conditioning Contractors of America (ACCA) convention that technicians should be in the mind- set of selling at least 15 service agreements for every 100 residential service calls made (Skaer 2003). Yet, technicians seem more focused on servicing the products that are trained to install and repair that opportunities to recommend additional services and improvements are often overlooked. The objective of this research is to determine which activities are perceived by HVAC technicians as required for customer interaction and relationship building and understand how their viewpoints differ from the HVAC contractors that employ them. Survival in the current business environment requires both parties to share a similar vision on handling customer relations.

LITERATURE REVIEW

The Relationship Perspective

At a basic level, relationships develop based on the interactions between two parties. This interaction, from a marketing standpoint, represents a type of exchange between buyer and seller, and also has been described as an episode or encounter (Liljander and Strandvik 1995). Relationships are shaped by, and influence each interaction and every interaction is affected by, and has an effect on relationships.

Behara et. al. 2002 used this line of reasoning in the development of their customer process model. These authors maintained that every interaction between buyer and seller presents a chance to enhance the relationship and increase customer loyalty. This model suggests that it is important for marketers to understand what customers go through before, during, and after interacting with them. A simplified version of a customer process model is presented in Figure 1. The identification of separate and distinct phases of interaction reflects the dynamic nature of relationships. The evaluation of relationships at various stages of the process helps marketers to stay customer focused in order to maximize customer satisfaction and loyalty. The model is best understood through its application. This is discussed in the balance of this research within the context of the residential HVAC industry.

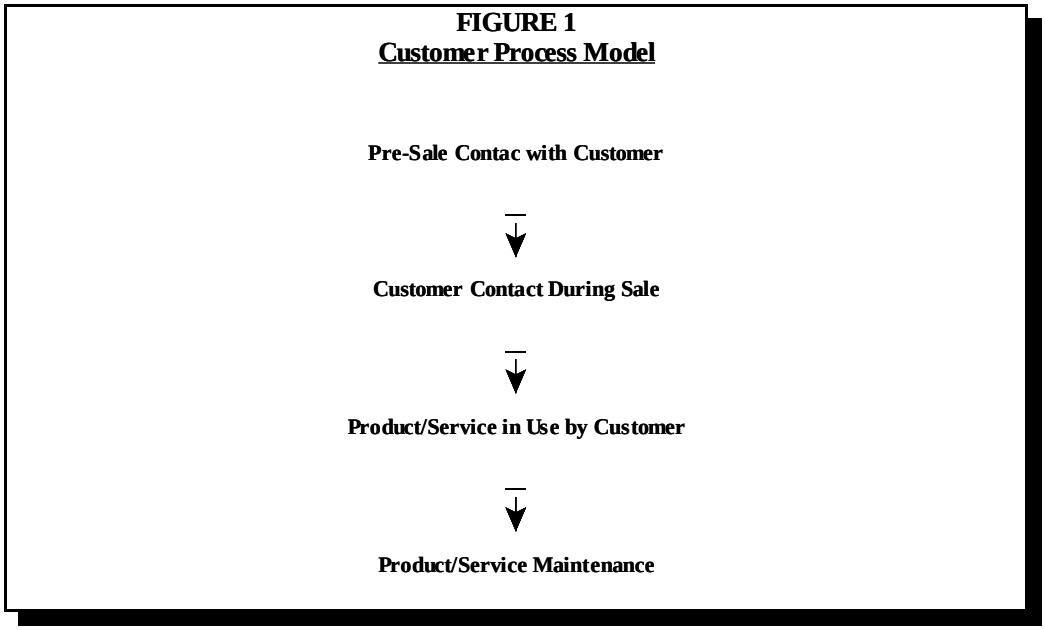
Relationship Marketing Activities and the HVAC Industry

Heating and air conditioning systems are the primary products offered by the HVAC industry. Technicians provide what might be labeled as *durable* services during the installation of such products, as the work performed lasts for a long period of time. Small HVAC firms cannot survive off of installation services alone. While not as lucrative, profit margins in addition to the chance for repeat business and referrals are greater when offering maintenance service agreements.

Industry watchers have estimated that if service technicians could sell one maintenance agreement per day for a year (approximately 250 work days) that they would have not only helped to establish a relationship with a customer, but also provided a continuous workflow for themselves (Skaer 2003).

HVAC technicians also respond to service calls from households encountering equipment malfunctions and breakdowns. Interacting with customers under such circumstances provides technicians with additional opportunities to establish relationships with residential customers via service agreements and/or other add-on products (e.g., humidifiers, thermostats, duct cleaning, and air purifiers). This study will focus on HVAC service calls as a vehicle for developing and maintaining customer relationships. Using a customer process approach, a goal is to ascertain how technicians view customer requirements, assess customer needs, and develop a level of customer intimacy with respect to this particular service encounter.

FIGURE 1
Customer Process Model



Service marketing is not the same as product marketing. Because of their intangibility, the focal point in the exchange from the customer's perspective is the "service provider" as opposed to the product itself. This requires service providers to be attentive to the total customer experience which encompasses the *interactions or episodes* that serve as the foundation for customer relationships.

In this regard, Beavan and Scotti (1990) proposed that service marketers adopt "service-oriented thinking" which evolves around an acronym referred to as SOAR-- service script, outlay, accommodation and representation. The authors posited that consumers come into a service encounter with a *mental script* outlining their expectations. The script each customer develops in based on stored information and past experiences. Service providers also must take into

consideration that consumers not only expend dollars, but also physical and psychological energy. The physical *outlay* involves the time and energy devoted to preparing for the execution of the service as well as playing a role in the execution of the service itself. The psychological *outlay* is often a result of the perception of risk or emotional energy expended on preconceived notions about the service experience. The overall amount of outlay is determined by the script.

Moreover, *accommodation* infers that service providers are responsible for enhancing customer experiences. This should be accomplished by minimizing obstacles which might hinder customers from participating in the consumption process. The remaining factor, *representation*, eludes to the fact that consumer scripts are constantly rewritten based on the outcomes of interactions. Service marketers must meet or exceed customer expectations if they desire a positive representation in the minds of consumers. Negative outcomes could often damage or dissolve relationships.

The SOAR conceptualization coincides with the aforementioned customer process approach due to is dynamic, as opposed to static, nature. Service providers must cease the opportunity when interacting with customers to positively influence the mental scripts and representations such that ongoing, mutually-beneficial relationships are developed.

The purpose of this article is to explore how HVAC residential service personnel perceived the tasks required to establish and nurture long-term customer relationships. Service technicians provide a crucial connection between the customer and their companies. However, if the contractors that employ the technicians don't value this linkage and related marketing proficiencies, it will be harder for them to stay customer focused and thrive. The results of this study would be useful to HVAC contractors attempting to maintain their competitiveness.

METHODOLOGY

The HVAC service technicians surveyed for this research attended an industry-specific, continuous-education training course conducted at various sites throughout the United States by a Midwest company. The course was especially designed for technicians to gain the training hours needed to obtain recertification credit needed to remain licensed to install and service HVAC equipment in compliance with the operational procedures of their particular states.

Mechanisms commonly used to enhance response quality and rate was used. The questionnaire was formulated drawing on the expertise of HVAC business owners representing seven different states. Representatives from a prominent HVAC manufacturer, two HVAC industry consultants, as well as the HVAC training firm previously mentioned were also consulted in order understand the industry environment, relationships among members of the distribution channels serving the ultimate customers, and to assist with the development of a profile of pre-sales, sales and post-sales relationship marketing proficiencies necessary to foster ongoing customer relationships and loyalty during HVAC service calls.

A survey instrument was then developed and pretested using nine service technicians and seven contractors in the researcher's home state. After reviewing the initial questionnaire, the pretest respondents suggested several improvements. Thus, revisions were made to improve the clarity of thought and format. The same pretest panel examined the revised questionnaire and stated that it

enabled them to effectively convey their perceptions of relational activities for each phase of the customer process model. All scale items were measured using a five-point scale ranging from one (not important at all) to five (very important).

Measures reflecting the relational activities performed in conjunction with the customer process model were based upon—1) De Ruyter et al. (1999) scales used to examine the impact of episodes on the behavior intentions of service customers; and 2) Smart and Conant's (1994) Distinctive Marketing Competencies scale. The measures were adjusted to reflect episodes relevant to the HVAC industry.

Data were collected by two HVAC trainers and their administrative assistant based on classes they taught throughout the U.S. over a two-month period. It was decided that the surveys would be administered after a short mid-morning break, as to not interfere with overall course evaluations completed at the end of each class. The researcher provided each facilitator with a script to use prior and after surveys were administered in relation to the purpose of the survey, how the results would be used, and a mechanism for receiving research results at a future date. Approximately 426 surveys were collected. Those deemed incomplete or distorted were identified and discarded. In all, a total of 391 questionnaires were used in the data analysis phase of this study. Respondent characteristics are provided in Table one.

FINDINGS

Both technicians and contractors were asked to indicate the extent to which various pre-sale, sales, and post-sales activities were important to HVAC businesses. Table two sets forth the results for pre-sales activities. Those activities drawing the highest mean scale values were assessing service requirements (by phone) prior to site visits and checking firm inventories for parts needed to fix suspected problems. Both of these technical-focused activities were deemed more important than the more customer-focused activities such as positioning oneself as a comfort advisor and displaying empathy when the service call was received. Comparisons between the technicians and contractors revealed some significant differences. Contractors perceived the more customer-focused activities like displaying empathy and assuming the role of *comfort* consultant as more important their technicians. Thus it appears that contractors have higher expectations for the performance of customer-focused activities although it appears that they provide little guidance or training on the development of such skills.

Table three presents the survey results associated with the contact during the sales phase. Like in the pre-sale phase, both groups perceived product-related tasks as more important than customer-oriented tasks. Activities related to tangible items such as replacement parts and HVAC equipment itself were considered more important in customer discussions than discussing customer value and other tasks that put the customer as the focal point of interactions. HVAC contractors had significantly different viewpoints from technicians regarding certain tasks. The former group felt it was more important to provide value, reasons why they should be a preferred vendor, and options to customers than the latter group. This might be related to the misconception that technicians have been known to have about residential customers making HVAC purchase decisions primarily based on price alone (Siegel 2002; Skaer 2003).

TABLE 1 Sample Characteristics (*n* = 291)		
PROFILE	**Technicians**	**Contractors**
VARIABLES	**(*n* = 187)**	**(*n* = 104)**
Age		
Mean	37.2	46.4
Job Experience (in years)		
Less than 1 year	12	1
Less than 3 years	47	13
Less than 5 years	46	39
Less than 7 years	32	13
Less than 9 years	24	26
More than 9 years	26	12
Gender		
Male	181	97
Female	6	7
# of Employees at your firm		
1 to 5	63	42
6 to 10	119	59
10 to 20	5	3
over 20	0	1
Who pays for training/recertification courses?		
Employer	1	2
Employee	182	99
Both	4	3
Does your company offer sales training?		
Yes	3	5
No	184	99

TABLE 2
Pre-Sale Contact with Customer

Relational Activity	Mean Scale Value		
	Total Sample	Technicians	Contractors
Call customer to assess service Requirements/needs	4.4	4.3	4.4
Check inventory for replacement parts and other accessories	4.6	4.6	4.5
Call customer enroute to appointment	3.9	3.9	4.0
Position yourself as knowledgeable, interested comfort advisor	2.3	2.0	2.9*
Empathize with customer's situation	2.8	2.2	2.9*
Establish your own personal credibility via thoughtful consideration of what needs to be accomplished	1.4	1.2	1.5

*****Signifies a mean scale value that is significantly greater than the corresponding mean scale group, according to a *t* test at the .05 level

TABLE 3
Customer Contact During Sale

Relational Activity	**Mean Scale Value**		
	Total Sample	**Technicians**	**Contractors**
Display professionalism	4.2	4.1	4.4
Show customer replacement parts and discuss their purpose	4.7	4.7	4.7
Talk to customers about their needs in front of the equipment	4.1	3.8	4.5*
Point out other potential equipment failures	3.9	3.9	4.0
Discuss environmental issues	4.0	3.9	4.1
Listening and summarization	3.0	2.7	3.8
Manage appearance (uniform, photo id, shoe covers)	3.0	2.9	3.2
Present customer with every option that will address their needs	2.3	1.1	3.0*
List reasons to do business with your firm	2.2	1.4	3.1*
Share credentials with customer	1.7	1.5	2.0
Show customer value to be delivered	2.1	1.3	3.0*
Pay attention to how customer lives	1.8	1.7	2.0

*Signifies a mean scale value that is significantly greater than the corresponding mean scale group, according to a *t* test at the .05 level

Table four provides the results associated with perceptions of post-sale relational tasks. Again, distinct difference existed between the two groupings. Technicians perceived that it was more important to explain the importance of properly maintaining HVAC equipment. On the other hand, contractors were more inclined to believe feedback and learning were critical to maintaining customer relations. Although not asked on the survey, subsequent conversations with HVAC contractors revealed that although they felt that customer feedback was important, that little was done to systemically or proactively receive such information. Instead, the primary form of feedback came as a result of customer complaints.

TABLE 4
Post-Sale Contact with Customer

Relational Activity	Mean Scale Value		
	Total Sample	Technicians	Contractors
Do whatever it takes to satisfy the customer	4.9	4.8	5.0
React quickly/effectively to rectify problems	4.7	4.6	4.8
Explain importance of proper system maintenance	4.1	4.5*	3.8
Contact customer to assess their satisfaction with outcome of service call	3.2	2.9	3.5
Learn from service failures (callbacks)	3.0	2.6	3.5*
Use customer feedback to improve business	2.7	1.9	3.4*
Solicit feedback on how well current needs were met and discuss future relationship	2.6	1.7	3.4*
Send ongoing correspondence (industry, company, product news)			

*Signifies a mean scale value that is significantly greater than the corresponding mean scale group, according to a *t* test at the .05 level

DISCUSSION

The findings provide direction for HVAC contractors seeking to build and maintain relationships with customers. First, they must understand the activities deemed important to their success from the customer's viewpoint. The customer process model provides a framework for delineating the pre-sale, sales, and post-sales activities required to do so. The results also point out what areas that technicians need assistance with in order to play an integral role in the HVAC firm marketing process.

Overall, the intent of this research was to provide a framework in which HVAC contractors might attempt to implement relationship marketing strategies with the help of their technicians. A process view of relational activities was used to gain insights into the perceptions of both contractors

and technicians as to the importance of these tasks in customer contact. Future research should explore: 1) how small HVAC firms can develop a more customer-oriented culture that could lead to better and long-term customer relations; and 2) how contractors should go about developing the marketing skill sets of technicians in order to optimize customer relations. Additionally, it is important to evaluate the impact of the relational activities on customer satisfaction and retention.

The need for customer-focused firms and employees is apparent more today than ever. Customers are more demanding and competition is intense. As a principal linkage to customers, HVAC technicians should play an integral role in the development of customer relationships within the small business environment. Yet, contractors must walk a fine line as to how to make this happen without turning them off. The industry has offered fee-based training courses for decades on *marketing the company* and *selling to customers*. Needless to say, the number of technicians willing to pay for such courses is minimal. The current competitive landscape requires that each customer interaction be valued and used to extend relationships into the future. The development of the skill set to make this occur is critical more now than ever.

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MARKET ORIENTATION TOWARD VARIOUS CUSTOMER GROUPS IN BUSINESS SCHOOLS

Robert L. Webster, Ouachita Baptist University
Kevin L. Hammond, University of Tennessee at Martin
Harry Harmon, Central Missouri State University

ABSTRACT

The market-oriented organization recognizes the importance of coordinating the activities of all departments, functions, and individuals in the organization to satisfy customers by delivering superior value. The market-oriented organization continually monitors customer information, competitor information, and marketplace information to design and provide superior value to its customers. Theory and empirical research suggest that higher levels of market orientation result in a greater ability of the organization to reach its objectives. This paper extends the current research on the use of the market orientation strategy by investigating market orientation levels within college and university schools of business in the United States and comparing their levels of market orientation to levels of previously studied for profit business. Deans of business schools in the United States were surveyed by way of a national mail survey. All of the business school deans were from four year colleges or universities. 223 responses were received of 1052 surveys mailed, a response rate of 21%. Of the responses, 165 were from deans of public business schools and 58 were from deans of private business schools. The market orientation scores of these deans were compared to scores reported in the literature for business managers. Each dean was asked to provide market orientation information about two customer or stakeholder groups. One customer group was made up of business school students and the second customer group was composed of parents of business school students. Additionally, the responses were divided and studied in two separate groups, one group was public school deans and the other group was private school deans. The paper presents details of the research process, findings, and discusses the implications of the research for schools of business.

INTRODUCTION AND DEFINITIONS

Can a particular organizational culture lead to improved organizational performance? If so, can a sought after culture be described and then be measured quantitatively? And, if measurements can be made will comparisons in measurements between organizations be advantageous in helping organizations improve their performance?

This paper investigates these questions, measures a specific component of organizational culture, and compares two types of organizations. The component of organization culture measured is market orientation. The quantitative measurement is accomplished by way of a scaled instrument

used in a national survey. The comparisons described in this research are between commercial businesses (for profit entities) and schools of business administration (non-profit entities).

In marketing literature, numerous similar sounding terms are often encountered. These terms are not synonymous and should not be used interchangeably. To help avoid confusion the following descriptions and definitions are provided:

> The *marketing concept* is a philosophy that advocates that a successful organization begins with identifying customer needs and wants, decides which needs to meet, and involves all employees in the process of satisfying customers.
>
> *Marketing orientation* implies that the marketing function is the most important function within the organization and that all other functional areas are driven by the demands of the marketing department.
>
> *Market orientation* refers to an organizational culture in which everyone in the organization is committed to the customer and adapts in a timely manner to meeting the changing needs of the customer. Market orientation blends a company culture dedicated to providing superior value with successfully achieving a customer focus, acquiring competitor intelligence, and maintaining interfunctional coordination. It is viewed as the implementation of the marketing concept.

DISCUSSION AND LITERATURE REVIEW

The marketing concept advocates that all activities of a firm should be directed toward satisfying the customer. The market orientation construct has been developed, defined and measured to operationalize the implementation of the marketing concept. Narver & Slater (1990) and Kohli & Jaworski (1993) concluded that market orientation is the type of business culture and climate that can be created within an organization that will most effectively lead to the behaviors and actions necessary to achieve a sustainable competitive advantage. The degree that the marketing concept has been implemented is manifested in the behaviors and actions of the organization. This degree is the level of market orientation. Or simply, the methods and strategies utilized by a firm to succeed.

Narver & Slater (1990) describe a firm that is market oriented as one whose culture is systematically and entirely committed to the continuous creation of superior value for its customers. Others characterize a market orientation culture as one in which a business focuses on customer wants and needs, continuously analyzes its competition, and coordinates all organizational activities toward customer satisfaction (Kotler 1980; Narver, Park & Slater 1992; Slater & Narver 1994; Siguaw, Brown &Widing 1994). Theory suggests and empirical research has found that greater levels of market orientation within a business result in a greater ability of the organization to achieve its objectives (Barksdale & Darden 1971; Houston 1986; Kohli & Jaworski 1990; Narver & Slater 1990; Jaworski & Kohli 1993; Siguaw, Brown & Widing 1994). Research to date however has only begun to address market orientation measurements in non-profit organizations such as universities (Harmon, Webster, & Hammond 2003; Webster, Hammond, & Harmon 2005).

A high degree of market orientation indicates that individuals in the organization are committed to customer satisfaction and remain so over time by recognizing changes in customer

needs and wants, and reacting and adapting in a satisfactory manner to those changes. The process is dynamic and subject to forces external to the organization such as its competitors and the general state of the economy, and it is a process that should be viewed on a continuum. In other words, it is not a culture that a business either has or does not have, but is rather a matter of degree. Slater & Narver (1994) note that market conditions and competitive threats are never static; and, a high degree of market orientation is not achieved overnight but rather over time given adequate commitment from the firm's management and time for a supportive culture to develop.

Frequently market orientation is confused with marketing orientation. A firm that has a marketing orientation recognizes the importance of the marketing function in the organization and advocates satisfying the customer. Such a firm might, for instance, place more importance on the marketing department than it does on the accounting department, or the production department. Conversely, the market oriented organization recognizes the importance of coordinating the activities of all departments, functions, and individuals in the organization to satisfy customers by delivering superior value to the customer. The market oriented organization continually monitors customer information, competitor information, and marketplace information to design and provide superior value to the customer.

Marketing literature has numerous examples of successful market oriented firms. For example, Wal-Mart's success is attributable to its level of market orientation (Slater & Narver 1994). Specifically, Wal-Mart's ability to recognize changes in the retailing industry and the subsequent development of an efficient information sharing system to manage the flow of products from the manufacturer to its many retail outlets contribute heavily to its growth. Slater & Narver (1994) also note that Western Union failed to monitor the competitive environment and detect important technological changes. They subsequently lost a significant portion of their market share.

For decades the philosophy expressed by managers was a belief in the practical importance of a successful marketing function as an effective way to help the organization to achieve its objectives (Felton 1959; Levitt 1969; McNamara 1972). More recently, researchers have found that greater levels of market orientation result in a greater organizational ability to achieve its objectives (Houston 1986; Narver & Slater 1990; Jaworski & Kohli 1993; Kohli & Jaworski 1993; Siguaw, Brown, & Widing 1994). The measurement of market orientation in the business organization was pioneered by Narver & Slater (1990). Drawing from theoretical research, they operationalized the market orientation construct as consisting of three separate and equally important components: (1) customer orientation, (2) competitor orientation, and (3) interfunctional coordination. Narver & Slater (1990) reported market orientation scores for three separate types of businesses: commodity, specialty, and distribution. The commodity and distribution businesses produced and sold generic products designed for a wide range of customers. The specialty business firms produced and sold products that were individualized (relative to the commodity products) for specific customer orders. By adapting its generic or base product, the specialty products firm creates superior value and thereby provides more benefit to the customer. They created multiple item scales for the measurement of each of the components. The scales included antecedent variables, moderator variables, and consequence variables, e.g., performance. Finally, the scale measured overall market orientation by averaging the three components or dimensions of the measurement scale.

Empirical research on the market orientation culture has focused on the business enterprise with very little study of potential applications in non-profit organizations. Non-profit organizations such as churches, civic organizations, universities, and hospitals focus on customers or clientele wants and needs just as the business concern does. Given that successful businesses report higher levels of market orientation, we might expect a similar situation to be present in non-profit organizations as well. From a large group of potential non-profit organizations, we chose certain Schools of Business Administration to research because of their seeming similarities to business enterprises. Specifically, a school of business has a number of constituencies to serve, it must determine wants and needs of its clientele, it operates to provide value to its constituencies, it is influenced by external factors, and it is an organization with many interfunctional areas and departments. Although a school of business administration does not exist to create profit or shareholder wealth, it does seek to achieve organizational goals such as surviving as an organization, increasing its professional reputation, improving its facilities and faculty, and growing its enrollment and endowment. Additionally, business schools teach the principles, methods, and techniques used by businesses in their pursuit of success and business school deans and faculty often have a business background. These factors tend to suggest that business school leaders (deans) and business leaders (managers) may possess similar managerial mindsets, values, and temperaments as well as implementing similar leadership styles, methods and techniques.

Recalling that the philosophy of providing superior value to customers (relative to competitors) is the marketing concept, this philosophy should be applicable to universities as they too have customers, competitors, external influences, and seek to accomplish organizational goals. Although the primary objective for the business enterprise is profitability, Slater & Narver (1994) argue that in the non-profit organization, survival is analogous to profit in a business enterprise. Specifically, to satisfy constituencies in the long run requires that revenues must be adequate to cover long-run expenses and therefore survive. Like the business enterprise, the non-profit entity has organizational objectives that is seeks to achieve.

As in the profit-seeking business, quality, performance, and continuous improvement are objectives of schools of business administration both in the short-term and the long-term. Progress in achieving such objectives is part of the evaluative process addressed by the Baldridge Education Pilot Criteria (Karathanos & Karathanos 1996) and the AACSB--International Standards. Also, *U.S. News and World Report* (Morse and Flanigan 2000), *Peterson's* (2000) and other publications issue annual college guides that provide various measures of performance to assist students and parents in the college selection process. Consequently, the leaders of schools of business administration should be interested in an organizational culture that could positively impact the quality and performance of their schools. This research collects, analyzes and reports on the market orientation culture within schools of business administration that are members of AACSB-International and ACBSP. Member schools of these two organizations all choose to join the accreditation organizations, volunteer to undergo the accreditation process, and must meet accreditation standards on a continuing basis.

Business school deans whose schools held membership in either AACSB-International or ACBSP were the target population of the study. These schools were selected for study because the accrediting organizations hold to a commitment of continuous improvement in business education.

Schools that are accredited by AACSB-International or ACBSP have undergone a series of reviews over time, have demonstrated success at achieving organizational goals, and therefore may exhibit an organizational culture with a bent toward market orientation, much like that of successful businesses.

RESEARCH QUESTIONS AND HYPOTHESIS

Although there are numerous customers or stakeholders that could be addressed in the university setting, we limited our examination to two distinct stakeholder groups, i.e., students and parents of students. The objectives of the study were to answer the following research questions:

What are the mean levels of market orientation of schools of business administration as perceived by business school deans?

How do these mean levels of market orientation compare to the reported levels by business managers from previous research on commercial businesses?

Do mean levels of market orientation reported by business school deans differ significantly between deans of private schools and public schools?

To answer research question one, the reported market orientation mean scores of the deans were calculated for both customer groups (students and parents of students) in the four dimensions of market orientation (customer orientation, competitor orientation, internal coordination, and overall market orientation).

To answer research question two, the mean scores of the deans were compared to the mean scores of specialty business managers as reported by Narver and Slater (1990). The general hypothesis was than there was no difference between the market orientation scores of the business mangers and the academic deans. This general hypothesis was tested by way of a series of t-tests that compared mean scores of the deans to those of the business managers. For each comparison, t-tests were conducted separately on the four components of market orientation for the two stakeholder groups (students, and parents of students).

To answer research question three, the mean scores of the deans were divided into two groups and compared against each other. The two groupings consisted of one set of deans that were leaders of private business schools and one set of deans that were leaders of public business schools. A series of t-tests were used to determine if the two groups differed in any or all of the market orientation components for both stakeholder groups (students and parents of students).

METHODOLOGY

A cover letter, survey instrument, and business reply envelope were mailed to deans of 1052 schools of business. Schools were selected based on their membership in either the AACSB-International or ACBSP. After a follow-up letter and questionnaire, 223 usable responses were received from the 1052 survey instruments, a response rate of 21%. Of the respondents, 165 were

deans of public business schools and 58 were deans of private school business schools. Each key informant, (Campbell 1995; Phillips 1981), in this case deans, was asked to complete the survey and return it in the business reply envelope. Copies of the survey results were offered and confidentiality was assured. Adequate cell size for analyzing each group is indicated by the number of responses by each membership group as shown in Table 1.

The questions to measure the three subscales (competitor orientation, customer orientation, and organizational coordination) in the Narver and Slater original scale were modified somewhat to conform to the vocabulary and the types of stakeholders prevalent in academic institutions. For example, two of Narver and Slater's questions were:

Our objectives are driven by satisfaction of our customers.

We measure satisfaction of our customers systematically and frequently.

The questions were amended for the current research and were worded as follows:

Our objectives are driven by satisfaction of our students.

We measure satisfaction of our students systematically and frequently.

Churchill (1979) suggests that the appropriateness of scales borrowed from other studies needs to be addressed before survey research is accomplished. Therefore, all our scale items were pre-tested before mailed to the deans. We first consulted with several deans and other university administrators. These consultations resulted in a cover letter that more clearly defined the purpose of the research and rewording of several questionnaire items.

Thirty (30) questions were used in the collection of the data. Each of the questions were to be answered using a seven (7) point scale that was anchored with "not at all" (1) and "to an extreme extent" (7) so that the higher numbers represented a higher (or greater) level of market orientation. The scales were subjected to reliability analysis, exploratory factor analysis and confirmatory factor analysis prior to use (Wheaton, Muthen, Alwin, & Summers 1997; Bentler & Bonett 1980; Marsh & Hocevar 1985; Bentler 1990; Browne & Mels 1992; and Browne & Cudeck 1993). Results of these analyses indicated satisfactory reliabilities (ranges from .75 to .91), satisfactory item-to-total correlations (ranges from 0.4 to 0.8), exploratory factor loadings ranging from 0.4 to 0.9, and confirmatory factor loading ranging from 0.5 to 0.8. Additionally, the confirmatory factor analysis demonstrated generally acceptable fit. These test results included comparative fit index measures ranging from .992 to 1.000, a Tucker-Lewis index ranging from .970 to 1.000, and the CMIN/DF ranging from 1.011 to 4.573. The RMSEA low values at the 90% confidence interval fell below 0.10 for all scales.

Although the literature indicates (Berdie 1989) that the presence of nonresponse bias in mail surveys does not necessarily alter the survey findings, we nonetheless proceeded to test for nonresponse bias. We used Larson and Catton's (1959) proxy methodology wherein potential nonresponse bias between early and late respondents is examined. These tests indicated no statistically significant difference.

Then, following the methodology of Narver and Slater, we combined the three subscales to form an overall, or composite, measure of market orientation. We then conducted separate t-tests for each of the four dimensions of market orientation to determine if a statistically significant difference existed between the various market orientation mean scores of the deans and the mean scores of the business managers.

In their 1990 research, Narver and Slater reported market orientation scores for three separate types of businesses: commodity, specialty, and distribution. We believe schools of business demonstrate more of the characteristics of specialty businesses than the characteristics of the commodity or distribution businesses. The commodity and distribution businesses in the Narver and Slater study produced and sold generic products designed for a wide range of customers. The specialty business firms produced and sold products that were individualized (relative to the commodity products) for specific customer orders. By adapting its generic or base product, the specialty products firm creates superior value and thereby provides more benefit to the customer. This type of firm is challenged to constantly monitor the competitive environment and to be vigilant for changes in the customer's requirements. Likewise an AACSB-International and ACBSP schools of business seek to provide a product that is individualized through its programs of study or majors. The AACSB-International or ACBSP schools would argue that a superior product (relative to non-member schools) is provided that would benefit its customers (or constituencies). We therefore used the market orientation scores for specialty business as reported by Narver and Slater (1990) for our comparisons.

RESULTS

Because of the many separate t-tests performed, the data and tests results are summarized in a series of eight tables that follow. Tables 1-4, display mean scores, standard deviations, and t-test results of all comparison tests between businesses and schools of business as well as comparisons between private business schools and public business schools. These tables are for the customer/stakeholder group considering students for the business schools and customers for the commercial businesses. Tables 5-8 display the same types of information when the customer group represents parents of students for the business schools and customers for the commercial businesses.

Table one shows there are significant statistical differences in levels of market orientation between the business managers and the business school deans. The market orientation scores in all four dimensions of measurement are statistically higher for the business managers than the business school deans. Hence we know that there are indeed difference between businesses and business schools in the level of market orientation.

Table two shows the results of the market orientation scores reported separately private school deans and public school deans toward the students. This table shows that market orientation scores are statistically higher for private schools. In each of the four components measured the private school deans reported higher mean scores.

TABLE 1
Means, Standard Deviations, and t-test Results for Business School Deans and Specialty Business Managers

Customer Group: Students						
Market Orientation Measurements (7 point scale)						
Market Orientation Construct	**Specialty Business Managers**		**Business School Deans**		**t-value**	**Significance**
	M	*SD*	*M*	*SD*		
Customer Orientation	5.05	N/A*	4.57	1.00	7.10	.000
Competitor Orientation	4.71	N/A*	3.72	1.15	12.59	.000
Interfunctional Coordination	4.53	N/A*	4.18	1.07	4.79	.000
Overall Market Orientation	4.77	N/A*	4.22	.95	8.41	.000

*Standard deviations not provided, however ranges were as follows: customer orientation, 3.7--6.0; competitor orientation, 3.3--5.8; interfunctional coordination, 3.2--5.7; and overall marketing orientation, 3.4--5.7.

TABLE 2
Means, Standard Deviations, and t-test Results for Public School Business Deans and Private School Business Deans

Customer Group: Students						
Market Orientation Measurements (7 point scale)						
Market Orientation Construct	**Public School Deans**		**Private School Deans**		**t-value**	**Significance**
	M	*SD*	*M*	*SD*		
Customer Orientation	4.45	1.00	4.95	.90	3.25	.001
Competitor Orientation	3.60	1.16	4.02	1.07	2.44	.017
Interfunctional Coordination	4.07	1.08	4.50	.94	2.75	.007
Overall Market Orientation	4.10	.96	4.55	.82	3.29	.001

TABLE 3
Means, Standard Deviations, and t-test Results for Public Business School Deans and Specialty Business Managers

Customer Group: Students						
Market Orientation Measurements (7 point scale)						
Market Orientation Construct:	**Specialty Business Managers**		**Public School Deans**		**t-value**	**Significance**
	M	*SD*	*M*	*SD*		
Customer Orientation	5.05	N/A*	4.45	1.00	9.10	.000
Competitor Orientation	4.71	N/A*	3.60	1.16	14.26	.000
Interfunctional Coordination	4.53	N/A*	4.07	1.08	7.28	.000
Overall Market Orientation	4.77	N/A*	4.10	.96	10.37	.000

*Standard deviations not provided, however ranges were as follows: customer orientation, 3.7--6.0; competitor orientation, 3.3--5.8; interfunctional coordination, 3.2--5.7; and overallmarketing orientation, 3.4--5.7.

TABLE 4
Means, Standard Deviations, and t-test Results for Private Business School Deans and Specialty Business Managers

Customer Group: Students						
Market Orientation Measurements (7 point scale)						
Market Orientation Construct:	**Specialty Business Managers**		**Private School Deans**		**t-value**	**Significance**
	M	*SD*	*M*	*SD*		
Customer Orientation	5.05	N/A*	4.95	.90	0.80	N/S
Competitor Orientation	4.71	N/A*	4.02	1.07	4.65	.000
Interfunctional Coordination	4.53	N/A*	4.50	.94	0.23	N/S
Overall Market Orientation	4.77	N/A*	4.55	.82	1.93	.05

*Standard deviations not provided, however ranges were as follows: customer orientation, 3.7--6.0; competitor orientation, 3.3--5.8; interfunctional coordination, 3.2--5.7; and overallmarketing orientation, 3.4--5.7.

TABLE 5
Means, Standard Deviations, and t-test Results for Business School Deans and Specialty Business Managers

Customer Group: Parents of Students						
Market Orientation Measurements (7 point scale)						
Market Orientation Construct:	**Specialty Business Managers**		**All Business School Deans**		**t-value**	**Significance**
	M	*SD*	*M*	*SD*		
Customer Orientation	5.05	N/A*	2.57	1.23	29.83	.000
Competitor Orientation	4.71	N/A*	3.40	1.16	16.64	.000
Interfunctional Coordination	4.53	N/A*	3.26	1.07	17.44	.000
Overall Market Orientation	4.77	N/A*	3.04	1.03	24.45	.000

*Standard deviations not provided, however ranges were as follows: customer orientation, 3.7--6.0; competitor orientation, 3.3--5.8; interfunctional coordination, 3.2--5.7; and overallmarketing orientation, 3.4--5.7.

TABLE 6
Means, Standard Deviations, and t-test Results for Public School Business Deans and Private School Business Deans

Customer Group: Parents of Students						
Market Orientation Measurements (7 point scale)						
Market Orientation Construct:	**PublicSchool Deans**		**Private School Deans**		**t-value**	**Significance**
	M	*SD*	*M*	*SD*		
Customer Orientation	2.43	1.23	3.01	1.11	3.17	.002
Competitor Orientation	3.28	1.16	3.73	1.08	2.57	.012
Interfunctional Coordination	3.15	1.06	3.64	.96	3.0	.003
Overall Market Orientation	2.91	1.04	3.41	.92	3.26	.002

TABLE 7
Means, Standard Deviations, and t-test Results for Public Business School Deans and Specialty Business Managers

Customer Group: Parents of Students						
Market Orientation Measurements (7 point scale)						
Market Orientation Construct:	**Specialty Business Managers**		**Public School Deans**		**t-value**	**Significance**
	M	*SD*	*M*	*SD*		
Customer Orientation	5.05	N/A*	2.43	1.23	27.19	.000
Competitor Orientation	4.71	N/A*	3.28	1.16	15.69	.000
Interfunctional Coordination	4.53	N/A*	3.15	1.06	16.46	.000
Overall Market Orientation	4.77	N/A*	2.91	1.04	22.41	.000

*Standard deviations not provided, however ranges were as follows: customer orientation, 3.7--6.0; competitor orientation, 3.3--5.8; interfunctional coordination, 3.2--5.7; and overallmarketing orientation, 3.4--5.7.

TABLE 8
Means, Standard Deviations, and t-test Results for Private Business School Deans and Specialty Business Managers

Customer Group: Parents of Students						
Market Orientation Measurements (7 point scale)						
Market Orientation Construct:	**Specialty Business Managers**		**Private School Deans**		**t-value**	**Significance**
	M	*SD*	*M*	*SD*		
Customer Orientation	5.05	N/A*	3.01	1.11	13.25	.000
Competitor Orientation	4.71	N/A*	3.73	1.08	6.54	.000
Interfunctional Coordination	4.53	N/A*	3.64	.96	6.68	.000
Overall Market Orientation	4.77	N/A*	3.41	.92	10.66	.000

*Standard deviations not provided, however ranges were as follows: customer orientation, 3.7--6.0; competitor orientation, 3.3--5.8; interfunctional coordination, 3.2--5.7; and overallmarketing orientation, 3.4--5.7.

Table three reports the results of market orientation scores between business managers and deans of public business schools. In these comparisons, business managers were found to have significantly higher market orientation scores in each of the four components of market orientation.

Table four reports the results of market orientation between business managers and deans of private business schools. In these comparisons, the business managers have higher reported

market orientation scores in all four components of market orientation: however, in only two of the four components are the differences statistically significant.

Table five reports the results of market orientation between business managers and deans of business school when the customer group for the schools is changed from students to parents of students. The table shows that businesses report statistically higher market orientation mean scores than do the deans. The deans report much lower scores when the stakeholder groups switches from students to the parents of students.

Table six reports the results of market orientation between public school deans and private school deans toward the parents of students. In these comparisons, the private school deans report higher mean scores in all four components of market orientation. The higher scores of the private school deans are statistically significant in all four market orientation components.

Table seven reports the results of market orientation comparisons between business managers and deans of public business schools. In these comparisons the business managers report higher mean scores in all four component of market orientation that are statistically significant.

Table eight reports the results of market orientation comparisons between business managers and deans of private business schools. In these comparisons the business managers report higher mean scores in all four components of market orientation that are statistically significant.

IMPLICATIONS

These findings demonstrate that businesses perceive a greater importance and have made greater progress in the implementation of the marketing concept vis-à-vis university schools of business as perceived by their deans. The findings however also show that private school deans report significantly higher market orientation scores than do public school deans when dealing with both students and the parents of students. If, as previous research has found, organizations can improve their effectiveness by increasing levels of market orientation, university schools of business (especially public schools) would seem to have ample opportunity to improve.

As most of the deans responding to the survey perceived a lower level of market orientation than did their business counterparts, a significant opportunity would seem to exist for schools that will put more effort into their market orientation. As students of the university may be viewed as the most visible of the numerous markets served, market orientation efforts focused at students would seem to have the potential for the fastest and highest payoff. Examples of such payoffs might include:

An increase in enrollment

An increase in the hit rate (increase in percent of applicants that actually enroll)

An increase in the retention rate of current students

An increase in future giving by alumni

An improvement in rankings by outside organizations

The enhancement of market orientation toward the parent group could also pay dividends to the university. Additional parental involvement with the university should lead to the following:

Increased participation in the educational process with their students

A building of goodwill that might benefit the school in future recruiting and retention efforts

Willingness of parents to give more freely to the programs of the school

Increase feedback from another stakeholder group of the school

Enhanced parental impact on the purchase decision when a student selects a college

In view of Narver and Slater (1990) and Kohli and Jaworski (1993) findings that enhanced levels of market orientation will improve the competitive advantage of organizations, business schools appear to be organizations ripe to take advantage of the market orientation concept. Focus on creating market orientation culture should serve both schools and their various stakeholders in more effectively achieving the school mission.

Our conclusions are tempered by the finding of Noble, Sinha, & Kumar (2002) that there appears to be no single strategic orientation that leads to superior performance in every case and as previously stated, building a market orientation culture within an organization is not a quick fix but rather a continuous process.

FUTURE RESEARCH

The research we report suggests several needs for additional research. For example, research should be undertaken to examine the impact or influence that variables such as size of a school, school affiliation (AACSB, ACBSP, or neither), admission standards, placement efforts, or recruiting efforts have on market orientation. Such research would further our understanding of the market orientation construct and its application to higher education.

Additional research in organizational culture including that of market orientation should be conducted in other non-profit organizations. Of particular interest would be an expansion of this line of research into other areas of higher education, into governmental agencies that provide services to the public, and into the non-profit side of the healthcare industry. Also, research that investigates if differences exist between the sexes in the building of a market orientation culture would be a contribution to the literature.

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Volume 9, Number 2

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Volume 9, Number 2

PATTERNS OF INSTRUCTIONAL TECHNOLOGY USE BY FACULTY IN MARKETING: AN EXPLORATORY INVESTIGATION

Thomas J. Lipscomb, Southeastern Louisiana University
Jeffrey W. Totten, Southeastern Louisiana University
John R. Tanner, University of Louisiana – Lafayette

ABSTRACT

The present study was undertaken in order to gain a preliminary perspective on the use of technology in academic instruction in Marketing in the United States. The sampling frame consisted of professors and others interested in marketing. A questionnaire addressing usage of various types of classroom hardware, software, and distance education activity, was modified from a previous study of finance professors. A "call for participants" was posted on the American Marketing Association's e-mail list service (ELMAR) during the fall of 2003. Marketing faculty members were requested to respond to the questionnaire through an Internet homepage, which was accessible via a provided hotlink. Usable responses were received from 102 marketing faculty.

The results indicated that the process of adoption of technology for marketing instruction in the United States is well underway. With respect to hardware, it was found that more than 92% of the respondents employ front-orientation computer projection systems, and over half used the systems in over eighty percent of the class meetings. Very high usage rates were found for presentation and spreadsheet software. It was also discovered that roughly one out of three respondents have taught one or more courses by distance education.

Interesting variations were found among the respondents with respect to implementation of technology as a function of gender and years of teaching experience.

INTRODUCTION

Worldwide, colleges and universities are rapidly accelerating the development of technology-based infrastructures in order to facilitate the use of various forms of technology for instructional purposes. Indeed, a recent survey conducted on behalf of the Campus Computing Project (2003) indicated that U.S. universities are rapidly adopting a variety of technology – based options. As just one example, the results of this survey indicated that 77.2% of participating institutions reported the use of wireless LANS in 2003, as compared to 67.9 % in 2002 and 29.6 % in 2000. Correspondingly, the literature in Higher Education is replete with reference to the adoption and use of various forms of technology for educational purposes. Nowhere is this trend more apparent than in Colleges of Business. At present, however, there appears to be some difference of opinion concerning the implementation of instructional technology in Higher Education in general and in

business curricula in particular. Whereas some authors wholeheartedly embrace the use of technology for instructional purposes (e.g. Reeves, 1998), others voice concern, suggesting that the educational benefits to the student have yet to be adequately assessed and that faculty costs in time may outweigh the benefits of learning new technologies for pedagogical purposes (e.g. Smith, 2001).

Educators in the field of marketing have not remained outside of the debate taking place in higher education more broadly. Like their peers in other fields, marketing faculty are moving toward greater and greater reliance on "technology-enhanced" course instruction (Evans, 2001; Ferrell and Ferrell, 2002). As is true elsewhere in higher education, however, there is little empirical evidence assessing the potential benefits of instructional technology to teach marketing (Malhotra, 2002). Within the marketing education literature, it has been proposed that discussions concerning the merits of implementing instructional technology often suffer from a lack of consensus concerning just what is meant by the term, "Instructional Technology" (Peterson et al., 2002; Malhotra, 2002). Indeed, a variety of specific technology-based techniques have been employed and their relative efficacies discussed. A partial list of technologies employed in marketing instruction includes presentation software such as PowerPoint, faculty websites, e-mail, BlackBoard and WebCT, in classroom and out of classroom use of the Internet, etc. Until there is agreement concerning the meaning of the term "Instructional Technology," it will be difficult if not impossible to empirically assess the utility and effectiveness of various methods often subsumed under this umbrella. A definition proposed by Malhotra (2002) would appear to capture what may be an emerging consensus within the field of marketing education: "Instructional technology includes hardware and software, tools and techniques that are used directly or indirectly in facilitating, enhancing, and improving the effectiveness and efficiency of teaching, learning, and practicing marketing knowledge"(p.1).

Since a variety of technologies are being employed in an attempt to enhance marketing education and since the relative effectiveness of these techniques may be expected to vary, it would be useful to discover the extent to which these various technologies have penetrated the marketing academy. Although there have been a number of small scale studies assessing the extent of use of various technologies at specific universities (see, for example, the April 2001 issue of the *Journal of Marketing Education* that was devoted to technology and distance learning), there has been little effort directed toward assessing the extent of use by marketing faculty as a whole. A recent qualitative study by Peterson et al. (2002) is noteworthy. This study was based on the response of 61 marketing faculty members to six open-ended questions assessing the use of technology for marketing instruction. Among the findings were that approximately two-thirds of the respondents indicated use of some form of technology (self-defined) for instructional purposes. The present study represented an effort to conduct a quantitatively based survey of the extent of usage of technology for marketing instruction.

METHODOLOGY

A technology questionnaire containing four sections that address usage of various types of classroom hardware, software usage, distance education activity, and respondent demographics, respectively, was closely patterned after one used in a study of finance faculty (see Cudd, Tanner, and Lipscomb, in press). A "call for participants" message was posted on the American Marketing

Association's e-mail list service (ELMAR, which, at the time of the survey, consisted of 3,200 members). ELMAR subscribers consist of marketing faculty and others who are interested in the field of marketing. The list service was chosen due to its convenience and the lack of funding for conducting a mail survey. ELMAR also provided a means of reaching a current listing of members of the target population. Marketing faculty members were requested to respond to the questionnaire through an Internet homepage, which was accessible via a provided hotlink. Usable responses were received from 102 marketing faculty for a response rate of more than three percent.

RESULTS

Respondent Demographics

The demographic characteristics of the respondents are shown in Table 1. As can be seen from the table, almost three-fourths of the respondents taught at state-supported, public universities, with more than fifty-three percent teaching at schools with enrollments of fifteen thousand students or less; however, more than thirty-two percent were at schools of more than twenty thousand students. With respect to business students, more than fifty-two percent were at schools with two thousand or more students enrolled in the College of Business.

More than eighty percent of the respondents were at universities that are accredited by the AACSB. Forty-seven percent held the rank of assistant or associate professor, and thirty-two percent were full professors. Fifty-nine percent had ten years or less college teaching experience, and more than fifty-four percent were women.

Crosstabulations and chi-square analysis revealed that male respondents tended to be full professors while female respondents tended to be assistant professors, $\chi^2 = 55.68$, $p < .01$. Male professors also tended to have been teaching more than 10 years whereas female professors tended to have been teaching less than 10 years ($\chi^2 = 54.25$, $p < .01$).

Hardware Usage in Marketing Instruction

Table 2 shows the amount of usage of various types of hardware per class during a given semester or quarter by these marketing faculty members. Transparencies have long been used in many classrooms, and the inexpensive and non-technical nature of transparencies likely contributes to their significant usage. However, more than forty-two percent of the marketing faculty do not use these at all, and more than forty-four percent only use it twenty percent of their class time or less.

With respect to videocassette recorder (VCR) usage, more than eighty-two percent of the faculty used it forty percent of the time or less in their classes, while more than seventeen percent made no use of them at all. Even though a large part of class time was not used, the wide use of VCRs in marketing classes is not surprising, since many marketing classes focus on promotion, and a study of advertising in various media forms is almost mandatory.

The use of camcorders and digital cameras was less widespread, with more than seventy-six percent not using them at all. Only five percent used them more than twenty percent of their class time.

Table 1: Sample Demographics			
		n	%
Type of University	State	73	73.0%
	Private	27	27.0%
University Enrollment	Less than 5000	13	12.9%
	5001 – 10000	25	24.7%
	10001 – 15000	16	15.8%
	15001 - 20000	14	13.9%
	More than 20000	33	32.7%
AACSB Accreditation	Accredited	79	80.6%
	Not accredited	19	19.4%
College of Bus. Enr.	≤ 1000	14	14.4%
	1000-2000	32	33.0%
	Over 2000	51	52.6%
Academic Rank	Assistant professor	20	20.0%
	Associate professor	27	27.0%
	Full professor	32	32.0%
	Instructor/Lecturer	21	21.0%
Gender	Male	46	45.5%
	Female	55	54.5%
Years Teaching	1-5 years	36	36.0%
	5-10	23	23.0%
	10-15	13	13.0%
	15-20	8	8.0%
	Over 20 years	20	20.0%

The extensive shift in marketing instruction to the use of computer image projection is evidenced by the extremely high percentage of marketing faculty employing some variation of this type of device (i.e., front-orientation, rear-orientation, or wall-mounted). Over ninety-two percent of the respondents employ front-orientation computer projection systems, and over half used the systems in over eighty percent of the class meetings.

Table 2 Hardware Usage Per Semester/Quarter						
Types of Hardware Used During Class Time	**Percentage of Respondents**					
	None of the Time	**1–20% of the Time**	**21–40% of the Time**	**41–60% of the Time**	**61-80% of the Time**	**81-100% of the Time**
Overhead Transparencies	42.2	44.1	4.9	5.9	0.0	2.9
VCRs	17.6	75.5	6.9	0.0	0.0	0.0
Camcorders/Digital Cameras	76.2	18.8	3.0	1.0	1.0	0.0
Front-Orientation Computer Projection Systems (e.g., cart-mounted, ceiling-mounted, portable computer projectors, etc,)	7.9	4.0	10.9	10.9	10.9	52.4
Rear-Orientation Computer Projection Systems (e.g., SmartBoards, whiteboards, wall-mounted plasma displays, etc.) Note: These look like an oversized TV.	82.4	7.8	2.0	3.9	1.0	2.9
Wall-Mounted Plasma Display Panels Note: These look like a thin-line TV.	96.0	2.0	1.0	0.0	1.0	0.0
Digital Image Capture Systems (e.g., document camera "Elmo," scan converters, etc.)	61.8	30.4	2.9	2.9	1.0	1.0
Networked Computer Labs	40.6	27.7	14.8	2.0	5.0	9.9

Front-orientation computer projection systems are the less expensive method of providing computer image projection, and typically involve no more than a computer and projector mounted on a cart for a total cost of roughly $3,000-4,000. More expensive computer projection system alternatives include rear-orientation systems resembling free standing, over-sized television sets, and wall-mounted plasma display panels that resemble thin-line television sets. These devices often provide digital chalkboard capabilities that enable the instructor to write electronically directly on the image, as well as slightly better imagery. Their excessive costs, which fall in the $15,000-to-$25,000 range, contributes to their scarcity and the subsequent low rates of faculty usage indicated in the survey. Only slightly over seventeen percent of the responding faculty report any usage of rear-orientation computer projection systems, and less than four percent employ wall-mounted plasma display units.

Digital image capture systems (also known as document cameras or "Elmos") function as closed-circuit television cameras and bear a physical resemblance to an overhead transparency projector. Unlike overhead transparency projectors that simply project a visual image through a

magnifying lens, digital image capture systems electronically scan the image, convert it to digital form, and then project it to a viewing screen. This process enables the instructor to simply place a newspaper or book under the camera to project an enlarged image electronically. A digital image document camera is typically included as an adjunct to an existing front-orientation projection cart. The relatively high cost of this item as an auxiliary device, roughly $1,000-2,500, contributes to its scarcity. The simplicity of use, however, makes it attractive to less technologically oriented faculty. Survey responses indicate that slightly more than thirty-eight percent of the respondents use digital image capture systems, and more than seven percent of the responding faculty use such systems in more than twenty percent of the class meetings. The greater availability of digital images that may be captured via the Internet today may also contribute the low usage of digital image capture systems by marketing faculty.

Networked computer labs permit the instructor to guide students through statistical analyses associated with marketing research and other activities for specific marketing course, as well as other coordinated in-class activities requiring computer access. Approximately half of the respondents provide some instruction in networked computer labs, but the bulk of the usage involves no more than 20% of the semester class meetings. Most computer labs are generic with standard spreadsheet software, rather than being specifically dedicated to use by marketing classes, which enhances their availability. Consequently, the use of computer labs for marketing instruction is largely driven by faculty need.

Software Usage in Marketing Instruction (other than distance education software)

Table 3 shows classroom usage percentages of the various types of software (other than distance education software) by the marketing faculty respondents. Ninety-five percent of responding faculty employ computer presentation software (e.g., PowerPoint), which is consistent with the high usage of front-orientation computer presentation hardware noted earlier. Interestingly, sixty-four percent of the respondents use this type software more than sixty percent of the time in their classes. The use of presentation software is especially beneficial in marketing courses that require graphs tables, pictures, charts, and even slides of notes. Students typically come to class with advanced hard copies of the presentation slides, which permits student attention to be directed to the instructor's lecture, rather than focusing on copying down the projected images. Textbook publishers have also fueled the popularity of presentation software by supplying author-written presentation software for many textbooks.

While some might argue that spreadsheet analysis is not the primary tool of the marketing manager, the use of spreadsheets is still important when doing statistical comparisons and analyses, such as the comparison of sales figures for different areas and/or making sales forecasts under different conditions. Thus, the relatively high percentage of more than seventy percent of responding faculty using spreadsheet software is expected. Publishers also commonly provide student disks with spreadsheet templates for cases and problems. Consequently, the most common usage rate, which was greater than fifty-six percent, occurs with the minimum of class meetings.

Database management software (e.g., Access) should be of some value in some marketing courses (such as advertising, research, and logistics); however, eighty-five percent of the responding

marketing faculty did not use database software at all in their classes. Also, of the fifteen percent that use this type software ten percent use it the minimum of class time.

Table 3: Software Usage Per Semester/Quarter

Types of Software Used During Class Time	Percentage of Respondents					
	None of the Time	1–20% of the Time	21–40% of the Time	41–60% of the Time	61-80% of the Time	81-100% of the Time
Computer Presentation Software	5.0	4.0	8.0	19.0	17.0	47.0
Spreadsheet Software	30.3	56.6	8.1	3.0	0.0	2.0
Database Management Software	85.0	10.0	2.0	1.0	0.0	2.0

Distance Education Software and Activity in Marketing Instruction

Some universities are dedicated to course offerings delivered exclusively through distance education (e.g., University of Phoenix). Virtually all universities provide distance education delivery for selected courses, and the trend appears to be toward increasing the percentage of curricula available online. A breakdown of the number of marketing courses delivered via distance education is displayed in Table 4. Roughly one out of every three marketing faculty members teaches any courses in a distance education environment. Almost seventeen percent of the respondents conduct marketing instruction via distance education for one class, and only around eleven percent conduct distance education for more than one class. The questionnaire, however, did not obtain fractional course information concerning distance education. For example, some courses are offered on a 50/50 basis (i.e., 50% online and 50% in a traditional classroom mode). Consequently, it is possible that some of the above participation percentages may reflect fractional online course activity.

Table 4: Number of Distance Education Courses Taught Per Semester/Quarter

# Distance Education Courses Taught Per Term	Percentage of Respondents
0 Courses	71.6%
1 Course	16.8%
2 Courses	7.4%
3 Courses	0.0%
4 Courses	0.0%
More than 4 Courses	4.2%

In addition to traditional correspondence courses and course lectures offered via the Public Broadcasting System, there are three newer technology-based methods of distance education course delivery. First, many universities sponsor local sites for course offerings managed by intranet software (e.g., BlackBoard or WebCT). This provides an online environment for each student to submit questions, obtain responses (from the instructor or other students), obtain course documents (such as course syllabi, presentation software files, spreadsheet files, data management files, special readings documents, etc.), hold chat sessions with other students, obtain course assignments, submit completed assignments, and check grade status. The accompanying whiteboard software also provides the ability for students and faculty to simultaneously write on the same electronic document. This type of online visual aid supports virtual class meetings held online. Whiteboard software only offers practical support of spontaneous student written replies (i.e., a Socratic environment) if each student is equipped with an electronic writing tablet.

Second, textbook publishers provide similar homepages for each specific textbook offering. These Internet sites provide the same services and offerings as intranet pages, except the publisher provided homepages are national or international in scope, and students nationwide will not all be covering the same chapters at the same time.

A third method of offering courses via distance education is through video conferencing (i.e., compressed video). Compressed video conferencing software (e.g., PictureTel, PolyCom, Net Meeting, etc.) enables students to attend a local physical classroom and receive and interact with an instructor at a remote location through two-way video and audio hardware and software. One deterrent to this mode of distance education is the relatively high cost of offering courses in this manner, which include the usage cost of the communications lines, remote classrooms, and compressed video equipment at all classroom sites.

Table 5 shows the results for distance education activity in instruction. These results may reflect faculty who are offering part or all of their coursework online, as well as those who use the software as a supplement to traditional classroom delivery. Twenty-nine percent of the marketing faculty does not engage in distance education through their local intranet, and only thirty-two percent use this media for supporting more than 40% of the class meetings. Nineteen percent of the faculty who use this media for almost all of the class meetings likely reflects instruction of purely online courses.

More than seventy-one percent of these marketing faculty members use Internet-based software for course instruction, with more than thirty-two percent using the Internet for twenty percent or less of their class meetings. The greater popularity of publisher-based textbook Internet sites may be attributed to several factors. The sites come already tailor-made for the specific textbook, when enhances the ease of their use. Such sites may also offer downloadable author-prepared computer presentation slides and online study quizzes, in addition to the types of materials available with more generic intranet-based homepages.

Video conferencing is rarely practiced in the delivery of finance courses, with only slightly more than eight percent of the faculty using this mode of course delivery, and only four percent using it for more than twenty percent of the class meetings. Again, the relatively high cost may inhibit this method of course delivery. Lastly, although not included in Table 5, almost one-third of the respondents stated that they used e-mail as their only form of distance education software.

Table 5: Distance Education Delivery						
Delivery Method	**Percentage of Respondents**					
	None of the Time	**1–20% of the Time**	**21–40% of the Time**	**41–60% of the Time**	**61-80% of the Time**	**81-100% of the Time**
Distance Education Software-Intranet	29.0	31.0	8.0	11.0	2.0	19.0
Distance Education Software-Internet	28.9	39.2	14.4	10.3	1.0	6.2
Distance Education Software-Video Conferencing	91.9	4.1	3.0	1.0	0.0	0.0

Comparison Tests of Usage

In addition to overall usage rates of various types of hardware, software, and distance education delivery method by marketing faculty, tests of significance were made to determine if usage differed by gender, academic rank, type of institution (i.e., whether the respondent taught at private or public universities), and years of teaching experience. Table 6 shows the results of significance tests of usage as a function of gender. Because certain usage categories had a limited number of respondents, the highest four usage categories were collapse into one "More than 20% of the time" category, so as to facilitate the use of chi-square independence of classification analysis. This will be the case for all subsequent analyses. The analysis revealed that significantly more of the female marketing faculty members reported using transparencies in their classes in the 1-20 percent category, and significantly more males using overheads in the more than 20 percent category ($x^2 = 6.287$, $p = .043$). No other significant differences in classroom usage frequency as a function of gender for hardware were found It is apparent, however, that, overall, both genders made relatively high use of VCRs and front-orientation computer projection systems, while little use was made of such hardware items as camcorders/ digital cameras, rear-orientation computer projection systems, wall-mounted plasma display panels, and digital image capture systems.

Both female and male marketing faculty make extensive use of computer presentation software and spreadsheet software. However, neither gender spent much time on database management software in their classes.

Females make significantly greater use of the intranet software in their distance education classes ($x^2 = 8.0$, $p = .018$). In fact, more than forty percent of the males did not use the intranet at all. Also, more than seventy-five percent of the females and sixty-five percent of the males made some use of the internet, while very little use of video conferencing software for distance education was made by either gender.

Table 6: Comparison of Technology based on Gender				
	Percent of Respondents			
	Females	Males	χ^2	p value
Types of Hardware Used During Class Time				
Overhead Transparencies:				
0 percent of the time	43.6%	41.3%		
1 – 20% of the time	50.9%	37.0%		
More than 20% of the time	5.5%	21.7%	6.287	.043*
VCRs:				
0 percent of the time	16.4%	19.6%		
1 – 20% of the time	78.2%	71.7%		
More than 20% of the time	5.5%	8.7%	0.662	.718
Camcorders/Digital Cameras:				
0 percent of the time	70.9%	82.2%		
1 – 20% of the time	21.8%	15.6%		
More than 20% of the time	7.3%	2.2%	2.190	.334
Front-Orientation Computer Projection Systems (e.g., cart-mounted, ceiling-mounted, portable computer projectors, etc,):				
0 percent of the time	9.1%	6.7%		
1 – 20% of the time	0.0%	8.9%		
More than 20% of the time	90.9%	84.4%	5.188	.075
Rear-Orientation Computer Projection Systems (e.g., SmartBoards, whiteboards, wall-mounted plasma displays, etc.; note: These look like an oversized TV.):				
0 percent of the time	80.0%	84.8%		
1 – 20% of the time	12.7%	2.2%		
More than 20% of the time	7.3%	13.0%	4.434	.109
Wall-Mounted Plasma Display Panels (Note: These look like a thin-line TV.):				
0 percent of the time	96.4%	95.7%		
1 – 20% of the time	1.8%	2.2%		
More than 20% of the time	1.8%	2.2%	0.033	.983
Digital Image Capture Systems (e.g., document camera "Elmo," scan converters, etc.):				
0 percent of the time	61.8%	60.9%		
1 – 20% of the time	30.9%	30.4%		
More than 20% of the time	7.3%	8.7%	0.070	.966

Table 6: Comparison of Technology based on Gender				
	Percent of Respondents			
	Females	Males	χ^2	p value
Networked Computer Labs:				
0 percent of the time	41.8%	37.8%		
1 – 20% of the time	23.6%	33.3%		
More than 20% of the time	34.6%	28.9%	1.180	.554
Types of SOFTware Used During Class Time				
Computer Presentation Software:				
0 percent of the time	1.9%	8.9%		
1 – 20% of the time	1.9%	6.7%		
More than 20% of the time	96.2%	84.4%	4.194	.123
Spreadsheet Software:				
0 percent of the time	26.4%	35.6%		
1 – 20% of the time	60.4%	51.1%		
More than 20% of the time	13.2%	13.3%	1.037	.595
Database Management Software:				
0 percent of the time	85.2%	84.4%		
1 – 20% of the time	11.1%	8.9%		
More than 20% of the time	3.7%	6.7%	0.548	.760
Delivery Method (For Distance Education)				
Distance Education Software-Intranet:				
0 percent of the time	16.7%	42.2%		
1 – 20% of the time	35.2%	26.7%		
More than 20% of the time	48.1%	31.1%	8.000	.018*
Distance Education Software-Internet:				
0 percent of the time	24.5%	34.9%		
1 – 20% of the time	43.4%	37.8%		
More than 20% of the time	32.1%	32.6%	1.598	.450
Distance Education Software-Video Conferencing:				
0 percent of the time	94.3%	88.9%		
1 – 20% of the time	5.7%	2.2%		
More than 20% of the time	0.0%	8.9%	5.495	.064
***Significant at $\alpha = .05$**				

Table 7 shows the results of significance tests for differences in usage by academic rank. The two groups were full professors and associate professors (the higher/senior ranking faculty) versus assistant professors and instructors or lower (the lower/junior ranking faculty). With respect to hardware, the full professors and associate professors use rear orientation computer projection systems more than the assistant professor and lower-ranked faculty, ($x^2 = 7.068$, p = .029) although neither group makes what could be termed extensive use of such hardware. More than half of both groups make some use of overhead transparencies, and more than eighty percent of both groups make some use of VCRs and front-orientation projection systems in their classes, while neither group makes much use of wall-mounted plasma display panels or digital image capture systems.

With respect to software usage, marketing faculty of upper and lower ranks make relatively extensive use of computer spreadsheet software and spreadsheet software with no significant difference between the two groups. Neither group made extensive use of database management software.

With respect to delivery methods used for distance education, marketing faculty at both the higher and lower academic ranks were relatively evenly-distributed concerning the use of intranet and internet delivery systems while neither group made very much use of video conferencing.

Table 7: Comparison of Technology based on Rank

Types of Hardware USED DURING CLASS TIME	Percent of Respondents		χ^2	p value
	Full/Assoc. Professors	Assistant Professors or Lower		
Overhead Transparencies:				
0 percent of the time	44.7%	41.5%		
1 – 20% of the time	36.2%	50.9%		
More than 20% of the time	19.1%	7.6%	3.873	.144
VCRs:				
0 percent of the time	17.0%	18.9%		
1 – 20% of the time	74.5%	75.5%		
More than 20% of the time	8.5%	5.6%	0.340	.844
Camcorders/Digital Cameras:				
0 percent of the time	72.3%	78.7%		
1 – 20% of the time	21.3%	17.3%		
More than 20% of the time	6.4%	3.8%	0.655	.821
Front-Orientation Computer Projection Systems (e.g., cart-mounted, ceiling-mounted, portable computer projectors, etc,):				
0 percent of the time	12.8%	1.9%		
1 – 20% of the time	6.4%	1.9%		
More than 20% of the time	80.8%	86.2%	5.970	.051

Table 7: Comparison of Technology based on Rank				
Types of Hardware USED DURING CLASS TIME	**Percent of Respondents**			
	Full/Assoc. Professors	**Assistant Professors or Lower**	**χ^2**	**p value**
Rear-Orientation Computer Projection Systems (e.g., SmartBoards, whiteboards, wall-mounted plasma displays, etc.; note: These look like an oversized TV.):				
0 percent of the time	76.6%	88.7%		
1 – 20% of the time	6.4%	9.4%		
More than 20% of the time	17.0%	1.9%	7.068	.029*
Wall-Mounted Plasma Display Panels (Note: These look like a thin-line TV.):				
0 percent of the time	91.4%	100.0%		
1 – 20% of the time	4.3%	0.0%		
More than 20% of the time	4.3%	0.0%	4.699	.095
Digital Image Capture Systems (e.g., document camera "Elmo," scan converters, etc.):				
0 percent of the time	59.6%	62.3%		
1 – 20% of the time	27.7%	34.0%		
More than 20% of the time	12.7%	3.7%	2.867	.239
Networked Computer Labs:				
0 percent of the time	32.6%	47.2%		
1 – 20% of the time	30.4%	26.4%		
More than 20% of the time	37.0%	26.4%	2.307	.317
Computer Presentation Software:				
0 percent of the time	8.7%	1.9%		
1 – 20% of the time	6.5%	1.9%		
More than 20% of the time	84.8%	96.2%	3.806	.149
Spreadsheet Software:				
0 percent of the time	37.8%	23.1%		
1 – 20% of the time	48.9%	63.4%		
More than 20% of the time	13.3%	13.5%	2.648	.266
Database Management Software:				
0 percent of the time	80.4%	88.5%		
1 – 20% of the time	10.9%	9.6%		
More than 20% of the time	8.7%	1.9%	2.418	.299

Table 7: Comparison of Technology based on Rank				
Types of Hardware USED DURING CLASS TIME	**Percent of Respondents**			
	Full/Assoc. Professors	**Assistant Professors or Lower**	**χ^2**	**p value**
Distance Education Software-Intranet:				
0 percent of the time	34.0%	23.5%		
1 – 20% of the time	27.7%	35.3%		
More than 20% of the time	38.3%	41.2%	1.448	.485
Distance Education Software-Internet:				
0 percent of the time	33.3%	26.0%		
1 – 20% of the time	33.4%	44.0%		
More than 20% of the time	33.3%	30.0%	1.207	.547
Distance Education Software-Video Conferencing:				
0 percent of the time	87.0%	96.0%		
1 – 20% of the time	6.5%	2.0%		
More than 20% of the time	6.5%	2.0%	2.659	.265
***Significant at α = .05**				

Table 8 shows the results of significance tests for difference in usage as a function of teaching at public, state-supported universities or at private universities. Marketing faculty respondents at private universities make significantly more use of VCRs ($x^2 = 8.091$, p = .017) and camcorders/digital cameras ($x^2 = 7.422$, p = .024) than do their counterparts at the public, state-supported universities. Other than these two types of hardware there were no significant differences by type of hardware, software, or distance education software delivery used. Faculty at both public and private universities make relatively heavy use of front-orientation computer projection systems and computer presentation software, and relatively light use of wall-mounted plasma display panels, digital image capture systems, spreadsheet and database management software, and videoconferencing as a means of delivering distance education.

Table 9 shows the results of significance tests on amount of usage of hardware, software, and distance education delivery software as a function of years of teaching experience by the marketing faculty respondents. Although both faculty with more than ten years teaching experience and those with ten years or less experience make relatively low use of classroom time using rear-orientation computer projection systems, those with relatively more experience use this type hardware significantly more than those with ten years experience or less ($x^2 = 6.084$, p = .048). Similarly, those faculty members with relatively more teaching experience make more frequent use of wall-mounted plasma displays ($x^2 = 5.996$, p = .05). With respect to all other types of hardware, software, and all types of distance education delivery software, no significant differences were found between the more experienced marketing faculty respondents and those with less experience.

Table 8: Comparison of Technology based on Type of University				
Types of Hardware USED DURING CLASS TIME	**Percent of Respondents**			
	Public	**Private**	χ^2	**p value**
Overhead Transparencies:				
0 percent of the time	42.5%	44.5%		
1 – 20% of the time	47.8%	37.0%		
More than 20% of the time	9.7%	18.5%	1.849	.397
VCRs:				
0 percent of the time	20.6%	11.1%		
1 – 20% of the time	76.7%	70.4%		
More than 20% of the time	2.7%	18.5%	8.091	.017*
Camcorders/Digital Cameras:				
0 percent of the time	79.2%	66.7%		
1 – 20% of the time	19.4%	18.5%		
More than 20% of the time	1.4%	14.8%	7.422	.024*
Front-Orientation Computer Projection Systems (e.g., cart-mounted, ceiling-mounted, portable computer projectors, etc,):				
0 percent of the time	9.7%	3.7%		
1 – 20% of the time	2.8%	7.4%		
More than 20% of the time	87.5%	88.9%	1.926	.382
Rear-Orientation Computer Projection Systems (e.g., SmartBoards, whiteboards, wall-mounted plasma displays, etc.; note: These look like an oversized TV.):				
0 percent of the time	84.9%	74.1%		
1 – 20% of the time	5.5%	14.8%		
More than 20% of the time	9.6%	11.1%	2.476	.290
Wall-Mounted Plasma Display Panels (Note: These look like a thin-line TV.):				
0 percent of the time	97.2%	92.6%		
1 – 20% of the time	1.4%	3.7%		
More than 20% of the time	1.4%	3.7%	1.118	.572
Digital Image Capture Systems (e.g., document camera "Elmo," scan converters, etc.):				
0 percent of the time	61.6%	59.3%		
1 – 20% of the time	31.5%	29.6%		
More than 20% of the time	6.9%	11.1%	0.488	.783

Table 8: Comparison of Technology based on Type of University				
Types of Hardware USED DURING CLASS TIME	**Percent of Respondents**			
	Public	**Private**	**χ^2**	**p value**
Networked Computer Labs:				
0 percent of the time	38.4%	46.2%		
1 – 20% of the time	24.7%	34.6%		
More than 20% of the time	37.0%	19.2%	2.855	.240
Computer Presentation Software:				
0 percent of the time	4.2%	7.4%		
1 – 20% of the time	2.8%	7.4%		
More than 20% of the time	93.0%	85.2%	1.528	.466
Spreadsheet Software:				
0 percent of the time	28.6%	37.0%		
1 – 20% of the time	58.6%	48.1%		
More than 20% of the time	12.9%	14.8%	0.887	.642
Database Management Software:				
0 percent of the time	87.3%	77.8%		
1 – 20% of the time	7.0%	18.5%		
More than 20% of the time	5.6%	3.7%	2.878	.237
DELIVERY METHOD (for distance education)				
Distance Education Software-Intranet:				
0 percent of the time	25.4%	33.3%		
1 – 20% of the time	33.8%	25.9%		
More than 20% of the time	40.8%	40.8%	0.836	.658
Distance Education Software-Internet:				
0 percent of the time	27.5%	30.8%		
1 – 20% of the time	40.6%	34.6%		
More than 20% of the time	31.9%	34.6%	0.285	.867
0 percent of the time	91.4%	92.6%		
1 – 20% of the time	4.3%	3.7%		
More than 20% of the time	4.3%	3.7%	0.035	.983
***Significant at α = .05**				

Table 9: Comparison of Technology based on Years of Teaching Experience				
Types of Hardware USED DURING CLASS TIME	**Percent of Respondents**			
	10 Years or Less	**More than 10 Years**	**χ^2**	**p value**
Overhead Transparencies:				
0 percent of the time	40.7%	46.4%		
1 – 20% of the time	47.4%	39.0%		
More than 20% of the time	11.9%	14.6%	0.714	.700
VCRs:				
0 percent of the time	18.6%	17.1%		
1 – 20% of the time	76.3%	73.2%		
More than 20% of the time	5.1%	9.7%	0.818	.664
Camcorders/Digital Cameras:				
0 percent of the time	75.9%	75.6%		
1 – 20% of the time	20.7%	17.1%		
More than 20% of the time	3.4%	7.3%	0.876	.645
Front-Orientation Computer Projection Systems (e.g., cart-mounted, ceiling-mounted, portable computer projectors, etc,):				
0 percent of the time	3.4%	12.2%		
1 – 20% of the time	1.7%	7.3%		
More than 20% of the time	94.8%	80.5%	5.014	.081
0 percent of the time	86.4%	78.0%		
1 – 20% of the time	10.2%	4.9%		
More than 20% of the time	3.4%	17.1%	6.084	.048*
Wall-Mounted Plasma Display Panels (Note: These look like a thin-line TV.):				
0 percent of the time	100.0%	90.2%		
1 – 20% of the time	0.0%	4.9%		
More than 20% of the time	0.0%	4.9%	5.996	.050
Digital Image Capture Systems (e.g., document camera "Elmo," scan converters, etc.):				
0 percent of the time	62.7%	58.5%		
1 – 20% of the time	32.2%	29.3%		
More than 20% of the time	5.1%	12.2%	1.665	.435

Table 9: Comparison of Technology based on Years of Teaching Experience				
Types of Hardware USED DURING CLASS TIME	**Percent of Respondents**			
	10 Years or Less	**More than 10 Years**	**χ^2**	**p value**
Networked Computer Labs:				
0 percent of the time	45.8%	32.5%		
1 – 20% of the time	27.1%	30.0%		
More than 20% of the time	27.1%	37.5%	1.928	.381
Computer Presentation Software:				
0 percent of the time	1.7%	10.0%		
1 – 20% of the time	1.7%	7.5%		
More than 20% of the time	96.6%	82.5%	5.628	.060
Spreadsheet Software:				
0 percent of the time	22.4%	41.0%		
1 – 20% of the time	63.8%	46.2%		
More than 20% of the time	13.8%	12.8%	3.998	.135
Database Management Software:				
0 percent of the time	84.5%	85.0%		
1 – 20% of the time	12.1%	7.5%		
More than 20% of the time	3.4%	7.5%	1.247	.536
Distance Education Software-Intranet:				
0 percent of the time	21.1%	39.0%		
1 – 20% of the time	35.1%	26.8%		
More than 20% of the time	43.9%	34.1%	3.775	.151
Distance Education Software-Internet:				
0 percent of the time	25.5%	35.0%		
1 – 20% of the time	41.8%	35.0%		
More than 20% of the time	32.7%	30.0%	1.047	.592
Distance Education Software-Video Conferencing:				
0 percent of the time	91.2%	92.5%		
1 – 20% of the time	5.3%	2.5%		
More than 20% of the time	3.5%	5.0%	0.566	.753
***Significant at α =.05**				

DISCUSSION

As expected, the results indicate that, in general, marketing faculty have begun to make considerable use of technological innovations to supplement their instructional efforts. Indeed, in some cases, the product adoption process appears to be well underway. For example, among those members of the AMA who responded, an extraordinarily high percentage (92.1%) makes some regular use of front-oriented computer projection devices in the classroom. Clearly, the nature of equipment provided by the university is a major factor in the adoption of the technology by faculty. Although beyond the scope of the present study, it would be interesting to explore the process of institutional adoption of technology at universities in order to discover how purchasing decisions are made. For example, how much impact do faculty have in equipping labs and classrooms? The current results indicate that relatively more expensive projection systems such as rear-oriented and wall-mounted systems are used by much smaller percentages of faculty members. Cost barriers are likely a major factor in this trend. Front-orientation computer projection systems are the less expensive method of providing computer image projection, and typically involve no more than a computer and projector mounted on a cart for a total cost of roughly $3,000-4,000. More expensive computer projection system alternatives include rear-orientation systems resembling free standing, over-sized television sets, and wall-mounted plasma display panels that resemble thin-line television sets. These devices often provide digital chalkboard capabilities that enable the instructor to write electronically directly on the image, as well as slightly better imagery. Their relatively high costs, which fall in the $15,000-to-$25,000 range, likely contributes to their scarcity and the subsequent low rates of faculty usage indicated in the survey.

The present results also indicate a low rate of usage for digital image capture systems (also known as document cameras or "Elmos"). Such systems function as closed-circuit television cameras and bear a physical resemblance to an overhead transparency projector. Unlike overhead transparency projectors that simply project a visual image through a magnifying lens, digital image capture systems electronically scan the image, convert it to digital form, and then project it to a viewing screen. This process enables the instructor to simply place a newspaper or book under the camera to project an enlarged image electronically. A digital image document camera is typically included as an adjunct to an existing front-orientation projection cart. The relatively high cost of this item as an auxiliary device, roughly $1,000-2,500, likely contributes to its scarcity as well. The simplicity of use, however, may make it relatively attractive to less technologically oriented faculty Approximately half of the respondents reported some degree of use of networked computer labs in their courses. The majority of these reported patterns of usage of less than 20% of the course. Networked computer labs permit the instructor to guide students through statistical analyses associated with marketing research and other activities for specific marketing courses, as well as other coordinated in-class activities requiring computer access. Most universities provide more generically oriented lab facilities appropriate for use by multiple disciplines and not specific to the marketing profession.

With respect to software, 95% of those responding indicated the regular use of computer presentation software such as PowerPoint. Of these, 64% reported using such software more than 60% of the time in their courses. This suggests the utility of such a delivery method in teaching

marketing concepts. Textbook publishers have also fueled the popularity of presentation software by supplying complimentary presentation software for many textbooks. Lindstrom (1998) notes that PowerPoint controls over 93% of the presentation software market in the world.

While some might argue that spreadsheet analysis is not the primary tool of the marketing manager, the use of spreadsheets is still important when doing statistical comparisons and analyses, such as the comparison of sales figures for different areas and/or making sales forecasts under different conditions. Publishers also commonly provide student disks with spreadsheet templates for cases and problems. Nearly 70% of respondents indicated some degree of usage of such software. By the same token, much lower percentages of use were reported for database management software (e.g. Access). Since availability is likely not an issue, this suggests that these programs are not as useful in the teaching of marketing. However, if more marketing programs integrate the growing topic of customer relationship management (CRM), with its emphasis on database mining, we may see an increased use of database management software in marketing classes. As this study was patterned after an earlier one (Cudd, Tanner, and Lipscomb, in press), the use of data mining was not explored in the present study. This is a topic that should be included in future investigations.

Some universities are dedicated to course offerings delivered exclusively through distance education (e.g., University of Phoenix). Virtually all universities provide distance education delivery for selected courses, and the trend appears to be toward increasing the percentage of curricula available online. Interestingly, nearly a third of the marketing faculty members responding indicated that they are involved or have been involved in using distance learning technology to teach at least one course while 71.6% have not done so. In addition to traditional correspondence courses and course lectures offered via the Public Broadcasting System, there are three newer technology-based methods of distance education course delivery. First, many universities sponsor local sites for course offerings managed by intranet software (e.g., BlackBoard or WebCT). This provides an online environment for each student to submit questions, obtain responses (from the instructor or other students), obtain course documents (such as course syllabi, presentation software files, spreadsheet files, data management files, special readings documents, etc.), hold chat sessions with other students, obtain course assignments, submit completed assignments, and check grade status. The accompanying whiteboard software also provides the ability for students and faculty to simultaneously write on the same electronic document. This type of online visual aid supports virtual class meetings online. Whiteboard software offers practical support of spontaneous student written replies (a Socratic environment) if each student is equipped with an electronic writing tablet.

Second, textbook publishers provide similar homepages for each specific textbook offering. These Internet sites provide the same services and offerings as intranet pages; except the publisher-provided homepages are national or international in scope, and students nationwide will not all be covering the same chapters at the same time. A third method of offering courses via distance education is through video conferencing (i.e., compressed video). Compressed video conferencing software (e.g., PictureTel, PolyCom, Net Meeting, etc.) enables students to attend a local physical classroom and receive and interact with an instructor at a remote location through two-way video and audio hardware and software. One deterrent to this mode of distance education is the relatively high cost of offering courses in this manner, which include the usage cost of the communications lines, remote classrooms, and compressed video equipment at all classroom sites.

A number of interesting patterns are apparent in the data as a function of demographic characteristics of the respondents. One of the most intriguing of these relates to gender differences in technology usage patterns. For example, female faculty members report making significantly greater use of computer presentation software as compared to their male counterparts. It is interesting that a previous investigation found the same pattern among Finance faculty members (Cudd, Tanner, and Lipscomb, in press). Women in the present sample also report significantly greater use of intranet software in teaching distance education classes. There were, however, no significant differences between male and female faculty members with respect to the various types of hardware employed. Although the specific reasons underlying gender-based differences in technology usage are unclear, it is noted that differences were also found as a function of both academic rank and years of teaching experience. In the present sample women tended to report fewer years total teaching experience and more junior academic rank as compared to men.

As mentioned, differences in technology usage patterns were also found as a function of academic rank. Specifically, junior faculty members (assistant professors and instructors) make significantly greater use of front oriented computer projection systems than do senior faculty (professors and associate professors) whereas senior faculty make relatively greater use of rear-oriented projection equipment. In addition, senior faculty make relatively greater use of networked computer labs as compared to junior faculty members with usage in neither case exceeding 40%.

Years of experience also found to be related to patterns of technology usage. Significant differences were found in comparing those with more than ten years of teaching experience with those with ten years or less experience. Those with relatively less experience reported both using front-oriented projection systems and computer presentation software more than did those with more experience. On the other hand, more experience faculty members reported using wall-mounted plasma projection and networked computer labs more than did less experienced faculty members but overall usage was rather low in both cases.

In order to better understand the present findings, the significant relationships among gender, rank, and years teaching, is worthy of discussion. Since women in the present sample tended to be assistant professors and have spent less time in the college teaching profession, gender-based differences in technology utilization may be a function of more recent training. That is, more recent entrants into the "marketing academy" may have had greater exposure to and greater expertise with the use of technology for instructional purposes. The possibility that this is the case is worthy of further investigation in future studies.

Rogers' views on the diffusion of innovation apply here: "A technological innovation usually has at least some degree of benefit for its potential adopters, but this advantage is not always clear cut to those intended adopters. They are seldom certain that an innovation represents a superior alternative to the previous practice that it would replace, at least when they learn about it" (Rogers 2003, p. 14). As marketing professors become better acquainted with the new technological innovations and as more universities acquire and make these available to faculty it is likely that we will see diminished use of some "old friends" like transparencies, overhead projectors, VCRs, and camcorders in favor of these newer innovations. Many of the newer technologies incorporate features of some of the older ones. For instance, Smart Boards allow the projection of videotapes through connecting VCRs. Wireless technologies may soon make even more radical changes in our

classroom. As was noted above, more than ¾ of participating institutions have already established wireless LANS (Campus Computing Project, 2003)

There are several limitations of this study. These include self-selection bias, sample size, and the lack of sampling error measurement from the use of a web-based survey. All of these suggest that caution is in order in generalizing the present findings to marketing faculty as a whole. One participant commented in an e-mail message to one of the authors that the wording of our opening question is problematic. It would have been better to ask professors to focus on a particular semester, rather than on semester class time in general. Answers might vary greatly from semester to semester, depending on several factors. Thus, the question wording should be considered another limitation of this study. Never the less, the present exploratory study may have considerable value in serving as a benchmark against which future research can gauge trends in technology adoption and use for the purposes of instruction in marketing.

Just as professors become more comfortable with collecting data over the Internet rather than via the telephone or mail, we also become more comfortable using the technological innovations that come into our classrooms. One key question, though, that has not been addressed, and probably should be, is this: with all the new technology, are marketing departments (and deans) prepared to provide the financial support and technical training that will be required (mandated?) by all these technological pedagogical enhancements? Time will tell.

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SOUTH AFRICAN CONSUMERS' USE OF QUALITY CUES WHEN BUYING VENISON

Laetitia Radder, Port Elizabeth Technikon, South Africa
Reana le Roux, Port Elizabeth Technikon, South Africa

ABSTRACT

South African venison offers a healthy alternative to other red meat types such as beef and lamb as it results from animals in their natural habitat, is free from human intervention in terms of hormones and antibiotics and is characterized by low levels of fat and high levels of protein.

When consumers have to choose between meats, they often base their comparisons on subtle differences in the attributes of the products. One of the most popular attributes is that of perceived quality.

Since the consumption of venison in South Africa is still low and little research into consumers' quality perceptions could be found, this study investigated the importance South African venison consumers attached to a variety of quality cues.

Sensory cues, particularly at point-of-purchase, but also at point-of consumption, were found to be the most important in judging the quality of venison. These were followed by point-of-purchase information cues. Prior-to-purchase cues such as origin of the meat, the treatment of the animal in the slaughtering process and the use of hormones were least important.

INTRODUCTION

Red meat is popular among South African consumers. The consumption of beef increased from 617 000 tons in 2001/2002 to 621 000 tons in 2002/2003, while the consumption of mutton increased by 2.4% during the same period (Animal production, 2003). Concerns have been expressed about the relationship between unsaturated fat consumption and the onset of coronary heart disease and cancer. This is also the case in South Africa where one in four people is said to be affected by coronary heart disease (Meat and healthy eating, 2003).

South African venison offers a healthy alternative to other red meat types. The meat results from animals in their natural habitat, is still free from human intervention in terms of hormones and antibiotics and is characterized by lower levels of fat and higher levels of protein compared with beef and lamb. Despite these qualities, the consumption of venison is still low.

When consumers have to choose between similar packages of meat, they often base their comparisons on subtle differences in the attributes of the product (Melton & Huffman, 1996). Quality is one of the most popular attributes used in this regard (Issanchou, 1996). Since research on consumers' quality perceptions of exotic meats are sparse, findings resulting from work done on other meat types such as beef and pork served as a theoretical basis for the current study. This

preliminary study furthermore reports on the level of importance that South African consumers attached to quality cues associated with venison.

MEAT QUALITY

Traditionally perceptions of meat quality were described in terms of intrinsic and extrinsic cues (Mannion, Cowan & Gannon, 2000). Intrinsic characteristics are *part of* the physical product, while extrinsic cues are merely *related to* the physical product (Glitsch, 2000, Hoffman, 2000).

Lister (1995) points out that the determinants of perceived quality of a given product could be considered within the context of three stages, namely: prior-to-purchase; at point-of-purchase; and upon consumption. Becker (2000) uses the same differentiation, but terms the stages credence quality, search quality and experience quality. Although prior-to-purchase or credence quality attributes are of concern to the consumer, they cannot be easily verified in the process of buying and consuming. Point-of-purchase or search quality attributes, on the other hand, become available at the time of shopping, while experience quality attribute cues only become available with consumption.

According to Glitsch (2000), quality judged at the point-of-purchase highlights the role of "quality in the shop". This includes both extrinsic cues (such as quality labels, place of purchase and price) and intrinsic cues (such as colour, texture and leanness). Experience or "eating quality" refers to perceived quality based on sensory characteristics, for example, flavour, tenderness, colour, smell and juiciness.

In building on the work of Caswell, Bredahl and Hooker (1998), Northen (2000) suggests that quality cues be split according to product and process. The former include attributes such as food safety, nutrition, sensory and functional qualities, and image. Process attributes form part of the production process, for example, animal welfare and organic attributes. Many process attributes may be defined as credence attributes, as these attributes will affect the process rather than the physical product (Northen, 2000).

Andersen (cited in Northen, 2000) argues that credence attributes cannot be predicted by intrinsic cues; hence the only way of successfully predicting credence attributes will be through the use of extrinsic cues, such as information provided on labels or through verbal communication at point of purchase.

METHODS

Five hundred randomly selected consumers who passed the screening question (whether they ate any red meat) were interviewed with the aid of a structured questionnaire upon leaving either a supermarket with a meat section or an independent butchery. Two hundred and sixty two respondents never bought venison and were hence excluded from further analysis.

Since no previous research depicting consumers' quality perceptions of South African venison could be found, 28 possible quality cues were identified from studies on other types of meat. Respondents were asked to rate each of these 28 statements on an unbalanced four-point Likert-scale ranging from "not important" to "extremely important" (1-4). A four-point scale was chosen so as

to prevent respondents from choosing a middle value. According to Elmore and Beggs (1975) research indicates that a 5-point scale is just as good as any other scale, and that the reliability of the rating scale is not increased by moving from five to seven to nine points.

The respondents were furthermore informed that there was no right or wrong answer to any of the questions and that the objectives of the survey were merely to determine their perceptions of the importance of various cues in judging the quality of venison. In addition to the 28 items, respondents also had to answer questions relating to demographic variables such as education, income and gender.

DATA ANALYSIS AND DISCUSSION

Item analysis was conducted to determine which of the 28 items in the questionnaire should be used to measure the items serving as quality cues. The statistical package, Statistica, was used to perform the required exploratory factor analysis, incorporating principal component analysis with direct quartimin oblique rotations. Four factors were deemed appropriate for this study. One item (cholesterol in the meat) was excluded from the analysis because it did not have an acceptable loading. The remaining item-loadings ranged from 0.384492 to 0.864685 as shown in Table 1.

Cronbach's coefficients were calculated to determine the reliability of the derived summated factor scale scores. The resulting values, which ranged from 0.731309 to 0.853833, and are listed in Table 1, reflect a high level of reliability. Reliability coefficients lower than 0.60 are deemed to be questionable, those close to 0.70 acceptable (Peterson, 1994) and those larger than 0.80, good (Sekaran, 2003).

Of all the quality cues available, the individual consumer is expected to only perceive some cues as essential in predicting the quality of the product. The cues that the individual consumer perceives as relevant are ranked as more important than the less relevant ones (Hoffman, 2000). Table 2 shows the importance rating respondents attached to the individual cues in each factor.

Since prior-to-purchase cues are not accessible during purchase or consumption of the meat, consumers could rely on information originating from the media, word-of-mouth communication, views of opinion-leaders, and the like to form opinions about these quality attributes. Issanchou (1996) maintains that how information about prior-to-purchase cues is interpreted, depends on factors such as education, income, experience and personality. An analysis of variance (ANOVA), however, indicated no significant relationships exist between prior-to-purchase quality cues regarded as important by the purchasers of venison and their gender, income or education.

Table 2 shows that the most important prior-to-purchase quality cue was the perception regarding the amount of bacteria in the meat. This was also the only item in this factor where the mean value was above 0.30000 on the 4-point scale. The use of antibiotics and hormones also attracted fairly high ratings. This shows that South African consumers perceive factors relating to the safety of the meat to be important indicators of its quality. The prior-to-purchase cue of least importance was the name of the farmer. This was also the cue of the least overall importance. The reputation of the supermarket or butchery (the most important point-of-purchase information cue), however, was of more importance than the name of the farmer, hinting that South African consumers are not as concerned about the *origin* of the production of venison as they are about the particular

retailer. However, it must be noted that it is not customary to mention the farmer's name on the packaging of venison available locally.

Table 1: Results of factor analysis

Factor	Item	Item loading
Prior-to-purchase quality cues Cronbach ∝ = 0.853833 Eigenvalue = 2.832626	The use of hormones to treat the animals	0.824829
	The use of antibiotics to treat the animals	0.817354
	Whether the meat was organically produced	0.701174
	How the animal was treated on the farm	0.651906
	The amount of bacteria in the meat	0.609000
	How the animal was treated in the slaughtering process	0.598141
	What the animal was fed on	0.588250
	The country where the meat was produced	0.491846
	The name of the farmer	0.393817
Point-of purchase information cues Cronbach ∝ = 0.806047 Eigenvalue = 1.663860	Notices displayed near the meat counter	0.750528
	The quality label on the packaging	0.707941
	Information supplied by the staff of the shop	0.706897
	The quality stamp (Grade A, etc.) on the meat	0.584211
	The information on the packaging	0.576886
	Reputation of the supermarket	0.496816
Point-of-purchase sensory cues Cronbach ∝ = 0.731309 Eigenvalue = 1.514350	The smell of the raw meat	0.774038
	How fresh the meat looks	0.749061
	The price of the meat	0.526302
	The colour of the raw meat	0.484017
	The texture of the raw meat	0.463445
	The visible fat on the raw meat	0.455403
	Cleanliness of the supermarket/butchery	0.384492
Point-of-consumption cues Cronbach ∝ = 0.850969 Eigenvalue = 9.129477	The juiciness of the cooked meat	0.864685
	The tenderness of the cooked meat	0.854171
	The texture of the cooked meat	0.839494
	The flavour of the cooked meat	0.712012
	Whether the meat was frozen or fresh	0.488861

Table 2: Importance rating of individual cues

Factor	Item	Mean value	Standard deviation
Prior-to-purchase quality cues	The amount of bacteria in the meat	3.390476	0.987920
	the use of antibiotics to treat the animals	2.923810	1.154937
	The use of hormones to treat the animals	2.861905	1.223759
	The country where the meat was produced	2.823810	1.050133
	how the animal was treated in the slaughtering process	2.809524	1.178721
	How the animal was treated on the farm	2.719048	1.158335
	What the animal was fed on	2.485714	1.202981
	Whether the meat was organically produced	2.476190	1.103238
	The name of the farmer	1.952381	1.122889
Point-of purchase information cues	Reputation of the supermarket/butchery	3.423810	0.792552
	The quality stamp (Grade A, etc.) on the meat	3.295238	0.895751
	The quality label on the packaging	3.200000	0.932148
	The information on the packaging	3.123810	0.909232
	Notices displayed near the meat counter	2.761905	0.968635
	Information supplied by the staff of the shop	2.738095	1.036638
Point-of-purchase sensory cues	How fresh the meat looks	3.780952	0.553042
	The smell of the raw meat	3.776190	0.588896
	Cleanliness of supermarket/butchery	3.776190	0.604928
	The colour of the raw meat	3.623810	0.736216
	The price of the meat	3.323810	0.896514
	The texture of the raw meat	3.280952	0.807927
	The visible fat on the raw meat	3.157143	0.937814
Point-of-consumption cues	The tenderness of the cooked meat	3.576190	0.675196
	The flavour of the cooked meat	3.490476	0.713777
	The juiciness of the cooked meat	3.476190	0.733286
	The texture of the cooked meat	3.471429	0.713267
	Whether the meat was frozen or fresh	3.252381	0.932209

All venison available to South African consumers is produced locally and has not yet been subjected to scares such as foot-and-mouth disease. The production of venison is in line with consumers' preferences for locally produced meat. Le Roux (2003) found that 73% of South African consumers in her study prefer to buy meat that is produced locally.

All the point-of-purchase information cues can be regarded as extrinsic. The reputation of the supermarket or butchery had the highest mean value and hence highlights the role of perception. Other important point-of-purchase information cues were linked to direct communication of meat quality information, such as the quality label. Notices and views of staff received lower ratings, possibly indicating that consumers valued this type of information less than they did objective quality indicators.

Point-of-purchase sensory cues all attracted high importance ratings (mean values above 3.0000 on a 4-point scale). It is interesting that the perceived cleanliness of the retail outlet, a sensory cue not directly associated with the meat itself, was also deemed very important. Price, which could possibly be considered as a point-of-purchase information cue, loaded with the other point-of-purchase sensory cues. The perception that high price is indicative of high quality, and not the price per se, might have played a role in this regard.

Appearance-related factors were regarded as the most important sensory cues. Le Roux (2003) found that 55% of the respondents in her study on red meat believed that they can judge the quality of meat simply by looking at it. The most important cues associated with the appearance of the meat, were its perceived freshness, smell and colour. Visible fat on the meat was regarded as least important. This might be explained by the fact that venison typically does not contain much visible fat when compared with other meat types such as lamb.

Intrinsic point-of-purchase sensory cues are likely to create expectations regarding point-of-consumption experiences. All the cues that loaded on this factor attracted an importance rating of above 3.0000 on the 4-point scale.

The most important point-of-consumption indicators of quality were the tenderness of the meat, flavour and juiciness. This was to be expected, as venison is often perceived as tough, dry and having a "gamey" taste (Le Roux, 2003). The tenderness, flavour and juiciness are, however, influenced by the harvesting and cooking processes. If animals are not treated correctly during the harvesting process, the adrenaline released can result in a bad tasting, tough meat. Furthermore, the perception that venison is dry frequently results from incorrect cooking methods. These perceived characteristics could, however, be the result of incorrect preparation. It was disturbing that 55% of the respondents in the study by Le Roux (2003) admitted that they did not know how to cook venison.

Descriptive statistics and correlations (as shown in Table 3) were also calculated for the four factors.

Table 3: Descriptive statistics and correlations

				Correlations			
	Factor	Mean	S.D.	1	2	3	4
1	Point-of-consumption cues	3.46809	0.59150	1.0000	0.4154	0.4702	0.5810
2	Prior-to-purchase cues	2.71659	0.77532	0.4154	1.0000	0.5966	0.3483
3	Point-of-purchase information cues	3.06646	0.63826	0.4702	0.5966	1.0000	0.5363
4	Point-of-purchase sensory cues	3.49413	0.50168	0.5810	0.3483	0.5363	1.0000

Fairly high positive correlations between some of the cues were found as shown in Table 3. The table also shows that point-of-purchase sensory cues had the highest mean factor score, closely followed by point-of-consumption cues and point-of-purchase information cues. Prior-to-purchase cues had the lowest mean. Based on the inspection of mean values, it hence appears that respondents attached more importance to sensory cues than to other types of cues when purchasing South African venison. However, t-tests showed that Factors 1 and 4 (point-of-consumption cues and point-of-purchase sensory cues) were not statistically different (p=0.364140). The other factors had statistically significant differences at the 5% level of significance.

SUMMARY AND CONCLUSION

South African consumers use four sets of quality cues when purchasing venison, namely prior-to-purchase cues, point-of-purchase information cues, point-of-purchase sensory cues and point-of-consumption cues. The most important individual cues are the appearance and smell of the raw meat and the cleanliness of the supermarket or butchery. All of these are judged at the point-of-purchase. Other important quality cues are linked to the point-of-consumption, particularly the tenderness, flavour and juiciness of the cooked meat.

Information could however, play an important role in prior-to-purchase, point-of-purchase and point-of-consumption perception of quality. It is hence important that all members in the supply chain work together to provide the consumer with a high quality product. The producers should be aware of the influence of the slaughtering process; while the sellers of venison should pay attention to the messages they project to consumers and ensure that when the product appears on the shelves, it is fresh and appealing. Consumers, on the other hand, have to be informed of the correct preparation methods. Providing recipes and detailed instructions, cooking demonstrations and training, could play an important role in this regard.

ACKNOWLEGEMENTS

The financial assistance of the National Research Foundation (NRF) and the PE Technikon towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the author and are not necessarily to be attributed to any of these institutions.

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SERVICE QUALITY: AN EMPIRICAL STUDY OF EXPECTATIONS VERSUS PERCEPTIONS IN THE DELIVERY OF FINANCIAL SERVICES

James B. Bexley, Sam Houston State University
Paul Hewer, University of Stirling, Stirling, UK
Leigh Sparks, University of Stirling, Stirling, UK

ABSTRACT

This paper seeks to relate service quality to the expectations of consumers and bankers versus the perceptions of consumers in the delivery of banking services in community banks within the United States of America. A questionnaire based upon a 22-question modified version of SERVQUAL was designed to obtain information about expected versus perceived levels of service quality from consumers. A second 22-question instrument seeking bankers' perceptions of expectations was also devised. The data collected were then contrasted. The paper concludes by discussing the implications of the study's findings for community banks and in particular for corporate strategy and performance.

INTRODUCTION

This paper examines service quality from the perspective of consumers' expectations of the quality of service delivery contrasted with perceptions of the actual service delivery in community banks within the United States of America. Additionally, it evaluates the similarities or dissimilarities of the bankers' perceptions of the consumers' expectations of the levels of service delivered and the implications this has for corporate performance.

An attempt to interrelate customer satisfaction and service quality as one entity or process was determined to be problematic by Taylor and Baker (1994) who strongly advocated the position that customer satisfaction and service quality were separate and distinct. At the other extreme strong arguments were made to consider customer satisfaction judgments to be at the very least antecedents of service quality (Bitner, 1990; Parasuraman, et al, 1988); although the reverse position, holding that service quality judgments were antecedents of customer satisfaction (Anderson and Sullivan, 1993; Cronin and Taylor, 1992; Oliver, 1993; Taylor and Baker, 1994; Woodside et al, 1989) has also been proposed. Based upon the existing literature, there has been very little empirical research that would link the dimensions of customer satisfaction in terms of perceived versus actual service delivery from consumer and banker perspectives. Such a study would appear to offer significant insights in terms of strategy and corporate performance.

Our focus on expected levels of service delivery versus actual service delivery in community banks emanates from the fact that service quality is one of the most important aspects of selection

in seeking a banking relationship (Anderson, et al, 1976; Bexley, 1999). Brady (2000) reported an 8.1% decline in the quality of service delivered by U. S. banks since 1994, causing a concern among bankers about possible loss of customers due to a lack of quality service delivery. Corporate performance is inherently bound up in customer relationships.

In order to understand the factors affecting consumer behavior concerning their expectations of the quality of service delivery contrasted with their perceptions of the actual service delivery in community banks, this paper reviews the limited academic literature on consumer behavior and attitudes and presents empirical data obtained from customer and banker questionnaires. The overall objective of the questionnaires was to obtain a more complete understanding of consumer attitudes toward service quality delivery and banker perceptions of customer expectations.

The paper is divided into four sections. The first section is a literature review and evaluation of the previous research in this area. The second presents the research methodology. The third section presents the research results. The final section presents the implications of the study in terms of service quality issues and corporate performance.

COMMUNITY BANKS AND SERVICE QUALITY

Commercial banking in the USA has evolved into community banks and large banks, sometimes referred to as multi-regional or multi-national banks. Originally, small, locally owned and operated banks sprang up in rural America. Large banks tended to be located in the larger regional money center communities with the largest of these being headquartered in New York. In the early history of banking in the United States banks were not categorized or defined, but as the nation grew and more banks were chartered there was a need to find some means for classifying banks.

Sinkey (1998) noted that within the banking industry community banks make up 90 percent of the banks but control only 23 percent of the assets, while large banks make up only 10 percent of the total number of banks but control 77 percent of the assets. Sinkey (1998) defines community banks as "those with assets of less than $1 billion. They are locally owned banks that serve consumers and small and medium-sized businesses in local markets." (Sinkey, 1998; p. 822).

There is no one definition of service quality. However, there is one, which perhaps presents the least amount of controversy: "Service quality as perceived by the customer is the degree and direction of discrepancy between customer service perceptions and expectations." (Parasuraman, et al., 1985: p. 41.)

This definition provided for the first time recognition that perception by the customer was as much a factor in service quality as the actual service delivered. For example, the service delivered could be the best that could be offered, but the perception by the customer might still be a lack of satisfaction and hence, the service quality did not meet expectations. From this definition, it becomes quite clear that there is a distinct relationship between services actually delivered on behalf of the consumer and that consumer's perception of the level of service quality delivered. This would imply that a community bank might believe that it is delivering a level of service that "should" satisfy its customers. However, if the customer is not satisfied, the level of service is unsatisfactory. This raises several strategic issues. How do you determine customer satisfaction?

How do the expectations compare with the actual service delivered and is the difference significant enough to have consequences for the banking system? Finally, if service quality differences are identified, what are the implications of these for ongoing corporate performance?

A beginning point in seeking solutions to the strategic issues raised would be to examine the issue of customer satisfaction. Crosby (1979) suggested to American businesses that quality was free and costs result only when expectations are unmet. Westbrook (1981) noted that overall satisfaction with a particular service provider resulted from the customer's evaluation of a total set of experiences. Peters and Waterman (1982) gave credibility to the value of focusing the company on customer wants and needs. Churchhill and Suprenant (1982) held to the concept that consumer satisfaction is a direct outcome of purchase and use as a result of a buyer comparing rewards and costs of purchase to anticipated outcomes or consequences.

Churchill and Suprenant (1982) noted that early researchers did not measure customer satisfaction, rather the focus was on the linkage between expectations and perceived product performance. They conceptionalized that customer satisfaction was an outcome of purchase and use that resulted from a buyer's comparison of rewards and costs of that purchase in relation to anticipated consequences.

Cronin, et al (2000) noted that there was an on-going preoccupation by service researchers to understand all of the conceptual relationships involving service encounter constructs. The interrelation of how the relationships work, especially between satisfaction and service quality.

Athanassopoulos (2000) in a study of Greek banks noted that customer satisfaction is closely associated with value and price, but service quality was not dependent on price, if the customer was generally satisfied. He concluded that: "The correlation of the antecedents of customer satisfaction is a well-established phenomenon in both theoretical and empirical terms by Parasuraman, Zeithaml, and Berry (1988) and Cronin and Taylor (1992). The finding of this research is also in line with the recent work by Taylor (1997) concerning the second order and interactive effects between customer satisfaction and service quality as predictive indicators of customer loyalty. " (Athanassopoulos, 2000: pp.195-196).

In a case study of SERVQUAL within a major United Kingdom bank conducted over a four-year period beginning in 1993, Newman (2001) found that the separation of service quality management and marketing management caused major problems in adequately satisfying the banking customers. In the evaluation process it was noted that: "Customer satisfaction is the result of the buyers' perception of service quality and satisfaction leads to retention, which leads to repeat purchase and increased scope for relationship building and word-of-mouth recommendation." (Newman, 2001: p.127).

Comparing expectations with the actual service delivered and determining if the difference is significant enough to have consequences for the banking system can best be viewed by examining the early research by Olson and Dover (1979) in the areas of what effect performance, expectations, and disconfirmation had on an individual's views which proved to be generally unsuccessful because they could not measure satisfaction. It was Churchill and Suprenant (1982) who noted that early researchers examined the connection between expectations and perceived product performance, which did not measure satisfaction. Further, they concluded that as research moved forward in this area, there was a shift to examination of perceived expectations, disconfirmation, and satisfaction.

In banking, speed of service delivery, convenient location of banking facilities, competent staff, and general friendliness were considered to be important determinants of customer satisfaction (Laroshe, et al, 1986). Buzzell and Gale (1987) noted in their findings that there was a significant relationship between service quality and performance. Carman (1990) found that there were sufficient empirical findings to support SERVQUAL dimensions in customer satisfaction, subject to small variations for different industries. Fornell (1991) concluded that customer satisfaction is based upon a group of service quality attributes.

Howcroft (1992) in his research relating to customer service in selected branches of a UK clearing bank found that he agreed with Le Blanc and Nguyen (1988) that customer satisfaction is the most important determinant of service quality. He noted that the divergent thoughts seemed to agree with the concept that customer perceptions of the level of service quality are determined by comparing expectations with actual performance.

Spreng, et al (1996) noted that most of the research in the area of customer satisfaction gave rise to the disconfirmation of expectations paradigm as the principal method of measuring customer satisfaction. How service will be measured is certainly changing as the services provided become more complex and the nature of the delivery of the financial product change. However, one element appears unlikely to change and that is the feeling of satisfaction that is brought about as customers measure their expectations against their perceptions of actual performance.

RESEARCH METHODOLOGY

A consumer questionnaire and a banker questionnaire were developed to incorporate factors such as customer satisfaction and service quality, alongside insights from a focus group composed of community banks' chief executive officers. This focus group confirmed that for the CEO's quality service delivery was the most important factor for producing improved bank profitability. The questionnaires were piloted on a small consumer sample, a small banker sample, and several revisions were made. The consumer questionnaire was comprehensive in nature, consisting of two identical sets of 22 modified SERVQUAL questions—one set for perceptions and the other set for expectations. Additionally a banker questionnaire included one set of 22 modified SERVQUAL questions, which related to the banker's perceptions of their consumers' expectations. Demographic information was sought in both questionnaires. One last question asked the consumer respondent to rank from 1 to 5 the most important items in selecting a bank. It should be noted that only a portion of the questionnaire is utilized in this paper. The paper has two primary objectives. First, determine consumers' expectations of the quality of service delivery contrasted to their perceptions of the actual service delivery in community banks within the United States of America. This was accomplished by utilizing a seven point Likert scale varying from Strongly Disagree (1) to Strongly Agree (7), and comparing the two sets of 22 questions against each other. Secondly, evaluating the bankers' perceptions of the consumers' expectations service delivery that was accomplished utilizing the data on the banker questionnaire evaluated against each of the two sets of 22 questions.

The consumer questionnaire was sent to a cross-section of 2,000 consumers of 15 community banks in the United States of America. This resulted in 632 responses of which 554 were usable, which translates to a usable response rate of 28 percent. The banker questionnaire was sent to the

chief executive officers of the 15 banks represented by the 2,000 consumers. The result was all 15 responses were usable which represents a response rate of 100 percent. While only 15 bankers were questioned, it was determined that responses from bankers whose consumers were questioned were more valid than having a large number of bankers respond who did not have their customers respond. Analysis was achieved utilizing frequencies, cross-tabulations, and tests of statistical significance.

ANALYSIS OF RESEARCH FINDINGS

Consumer Expectations Versus Perceptions Of Actual Service Delivery

Consumer expectations versus perceptions of actual service delivery were examined by analyzing how the answers to the 22 questions requesting expectations of service delivery compared to the 22 questions on perceptions of service delivery. The arithmetic mean number was established for the difference between perceptions and expectations (see Table 1). Perception was greater than expectation in only seven of the 22 questions with the bank's employees exceeding the expectations of the consumer. For example, the consumer was more than satisfied in the areas of the physical facilities of the bank should be visually appealing, materials in a bank should be visually appealing, employees in a bank should never be too busy to respond to customers' requests, a bank should give customers individual attention, the operating hours of a bank should be convenient to all of their customers, employees of a bank should give their customers personal attention, and finally, bank employees should understand the specific needs of their customers.

In the remaining 15 of the 22 questions, the bank's employees and the bank itself disappointed the consumer. For example, the consumer felt that the bank did not always have state-of-the-art technology; did not deliver on promises in a timely manner, did not insist on error-free records; but also that services were not performed right the first time and the bank did not tell the customer exactly when services would be provided. In addition, the consumer felt that employees were not always professional, were not sympathetic to solving their problems, did not always give prompt service, and were not always perceived as willing to help customers. In this way, they suggested that the behavior of the bank's employees did not instill confidence, were not consistently courteous, did not always have the appropriate knowledge to answer their questions. So that overall, consumers did not always feel safe in all of their transactions with the banks leading to a general impression that the bank did not always have the customer's best interests at heart.

By examining the average total percentages of the 22 questions relating to service delivery expectations to the average total percentages of the 22 questions relating to the perceptions of actual service delivery a pattern is shown. At the strongly agree end of the Likert scale, 68.9 percent of the consumers expect the highest level of service delivery (see Table 2), while the strongly agree of the Likert scale for perceptions of actual service delivery reveals a 63.4 percent (see Table 3). These numbers give rise to a reasonably normal pattern of expectations exceeding perceptions. However, at the middle of the scale, number 3 to number 6 on the Likert scale, expectations are less than perceptions of service delivery with number 3 indicating .06 percent in expectations and 1.01 percent in perceptions. Likewise, number 6 indicates 20.13 percent for expectations and 22.30 percent for perceptions of service delivery.

Table 1 Customer Expectations Versus Actual Service Delivery (Mean Values)				
Questions	Mean	DF	t-Value	P-Value
1. A bank should have state-of-the-art technology.	0.360	543	6.382	<0.0001
2. The physical facilities of a bank should be visually appealing.	-0.254	546	-4.511	<0.0001
3. Employees of a bank should be professional.	0.263	547	6.272	<0.0001
4. The materials in a bank should be visually appealing.	-0.212	545	-4.251	<0.0001
5. A bank should deliver on promises in a timely manner.	0.294	546	7.815	<0.0001
6. The employees of a bank should be sympathetic to solving customer problems.	0.224	547	4.830	<0.0001
7. The services of a bank should be performed right the first time.	0.288	544	6.034	<0.0001
8. A bank should deliver their services on time.	0.296	546	7.209	<0.0001
9. The bank should insist on error-free records.	0.228	542	4.937	<0.0001
10. Customers should be told by the bank exactly when services will be provided.	0.271	545	5.827	<0.0001
11. Employees in a bank should give prompt service.	0.179	546	4.114	<0.0001
12. A bank's employees should always be willing to help customers.	0.156	544	4.358	<0.0001
13. Employees in a bank should never be too busy to respond to customers' requests.	-0.013	545	-0.257	<0.7971
14. The behavior of employees in banks should instill confidence in customers.	0.273	545	5.987	<0.0001
15. Customers of a bank should feel safe in all their transactions.	0.328	545	8.765	<0.0001
16. The bank's employees should consistently be courteous with customers.	0.157	546	4.039	<0.0001
17. Employees in a bank should have the knowledge to answer customers' questions.	0.148	547	3.222	<0.0014
18. A bank should give customers individual attention.	-0.002	546	-0.046	<0.9635
19. The operating hours of a bank should be convenient to all of their customers.	-0.159	547	-2.744	<0.0063
20. Employees of a bank should give their customers personal attention.	-0.140	543	-3.199	<0.0015
21. A bank should have a customer's best interests at heart.	0.300	545	5.733	<0.0001
22. Bank employees should understand the specific needs of their customers.	-0.146	546	-3.092	<0.0021

Table 2 Consumer Expectations Frequencies

	Strongly Disagree												Strongly Agree	
		1		2		3		4		5		6		7
Questions	#	%	#	%	#	%	#	%	%	%	#	%	#	%
1. A bank should have state-of-the-art technology	0		0		2	0.4	39	7.0	74	13.4	93	16.8	346	62.5
2. Physical facilities of bank should be appealing	0		2	0.4	6	10.3	57	10.3	110	19.9	125	22.6	254	45.8
3. Employees of a bank should be professional.	0		1	0.2	0		8	1.4	24	4.3	88	15.9	433	78.2
4. The materials in a bank should be visually appealing.	0		0		8	1.4	53	9.6	118	21.3	128	23.1	246	44.5
5. A bank should deliver on promises in a timely manner.	0		0		0		1	0.2	20	3.6	89	16.1	444	80.1
6. The employees of a bank should be sympathetic to solving customer problems.	0		0		1	0.2	6	1.1	38	6.9	107	19.3	402	72.6
7. Bank services should be performed right the first time.	1	0.2	0		0		6	1.1	30	5.4	114	20.6	403	72.7
8. A bank should deliver their services on time.	1	0.2	0		0		1	0.2	13	2.3	111	20.0	428	77.3
9. The bank should insist on error-free records.	0	0.2	0		0		9	1.6	34	6.1	93	16.8	416	75.2
10. Customers should be told by the bank exactly when services will be provided.	0		0		0		4	0.7	49	8.8	123	22.2	378	68.2
11. Employees in a bank should give prompt service.	0		0		1	0.2	3	0.5	26	4.7	121	21.9	402	72.7
12. Employees should always be willing to help customers.	0		0		0		1	0.2	13	2.4	81	14.7	456	82.8
13. Employees in a bank should never be too busy to respond to customers' requests.	1	0.2	0		2	0.4	13	2.4	61	11.0	130	23.5	346	62.6
14. Behavior of employees in banks should instill customers' confidence.	0		0		0		6	1.1	22	4.0	101	18.3	424	76.7
15. Customers should feel safe in all their transactions.	0		0		0		0		8	1.4	56	10.1	489	88.4
16. Employees should consistently be courteous with customers.	0		0		0		4	0.7	12	2.2	84	15.2	453	81.9
17. Employees in a bank should have the knowledge to answer customers' questions.	0		0		1	0.2	9	1.6	47	8.5	133	24.0	364	65.7
18. A bank should give customers individual attention.	2	0.4	0		0		12	2.2	36	6.5	138	24.9	366	66.1
19. Operating hours of a bank should be convenient to all customers.	1	0.2	3	0.5	1	0.2	32	5.8	78	14.1	143	25.8	296	53.4
20. Employees of a bank should give their customers personal attention.	1	0.2	1	0.2	0		15	2.7	58	10.5	148	26.9	328	59.5
21. Bank should have a customer's best interests at heart.	0		0		1	0.2	11	2.0	39	7.1	99	17.9	403	72.9
22. Employees should understand specific customer needs.	0		0		2	0.4	17	3.1	79	14.3	146	26.4	310	56.0
Averages	1	0.1	1	0.1	1	0.6	14	2.5	45	8.1	111	20.1	381	68.9

Table 3 Consumer Perceptions Frequencies

	Strongly Disagree													Strongly Agree
		1		2		3		4		5		6		7
Questions	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1. A bank should have state-of-the-art technology.	4	0.6	2	0.4	22	4.0	27	5.0	98	18.0	161	29.5	232	
2. Physical facilities of bank should be appealing.	2	0.4	1	0.2	6	1.1	19	3.5	77	14.1	151	27.6	292	
3. Employees of a bank should be professional.	1	0.2	0		5	0.9	14	2.6	54	9.8	131	23.9	344	
4. The materials in a bank should be visually appealing.			1	0.2	6	1.1	23	4.2	88	16.1	155	28.3	275	
5. A bank should deliver on promises in a timely manner.	1	0.2	1	0.2	4	0.7	8	1.5	46	8.4	148	27.0	340	
6. Bank employees should be sympathetic to solving customer problems.	1	0.2	6	1.1	9	1.6	11	2.0	47	8.6	128	23.3	347	
7. Bank services should be performed right the first time.	2	0.4	1	0.2	4	0.7	23	4.2	59	10.8	130	23.8	327	59.9
8. A bank should deliver their services on time.	3	0.5	1	0.2	2	0.4	15	2.7	48	8.8	133	24.3	346	63.1
9. The bank should insist on error-free records.	5	0.9	1	0.2	2	0.4	21	3.9	43	7.9	117	21.5	355	65.3
10. Customers should be told by the bank exactly when services will be provided.	1	0.2	2	0.4	7	1.3	30	5.5	57	10.4	130	23.8	320	58.5
11. Employees in a bank should give prompt service.	2	0.4	2	0.4	5	0.9	10	1.8	46	8.4	118	21.5	366	66.7
12. Employees should always be willing to help customers.	1	0.2	0		4	0.7	9	1.6	33	6.0	79	14.4	423	77.0
13. Employees in a bank should never be too busy to respond to customers' requests.	1	0.2	1	0.2	6	1.1	16	2.9	49	8.9	112	20.4	363	66.2
14. Behavior of employees should instill customer confidence.	3	0.5	3	0.5	6	1.1	16	2.9	50	9.1	107	19.5	363	66.2
15. Customers should feel safe in all their transactions.	1	0.2	2	0.4	3	0.5	11	2.0	48	8.8	93	17.0	390	71.2
16. Employees should consistently be courteous with customers.	3	0.5	2	0.4	2	0.4	4	0.7	37	6.7	83	15.1	418	76.1
17. Employees in a bank should have the knowledge to answer customers' questions.	2	0.4	1	0.2	5	0.9	18	3.3	56	10.2	133	24.2	334	60.8
18. A bank should give customers individual attention.	2	0.4	0		3	0.5	9	1.6	42	7.7	119	21.7	373	68.1
19. Operating hours should be convenient to all their customers.	2	0.4	4	0.7	7	1.3	18	3.3	58	10.6	103	18.8	357	65.0
20. Employees of a bank should give customers personal attention.	2	0.4	0		4	0.7	13	2.4	36	6.6	101	18.4	392	71.5
21. Bank should have a customer's best interests at heart.	9	1.6	1	0.2	7	1.3	16	2.9	58	10.6	131	23.9	326	59.5
22. Employees should understand specific customer needs.	3	0.5	1	0.2	3	0.5	10	1.8	45	8.2	124	22.6	362	66.1
Averages	2	0.4	2	0.3	6	1.0	16	2.8	53	9.8	122	22.3	348	63.4

The most significant finding in relation to expectations to perceptions of service quality was that only 31.8 percent of the responses to the questions indicated that expectations exceeded perception, leaving 68.2 percent of the responses indicating a degree of disappointment in the expectations not exceeding perceptions.

Bankers' Perceptions Of Consumers' Expectations Of Service Delivery

With a gap in the literature of bankers' perceptions of consumers' expectations of service delivery it was interesting to note that in only four out of the twenty-two questions (18.1 percent) did the mean deviations of the bankers' perceptions differ materially from the consumers expectations. Those four questions were a bank should have state-of-the-art technology, customers should be told by the bank exactly when services will be provided, the operating hours of a bank should be convenient to all of their customers, and a bank should have a customer's best interests at heart (see Table 4).

Table 4 Consumer vs. Banker Expectations of Service Delivery

	Consumer	Banker
Questions	Mean	Mean
1. A bank should have state-of-the-art technology.	6.339	5.556
2. The physical facilities of a bank should be visually appealing.	6.007	5.667
3. Employees of a bank should be professional.	6.702	6.556
4. The materials in a bank should be visually appealing.	5.996	5.833
5. A bank should deliver on promises in a timely manner.	6.762	6.944
6. The employees of a bank should be sympathetic to solving customer problems.	6.630	6.722
7. The services of a bank should be performed right the first time.	6.643	6.667
8. A bank should deliver their services on time.	6.736	6.778
9. The bank should insist on error-free records.	6.649	6.444
10. Customers should be told by the bank exactly when services will be provided.	6.579	6.278
11. Employees in a bank should give prompt service.	6.664	6.611
12. A bank's employees should always be willing to help customers.	6.800	6.722
13. Employees in a bank should never be too busy to respond to customers' requests.	6.448	6..500
14. The behavior of employees in banks should instill confidence in customers.	6.705	6.667
15. Customers of a bank should feel safe in all their transactions.	6.870	6.722
16. The bank's employees should consistently be courteous with customers.	6.783	6.722
17. Employees in a bank should have the knowledge to answer customers' questions.	6.534	6.278
18. A bank should give customers individual attention.	6.534	6.529
19. The operating hours of a bank should be convenient to all of their customers.	6.242	5.622
20. Employees of a bank should give their customers personal attention.	6.419	6.389
21. A bank should have a customer's best interests at heart.	6.613	6.278
22. Bank employees should understand the specific needs of their customers.	6.345	6.556

The most significant finding in relation to bankers' perceptions of service delivery expectations of consumers was the fact 81.9 percent of the responses to the questions indicated a match of bankers' perceptions with consumers' expectations. Since much of the early literature indicated much consumer displeasure with service quality delivery, it bore significant value to the recent emphasis by community banks in America to deliver quality service. Moreover on the basis of our results we can suggest that bankers appear to know what customers want from their banking relationships, and their ability to deliver on these dimensions should results in enhanced performance.

CONCLUSIONS

As noted in the research findings, the importance of quality service delivery does appear important to the bank consuming public, and as such cannot be minimized. Since most of the responses to the questionnaires noted a very high agreement (90 percent) in the top two scales, this should get community banks' attention when seeking to satisfy their consumer base. There is nothing to suggest that if the community banks met all of the consumers' expectations that the consumers would not change their banking relationship to another financial institution. While satisfaction with service quality delivery might be an important factor, the study cannot predict its importance in retaining consumers. Other issues that could impact how the consumers' choose their bank revolve around the findings that indicated expectations did not meet the consumers' perceptions in a majority of the issues raised in the questionnaire. Failing to meet the consumers' expectations would appear to be a factor in selecting a new community bank or deselecting their existing bank and this would appear to have significant consequences for subsequent corporate performance.

In terms of service quality strategy, positive expectations versus perceptions were indicated in such areas as a physically appealing facility, marketing materials appeal, the bank not being to busy to respond to the consumer's needs, individualized attention for the consumer, convenient operating hours, and understanding the specific needs of the customers. Some of these issues with positive expectations are important areas for the community banks to focus upon, building from a position of existing strength.

However the negative areas which service quality strategy needs to address are where expectations are not adequately met. We might suggest that these can result in substantial problems for community banks seeking to retain their existing consumers and to obtain new ones. Negative issues such as the lack of state-of-the-art technology, unprofessional employees, failing to deliver on promises, unsympathetic to solving consumer problems, services not performed correctly the first time, lack of insistence on error-free records, service timing not explained to the consumer, lack of prompt service, employee behavior did not instill confidence, consumer did not feel safe in all transactions, lack of consistent courtesy, employees did not answer consumer's questions, and bank did not have consumer's best interests at heart. It is obvious from the 15 negative expectations that some, if not all, could be very important to the consumers, so much so that they could influence them to seek another financial institution.

Since there is very little in the way of empirical studies of the bankers' perceptions concerning the consumers' expectations, some of the data proved to be interesting from the community banks' standpoint. The most significant finding in relation to bankers' perceptions of service delivery expectations of consumers was the fact 81.9 percent of the responses to the questions indicated a match of bankers' perceptions with consumers' expectations. Since much of the early literature indicated much consumer displeasure with service quality delivery, it bore significant value to the recent emphasis by community banks in America to deliver quality service. From this study, there is no firm evidence that the bankers' ability to predict the consumers' attitudes toward remaining with the bank or moving to another financial institution. It would appear beneficial to the bankers' to understand what the consumers are looking for when they seek to provide service to meet those expectations if sustainable competitive advantage and enhanced corporate performance is to be achieved.

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