# RESERV: An Instrument for Measuring Real Estate Brokerage Service Quality

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*Abstract.* **By applying the process utilized in the development of a generic service quality measurement instrument (SERVQUAL), an instrument to measure perceived levels of satisfaction with real estate brokerage service quality (RESERV) is developed. The RESERV instrument contains thirty-one items in seven dimensions and exhibits both high internal consistency and convergent validity. The findings, based upon a survey of home sellers, support the notion that the real estate brokerage industry is not unique and, as a result, can benefit from the extensive body of knowledge available in other service industries.**

## Introduction

Real estate brokerage has an enormous impact on the national, state, and local economies. Yet only in recent years have services such as real estate brokerage received serious academic attention. Relatedly, even though service quality measurement is receiving increasing attention in academic literature (for example, Brown and Swartz, 1989; Carman, 1990; Clow, Mason and Ashton, 1991; Elliott and Hall, 1991; Kurtz and Clow, 1991; Parasuraman, Zeithaml and Berry, 1985, 1988, 1990, 1991; Reidenbach and Sandler-Smallwood, 1990), few have addressed the field of real estate brokerage service quality and satisfaction (Duffus, 1991; Johnson, Dotson and Dunlap, 1988; Little and Myers, 1987). It is our contention that the assumption of uniqueness has been a trap for researchers in the brokerage field. The assumption that real estate brokerage is so unique as to make generalizable evaluation impossible renders developments in other fields useless. However, as Schmenner (1986) points out, "(s)ervice managers who continue to claim that their operations are unique may be left in the dust by those who see their operations as more generic."

Indeed, Lovelock (1983) identifies several classification strategies that reveal similarities among various service providers. For example, one such strategy centers on the extent to which customer contact personnel exercise judgment in meeting individual customer needs and the extent to which service characteristics are customized (Lovelock, 1983, p. 15). Since real estate brokerage would be classified as high in both characteristics, it could be argued that brokerage operations may benefit from information gleaned from fields, such as legal services, health care and architectural design, that are similarly classified.

Other examples from the classification efforts of Lovelock, some of which may reasonably be applied to real estate brokerage services and some of which may not, could

also be described. However, the primary issue in this context is one of uniqueness. This is a critical concern for real estate brokerage because it calls into question the basic definition of the industry. If real estate brokerage can be evaluated as a variant of generic service industries, a quite different concept of real estate brokerage may emerge from that which currently exists. Brokers may feel that, since their industry is unique, concepts of service quality developed in other settings generally do not apply. Thus, the large, and growing, body of knowledge in services marketing is left untapped. If real estate brokerage is conceptually similar to other service industries, then this knowledge not only becomes available for use, its application becomes imperative.

There is often confusion as to whether the brokerage product is a tangible property being developed and/or resold, or service assistance in the sales process. Thus, the client as well as the broker may be unclear as to what is actually being offered. Although Marcus (1981) enumerates the distinctions between goods and service marketing as they apply to real estate services, the large impact that the property itself, as a tangible good, has on the success of the service delivery process cannot be ignored. Furthermore, the failure to sell a person's home, or to obtain a lower price than originally anticipated, will inevitably lead to lower levels of consumer satisfaction, regardless of how well the process was conducted. By the same token, a quick sale at the desired price will generally lead to high satisfaction ratings. However, the real estate brokerage industry is not unique regarding this dilemma. Market effects also have an impact on other service providers as well. For example, financial institutions may suffer due to market changes in interest rates and the overall stability, or lack of stability, of the industry.

Our previous research in the brokerage field has concentrated on the process of brokerage firm selection (Nelson and Nelson, 1988, 1991). These efforts have led to the conclusion that, at a minimum, a consistent instrument for measuring real estate brokerage service quality is needed. The more general issue, however, remains that of defining the nature of real estate brokerage. Thus, the integration of real estate brokerage into general service quality measurement efforts will help either to dispel or reinforce the notion of the uniqueness of the industry. This research addresses the issue by adapting a generic service quality measurement instrument, called SERVQUAL, for specific use in real estate brokerage operations. Until quite recently, the most direct application of service quality concepts to real estate brokerage was by Johnson, Dotson and Dunlap (1988). Their research attempted to fit the elements of an existing real estate brokerage evaluation instrument into the SERVQUAL context by using variants of the SERVQUAL dimension labels. Thus, although their study may be considered a reasonable extension of previous research efforts, it is not a true application of the SERVQUAL instrument. McDaniel and Louargand (1994), on the other hand, challenged the Johnson, Dotson and Dunlap assertion that the uniqueness of the real estate brokerage industry makes a direct application of SERVQUAL unworkable. They chose to compare the attitudes of homebuyers and real estate agents with regard to perceptions of brokerage service quality by using a direct adaptation of the twenty-two-item SERVQUAL instrument.

## The Concept of Service Quality

The concept of service quality is itself a very elusive one. Service quality is based on *perceptions of quality*. Thus, it differs from "objective quality" which distinguishes between mechanistic quality involving an objective aspect or feature of a thing, and

humanistic quality involving the subjective response of people to objects. Service quality is a form of attitude related to satisfaction[1] and "results from a comparison of expectations with perceptions of performance" (Parasuraman, Zeithaml and Berry, 1988, p. 15).

Parasuraman, Zeithaml and Berry, perhaps the most recognized researchers in the field of service quality and service quality measurement, report three basic underlying themes in the literature (1985):

1. Service quality is more difficult for the consumer to evaluate than goods quality.
2. Service quality perceptions result from a comparison of consumer expectations with actual service performance.
3. Quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery.

As a result of early conceptualization and investigation, Parasuraman, Zeithaml and Berry (1985, 1988, 1990, 1991) developed the multiple-item scale for measuring consumer perceptions of generic service quality called SERVQUAL. Although not without its critics (for example, Carman, 1990; Cronin and Taylor, 1992), the SERVQUAL instrument is an established tool for measuring service quality (see, for example, Pitt et al., 1992; Reidenbach and Sandifer-Smallwood, 1990; Teas, 1993). It was derived from a set of ten potentially overlapping dimensions and tested in businesses that represent a cross-section of service industries that vary along Lovelock's (1983) classification dimensions. Two of the businesses used in the development of SERVQUAL were a retail bank and securities brokerage firm. These businesses, like real estate brokerage, represent high contact services in the Lovelock schema.

As Parasuraman, Zeithaml and Berry (1988, pp. 30–31) point out, the SERVQUAL scale provides a basic skeleton that encompasses five identified service quality dimensions and this skeleton can be adapted or supplemented to fit more specific needs. This research was designed to develop a real estate brokerage-specific version of the general SERVQUAL instrument by closely adhering to the original development process. A successful result will not only provide an instrument that may be used to evaluate the quality of real estate brokerage services, in itself a desirable goal, but will also help to focus industry attention on its very nature. A clearer vision of itself as a service industry, not unlike many others, will help to push real estate brokerage to its next level of development.

## Research Methodology

### *The Test Instrument*

The development of a real estate-specific scale, hereafter referred to as RESERV (Real Estate SERVice quality) proceeded in two phases. The first phase involved a pretest using an instrument in which the wording of the thirty-four items in the "first stage of scale purification"[2] SERVQUAL instrument (Parasuraman, Zeithaml and Berry, 1985, 1988) was minimally altered to specifically mention real estate brokerage firms and/or agents. One item (regarding the need to cut through a lot of red tape to talk to higher level officials) was eliminated as inappropriate and an item (regarding the need for real estate

agents to have extensive training and education) was inserted as a result of its apparent importance revealed in earlier research (Nelson and Nelson, 1991).

The second phase of the research introduced the preliminary version of the RESERV instrument that was comprised of a total of thirty-six items. In addition to the item on training and education added for the pretest, ten items, which are specific to real estate brokerage and generally consistent with the generic SERVQUAL dimensions, were added. These items evolved from the results of the pretest and from previous research in the area of brokerage selection and evaluation (see Nelson and Nelson, 1991, for a summary table of brokerage selection and evaluation research). Furthermore, the pretest findings resulted in eight additional items being eliminated from the "first stage of scale purification" SERVQUAL instrument. Thus, the preliminary thirty-six-item RESERV scale consisted of twenty-five items from the thirty-four-item SERVQUAL scale plus eleven items derived from the real estate brokerage literature.

Subtle rephrasing of the twenty-five SERVQUAL items made them more appropriate to a real estate brokerage context. Because the use of negatively worded statements in a long survey instrument may serve to confuse respondents and cause incorrect responses (Carman, 1990, p. 42), this version of the instrument contained only positively worded statements.

As indicated earlier, the initial version of the RESERV instrument was introduced in the second phase of the research. The eight dimensions of this thirty-six-item scale are defined in Exhibit 1. The definitions of the first seven dimensions were proposed by Parasuraman, Zeithaml and Berry (1985, 1988). The number of items initially believed to comprise each dimension is also identified. The placement of the twenty-five SERVQUAL items is based on the SERVQUAL literature, while the preliminary placement of the eleven new items is subjective.

## Questionnaire Format

While the SERVQUAL instrument was developed based upon questionnaires collected in a shopping mall by an independent marketing research firm,[3] this technique is not viewed as a realistic means of identifying and contacting recent clients of real estate brokerage firms. Thus, a mail survey method was selected to test the RESERV instrument.

The mail questionnaire consisted of three sections. Following an explanation of the purpose of the study found on the cover, the first section contained the previously described thirty-six items in Likert-scale format stated as expectations of service. The second section established which real estate brokerage firm was the listing firm at the time of the home sale plus asked for an overall rating of the quality of service received and an indication of whether or not the firm would be recommended to a friend (an item which has been shown as important in real estate brokerage selection and evaluation). The final section contained the same thirty-six items found in the first section, however, here they were restated as perceptions of how the agent or firm actually provided service.

## Sampling Considerations

When a client evaluates the quality of services received from a real estate brokerage firm and/or agent, the role played by the client (i.e., buyer or seller) may color

**Exhibit 1**
**Preliminary RESERV Instrument**

| | No. of SERVQUAL Items | No. of New Items |
|---|---|---|
| **Tangibles**<br>Physical facilities, equipment, and appearance of personnel | 3 | 4 |
| **Reliability**<br>The ability to perform the promised service dependably and accurately | 3 | 2 |
| **Responsiveness**<br>Willingness to help customers and provide prompt service | 4 | 0 |
| **Assurance**<br>Knowledge and courtesy of employees and their ability to inspire trust and confidence | 7 | 1 |
| **Empathy**<br>Caring, individualized attention the firm provides its customers | 2 | 1 |
| **Access**<br>Approachability and ease of contact including easy telephone access, convenient hours of operation and location. *Note*: This dimension appeared in the "first stage of scale purification" SERVQUAL instrument, but items contained in it were combined with other dimensions or eliminated in the final SERVQUAL configuration | 4 | 1 |
| **Communication**<br>Keeping customers informed in language they can understand and listening to them. *Note*: This dimension appeared in the "first stage of scale purification" SERVQUAL instrument, but items contained in it were combined with other dimensions or eliminated in the final SERVQUAL configuration | 2 | 0 |
| **Partnership**<br>Working with the customer to obtain the best results possible. *Note*: This dimension did not appear in the original SERVQUAL instrument. It was added during this phase of developing a real estate-specific instrument | 0 | 2 |
| **Total No. of Items** | 25 | 11 |

perceptions. Buyers, who are, most often, technically not clients of real estate agents, receive very different services during the process than do sellers. Therefore, it is important to distinguish between sellers and buyers when evaluating the quality of services received during a real estate transaction. For this reason, the study is limited to homeowners who utilized the services of a real estate brokerage firm in the sale of their primary residence.

The pretest sample was obtained from a single real estate brokerage firm in a mid-sized midwestern city. Although the firm is perhaps the largest residential brokerage firm in the area, extending the time frame to eighteen months (the original SERVQUAL time limit was three months) resulted in a list of only seventy-two names with available current

addresses. (Remember, these are house sellers who have moved from the house sold.) Of these seventy-two sellers, twenty-four returned questionnaires in usable form for a response rate of 33.3%.

For the second phase of the research, the sampling frame was expanded by compiling a list from deed records at the county courthouse of all houses sold in the same mid-sized midwestern city during a more recent seven-month period which did not overlap with the pretest period. An initial list of 352 transactions was reviewed and those transactions completed by developers and known investors[4] were eliminated. This procedure resulted in a mailing list of 314 names, but provided only the addresses of the houses sold. Because the time frame was relatively short, forwarding addresses were available for most of the sellers. The address of the sold property was used and the postal service attempted to forward these to current addresses when possible. A total of forty-one questionnaires were returned as "undeliverable" due, in most part, to expired or unavailable forwarding information. Although the houses were listed as sold during this seven-month period, some of the sellers had apparently moved some time prior to the actual sale. Thus, some of the forwarding information had expired.

Of the remaining 273 questionnaires that were presumably delivered to the new addresses, 21 were marked as "ineligible"[5] by the respondents and returned. The total number in the presumed eligible sampling frame was thus reduced to 252. Of these (which may have included additional ineligible recipients), 62 questionnaires were returned in usable form for an adjusted response rate of 24.6%.

## RESERV Scale Assessment

Although the data collection process differed somewhat, by necessity, from that employed in the development of the SERVQUAL scale, a similar analysis procedure was followed. First, an internal consistency measure, coefficient *alpha*, or Cronbach *alpha* as it is commonly called, was computed for each of the previously described dimensions. This, coupled with a factor analytic procedure used to assist in screening and placement of items in dimensions, led to the final RESERV scale.

Next, the instrument was subjected to convergent validity tests. This involved tests of the correspondence between the responses to the final RESERV scale and both the overall quality ratings and the likelihood of recommending the firm to a friend. ANOVA was used in this portion of the analysis.

All of the information that follows is based upon an analysis of "differences" data. Differences data is computed by subtracting the rating on an item dealing with the expected level of service from the corresponding item dealing with the perceived provision of the service. Therefore, a negative score indicates that the firm or agent did not provide the level of service expected or anticipated. A score of zero indicates that the perceived level of service matched the expected level, while a positive score indicates that the perceived level of service provided exceeded expectations.

### Measurement of Internal Consistency

Because a major purpose of this study is to test the ability to utilize a generic service quality measurement instrument in a real estate brokerage context, each dimension in the new scale must be examined for its internal consistency. The computation of Cronbach

## Exhibit 2
## Internal Consistency Comparisons

| Dimension | Cronbach *Alpha* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | SERVQUAL¹ (1st stage purification) | No. of Items | SERVQUAL Items Used in Prelim RESERV | No. of Items | Prelim RESERV | No. of Items | Final RESERV | No. of Items |
| Tangibles | .72 | 4 | .65 | 3 | .79 | 7 | .80 | 3 |
| Reliability | .83 | 5 | .80 | 3 | .87 | 5 | .87 | 4 |
| Responsiveness | .84 | 5 | .87 | 4 | .87 | 4 | .91 | 3 |
| Assurance | .85 | 7 | .91 | 7 | .90 | 8 | .93 | 3 |
| Empathy | .85 | 4 | .81 | 2 | .89 | 3 | .93 | 4 |
| Access | .78 | 5 | .85 | 4 | .85 | 5 | N/A | |
| Communication | .79 | 4 | .83 | 2 | .83 | 2 | N/A | |
| Partnership (new) | N/A | | N/A | | .70 | 2 | N/A | |
| Professionalism (new) | N/A | | N/A | | N/A | | .89 | 8 |
| Availability (new) | N/A | | N/A | | N/A | | .90 | 6 |
| Total No. of Items | | 34 | | 25 | | 36 | | 31 |

¹as reported by Parasuraman, Zeithaml and Berry (1988)

*alpha* was coupled with a factor analytic approach in a manner much like that utilized in the development of the original SERVQUAL instrument.

Four sets of Cronbach *alpha* results, with the corresponding number of items included in each dimension, are presented in Exhibit 2. At the far left, in the first column, are the Cronbach *alpha* scores for the thirty-four items in the seven SERVQUAL dimensions as reported in the "first stage of scale purification" by Parasuraman, Zeithaml and Berry (1988). These range from .72 to .85.

In arriving at the final RESERV configuration, the process of analysis, which was repeated for each dimension, began with the computation of Cronbach *alpha* for a dimension composed solely of the remaining original (i.e., "first stage of scale purification") SERVQUAL items used in the preliminary RESERV scale. New items added to arrive at the preliminary RESERV scale were then included and Cronbach *alpha* was recomputed. The middle two sets of scores reflect the results of these tests. The twenty-five items included from the original seven-dimension SERVQUAL scale, when taken by themselves, result in Cronbach *alpha* scores ranging from .65 to .91. The Cronbach *alpha* scores for the eight-dimension, thirty-six-item preliminary RESERV configuration range from .70 to .90.

Five items in the preliminary thirty-six-item scale are eliminated, resulting in a thirty-one-item final RESERV scale. (The next section provides a discussion of this final version of RESERV.) In the columns at the far right are the Cronbach *alpha* results for the seven dimensions in the final configuration of RESERV. These scores range from a low of .80 to a high of .93. Of the four sets of scores, these are the highest.

### The Final RESERV Instrument

Developing the final configuration of RESERV involved several steps. After the initial Cronbach *alpha* scores were computed, an oblique factor analysis was performed. The

resultant five-factor solution, not presented here, was used in a reevaluation of the preliminary RESERV scale. The fact that the five factors extracted in this analysis do not exactly match the final five SERVQUAL dimensions or any of the eight preliminary dimensions in this study is not necessarily a cause for concern. Parasuraman, Berry and Zeithaml (1991, p. 440) point out that the various replication studies of the original SERVQUAL study differ most with respect to SERVQUAL's discriminant validity—the extent to which SERVQUAL represents distinct dimensions of service quality. Not only did the factor analyses conducted in the replication studies cited by the SERVQUAL authors not result in items loading on the same factors as indicated in the SERVQUAL study, anywhere from two to eight factors emerged in the various studies.

The SERVQUAL authors suggest that even though customers may rate a firm the same or even similarly on various items, they do not necessarily consider the items to belong on the same dimension. Nevertheless, high intercorrelations among these ratings will likely cause items to load on the same factor when the ratings are factor analyzed. Therefore, an unclear factor pattern obtained during an analysis of industry- or company-specific ratings does not necessarily mean the original dimensions are ill-defined (Parasuraman, Berry and Zeithaml, 1991, p. 443).[6]

Exhibit 3 presents the RESERV items in each of the final seven dimensions. These are stated in expectations form as used in the questionnaire. Items are identified as being in the final SERVQUAL instrument, in the "first stage of scale purification" list but eliminated from the final SERVQUAL instrument, or added during this study. Also indicated are the movement of items between dimensions and elimination of items during this study. However, as noted by Parasuraman, Berry and Zeithaml (1988, p. 24), eliminated items may deserve future consideration, in this case, because the value of their presence may be regionally specific.

As previously stated, this final configuration of RESERV is primarily based upon a comparison of the factor analysis results and the preliminary configuration of RESERV. It was also noticed that most items, and thus dimensions, could be categorized along two subdimensions: (1) active/passive, whereby the service provider actively seeks out the opportunity to provide service or passively exudes a willingness to do so, and (2) direct/indirect, whereby the item either directly or indirectly deals with the primary service offered (in this case, assistance in the sale of a house). These subgroupings were subjectively compared to the statistical results. With these bases in mind, several items were either eliminated or reassigned to other dimensions. Seven final dimensions emerged. Of these seven dimensions, five match the final SERVQUAL configuration while two new dimensions were added. A brief discussion of each dimension follows.

*Dimension 1:* **Tangibles.** Tangibles is perhaps the weakest and most ill-defined of the original SERVQUAL dimensions. It also became problematic in the development of the RESERV scale. Of the seven items in the preliminary RESERV configuration of this dimension, two were retained, two were eliminated, and three were moved to a new dimension called professionalism. With one item added from the access dimension which was eliminated in the final RESERV configuration, the final tangibles dimension contains only three items. These three items are felt to be only indirectly related to the primary service offered by real estate firms,while the three moved items appear to be more directly associated with the service offered and, therefore, became part of the professionalism dimension.

## Exhibit 3
## Final RESERV Instrument

**TANGIBLES—Physical Facilities, Equipment, and Appearance of Personnel**
SQ   Real estate offices should be visually appealing.
N    The size of a real estate firm should be appropriate for the services offered (used appearance, not size, in SERVQUAL).
N    Real estate offices should be conveniently located. (from ACCESS dimension)

*Eliminated*
SQ   Real estate agents should dress in a professional manner.
N    Real estate firms should be affiliated with nationally known firms.

**RELIABILITY—Ability to Perform the Promised Service Dependably and Accurately**
SQ   Real estate firms should provide their services at the time they promise to do so.
SQ   Real estate firms should be dependable.
SQ   Real estate firms should keep accurate records.
N    Real estate agents should be reputable.

*Eliminated*
N    Real estate firms should have a good reputation in the community.

**RESPONSIVENESS—Willingness to Help Customers and Provide Prompt Service**
SQ   Real estate firms should tell clients exactly when services (other than the actual sale) will be performed.
SQe  Real estate firms should keep clients informed about matters of concern to them. (from COMMUNICATION dimension)
SQe  Clients should not have to wait a long time for results. (from ACCESS dimension)

**ASSURANCE—Knowledge and Courtesy of Employees and Their Ability to Inspire Trust and Confidence**
SQ   Clients should be able to trust a firm's agents.
SQ   Clients should feel safe in their transactions with real estate agents/brokers.
SQe  Clients' dealings with these firms should be very pleasant.

*Eliminated*
SQ   Real estate agents should be polite.
SQe  Real estate agents should never talk down to clients.

**EMPATHY—Caring Individualized Attention the Firm Provides Its Customers**
SQ   Real estate agents should give clients personal attention.
SQ   Real estate agents should make every effort to understand the needs of their clients.
SQe  Real estate firms should protect their clients' interest and well being. (from COMMUNICATION dimension)
N    Real estate agents should be aggressive on their clients' behalf.

**PROFESSIONALISM (new)—Evidence That the Best Possible Professional Service is Being Provided**
SQ   Real estate firms should use up-to-date technology. (from TANGIBLES dimension)
N    The commission or fee charged should be in keeping with services provided. (from TANGIBLES dimension)
N    Properties should be well advertised by real estate firms. (from TANGIBLES dimension)
SQ   Real estate agents should get adequate support from their firms to do their jobs well. (from ASSURANCE dimension)
SQe  A firm's agents should be knowledgeable. (from ASSURANCE dimension)
N    Real estate agents should have extensive training and education. (from ASSURANCE dimension)
N    Real estate agents should be instrumental in setting the best selling price for a house. (from PARTNERSHIP dimension)
N    Real estate agents should make suggestions for how to best prepare a house for sale. (from PARTNERSHIP dimension)

## Exhibit 3
### Final RESERV Instrument (Continued)

**AVAILABILITY (new, similar to ACCESS)—Perceived Approachability and Ease of Contact, Whether or Not Actually Attempted**

SQ   Real estate agents should always be willing to help clients. (from RESPONSIVENESS dimension)

SQ   Real estate firms should respond to client requests promptly. (from RESPONSIVENESS dimension)

SQe  Clients should not have to wait to get appointments with real estate agents. (from RESPONSIVENESS dimension)

SQ   Real estate agents should be available at hours convenient to their clients. (from ACCESS dimension)

SQe  Clients should be able to contact a senior broker in a firm without difficulty. (from ACCESS dimension)

SQe  Real estate agents should be easy to contact by telephone. (from ACCESS dimension)

SQ= items adapted from SERVQUAL scale
SQe= items adapted from SERVQUAL phase 1 purification stage (these were not in final SERVQUAL instrument)
N= new items added in the development of real estate-specific scale

*Dimension 2:* **Reliability.** In contrast to the tangibles dimension, the preliminary RESERV reliability dimension changed very little. The only alteration involved the elimination of one of the two new items that dealt with the firm's reputation in the community.

*Dimension 3:* **Responsiveness.** The final configuration of the responsiveness dimension contains three items. However, of the four items originally in this dimension, only one, dealing with telling clients when services would be performed, was retained. The other three, which dealt with more passive elements of responsiveness, were moved to the new availability dimension. The other two items in the final RESERV configuration of the responsiveness dimension were taken from two preliminary dimensions that were eliminated in the final RESERV scale. These capture more active elements of responsiveness, much like the item retained.

*Dimension 4:* **Assurance.** Only three of the initial eight items were retained in the final assurance dimension. Three items dealing more directly with the provision of the primary service were moved to the new professionalism dimension. The items remaining on the assurance dimension relate to less tangible, more indirect aspects of assurance than do the three moved.

*Dimension 5:* **Empathy.** All three items in the preliminary configuration of the empathy dimension were retained. One item from the eliminated communication dimension was added, resulting in an empathy dimension containing four items. All four reflect active displays of empathy that are indirectly associated with the provision of the primary service.

The previously described five dimensions are similar to the five dimensions identified in the final twenty-two-item version of SERVQUAL even though some of the individual items are either new or moved from dimensions eliminated after the "first stage of scale purification." The remaining two dimensions are new to this final version of RESERV.

*Dimension 6:* **Professionalism (new).** Professionalism is a dimension, ignored in the development of SERVQUAL, that is vital in an industry whose primary product is the provision of a professional service. Some of the items that have been included in this dimension are generic to professional service industries while others relate directly to the provision of a quality real estate brokerage service. There are eight items on this dimension: three from the tangibles dimension, three from the assurance dimension, and the two items from the partnership dimension presented in the preliminary configuration of RESERV. Only two of these eight items are represented on the twenty-two-item SERVQUAL scale, and these are found on two different dimensions. All eight items share in common the fact that they reflect an active display of professionalism which is directly related to the primary service offered.

*Dimension 7:* **Availability (new).** The final dimension, availability, is very similar to the access dimension which was eliminated after the "first stage of scale purification" for SERVQUAL and presented in the preliminary configuration of RESERV. In fact, half of the six items comprising this dimension were taken from the access dimension. However, while the access dimension focused more on the physical elements associated with availability, this new dimension also includes elements of prompt responses to contacts initiated by clients. Thus, not surprisingly, the remaining three items in this dimension were taken from the responsiveness dimension. These six items all reflect a passive willingness on the part of agents and brokers to be available to clients when needed.

### Convergent Validity Tests

Lastly, ANOVA was used to test the correspondence between the final RESERV dimensions and both the overall service quality ratings and the willingness by survey respondents to recommend the firm to a friend. The Cronbach *alpha* analysis reported above was a test of the reliability, or internal consistency, of the RESERV instrument. After determining the final configuration of RESERV, the ANOVA tests help determine the ability of the instrument to differentiate among respondents based upon either, or both, of the two general service quality ratings.

Respondents were asked two questions regarding their experience during the sales process. The first simply asked how they would rate the overall quality of the service they received from their real estate firm.[7] The second question asked respondents the likelihood that they would recommend this firm to a friend.[8] ANOVA was used to determine whether the responses to the thirty-one items in the final RESERV instrument were consistent with responses to these two general questions. Thus, averages of the differences data computed for each of the final seven RESERV dimensions, as well as the aggregate thirty-one-item scale, are compared among groups determined by responses to the two general evaluation questions. Because so few people indicated that the service received was either "poor" or "fair," these two response categories were combined. Similarly, the respondents who indicated that they "definitely" or "probably would not" recommend the firm to a friend were combined into one group.

The results using the overall service quality rating to define groups are presented in Exhibit 4, while the results using the recommendation to a friend question to define groups are presented in Exhibit 5. As described earlier, negative ratings indicate a situation whereby the perceived service quality received was lower than the expected level,

## Exhibit 4
## RESERV Dimensions by Overall Service Quality Ratings
## Analysis of Variance Results

| RESERV Dimension | Average Ratings | | | | | | Overall F-Value | Prob. |
|---|---|---|---|---|---|---|---|---|
| | Poor/Fair | n | Good | n | Excellent | n | | |
| Tangibles | −.5476 | 14 | .1667 | 14 | 1.1154 | 26 | 7.8899 | .0010 |
| Reliability | −2.5938 | 16 | −.5385 | 13 | −.0446 | 28 | 51.6106 | .0001 |
| Responsiveness | −3.1333 | 15 | −.8750 | 16 | .1667 | 30 | 51.0611 | .0001 |
| Assurance | −3.5000 | 16 | −.6667 | 16 | .0952 | 28 | 70.1878 | .0001 |
| Empathy | −3.4667 | 15 | −.7167 | 15 | .2586 | 29 | 86.4019 | .0001 |
| Professionalism (new) | −2.2500 | 14 | −.8750 | 14 | .1058 | 26 | 47.4578 | .0001 |
| Availability (new) | −2.2083 | 16 | −.3472 | 12 | .5119 | 28 | 48.6755 | .0001 |
| Total Instrument | -2.4764 | 13 | -.5000 | 10 | .3212 | 23 | 86.8232 | .0001 |

## Exhibit 5
## RESERV Dimensions by Recommendation of the Firm to a Friend
## Analysis of Variance Results

| RESERV Dimension | Average Ratings | | | | | | Overall F-Value | Prob. |
|---|---|---|---|---|---|---|---|---|
| | Prob./Def. No. | n | Probably Yes | n | Definitely Yes | n | | |
| Tangibles | −.3636 | 11 | .0909 | 11 | .9892 | 31 | 5.8215 | .0053 |
| Reliability | −2.8269 | 13 | −.8250 | 10 | −.0833 | 33 | 57.8931 | .0001 |
| Responsiveness | −3.4722 | 12 | −1.3077 | 13 | .1333 | 35 | 66.8624 | .0001 |
| Assurance | −3.7692 | 13 | −.9231 | 13 | −.0101 | 33 | 66.7958 | .0001 |
| Empathy | −3.6042 | 12 | −1.0625 | 12 | .1029 | 34 | 58.6406 | .0001 |
| Professionalism (new) | −2.2955 | 11 | −1.0795 | 11 | −.0565 | 31 | 31.3697 | .0000 |
| Availability (new) | −2.3205 | 13 | −.6818 | 11 | .4355 | 31 | 39.8455 | .0001 |
| Total Instrument | −2.6290 | 10 | −.8172 | 9 | .2320 | 26 | 64.4184 | .0001 |

zero ratings indicate a match between perceived and expected service, and positive ratings indicate that perceived service exceeded the expected level. Thus, the ANOVA tests clearly indicate that the RESERV instrument is capable of differentiating among respondents based upon both perceived overall quality received and the willingness to recommend the firm to a friend.

## Conclusions and Recommendations

The results of this study provide rather convincing evidence that a modified generic service quality measurement scale is appropriate for use in the real estate brokerage industry. The primary purpose of this research is the development of a consistent instrument for use in evaluating real estate brokerage operations. Although the RESERV instrument should be subjected to further refinements, the essential structure of the instrument has been established.

By utilizing a variant of a generic instrument like SERVQUAL, which has been subjected to rigorous scrutiny and testing, research in real estate brokerage becomes directly comparable to research in numerous other service-related fields. Not only does this make the task of the researcher in real estate brokerage easier, but the credibility of research efforts is enhanced.

Additionally, this study investigates the prevalent belief that real estate brokerage is a unique industry. The success in applying a modified generic service quality instrument provides evidence that real estate brokerage, contrary to the opinion expressed by some of the other researchers in this field, is not necessarily unique in terms of perceived service quality. This same conclusion, reached independently by McDaniel and Louargand (1994), using a direct application of SERVQUAL, lends additional credence to our belief that the real estate brokerage industry can, and should, take advantage of the extensive body of knowledge available in other service industries. In this instance, while the generic SERVQUAL instrument may be directly applicable to real estate brokerage, the recommended real estate-specific modifications (e.g., one of the new dimensions, professionalism, contains real estate brokerage-specific items) provide additional practical usefulness in revealing industry-specific clues as to elements of service quality that comprise individual strengths and weaknesses.

Future research dealing with real estate brokerage service quality measurement should address one or more of the several remaining issues. This study examines the service quality perceptions of home sellers. Although this is arguably the most important relationship for real estate agents and brokers, the perceptions of buyers should not be ignored. Thus, a similar study should focus on homebuyers.

This study must still be considered somewhat preliminary due to the relatively small sample sizes and fixed geographic location used in the two phases of research. Future studies should be conducted in both larger and more regionally diverse markets to both increase the sample size and test the generalizability of the instrument in other settings.

The RESERV instrument is composed of seven dimensions containing a total of thirty-one items. However, with further refinement, the instrument possibly could be reduced in size (which may help to increase future response rates) by eliminating selected items within dimensions. Which, if any, items should be eliminated would be a function of the specific aims of the research and the ability to replicate these RESERV results.[9]

One suggestion relating to the composition of items in the various dimensions was posed by Parasuraman, Zeithaml and Berry (1991, p. 443). Clients should be given definitions of the identified dimensions and asked to place each item under the most appropriate definition. This procedure would be useful in further evaluating the scale's discriminant validity.

Although the approach utilized in this study is consistent with that utilized in the initial development of the SERVQUAL instrument, a proposed extension to the initial methodology would incorporate a measure of the relative importance to consumers of each of the service dimensions. That is, what is considered important to clients may or may not be expected or received. Thus, the importance of service elements needs to be considered separately from expectations and perceptions of service received. This extension should also be considered when addressing service quality issues in real estate brokerage.

In conclusion, the development of the RESERV instrument serves two purposes for real estate brokerage. It provides a very practical means of identifying and evaluating the

level of service as perceived by seller clients. It also opens the door to a multitude of theoretical, conceptual, as well as practical extensions drawn from different, but, in many useful ways, related, service industries.

## Notes

[1]The primary distinction between service quality and satisfaction is the concept of time. Satisfaction is generally defined as being related to a specific transaction whereas service quality is a general attitude which is thought to develop over time. Real estate service is essentially composed of widely spaced discrete transactions. Thus, one could argue that we are measuring satisfaction in this context. The scale development process is not dependent upon this distinction, however, and to avoid confusion we have elected to retain the label of service quality measurement.

[2]The original SERVQUAL development process began with ten potentially overlapping dimensions (Parasuraman, Zeithaml and Berry, 1985, 1988). The instrument itself was developed using a multi-stage process that refined the instrument with a "goal of obtaining a concise scale whose items would be meaningful to a variety of service firms" (Parasuraman, Zeithaml and Berry, 1988, p. 24). The iterative process retained only those items which were common to all service firms included in the study but "may have deleted certain 'good' items relevant to some but not all firms" (Parasuraman, Zeithaml and Berry, 1988, p. 24). Therefore, this study began with the thirty-four items representing seven dimensions found in the "first stage of scale purification" for the SERVQUAL instrument. (The SERVQUAL process ultimately resulted in a twenty-two-item scale representing five dimensions.)

[3]There were approximately 200 completed questionnaires for each of several non-real estate service firms. One nationally known firm was identified for each of four service areas—a bank, a credit card company, a firm offering appliance repair and maintenance services, and a long distance telephone company. It is interesting to note that a securities brokerage firm was included during the initial development process, but was dropped during the second phase due to lack of data. No problems with fitting the scale items were reported by the authors.

[4]Based upon the researcher's knowledge of the local real estate industry.

[5]A question on the survey cover allowed recipients to indicate that: *This survey should not have been sent to me because*:
   • *the property sold was not my home*, or
   • *I did not use the services of a real estate firm in the sale of my home*.

[6]Furthermore, the additional analytical complications derived from the small sample size caused the factor analysis results to be used for subjective comparison purposes only.

[7]The question contained four response choices: *Excellent, Good, Fair*, and *Poor*.

[8]Four response choices were provided: *Definitely Yes, Probably Yes, Probably No*, and *Definitely No*.

[9]As part of the refinement process, it may be desirable to reintroduce one or more of the eliminated items to account for regional and/or market size differences.

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