

The Measurement of Word-of-Mouth Communication and an Investigation of Service Quality and Customer Commitment as Potential Antecedents

L. Jean Harrison-Walker

University of Houston–Clear Lake

The current research systematically develops and empirically validates a scale to measure word-of-mouth communication and investigates two forms of customer commitment and service quality as potential antecedents. The findings support the hypotheses that affective commitment is positively related to word-of-mouth communication but that high sacrifice commitment is not related to word-of-mouth communication. Interestingly, the effect of service quality on word-of-mouth communication appears to be industry dependent. A distinction is made between word-of-mouth activity and word-of-mouth praise.

A widely accepted notion in consumer behavior is that word-of-mouth (WOM) communication plays an important role in shaping consumers' attitudes and behaviors (Brown and Reingen 1987). In 1955, Katz and Lazarsfeld found WOM seven times more effective than newspaper and magazine advertising, four times more effective than personal selling, and twice as effective as radio advertising in influencing consumers to switch brands. More recently, Day (1971) computed that WOM was nine times as effective

as advertising at converting unfavorable or neutral predispositions into positive attitudes. In fact, several studies suggest that favorable WOM is the *ultimate* product success factor (Day 1971; Katz and Lazarsfeld 1955; see also Katona and Mueller 1954; Kiel and Layton 1981; Murray 1991; Price and Feick 1984). Murray (1991) explained that this is because personal sources are viewed as more trustworthy.

Furthermore, through multiple dyads and retransmission, one message can reach and potentially influence many receivers (Brown and Reingen 1987; Reingen and Kernan 1986). Data developed several years ago for the U.S. Office of Consumer Affairs suggested that satisfied customers for consumer services are likely to tell five others (Heskett, Sasser, and Schlesinger 1997).

Although WOM literature dates back several decades and despite its importance, research has suffered from four shortcomings. First, researchers have tended to adopt a rather simplistic conceptualization of WOM, focusing primarily on the favorableness of the WOM communication (Arndt 1968; Bone 1995; Burzynski and Bayer 1977; Herr, Kardes, and Kim 1991; Swan and Oliver 1989). Second, the primary focus of these studies is not on measure devel-

The author is grateful for the assistance of Dr. Don Shemwell, Assistant Professor of Marketing, East Tennessee State University, Johnson City, Tennessee, for his assistance in content analysis of adapted and generated measures and in data collection. The author further thanks Dr. William Theodore Cummings, Dean of the School of Business and Public Administration, University of Houston–Clear Lake, Houston, Texas; the *JSR* editor; and the *JSR* reviewers for their valuable comments and encouragement.

Journal of Service Research, Volume 4, No. 1, August 2001 60-75
© 2001 Sage Publications

opment. That is, existing measures are not developed and empirically validated using a systematic process (e.g., Churchill 1979), and the ad hoc measures frequently used (E. Anderson 1998; Arndt 1968; Bone 1995; Burzynski and Bayer 1977; File, Cermak, and Prince 1994; Herr, Kardes, and Kim 1991; Richins 1983; Singh 1990; Swan and Oliver 1989) are insufficient to capture the potential richness of the WOM construct.

Third, although marketers view WOM as a promotional tool to attract customers to a product or outlet (Bone 1995), relatively few studies have focused on the sender of the WOM communication (E. Anderson 1998). Much of the research to date has focused on the effect WOM has on the receiver of the communication (Arndt 1967, 1968; Bone 1995; Brown and Reingen 1987; Burzynski and Bayer 1977; Crane 1989; Engel, Blackwell, and Kegerreis 1969; Feldman and Spencer 1965; File, Judd, and Prince 1992; Frieden and Goldsmith 1988; Gremler 1994; Herr, Kardes, and Kim 1991; Murray 1991; Reingen and Kernan 1986; Richins 1983; Zeithaml 1981) in demonstrating the strong influence of WOM on product choice and selection, rather than on the sender of WOM communication (E. Anderson 1998; Feick, Price, and Higie 1986; File, Cermak, and Prince 1994; Gatignon and Robertson 1985; Richins 1983) as a key player in the promotion of the firm.

Finally, few researchers have provided empirical results regarding how potential antecedents affect WOM behavior. The research to date has tended to focus on the consequences of WOM, such as an individual's predisposition to purchase a product (Arndt 1968), product evaluations (Bone 1995; Burzynski and Bayer 1977; Herr, Kardes, and Kim 1991), and the intention to pass along WOM information (Brown and Reingen 1987; Reingen and Kernan 1986).

The purpose of this article is to address these deficiencies by systematically developing a measure of WOM communication from the sender's perspective and to assess its psychometric properties. Specifically, the key objectives of the current research are (a) to provide a conceptualization of the WOM construct that captures the domain of the construct, (b) to systematically develop a scale to measure WOM from the sender's perspective, (c) to assess the psychometric properties of the measurement scale, and (d) to investigate the effects of service quality and customer commitment on WOM behavior in a services setting.

WOM LITERATURE REVIEW

Much of the existing WOM research uses an experimental method and focuses on the favorableness of the communication (e.g., whether the communication is fa-

vorable or unfavorable to the product or brand). Favorable WOM may include "relating pleasant, vivid, or novel experiences; recommendations to others; and even conspicuous display" (E. Anderson 1998, p. 6).

Arndt (1968) examined whether persons who were predisposed to purchase a product were more likely to receive WOM communications about the product and be affected by the favorableness of those communications. Persons interviewed regarding the purchase of a new food product were questioned about comments they gave to others and comments they received from others. Arndt reported that persons predisposed to purchase (who, in fact, purchased the new product) were more likely to receive favorable WOM from others.

Herr, Kardes, and Kim (1991) investigated the persuasive effects of WOM communications. In their experimental research, a confederate delivered a face-to-face WOM communication to small groups after participants had first read a product description. The confederate stated that she owned a computer similar to the described brand and then made either a favorable or unfavorable comment about the product. Similarly, Bone (1995) relied on WOM communications initiated by a confederate regarding audiotapes. After participants listened to an audiotape for about 30 seconds, the confederate made a favorable (or unfavorable) comment about the music.

Another investigation, which used a field study to examine WOM directly, exposed moviegoers to either favorable or unfavorable WOM through overheard conversations (Burzynski and Bayer 1977). Burzynski and Bayer (1977) found that conversations about a product or service not only affected choice behavior but also influenced evaluations of the experience itself.

Measurement Issues

Of the few studies to date that examine WOM using survey methodology, few appear to use multiple-item indicators. For example, Swan and Oliver (1989) used a single-item Likert-type scale to assess the favorableness of WOM communications following the purchase of a new car. New automobile buyers were asked, "Did you tell (the message receiver) mostly positive or mostly negative things about the car?"

Singh (1990) measured unfavorable WOM using a single-item dichotomous scale ("told my friends and relatives about my bad experience"). Richins (1983), who focused on unfavorable WOM as a response to dissatisfaction, measured WOM communication as "the act of telling at least one friend or acquaintance about the dissatisfaction."

File, Cermak, and Prince (1994) focused their conceptualization on intentions. That is, they measured the future

intentions of engaging in WOM using a single-item indicator concerning the likelihood of “telling other business associates what you thought of the service provider.” Similarly, Danaher and Rust (1996) measured WOM as the “likeliness to recommend” (p. 68).

Adopting a much different conceptualization of WOM, E. Anderson (1998) focused on the number of individuals spoken to about recent experiences. Thus, the focus was not on the favorableness of the communication but rather on the number of people to whom the message was sent.

In one of the few studies to date that measures WOM using multiple indicators, Bone (1992) used a three-item scale to assess the amount of WOM in a restaurant setting. The three items used by Bone focused on the occurrence or nonoccurrence of WOM communication and the quantity of WOM communication that took place at the table relative to other conversation.

File, Judd, and Prince (1992) defined WOM as “recommending the firm and the service to others as well as communications with the firm” (p. 12). However, the items used to measure WOM were specific to legal trusts and estate planning.

Methodology Issues

Recent literature reflects an increasing interest in using dyadic or network methodology to examine WOM communications in a social context (Brown and Reingen 1987; Reingen and Kernan 1986; Yale and Gilly 1995; see also Sheth 1971). For example, in a dyadic investigation of WOM sources and receivers, Yale and Gilly (1995) conducted two waves of surveys. In the first survey, respondents were asked to select a personal source (other than their spouse) whom they would likely contact for information prior to the purchase of a VCR. A second wave of surveys was then forwarded by the first-wave respondents to their selected personal sources. All first-wave respondents were identified as hypothetical WOM receivers, whereas all second-wave respondents were identified as WOM senders. Thus, WOM was not treated as a construct to be measured but rather as a category to be assigned based on responding to a survey.

Another dyadic investigation conducted by Brown and Reingen (1987; Reingen and Kernan 1986) traced WOM communication paths by asking customers of a service to reveal how they had learned about the service provider's existence. When a respondent named another person, that person was then contacted and asked the same question. This process was repeated until the WOM path was traced back to a marketer. A second phase of data collection was conducted to generate data regarding the social structure among the WOM system respondents. Here again, no attempt was made to measure WOM as a construct.

Industry Selection

Early studies of WOM centered on communications about new, tangible goods (cf. Arndt 1967; Sheth 1971). More recent studies find WOM to be influential in consumer decision making for a variety of services (cf. Crane 1989; File, Judd, and Prince 1992; Frieden and Goldsmith 1988; Murray 1991). WOM recommendations for service providers are often a very significant part of the decision-making process for consumers (Crane 1989; Feldman and Spencer 1965; File, Judd, and Prince 1992; Frieden and Goldsmith 1988; Gremler 1994; Murray 1991; Zeithaml 1981). In fact, “in many instances, WOM appears to be *the* major source of information that people use” (Gremler 1994, p. 64) in making purchase decisions about services.

Services are natural candidates for WOM communication among consumers because they are generally difficult to evaluate prior to purchase (Zeithaml 1981) and therefore are perceived as high-risk (Guseman 1981; Murray 1991). Consumers often engage in WOM for high-risk products in general (cf. Rogers 1983) and for services in particular to gain information that will reduce their risk, help them make comparisons between or among service alternatives, or help them understand the service prior to delivery and consumption (Bristol 1990). Many marketers—particularly those selling professional services—rely on these informal information channels (Reingen and Kernan 1986). Thus, WOM is particularly valuable for services, which are high in experience and credence qualities (E. Anderson 1998).

Brown and Reingen (1987) believe that professional service providers, such as physicians, lawyers, certified public accountants (CPAs), and hair stylists, obtain their clients through WOM referrals. Each of these services is highly customized, and in each case, the service provider exercises a high degree of judgment in meeting individual customer needs (Lovelock 1991, p. 30). When the nature of the service requires a judgment-based, customized solution, it is not always clear to either the customer or the service professional what the outcome will be (Lovelock 1991). Accordingly, such services may be associated with higher risk than services that are more standardized and less judgment based (e.g., fast food, movie theaters, public transportation). The services selected for the current research, beauty salons and veterinary services, may be categorized as highly customized and judgment based (cf. Lovelock 1991).

THE MEASUREMENT OF WOM

Although measurement scales exist in the current literature for affective commitment, high sacrifice commit-

ment, and service quality, a measurement scale for WOM has yet to be systematically developed and empirically validated (see J. Anderson and Gerbing 1988; Churchill 1979). WOM may be defined as informal, person-to-person communication between a perceived noncommercial communicator and a receiver regarding a brand, a product, an organization, or a service (E. Anderson 1998; Arndt 1968; Buttle 1998).

Following Churchill's (1979) recommendations for developing marketing measures, once a construct is defined, the next step is to generate a set of items that capture the domain of the construct (Churchill 1979). On the basis of the literature review, aspects of WOM appear to include several aspects. One aspect is enthusiasm, which includes frequency (how often the individual engages in WOM) and the number of contacts (E. Anderson 1998; Brown and Reingen 1987; Reingen and Kernan 1986). A second aspect is detail, or how much is said (Bone 1992). The third aspect is praise, or the favorableness of the WOM communication (Arndt 1968; Burzynski and Bayer 1977; Herr, Kardes, and Kim 1991; Singh 1990; Swan and Oliver 1989). Thirteen items were initially generated to reflect the "different shades of meaning" (Churchill 1979) of the WOM construct (see Appendix C). Specifically, Items 1, 2, and 3 were generated to reflect frequency; Items 4, 5, and 6 to reflect the number of contacts; Items 7, 8, and 9 to reflect detail; and the remaining four items to reflect praise.

RESEARCH METHOD

The reliability and validity of self-reported measures of postpurchase communications have been empirically tested primarily in terms of opinion leadership, defined most frequently in terms of perceived influence on others. The most common conclusion is that self-designated measures have adequate reliability and validity (Bellenger and Hirschman 1977; Brooker and Houston 1976; Carey 1971; Darden and Reynolds 1972; Reynolds and Darden 1971).

It should be noted that opinion leadership refers to personal influence or an *effect* (King and Summers 1970); opinion leaders are sought out for advice (Rogers 1962). WOM, on the other hand, refers to interpersonal communication or simply an exchange of information between individuals (King and Summers 1970). A particular attitude or decision is typically the result of the acquisition of a wide range of information (King and Summers 1970). Interpersonal communication contributes to an individual's information inventory and helps influence most decisions (King and Summers 1970).

Sample and Procedure

The survey sample consists of a total of 471 individual consumers residing in two midsize college towns located in two southern states that were recruited by student assistants. Specific directions were given to the students regarding recruitment to secure respondents who better represent the population. Marketing students distributed surveys to local residents in a variety of locations (i.e., workplace, neighborhoods, mall intercept, etc.) who were willing to participate in the study. If the respondent was a pet owner and felt comfortable evaluating the quality of services provided by his or her veterinarian, he or she was given the survey on the veterinary industry. Otherwise, he or she was asked to complete the survey on the hair salon industry. In both instances, respondents were asked to complete the survey based on the specific service provider for which they were ongoing customers. Although data were not gathered on the number of people approached with the survey (and therefore response rates could not be computed), no resistance was reported by the survey administrators. The surveys (within each industry) were randomly divided in half. The first sample of data was used for scale development, whereas the second sample was used to recheck the reliability of the refined scale and for hypothesis testing. Missing data were coded to indicate that no answer was reported, rather than making any attempt at estimating the missing values.

Key characteristics of the respondents from Sample 1 and Sample 2 for each industry are presented in Table 1. Of particular note is the gender characteristic. Overall, there were more female respondents to the survey. Furthermore, there were proportionately more women responding to the hair salon survey than to the veterinarian survey.

WOM Scale Purification

The instrument was refined by analyzing pooled data (i.e., data from both industries taken together) using SPSS 9.0 for Windows. The pooling of data was deliberate and appropriate because the basic purpose of this research stage was to develop a concise instrument that would be reliable and meaningful in assessing WOM in a variety of service industries (Parasuraman, Zeithaml, and Berry 1988). In other words, the purpose was to produce a scale that will have general applicability (Parasuraman, Zeithaml, and Berry 1988).

After the data were collected, the newly developed WOM measures were subjected to a systematic purification process that involved the evaluation of (a) item-remainder correlations and (b) internal consistency as

TABLE 1
Characteristics of Respondents
(in percentages)

	<i>Hair Salon</i>		<i>Veterinarian</i>	
	<i>Sample 1</i>	<i>Sample 2</i>	<i>Sample 1</i>	<i>Sample 2</i>
Age				
Younger than 24	29.2	22.0	20.9	20.4
25-44	50.8	48.3	53.9	53.1
45-64	18.3	26.3	23.4	23.0
Older than 65	1.6	3.4	1.7	3.5
Gender				
Male	20.7	31.1	39.1	42.6
Female	79.3	68.9	60.9	57.4
Occupation				
Housewife	5.9	4.2	5.4	4.5
Student	5.0	4.2	0.9	4.5
Hourly/skilled	25.2	26.1	25.0	20.6
Clerical	16.0	11.8	13.4	12.5
Manager/ professional	41.2	50.4	51.8	50.0
Retired/unemployed/ other	6.7	3.4	3.6	8.0

measured by coefficient alpha (Churchill 1979). Once a satisfactory coefficient alpha was achieved, factor analysis was used to confirm the unidimensionality of the construct (Churchill 1979).

The appropriateness of the data for factor analysis was evaluated using Bartlett's Test for Sphericity (BTS). In the current study, BTS suggested that the bivariate correlations among the scales items were, in fact, significantly different from zero ($BTS = 891.441, p < .00001$) and therefore appropriate for factor analysis. Furthermore, the sampling adequacy in the current study as evaluated by Kaiser-Meyer-Olkin's Measure of Sampling Adequacy ($MSA = .767$) was "good" (*SAS User's Guide: Statistics* 1982, p. 327).

The analysis was conducted using the covariance matrix, rather than the correlation matrix. Jöreskog and Sörbom (1989) suggested that the analysis of a correlation matrix is problematic because such an analysis (a) modifies the model being analyzed, (b) produces an incorrect chi-square and other goodness-of-fit measures, and (c) yields incorrect standard errors. The results of the confirmatory factor analysis are reported in Table 2. Note that all factor loadings were positive and significant.

An examination of the items that remained following scale purification revealed that several aspects of the WOM construct were retained. Specifically, Item 2 measures how often the WOM communication takes place, Item 4 focuses on the number of people to which the WOM sender communicates, and Items 5 and 7 refer to the quantity of information provided by the sender to the receiver

TABLE 2
Parameter Estimates, *t*-Values and Goodness-of-Fit Measures for the Word-of-Mouth (WOM) Activity Measurement Model

<i>Parameter</i>	<i>LISREL Estimate</i>	<i>Theta Delta Estimate</i>	<i>Squared Multiple Correlation</i>
WOM2	1.00	0.62 (9.55)	0.38
WOM4	1.29 (8.97)	0.36 (6.65)	0.64
WOM5	1.33 (9.03)	0.33 (6.06)	0.67
WOM7	2.02 (7.71)	0.61 (9.47)	0.39
χ^2 (2 df)	1.94 $p = .38$		
GFI	1.00		
AGFI	0.98		
CFI	1.00		
RFI	0.98		
RMSEA	0.0 $p = .57$		

NOTE: *t*-values are in parentheses; all are significant ($t > 2.00$) (J. Anderson 1987). GFI = Goodness-of-Fit Index; AGFI = Adjusted Goodness-of-Fit Index; CFI = Comparative Fit Index; RFI = Relative Fit Index; RMSEA = root mean square error of approximation.

during the WOM communication process. Based on the analysis, Measures 2, 4, 5, and 7 were collectively classified as "WOM Activity."

Interestingly, none of the items designed to measure the favorableness of the WOM communication (e.g., Items 10, 11, 12, and 13) were retained. Although the literature suggests that WOM has several aspects (including enthusiasm, detail, and favorableness), research to date has not clearly supported the notion of two distinct WOM constructs. Because much of the research to date has focused on the favorableness of the WOM communication, the decision was made to evaluate favorableness as a second WOM construct. Items 10, 11, 12, and 13 (designed to measure favorableness of the WOM communication) were subjected to scale purification, and two items (10 and 13) were retained. These measures were collectively classified as "WOM Praise."

Reliability and Validity of WOM Activity and WOM Praise

The reliability for the WOM Activity and WOM Praise scales using the first sample of pooled data were acceptable at coefficient alphas equal to .804 and .7802, respectively (Nunnally 1978). To assess the discriminant validity of the subsets of measures, the procedure recommended by J. Anderson and Gerbing (1988) was used. That is, for each pair of constructs in the conceptual model, two different models were conceptualized: The first model allows phi to vary, whereas the second model constrains the phi correlation to unity. The difference between the chi-square

TABLE 3
Comparison of Constrained and
Unconstrained Models in the
Assessment of Discriminant Validity

	χ	df
Affective commitment and high sacrifice commitment		
Constrained model	775.89	152
Unconstrained model	736.24	151
Chi-square difference	39.65	1
Affective commitment and word-of-mouth activity		
Constrained model	692.71	119
Unconstrained model	614.93	118
Chi-square difference	77.78	1
High sacrifice commitment and word-of-mouth activity		
Constrained model	188.53	35
Unconstrained model	112.88	34
Chi-square difference	75.65	1
Service quality and affective commitment		
Constrained model	557.49	90
Unconstrained model	535.49	89
Chi-square difference	22.00	1
Service quality and high sacrifice commitment		
Constrained model	129.11	20
Unconstrained model	93.98	19
Chi-square difference	35.13	1
Service quality and word-of-mouth activity		
Constrained model	99.75	9
Unconstrained model	18.36	8
Chi-square difference	81.39	1
Affective commitment and word-of-mouth praise		
Constrained model	582.03	90
Unconstrained model	561.79	89
Chi-square difference	20.24	1
High sacrifice commitment and word-of-mouth praise		
Constrained model	147.40	20
Unconstrained model	106.71	19
Chi-square difference	40.69	1
Service quality and word-of-mouth praise		
Constrained model	10.63	2
Unconstrained model	1.17	1
Chi-square difference	9.46	1
Word-of-mouth activity and word-of-mouth praise		
Constrained model	68.27	9
Unconstrained model	23.13	8
Chi-square difference	45.14	1

NOTE: All chi-square values are significantly lower for the unconstrained models ($p < .01$).

values for the models is itself asymptotically distributed as chi-square, with degrees of freedom equal to the difference in degrees of freedom for the two models (J. Anderson and Gerbing 1988). A chi-square difference test was conducted for each pair of constructs. In each case, the chi-square for the unconstrained model was found to be significantly lower ($p < .001$) than the constrained model, which indicates discriminant validity (see Table 3). Of particular importance, discriminant validity is demonstrated be-

tween WOM Activity and WOM Praise, two constructs initially thought to be two aspects of a single, more generalized WOM construct.

CONCEPTUAL FRAMEWORK

This section identifies two potential antecedents to WOM behavior in a services marketing setting: service quality and customer commitment to the service provider. Following the discussion of the relationships hypothesized to exist among the two WOM constructs and their potential antecedents is Figure 1, which collectively illustrates the hypothesized relationships in the form of a conceptual model.

Commitment

Two views of organizational commitment dominate the literature: an attitudinal perspective provided by Porter et al. (1974) and a behavioral perspective presented by Becker (1960). According to Porter et al., organizational commitment is the strength of an individual's identification with, and involvement in, a particular organization (p. 604). Buchanan (1974) similarly conceptualized organizational commitment as an affective attachment to the goals and values of the organization; to one's role in relation to the goals and values; and to the organization for its own sake, apart from its purely instrumental worth (p. 533).

In contrast, Becker (1960) described organizational commitment as the tendency to engage in consistent lines of activity because of the perceived costs of doing otherwise (p. 33). The 'activity' Becker referred to is staying with the organization (Meyer et al. 1989), whereas the "perceived costs of doing otherwise" include, for example, the loss of benefits or seniority, the disruption of personal relations created by moving to another organization, and the effort of seeking a new job (McGee and Ford 1987; Meyer et al. 1989). The terms *affective commitment* (Meyer and Allen 1984) and *high sacrifice commitment* (McGee and Ford 1987) may be used to refer to the two forms of commitment.

Mayer and Schoorman (1992) found a positive correlation between affective commitment and high sacrifice commitment (.59, $p < .001$). Although the correlation suggests that the dimensions represent overlapping space (Mayer and Schoorman 1992), there is utility in examining the concepts separately (Mathieu and Zajac 1990; Mayer and Schoorman 1992).

In the existing literature, the two forms of commitment have been termed "affective" and "high sacrifice" (Mayer

and Schoorman 1992; McGee and Ford 1987; Meyer and Allen 1984), and this tradition is followed in the current research. The constructs of affective commitment and high sacrifice commitment were operationalized for the current study by adapting the measures provided for employee commitment to an organization to consumer commitment to a service provider (see Appendixes A and B, respectively). "Although previous research has focused largely on the commitment of employees, the construct's domain can be extended to the relationship between service provider and customer" (Kelley and Davis 1994, p. 54). Because some of the items were truly employment specific, new items were generated to maximize scale reliability. The reliability of the 13-item scale used to measure affective commitment in the current study (see Appendix A) was .95, whereas the 6-item scale used to measure high sacrifice commitment (see Appendix B) was .85.

Hypotheses. Dick and Basu (1994) suggested that a potential consequence of commitment may include WOM communications. However, the consequences of the two forms of customer commitment have not been empirically investigated to date. Mayer and Schoorman (1992) found that whereas an individual who is high in affective commitment is motivated to actively engage in behaviors that would help the employing organization achieve its goals, an individual who is high in high sacrifice commitment is motivated to remain *passively* with an organization (p. 673). As explained by Mowday, Porter, and Steers (1982), those who value and want to maintain involvement with an organization should be willing to exert considerable effort on its behalf, whereas those who feel compelled to remain with an organization to avoid financial or other costs may do little more than the minimum required. Meyer et al. (1989) demonstrated empirically that as affective (high sacrifice) commitment increases, job performance increases (decreases). Just as job performance is a behavior by an employee that affects the strategic health of an organization, WOM communication is a behavior by a consumer that affects the strategic health of the firm (see Boulding et al. 1993). Thus, the hypotheses of the current research are that affective commitment should be positively related to WOM, but high sacrifice commitment should not significantly affect WOM.

Hypothesis 1: Affective commitment is positively related to WOM activity.

Hypothesis 2: Affective commitment is positively related to WOM praise.

Hypothesis 3: High sacrifice commitment is not related to WOM activity.

Hypothesis 4: High sacrifice commitment is not related to WOM praise.

Service Quality

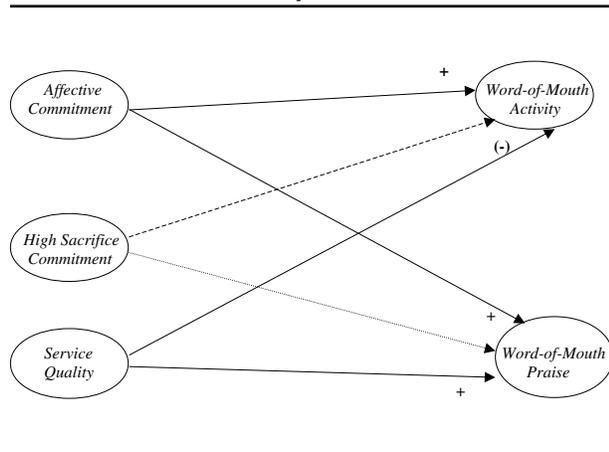
Service quality is best conceptualized as an attitude that is defined by an individual's importance-weighted evaluation of the performance of the specific dimensions of a service (Cronin and Taylor 1992; see also Cohen, Fishbein, and Ahtola 1972). Parasuraman, Zeithaml, and Berry (1988) are credited with identifying five dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. The five dimensions were measured using a 22-item scale (SERVQUAL) developed from focus groups and from specific industry applications (see Parasuraman, Zeithaml, and Berry 1985, 1988; Zeithaml, Parasuraman, and Berry 1990).

Later empirical investigations of the SERVQUAL scale suggest some weaknesses. Although the 22 items appear to adequately define the domain of service quality (Cronin and Taylor 1992) and appear to be valid (Carman 1990; Cronin and Taylor 1992), the existence of five unique dimensions of service quality is questionable. Specifically, Carman (1990) found that some of the items do not load on the same component when compared across service providers. Cronin and Taylor (1992) reported that for each of four service industries examined (banks, pest control, dry cleaning, and fast food), the 22 items loaded on a single factor. Other studies have reported that service quality is composed of two (Mels, Boshoff, and Nel 1997), three (Pitt, Watson, and Kavan 1995; Triplett, Yau, and Neal 1994), four (Gagliano and Hathcote 1994), five (Pitt, Watson, and Kavan 1995), six (Vandamme and Leunis 1993), and even seven (Pitt, Watson, and Kavan 1995) factors. Therefore, the current research uses exploratory factor analysis of the 22 service quality items to assess the dimensionality of the service quality construct. Furthermore, the more concise performance-only scale empirically supported by Cronin and Taylor (1992; see also Bolton and Drew 1991; Churchill and Suprenant 1982; Woodruff, Cadotte, and Jenkins 1983) is used.

In the current study, the service quality construct was found to be composed of two dimensions: One dimension composed of the items designed to measure tangibles and the second dimension composed of the items designed to measure reliability, responsiveness, assurance, and empathy. The scale reliability for both factors was high (.88 and .97, respectively).

Hypotheses. Boulding et al. (1993) stated that they "strongly believe that service quality positively affects important behavioral outcomes such as loyalty and positive word-of-mouth" (p. 12). Of particular importance, the authors empirically demonstrated that "the greater customers' perceptions of a firm's overall service quality, the

FIGURE 1
Conceptual Model



more likely the customers are to engage in behaviors beneficial to the strategic health of the firm (e.g., generate positive word-of-mouth, recommend the service, etc.)” (p. 12). Accordingly, service quality should be positively related to WOM praise, and the following hypothesis is proposed.

Hypothesis 5: Service quality is positively related to WOM praise.

The relationship between service quality and WOM activity is less clear. Although high service quality should lead an individual to engage in behaviors that are beneficial to the firm (Boulding et al. 1993), WOM activity may actually be greater at lower levels of service quality. Previous research results suggest that sources connect with more receivers when consumers are dissatisfied than when consumers are satisfied. For example, the Technical Assistance Research Programs, Inc. (TARP) (1982) study of Coca Cola customers found that customers who found their complaints were not adequately resolved told a median of 9 to 10 people, whereas those who felt satisfied told a median of 4 to 5 people. Richins (1984) argued that people are more likely to communicate negative attitudes to more people than positive attitudes (see also Farber and Wyckoff 1991). This implies greater activity when consumers are dissatisfied with the service quality they receive. This leads to the following research hypothesis:

Hypothesis 6: Service quality is negatively related to WOM activity.

RESULTS OF HYPOTHESIS TESTING

The hypotheses were examined using the second data sample and SPSS 9.0 for Windows. WOM Activity scale

reliabilities for the data collected on the hair salon and veterinary industries were .8596 and .8644, respectively. WOM Praise scale reliabilities for the data collected on the hair salon and veterinary industries were .7081 and .7686, respectively. Thus, the reliability coefficients for each WOM construct exceed Nunnally’s (1978) guideline of .70.

The research hypotheses for each service type were examined using structural equation modeling (SEM). Structural equation modeling allows all paths to be evaluated simultaneously. LISREL 8.30 was used to test the conceptual model (refer to Figure 1), and Bagozzi and Heatherton’s (1994) recommendations regarding the use of composite variables were followed.

Evaluating the Structural Model Using SEM

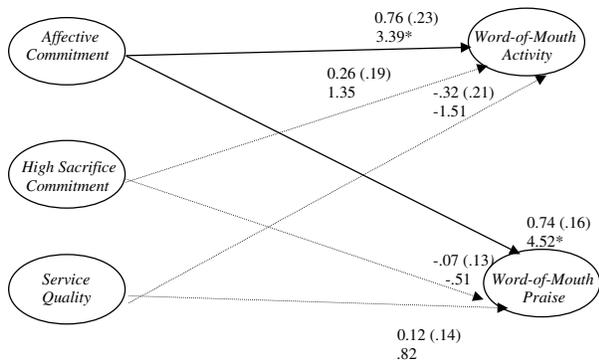
Before considering the structural links using SEM, the fit of the model to the hair salon data was examined. Although the chi-square value is significant ($\chi^2 = 109.10$, $df = 56$, $p < .000$), the ratio of chi-square to degrees of freedom is 1.95. As suggested by several researchers (Brooke, Russell, and Price 1988; Carmines and McIver 1981; Hoetler 1983), a ratio of less than 2.00 indicates excellent model fit.

The Goodness-of-Fit Index (GFI) is .87 and the Adjusted Goodness-of-Fit Index (AGFI) is .80. There appears, however, to be some discrepancy regarding the appropriate cutoff criteria. Durande-Moreau and Usunier (1999) suggested that a criterion of .80 is appropriate; Van Birgelen, de Ruyter, and Wetzels (2001) supported a threshold of .85; Hair et al. (1998, p. 657) recommended .90; and yet Bagozzi and Yi (1988) suggested that .90 errs on the side of conservatism. Because Hu and Bentler (1999) suggested that GFI and AGFI perform “poorly and are not recommended for evaluating model fit” (p. 5), other more robust fit indices are emphasized.

The comparative fit index (CFI) of .95 meets the recommended cutoff of .95 (Hu and Bentler 1999). The standardized root mean square residual (SRMR) index of .052 is well below the recommended threshold of .08 (Hu and Bentler 1999). The root mean square error of approximation (RMSEA) of .091 exceeds the conventional threshold of .08 (Browne and Cudeck 1993) and the more stringent criteria of .06 recently suggested by Hu and Bentler (1999). However, as Hu and Bentler caution, RMSEA substantially overrejects both simple and complex true-population models at sample sizes less than or equal to 250. Estimation results for the hair salon industry are presented in Figure 2.

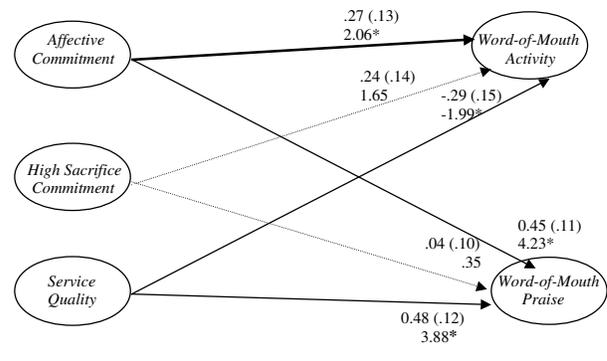
Next, the fit of the model to the veterinary data was examined. The chi-square is significant ($\chi^2 = 101.05$, $df = 56$, $p = .0002$), but the ratio of chi-square to degrees of free-

FIGURE 2
Path Estimates, Standard Errors, and *t*-Values of the Model for the Hair Salon Industry



NOTE: The dashed line indicates a nonsignificant path.
 * $p < .05$.

FIGURE 3
Path Estimates, Standard Errors, and *t*-Values of the Model for the Veterinary Industry



NOTE: The dashed line indicates a nonsignificant path.
 * $p < .05$.

dom of 1.80 is less than 2.00, indicating an excellent fit (Brooke, Russell, and Price 1988; Carmines and McIver 1981; Hoetler 1983). Based on Hu and Bentler's (1999) contention that GFI and AGFI perform poorly and should therefore not be used to assess model fit (p. 5), the GFI (.88) and the AGFI (.81) are de-emphasized in favor of more robust fit indices.

The CFI of .96 and the SRMR of .069 fall well within the thresholds suggested by Hu and Bentler (1999). The RMSEA of .082 slightly exceeds the conventional threshold of .08 (Browne and Cudeck 1993) and the more stringent cutoff of .06 suggested by Hu and Bentler (1999). Again, it is important to note that RMSEA substantially overrejects both simple and complex true-population models at sample sizes less than or equal to 250 (Hu and Bentler 1999). Estimation results for the veterinary industry are presented in Figure 3.

Hypothesis Testing

The six research hypotheses were tested within each industry by examining the corresponding path estimates and *t*-values (see Figures 2 and 3). Hypotheses 1 and 2 predicted that affective commitment would be positively related to WOM activity and WOM praise, respectively. The results for Hypotheses 1 and 2 are supported in both industries.

Hypotheses 3 and 4 predicted that high sacrifice commitment would not be related to WOM activity or to WOM praise. Both hypotheses are supported by the results.

Hypothesis 5 theorized that service quality would be positively related to WOM praise. This hypothesis was supported in the veterinary industry but surprisingly not in the hair salon industry.

Finally, Hypothesis 6 states that service quality is negatively related to WOM activity. In both industries, the sign of the path coefficient was negative. However, the effect was only statistically significant in the veterinary industry.

DISCUSSION OF RESULTS

The conceptualization and measurement of WOM from the sender's perspective presented in the current study offers several significant advantages over existing approaches. First, the conceptualization captures several aspects of WOM communication including the relative frequency of the WOM communication, the relative number of people to whom the WOM sender communicates, the relative quantity of information provided by the sender to the receiver, and favorableness of the WOM communication. Although the focus of existing research is primarily on the favorableness of the WOM communication (Arndt 1968; Bone 1995; Burzynski and Bayer 1977; Herr, Kardes, and Kim 1991; Swan and Oliver 1989), recent studies indicate the importance of considering WOM as a networking process involving multiple recipients (Brown and Reingen 1987; Heskett, Sasser, and Schlesinger 1997; Reingen and Kernan 1986). In this social context, the greater number of recipients, the frequency of the communication, and the quantity of information provided

are all important aspects from a marketing management perspective.

Second, the measurement of WOM is from the sender's perspective. Although marketers have viewed WOM as a promotional tool to attract customers to a product or outlet, much of the research to date has focused on WOM from the recipient's perspective (Arndt 1968; Bone 1995; Brown and Reingen 1987; Burzynski and Bayer 1977; Crane 1989; Engel, Blackwell, and Kegerreis 1969; Feldman and Spencer 1965; File, Judd, and Prince 1992; Frieden and Goldsmith 1988; Gremler 1994; Herr, Kardes, and Kim 1991; Murray 1991; Reingen and Kernan 1986; Richins 1983; Zeithaml 1981).

Third, the existing literature suggests that aspects of WOM communication may include favorableness (Arndt, 1967, 1968; Bone 1995; Burzynski and Bayer 1977; Buttle 1998; Herr, Kardes, and Kim 1991; Swan and Oliver 1989), enthusiasm (how often the individual engages in WOM and with how many people) (E. Anderson 1998; see also Brown and Reingen 1987; File, Cermak, and Prince 1994; Reingen and Kernan 1986), and detail (how much is said) (Bone 1992). However, the results of the current study suggest that the favorableness of WOM communication is distinct from enthusiasm and detail. That is, during the scale purification process, the favorableness items were not retained as a result of weak factor loadings and/or low item-to-total correlations.

Finally, measurement scales for WOM Activity (enthusiasm and detail) and WOM Praise (favorableness) are developed, and the psychometric properties of the scales are assessed (J. Anderson and Gerbing 1988; Churchill 1979). Both scales are found to be reliable, valid, and unidimensional. More important, discriminant validity is demonstrated between WOM Activity and WOM Praise, lending empirical support that the two are indeed independent constructs, rather than aspects of a single, more generalized WOM construct.

Antecedents of WOM Activity

The results of the analysis reveal some expected and some unexpected findings. First, of the two forms of commitment, only Affective Commitment appears to be positively related to WOM Praise for both of the industries examined. The relationship between Affective Commitment and WOM Praise may be explained by reason that both are attitudinal measures (see Porter et al. 1974), involving "liking" or "disliking." It stands to reason that if an individual stays with an organization because he or she likes the organization, then any WOM communication that takes place should be favorable.

Alternatively, High Sacrifice Commitment is identified as a behavioral measure (Becker 1960) that involves stay-

ing with an organization because of the costs or difficulties associated with making a change (Becker 1960; McGee and Ford 1987; Meyer et al. 1989). An individual high in High Sacrifice Commitment may or may not like the organization; therefore, no significant impact on the favorableness of the communication is expected.

The findings regarding the relationships between the two commitment constructs and WOM Activity were also as expected. An individual who is high on Affective Commitment is motivated to *actively* engage in behaviors that would help the employing organization achieve its goals (Mayer and Schoorman 1992). The current research finds, as expected, that Affective Commitment is positively related to WOM Activity. On the other hand, an individual who is high on High Sacrifice Commitment is motivated to remain *passively* with an organization (Mayer and Schoorman 1992), doing little more than the minimum required (Mowday, Porter, and Steers 1982). As predicted, High Sacrifice Commitment was not found to have a significant impact on WOM Activity. The findings regarding the relationships between the two forms of commitment and WOM Activity held true for both of the industries examined.

The findings regarding Service Quality as an antecedent of WOM Activity and WOM Praise were also as expected when tested using data from the veterinary industry. That is, the level of perceived service quality positively affects the favorableness of an individual's WOM communication. Also, when service quality is low, consumers are more likely to engage in WOM communication with more people, more often, and in greater detail. In other words, consumers are more likely to *actively* engage in WOM communication when service quality is low, perhaps in an attempt to warn others and protect them from experiencing similar problems with the service provider.

Findings from the current study that were unexpected relate to the relationship between Service Quality and the two WOM constructs when tested using data from the hair salon industry. For this industry, Service Quality did not significantly affect either WOM activity or WOM Praise. However, in both cases, the effects are in the hypothesized direction. The effect of Service Quality is negative on WOM Activity and positive on WOM Praise.

One possible explanation for finding a nonsignificant effect is if the dependent variable exhibits low variance. This was not found to be the case. In fact, the variances of Service Quality, WOM Activity, and WOM Praise were all quite comparable across industries.

A second explanation relates to the orientation of the service quality instrument and the inherent differences between the two industries. Buttle (1996) noted that SERVQUAL has been criticized for focusing on the *process* of service delivery rather than on the *outcome* of the

service encounter. For example, Gronroos (1982) distinguished between outcomes (e.g., did the dry cleaners get rid of the stain?) and processes (was the staff nice?). Critics have argued that outcome quality is missing from Parasuraman, Zeithaml, and Berry's (1988) formulation of the SERVQUAL instrument (Cronin and Taylor 1992; Mangold and Babakus 1991; Richard and Allaway 1993).

Why, then, would Service Quality play a significant role in stimulating word-of-mouth communication in the veterinary industry, but not in the hair salon industry? The reason may have to do with the qualities that characterize each service. Veterinary services are high in credence qualities (Lovelock 1991). When services are high in credence qualities, consumers often find it impossible to evaluate the outcome quality of a service, even after the service has been completed (Lovelock 1991). Few consumers possess the medical skills to evaluate whether veterinary services are necessary or have been performed properly. Difficulty in evaluation "forces consumers to rely on different cues and processes when evaluating services" (Lovelock 1991, p. 40). Thus, a measure of the service process (e.g., SERVQUAL) becomes an important determinant of WOM communication and affects WOM Praise as well as WOM Activity.

Hair salon services are high in experience qualities (Lovelock 1991). When services are high in experience qualities, consumers *are* able to evaluate the service quality, either after or during service consumption. For example, most consumers will be able to evaluate the quality of a haircut or a hair color once the service is completed. Thus, the service quality evaluation is made based on the *outcome* of the service, rather than on the process of delivery. Service outcomes are not measured by the service quality scale used in the current research. Richard and Allaway (1993) empirically concluded that using process as well as outcome measures of service quality serve as better predictors than process or outcome alone.

STUDY LIMITATIONS AND FUTURE RESEARCH

Despite the advantages associated with the current measures of WOM Activity and WOM Praise, there are certain limitations to the current study that could be improved on in future research. Many of these limitations are suggestive of future research efforts that would overcome such limitations. First, the current study examines the relationships between and among the constructs as they pertain to two service industries (e.g., hair salon and veterinarian). The results indicate that Service Quality is positively related to WOM Praise and negatively related to WOM Activity for veterinary services, but not for hair sa-

lon services. These findings appear to be based on the scale used to measure service quality and industry differences. The Service Quality scale that is used in the current research measures service process quality, important in determining WOM communication in the veterinary industry, which is characterized as high in credence qualities. The instrument does not measure service outcome quality, which may be important in determining WOM communication in the hair salon industry. The hair salon industry is characterized as high in experience qualities. Future research could explore the validity of this rationalization by examining the relationships between and among the relevant constructs (e.g., service process quality, service outcome quality, WOM activity, and WOM praise) based on data collected from industries high in credence qualities and industries high in experience qualities.

Second, some researchers have been critical of the traditional adherence to an individualistic paradigm and argue instead in favor of a dyadic or network approach (Bristor 1990; Reingen and Kernan 1986; Yale and Gilly 1995). The rationale is that WOM is directly interactive as opposed to other methods of marketing communication (with the exception of personal selling) (Yale and Gilly 1995). Interacting members bring a number of existing relational characteristics and perceptions of each other to the informational episode (Yale and Gilly 1995). The network approach, however, has been favored when dealing with such issues as source-receiver influence and message diffusion patterns (Bristor 1990). As noted by Bristor (1990), the individualistic approach is consistent with the aims of many areas of consumer inquiry, such as whether a person engages in WOM communication.

Third, the current research defines WOM communication as informal, person-to-person communication between a perceived noncommercial communicator and a receiver regarding a brand, a product, an organization, or a service (Anderson 1998; Arndt 1968; Buttle 1998). Historically, WOM communication has been communicated one-to-one in person, by telephone, or (to a perhaps lesser extent) in writing. With the emergence of the Internet, one-to-many transmittal of WOM communication takes place directly through the use of e-mail distribution lists or indirectly through postings to subscriber lists or consumer complaint forums (cf. Harrison-Walker in press). An issue that is not investigated in the current research is the role of the Internet in WOM communication. The two types of WOM communications identified in the current study are WOM praise and WOM activity. If the nature of the electronic communication is favorable, the impact on the organization, brand, product, or service should also be favorable. However, past research has shown that a satisfied customer will tell 3 to 5 other people of his or her experience (Farber and Wyckoff 1991; Heskett, Sasser, and

Schlesinger 1997; TARP 1982), whereas a dissatisfied customer will tell 10 to 11 people (Farber and Wycoff 1991; TARP 1982). If these findings hold true for electronic communications, one would expect consumers to be more likely to share dissatisfaction than satisfaction (cf. Richins 1984). The opportunity for one-to-many communication afforded by the Internet potentially increases WOM activity (particularly for unfavorable communications) exponentially. The impact of WOM via the Internet on a firm's performance could be substantial.

Fourth, the current research is limited to the investigation of three potential antecedents of WOM: affective commitment, high sacrifice commitment, and service quality. Future research should identify and assess other antecedents of WOM communication. For example, Hartline and Jones (1996) suggested that WOM may be even more strongly associated with value than with service quality. Future investigation of other potential antecedents (such as service outcome quality and service value) is facilitated by the contributions of the current research in adapting organizational commitment scales to a services marketing context and developing multiple-item WOM measures with demonstrated psychometric properties.

Fifth, the focus of the current research is on scale development, and as such, it was beyond the scope of the article to fully explore the structural relationships between the constructs. Future research should take a closer look at these relationships to see if they are linear or curvilinear and to test for interaction among the constructs, provided there is first an established basis in theory to direct such an investigation (Aiken and West 1991; Jaccard, Turrisi, and Wan 1990).

Sixth, although the reliability for the WOM Praise scale is acceptable (Nunnally 1978), the scale may benefit by systematic redevelopment (J. Anderson and Gerbing 1988; Churchill 1979). Four items were originally generated to measure the favorableness of WOM communication, but only two items were retained during scale purification.

Seventh, LISREL relies on strong assumptions of normality. Departures from normality tend to increase the chi-square statistic (used in the confirmatory factor model as well as the structural model) beyond the value expected from specification error in the model (Jöreskog and Sörbom 1989). In the current research, several variables deviated from a normal distribution using a Kolmogorov-Smirnov test. Closer inspection reveals that several variables are skewed (mostly negatively skewed) and exhibit (mostly negative) kurtosis. Given the findings regarding the normality assumption, caution is recommended when interpreting the LISREL results. Specifically, emphasis is placed on the combination rule recommended by Hu and Bentler (1999) involving the CFI and the SRMR because

the sample size is less than 250 and the measures are stable and robust to variations in normality (Babin and Burns 1998; Bollen 1989; Burton et al. 1998; Hu and Bentler 1999). These indices are also useful because of the recent identification of acceptable cutoff criteria (Hu and Bentler 1999). In the current study, the combination rule of CFI (.95 cutoff value) and SRMR (.09 cutoff value) supports a good fit of the models to the data.

Finally, external validity may be called into question. The sample is drawn from two midsize college towns in the southeastern United States. Accordingly, the findings may not generalize to other sample populations. Also, there were more female than male respondents overall and a disproportionately greater number of women responding to the hair salon survey compared with the veterinary survey. Conceivably, external validity may not be an issue with regard to gender in the current study. Women may, in fact, be the primary consumers of both services. While virtually all women use the services of a hair salon, a number of men may opt to go to barber shops instead. When it comes to the purchase of veterinarian services for the family pet, women may be the primary decision makers.

CONCLUSIONS

The mass media are generally effective in generating awareness of consumer products, but consumers tend to rely more heavily on WOM when making purchase decisions for services (Davis, Guiltman, and Jones 1979). Given the power that WOM has on the success of a company, the current research makes a substantial contribution to the WOM literature by developing and empirically validating scales to measure WOM using a systematic process (J. Anderson and Gerbing 1988; Churchill 1979). Furthermore, the current research focuses on the sender of WOM communication as a key player in the promotion of a firm and examines service quality and customer commitment as potential antecedents to WOM communication.

The author provides a conceptualization of WOM that captures the domain of WOM communication (e.g., favorableness, enthusiasm, and detail). Interestingly, the WOM favorableness items were not retained following scale purification because of low factor loadings and/or low item-to-total intercorrelations. The current research suggests that there are two distinct WOM constructs: WOM Activity and WOM Praise. The two WOM constructs can be examined separately to make more precise predictions of conceptual relationships.

In the current study, only three potential antecedents (Affective Commitment, High Sacrifice Commitment, and Service Quality) are investigated. The findings support the hypotheses that Affective Commitment is posi-

tively related to both forms of WOM, whereas High Sacrifice Commitment is not related to either form. Service quality has a positive impact on WOM Praise and a negative impact on WOM Activity based on data from the veterinary industry. However, Service Quality did not significantly affect either form of WOM in the hair salon industry. These findings may be due to the measurement scale used and differences between the two industries. With the development of the two multiple-item WOM scales with demonstrated psychometric properties presented in the current research (and the potential future enhancement of the WOM Praise scale), these and other potential antecedents can be investigated with greater confidence in the findings.

Ideally, marketing managers do not simply wish to promote *positive* WOM but further desire that the WOM communication take place often (frequency), be communicated in great detail (informativeness), and be communicated to a large number of people (akin to the reach of traditional media in general and the pass-along readership of print media in particular). Only by understanding the unique set of antecedents that foster WOM Praise and WOM Activity can the marketing manager take advantage of the power of WOM in shaping consumer attitudes and behaviors and thereby actively incorporate WOM as an effective promotional tool in the marketing mix.

APPENDIX A

Original Set of Items Used to Measure Affective Commitment

1. For me, this is one of the best service organizations of its kind.^a
2. I am proud that I use the services of this organization.^a
3. I usually agree with this organization's policies and procedures on important matters.^a
4. This is a good service organization to use.^b
5. I care about the fate of this service organization.^a
6. This organization inspires the best in me in the way of being a good customer.^a
7. I like the way this service organization operates.^b
8. This service organization understands my needs.^b
9. If I were in charge of this service organization, I wouldn't run it any differently.^{b,c}
10. I like this service organization.^b
11. I have a special relationship with this service organization.^b
12. I want to help this service organization achieve its goals.^b
13. Doing business with this service organization is enjoyable.^b
14. I do business with this service organization because I like it.^b

NOTE: Responses were based on a 7-point Likert-type scale, anchored by *strongly disagree* (1) and *strongly agree* (7).

a. Items developed by Schechter (1985) and evaluated by Mayer and Schoorman (1992), adapted for the current research.

b. Items generated for the current research.

c. Rejected during the scale purification process.

APPENDIX B

Original Set of Items Used to Measure High Sacrifice Commitment

1. The longer I stay with this service organization, the harder it is to leave.^a
2. It would be difficult for me to adapt to a new service organization.^a
3. Many changes would have to occur in my present circumstances to cause me to stop doing business with this service organization.^a
4. If I decided to stop doing business with this service organization, it would be difficult to explain to my friends and my family.^{a,c}
5. I would give up a lot if I stopped doing business with this service organization.^a
6. If I left this service organization for another service organization, it would be hard to come back.^{b,c}
7. It would be hard on my significant other(s) if I decided to stop using this service organization.^{a,c}
8. Changing to a new service organization would be impractical.^b
9. I continue to do business with this service organization because it would be difficult to make a change.^b
10. There are certain costs associated with switching to another service organization.^{b,c}

NOTE: Responses were based on a 7-point Likert-type scale, anchored by *strongly disagree* (1) and *strongly agree* (7).

a. Items developed by Schechter (1985) and evaluated by Mayer and Schoorman (1992).

b. Items generated for the current research.

c. Rejected during the scale purification process.

APPENDIX C

Original Set of Items Generated to Measure Word of Mouth (WOM)

1. Since I have been with this service organization, I have mentioned the name of this service organization very rarely.(R)^c
2. I mention this service organization to others quite frequently.^a
3. I rarely have occasion to mention the name of this organization to others.(R)^c
4. I've told more people about this service organization than I've told about most other service organizations.^a
5. I seldom miss an opportunity to tell others about this service organization.^a
6. I've told very few people about this service organization.(R)^c
7. When I tell others about this service organization, I tend to talk about the organization in great detail.^a
8. I seldom do more than mention the name of this service organization to others.(R)^c
9. Once I get talking about this service organization, it's hard for me to stop.^c
10. I have only good things to say about this service organization.^b
11. Although I use this service organization, I tell others that I do not recommend it.(R)^c

12. In general, I do not speak favorably about this service organization.(R)^c
 13. I am proud to tell others that I use this service organization.^b

NOTE: Responses were based on a 7-point Likert-type scale, anchored by *strongly disagree* (1) and *strongly agree* (7). (R) = reverse scored.

a. Identified as WOM Activity items.

b. Identified as WOM Praise items.

c. Rejected during the scale purification process.

REFERENCES

- Aiken, Leona S. and Stephen G. West (1991), *Multiple Regression: Testing and Interpreting Interaction Effects*. Newbury Park, CA: Sage.
- Anderson, Eugene W. (1998), "Customer Satisfaction and Word-of-Mouth," *Journal of Service Research*, 1 (1), 5-17.
- Anderson, James C. (1987), "An Approach for Confirmatory Measurement and Structural Equation Modeling of Organizational Properties," *Management Science*, 33 (April), 525-41.
- and David W. Gerbing (1988), "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin*, 103 (3), 411-23.
- Arndt, Johan A. (1967), "Role of Product-Related Conversations in the Diffusion of a New Product," *Journal of Marketing Research*, 4 (August), 291-95.
- (1968), "Selective Processes in Word-of-Mouth," *Journal of Advertising Research*, 8, 19-22.
- Babin, Laurie and Alvin Burns (1998), "A Modified Scale for the Measurement of Communication-Evoked Imagery," *Psychology and Marketing*, 15 (3), 261-78.
- Bagozzi, Richard P. and Todd F. Heatherton (1994), "A General Approach to Representing Multifaceted Personality Constructs: Application to State Self-Esteem," *Structural Equation Modeling*, 1 (1), 35-67.
- and Youjae Yi (1988), "On the Evaluation of Structural Models," *Journal of the Academy of Marketing Science*, 16 (1), 74-94.
- Becker, H. S. (1960), "Notes on the Concept of Commitment," *Journal of Sociology*, 66, 32-42.
- Bellenger, Danny N. and Elizabeth C. Hirschman (1977), "Identifying Opinion Leaders by Self-Report," in *Contemporary Marketing Thought*, Vol. 41, Barnett A. Greenberg and Danny N. Bellenger, eds. Chicago: American Marketing Association, 341-44.
- Bollen, Kenneth A. (1989), *Structural Equations with Latent Variables*. New York: John Wiley.
- Bolton, Ruth N. and James H. Drew (1991), "A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes," *Journal of Marketing*, 55 (January), 1-9.
- Bone, Paula Fitzgerald (1992), "Determinants of Word-of-Mouth Communications during Consumption," in *Advances in Consumer Research*, Vol. 19, John Sherry and Brian Sternthal, eds. Provo, UT: Association for Consumer Research, 579-83.
- (1995), "Word-of-Mouth Effects on Short-Term and Long-Term Product Judgments," *Journal of Business Research*, 32, 213-23.
- Boulding, William, Ajay Kalra, Richard Staelin, and Valarie A. Zeithaml (1993), "A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions," *Journal of Marketing Research*, 30 (February), 7-27.
- Bristor, Julia M. (1990), "Enhanced Explanations of Word of Mouth Communications: The Power of Relationships," in *Research in Consumer Behavior*, E. C. Hirschman, ed. Greenwich, CT: JAI, 51-83.
- Brooke, Paul P., Jr., Daniel W. Russell, and James Price (1988), "Discriminant Validation of Measures of Job Satisfaction, Job Involvement, and Organizational Commitment," *Journal of Applied Psychology*, 73 (2), 139-45.
- Brooker, George and Michael J. Houston (1976), "An Evaluation of Measures of Opinion Leadership," in *Marketing: 1776-1976 and beyond*, Vol. 39, Kenneth L. Bernhardt, ed. Chicago: American Marketing Association, 564-67.
- Brown, Jacqueline Johnson and Peter H. Reingen (1987), "Social Ties and Word-of-Mouth Referral Behavior," *Journal of Consumer Research*, 14 (December), 350-62.
- Browne, M. W. and R. Cudeck (1993), "Alternative Ways of Assessing Model Fit," in *Testing Structural Equation Models*, K. A. Bollen and J. S. Long, eds. Newbury Park, CA: Sage, 136-62.
- Buchanan, B. (1974), "Building Organizational Commitment: The Socialization of Managers in Work Organizations," *Administrative Science Quarterly*, 19, 533-46.
- Burton, Scot, Donald R. Lichtenstein, Richard G. Netemeyer, and Judith A. Garretson (1998), "A Scale for Measuring Attitude Toward Private Label Products and an Examination of Its Psychological and Behavioral Correlates," *Journal of the Academy of Marketing Science*, 26 (4), 293-306.
- Burzynski, Michael H. and Dewey J. Bayer (1977), "The Effect of Positive and Negative Prior Information on Motion Picture Appreciation," *Journal of Social Psychology*, 101, 215-18.
- Buttle, Francis (1996), "SERVQUAL: Review, Critique, Research Agenda," *European Journal of Marketing*, 30 (1), 8-32.
- (1998), "Word-of-Mouth: Understanding and Managing Referral Marketing," *Journal of Strategic Marketing*, 6, 241-54.
- Carey, Lawrence G. (1971), "People Who Claim to Be Opinion Leaders: Identifying Their Characteristics by Self-Report," *Journal of Marketing*, 35 (October), 48-53.
- Carman, James M. (1990), "Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions," *Journal of Retailing*, 66 (1), 33-55.
- Carmines, E. G. and J. P. McIver (1981), "Analyzing Models with Unobserved Variables: Analysis of Covariance Structures," in *Social Measurement: Current Issues*, G. W. Bronstedt and E. F. Borgatta, eds., Beverly Hills, CA: Sage.
- Churchill, Gilbert A., Jr. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs," *Journal of Marketing Research*, 16 (February), 64-73.
- and Carol Suprenant (1982), "An Investigation into the Determinants of Customer Satisfaction," *Journal of Marketing Research*, 19 (November), 491-504.
- Cohen, Joel B., Martin Fishbein, and Olli T. Ahtola (1972), "The Nature and Uses of Expectancy-Value Models in Consumer Attitude Research," *Journal of Marketing Research*, 9 (November), 456-60.
- Crane, F. G. (1989), "Choice Criteria and Cue Usage in Selecting Lawyers," *Journal of Professional Services Marketing*, 5 (1), 113-21.
- Cronin, J. Joseph, Jr. and Steven A. Taylor (1992), "Measuring Service Quality: A Reexamination and Extension," *Journal of Marketing*, 56 (July), 55-68.
- Danaher, Peter J. and Roland T. Rust (1996), "Indirect Financial Benefits from Service Quality," *Quality Management Journal*, 2, 63-75.
- Darden, William R. and Fred D. Reynolds (1972), "Predicting Opinion Leadership for Men's Apparel Fashions," *Journal of Marketing Research*, 9 (August), 324-28.
- Davis, D. L., J. P. Guiltman, and W. H. Jones (1979), "Service Characteristics, Consumer Search, and the Classification of Consumer Services," *Journal of Retailing*, 55, 3.
- Day, G. S. (1971), "Attitude Change, Media, and Word of Mouth," *Journal of Advertising Research*, 11 (6), 31-40.
- Dick, Alan S. and Kunal Basu (1994), "Customer Loyalty: Toward an Integrated Conceptual Framework," *Journal of the Academy of Marketing Science*, 22 (Spring), 99-113.
- Durande-Moreau, Agnes and Jean-Claude Usunier (1999), "Time Styles and the Waiting Experience: An Exploratory Study," *Journal of Service Research*, 2 (2), 173-86.

- Engel, James E., Roger D. Blackwell, and Robert J. Kegerreis (1969), "How Information Is Used to Adopt an Innovation," *Journal of Advertising Research*, 9 (December), 3-8.
- Farber, Barry and Joyce Wyckoff (1991), "Customer Service: Evolution and Revolution," *Sales & Marketing Management*, (May), 44-48, 50-51.
- Feick, Lawrence F., Linda L. Price, and Robin A. Higie (1986), "People Who Use People: The Other Side of Opinion Leadership," in *Advances in Consumer Research*, Vol. 13. Richard J. Lutz, ed. Ann Arbor, MI: Association for Consumer Research, 301-5.
- Feldman, Sidney P. and Merlin C. Spencer (1965), "The Effect of Personal Influence in the Selection of Consumer Services," in *Marketing and Economic Development*, Proceedings of the Fall Conference of the American Marketing Association, Peter D. Bennett, ed. Chicago: American Marketing Association, 440-52.
- File, Karen Maru, Dianne S. P. Cermak, and Russ Alan Prince (1994), "Word-of-Mouth Effects in Professional Services Buyer Behavior," ———, Ben B. Judd, and Russ Alan Prince (1992), "Interactive Marketing: The Influence of Participation on Word-of-Mouth and Referrals," *Journal of Services Marketing*, 6 (Fall), 5-14.
- Frieden, Jon B. and Ronald E. Goldsmith (1988), "Correlates of Consumer Information Search for Professional Services," *Journal of Professional Services Marketing*, 4 (1), 15-29.
- Gagliano, Kathryn Bishop and Jan Hathcote (1994), "Customer Expectations and Perceptions in Service Quality in Retail Apparel," *Journal of Services Marketing*, 8 (1), 60-69.
- Gatignon, Hubert and Thomas S. Robertson (1985), "A Propositional Inventory for New Diffusion Research," *Journal of Consumer Research*, 11 (March), 849-67.
- Gremler, Dwayne D. (1994), "Word-of-Mouth about Service Providers: An Illustration of Theory Development in Marketing," in *1994 AMA Winter Educator's Conference: Marketing Theory and Applications*, C. Whan Park and Daniel C. Smith, eds. Chicago: American Marketing Association, 62-70.
- Gronroos, C. (1982), *Strategic Management and Marketing in the Service Sector*. Helsinki: Swedish School of Economics and Business Administration.
- Guseman, Dennis S. (1981), "Risk Perceptions and Risk Reduction in Consumer Services," in *Marketing of Services*, J. H. Donnelly and W. R. George, eds. Chicago: American Marketing Association, 200-204.
- Hair, Joseph F., Rolph E. Anderson, Ronald L. Tatham, and William C. Black (1998), *Multivariate Data Analysis*, 5th ed. Upper Saddle River, NJ: Prentice Hall.
- Harrison-Walker, L. Jean (in press), "E-Complaining: A Content Analysis of an Internet Complaint Forum," *Journal of Services Marketing*.
- Hartline, M. D. and K. C. Jones (1996), "Employee Performance Cues in a Hotel Service Environment: Influence on Perceived Service Quality, Value, and Word-of-Mouth Intentions," *Journal of Business Research*, 35, 207-15.
- Herr, Paul M., Frank R. Kardes, and John Kim (1991), "Effects of Word-of-Mouth and Product Attribute Information on Persuasion: An Accessibility-Diagnosticity Perspective," *Journal of Consumer Research*, 17 (March), 454-62.
- Heskett, James L., W. Earl Sasser, Jr., and Leonard A. Schlesinger (1997), *The Service Profit Chain*. New York: Free Press.
- Hoetler, J. W. (1983), "The Analysis of Covariance Structures: Goodness of Fit Indices," *Social Methods and Research*, 11 (1), 325-44.
- Hu, Li-tze and Peter M. Bentler (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," *Structural Equation Modeling*, 6 (1), 1-55.
- Jaccard, James, Robert Turrisi, and Choi K. Wan (1990), *Interaction Effects in Multiple Regression*, Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-072. Newbury Park, CA: Sage.
- Jöreskog, Karl G. and Dag Sörbom (1989), *LISREL VII: A Guide to the Program and Applications*, 2nd ed. Chicago: SPSS.
- Katona, George and Eva Mueller (1954), "A Study of Purchasing Decisions," in *Consumer Behavior: The Dynamics of Consumer Reaction*, L. H. Clark, ed. New York: New York University Press, 30-87.
- Katz, Elihu and Paul F. Lazarsfeld (1955), *Personal Influence*. Glencoe, IL: Free Press.
- Kelley, Scott W. and Mark A. Davis (1994), "Antecedents to Customer Expectations for Service Recovery," *Journal of the Academy of Marketing Science*, 22 (1), 52-61.
- Kiel, Geoffrey C. and Roger A. Layton (1981), "Dimensions of Consumer Information Seeking Behavior," *Journal of Marketing Research*, 18 (May), 233-39.
- King, Charles W. and John O. Summers (1970), "Overlap of Opinion Leadership across Consumer Product Categories," *Journal of Marketing Research*, 7 (February), 43-50.
- Lovelock, Christopher H. (1991), *Services Marketing*, 2nd ed. Englewood Cliffs, NJ: Prentice Hall.
- Mangold, G. W. and E. Babakus (1991), "Service Quality: The Front Stage Perspective vs. the Back Stage Perspective," *Journal of Services Marketing*, 5 (4), (Autumn), 59-70.
- Mathieu, J. E. and D. M. Zajac (1990), "A Review and Meta-Analysis of the Antecedents, Correlates, and Consequences of Organizational Commitment," *Psychological Bulletin*, 108, 171-94.
- Mayer, Roger C. and F. David Schoorman (1992), "Predicting Participation and Outcomes through a Two-Dimensional Model of Organizational Commitment," *Academy of Management Journal*, 35, 671-84.
- McGee, Gail W. and Robert C. Ford (1987), "Two (or More?) Dimensions of Organizational Commitment: Reexamination of the Affective and Continuance Commitment Scales," *Journal of Applied Psychology*, 72 (4), 638-42.
- Mels, Gerhard, Christo Boshoff, and Deon Nel (1997), "The Dimensions of Service Quality: The Original European Perspective Revisited," *Service Industries Journal*, 17 (1), 173-89.
- Meyer, J. P. and N. J. Allen (1984), "Testing the 'Side-Bet' Theory of Organizational Commitment: Some Methodological Considerations," *Journal of Applied Psychology*, 72, 638-41.
- , Sampo V. Paunonen, Ian R. Gellatly, Richard D. Goffin, and Douglas N. Jackson (1989), "Organizational Commitment and Job Performance: It's The Nature of the Commitment That Counts," *Journal of Applied Psychology*, 74 (1), 152-56.
- Mowday, R. T., L. W. Porter, and R. M. Steers (1982), *Employee-Organization Linkages: The Psychology of Commitment, Absenteeism, and Turnover*. New York: Academic Press.
- Murray, Keith B. (1991), "A Test of Services Marketing Theory: Consumer Information Acquisition Activities," *Journal of Marketing*, 55 (January), 10-25.
- Nunnally, Jum C. (1978), *Psychometric Theory*, 2nd ed. New York: McGraw-Hill.
- Parasuraman, A., Valarie Zeithaml, and Leonard Berry (1985), "A Conceptual Model of Service Quality and Its Implications for Future Research," *Journal of Marketing*, 49 (Fall), 41-50.
- , ———, and ——— (1988), "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing*, 64 (Spring), 12-40.
- Pitt, Leyland F., Richard T. Watson, and C. Bruce Kavan (1995), "Service Quality: A Measure of Information Systems Effectiveness," *MIS Quarterly*, 19 (2), 173-87.
- Porter, L. W., R. M. Steers, R. T. Mowday, and P. V. Boulian (1974), "Organizational Commitment, Job Satisfaction, and Turnover among Psychiatric Technicians," *Journal of Applied Psychology*, 59, 603-9.
- Price, Linda L. and Lawrence F. Feick (1984), "The Role of Interpersonal Sources in External Search: An Informational Perspective," *Advances in Consumer Research*, 10, 250-55.
- Reingen, Peter H. and Jerome B. Kernan (1986), "Analysis of Referral Networks in Marketing: Methods and Illustration," *Journal of Marketing Research*, 23 (November), 370-78.
- Reynolds, Fred D. and William R. Darden (1971), "Mutually Adaptive Effects of Interpersonal Communication," *Journal of Marketing Research*, 8 (November), 449-54.

- Richard, M. D. and A. W. Allaway (1993), "Service Quality Attributes and Choice Behavior," *Journal of Services Marketing*, 7 (1), 59-68.
- Richins, Marsha L. (1983), "Negative Word-of-Mouth by Dissatisfied Customers: A Pilot Study," *Journal of Marketing*, 47 (Winter), 68-78.
- (1984), "Word-of-Mouth Communications as Negative Information," in *Advances in Consumer Research*, Vol. 11, T. C. Kinnear, ed. Ann Arbor, MI: Association for Consumer Research, 697-702.
- Rogers, Everett (1962), *Diffusion of Innovations*. New York: Free Press.
- (1983), *Diffusion of Innovations*, 3rd ed. New York: Free Press.
- SAS User's Guide: Statistics, 1982 Edition* (1982). Cary, NC: SAS Institute.
- Schechter, D. S. (1985), "Value and Continuance Commitment: A Field Test of a Dual Conceptualization of Organizational Commitment," Unpublished master's thesis, University of Maryland, College Park.
- Sheth, Jagdish N. (1971), "Word-of-Mouth in Low Risk Innovations," *Journal of Advertising Research*, 11 (June), 15-18.
- Singh, Jagdip (1990), "Voice, Exit, and Negative Word-of-Mouth Behaviors: An Investigation across Three Service Categories," *Journal of the Academy of Marketing Science*, 18 (1), 1-15.
- Swan, John E. and Richard L. Oliver (1989), "Postpurchase Communications by Consumers," *Journal of Retailing*, 65 (Winter), 516-33.
- Technical Assistance Research Programs, Inc. (TARP) (1982), "Measuring the Grapevine Consumer Response and Word-of-Mouth," In *The Coca-Cola Company*. Washington, DC: Technical Assistance Research Programs.
- Triplett, John L., Oliver H. M. Yau, and Cathy Neal (1994), "Addressing the Reliability and Validity of SERVQUAL in a Longitudinal Study: The Experience of an Australian Organization," *Asia Pacific Journal of Marketing & Logistics*, 6 (1, 2), 41-62.
- Van Birgelen, Marcel, Ko de Ruyter, and Martin Wetzels (2001), "What Makes Service Research Centers Effective?" *Journal of Service Research*, 3 (3), 265-73.
- Vandamme, R. and J. Leunis (1993), "Development of a Multiple Item Scale for Measuring Hospitality Service Quality," *International Journal of Service Industry Management*, 4 (3), 30-49.
- Woodruff, Robert B., Ernest R. Cadotte, and Roger L. Jenkins (1983), "Modeling Consumer Satisfaction Processes Using Experience-Based Norms," *Journal of Marketing Research*, 20 (August), 296-304.
- Yale, Laura J. and Mary C. Gilly (1995), "Dyadic Perceptions in Personal Source Information Search," *Journal of Business Research*, 32, 225-37.
- Zeithaml, Valerie A. (1981), "How Consumer Evaluation Processes Differ between Goods and Services," in *Marketing of Services*, J. H. Donnelly and W. R. George, eds. Chicago: American Marketing Association.
- , A. Parasuraman, and Leonard L. Berry (1990), *Delivering Quality Service: Balancing Customer Perceptions and Expectations*. New York: Free Press.

L. Jean Harrison-Walker is an assistant professor of marketing at the University of Houston—Clear Lake. She received her Ph.D. in marketing from Florida State University. Her current research is in services marketing and relationship marketing, with a particular interest in consumer and channel member responses. Her research has appeared in the *Journal of Marketing Channels*, the *Journal of Marketing Theory and Practice*, the *Journal of Services Marketing*, the *Journal of Consumer Marketing*, the *Journal of Education for Business*, the *International Journal of Non-Profit and Voluntary Sector Marketing*, the *Journal of Business Disciplines*, and various other journals and proceedings.