

Assessment of Real Estate Brokerage Service Quality

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Professional's Instrument

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Abstract

This study explores factors that affect service quality for a large residential real estate brokerage firm in a diverse midwestern city. It examines the extent to which overall service quality influences homebuyers to recommend the brokerage firm and to use the firm for future transactions. A Linear Structural Relations model is fit to data using the firm's service quality instrument. Results indicate statistically significant relationships between both agent characteristics and the tangible aspects of the firm and three measures of overall service quality. Implications for the real estate industry are discussed and suggestions for improvement and future research are provided.

Introduction

Service quality is an important issue for an organization that recognizes the essential role of acquiring and retaining customers through continuous improvement strategies. The need to measure service quality is particularly relevant in the real estate brokerage industry where the business environment is constantly changing due to increased competition and technological advancements, such as online brokerage services. However, only recently has this industry shown concern for service quality and customer satisfaction issues.

This study employs and evaluates a service quality survey instrument developed and used by a large midwestern real estate brokerage firm. Important aspects of determining service quality in the real estate industry and areas to concentrate efforts for improvement in service quality are identified. The ability of this real estate brokerage firm's service quality instrument to measure the firm's current level of service quality is assessed. In addition, suggested improvements to the measurement instrument are discussed. The better a real estate firm understands the needs of its potential customers, the better it will be able to satisfy those needs and the more likely the firm will be successful.

Literature Review

Service quality is defined as how well the service delivered matches consumer expectations on a consistent basis (Parasuraman, Zeithaml and Berry, 1985). The seminal work that conceptualized and operationalized service quality was the development of the multiple-item SERVQUAL scale for measuring perceptions of service quality (Parasuraman, Zeithaml, and Berry, 1988). Although not without its critics (Carman, 1990; and Cronin and Taylor, 1992), SERVQUAL is an established tool for measuring service quality and has been adapted to many industries (Reidenbach and Sandler-Smallwood, 1990; and Teas, 1993).

The service quality literature has received intense scrutiny during the past decade, as measuring service quality has become a very important issue (Parasuraman, Zeithaml, and Berry, 1985, 1988, 1991, 1994; Carman, 1990; Reidenbach and Sandler-Smallwood, 1990; Teas, 1993, 1994; Elliot and Hall, 1991; Cronin and Taylor, 1992, 1994; Howcroft, 1993; Vandamme and Leunis, 1993; and Blanchard and Galloway, 1994). Although the preceding research measured service quality in many industries, such as marketing, finance, banking and healthcare, few studies have addressed measuring service quality for real estate brokerage firms.

Previous research indicated a need for a consistent instrument to measure real estate brokerage service quality (Nelson and Nelson, 1988, 1991). Nelson and Nelson (1995) developed a real estate brokerage-specific version of SERVQUAL. The RESERV (Real Estate SERVICE quality) scale exhibits both high internal consistency and convergent validity and provides evidence contrary to the common belief that the real estate brokerage industry is a unique service industry.

Practicing professionals, as well as academicians, have demonstrated interest in measuring service quality within the real estate brokerage industry. Real estate firms usually develop service quality surveys in-house that are specific to their firm's needs. The purpose of this study is to assess the ability of a specific real estate brokerage firm's survey instrument to measure the firm's current level of service quality and to identify areas to concentrate efforts for improving service quality.

The firm will benefit from the findings of this study in a number of ways. First, the survey instrument will be analyzed to determine its appropriateness and usefulness. Second, areas of improvement will be identified for both the real estate services provided and the evaluation instrument utilized. Finally, the real estate firm will have the opportunity to make appropriate changes, not only in the services the firm currently provides, but in the evaluation instrument as well. Identifying areas for improvement and making the warranted changes should improve the firm's ability to satisfy its customers' needs. Increased customer satisfaction should translate into increased profits for firms individually and help ensure longevity for the industry as a whole. In addition, a more realistic image by the real estate brokerage industry of itself as a service organization will help guide this service sector to a more in-depth level of understanding. This realization

is important to the brokerage industry, since it has only recently recognized itself as an intricate part of the service industry as a whole (McDaniel and Louargand, 1994; and Nelson and Nelson, 1995).

Research Design and Data Collection

The service quality survey evaluations are of a single real estate brokerage in a diverse midwestern city. The sample consists of homeowners who had recently utilized the services of this firm in the purchase of their primary residence. Since buyers and sellers receive different services during the process, they were surveyed in separate studies. This research only includes data from buyers. A mail survey was used as it was the most reasonable means to contact past clients of the brokerage firm. Typically, agents were evaluated by only one or two buyers. Six hundred surveys were sent to homebuyers who purchased a home during the period August, 1996 to January, 1997. Of these, 190 evaluations were returned for a response rate of 31.67%.

Items were selected by cross referencing various relevant research studies and the firm's own experiences. An instrument designed for real estate from the classic SERVQUAL instrument was utilized (McDaniel and Louargand, 1994). The real estate brokerage used the elements from this instrument that related to the constructs they had previously developed through their own focus groups and in-depth laddering interviews. The firm performed the laddering in order to understand the underlying issues in service quality (Guttman, 1982). Then operational changes were made to the survey evaluation to match the underlying issues with the items from the SERVQUAL instrument (as modified by McDaniel and Louargand for real estate). This produced the most relevant items for the firm's evaluation and serves as a benchmark for the firm.

The first twenty-four questions in the instrument pertain to the services provided to the homebuyers. Seventeen of the items are the same or very similar to those in the SERVQUAL and RESERV instruments, whereas seven are new items (noted by an * in Exhibit 1). The firm chose to measure performance only (not expectations also, as do RESERV and SERVQUAL) on a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree) (Teas, 1994). In addition, a performance-based approach was used because the real estate brokerage was seeking to integrate the results into a performance-based scoring system for individual agents in the future. The last three questions measure overall service quality satisfaction (overall rating of the quality of service received, an indication of future use by the respondent and an indication of whether or not the firm would be recommended to a friend).

To evaluate the underlying dimensions of the survey instrument, responses to the twenty-four service quality items were subjected to factor analysis. Oblique rotation, which allows the factors to correlate, was utilized. Factor loadings over .40 were used to assess the significant dimensionality of the instrument; however,

Exhibit 1 | Factor Analysis of Service Quality Criteria

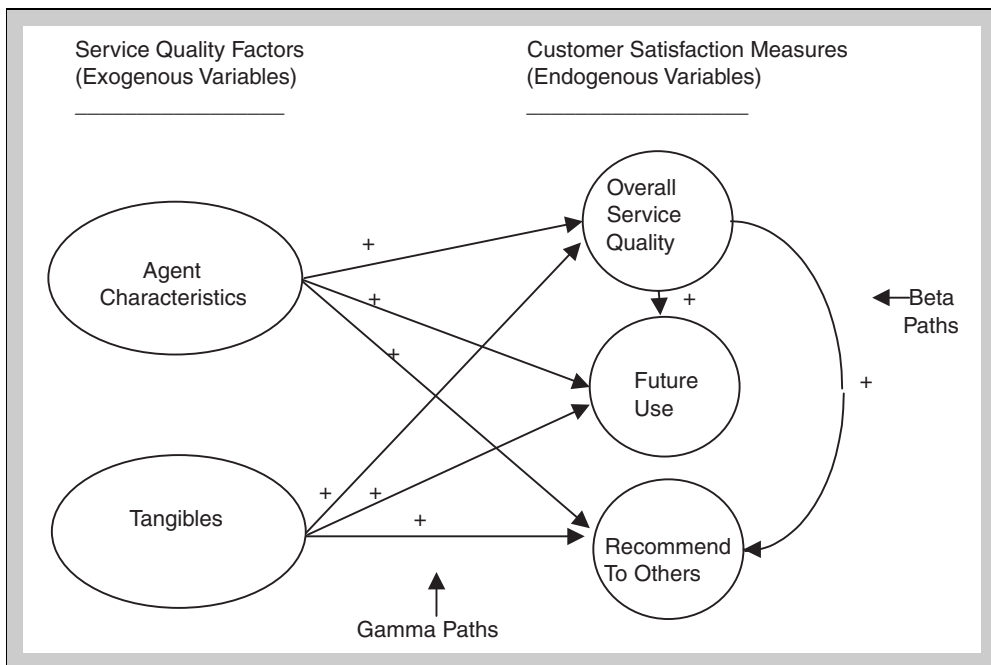
		Factor Loadings	
		1	2
Factor 1	Agent Characteristics ^a		
Q1	Consistently courteous	.9396	
Q2	Never too busy	.9190	
Q3	Always on time*	.9497	
Q4	Kept updated	.9410	
Q5	Received personal attention	.9704	
Q6	Instilled confidence	.8997	
Q8	Received individual attention	.9300	
Q10	Sincere interest in problems*	.9206	
Q11	Things right the first time*	.9180	
Q14	Did what promised on time	.9272	
Q15	Accurate records	.8968	
Q16	Prompt service	.9601	
Q17	Always willing to help	.9916	
Q18	Felt safe with transactions	.9372	
Q19	Knowledgeable	.8540	
Q21	Best interests at heart	.9199	
Q22	Understood specific needs	.9115	
Q23	Explain buying process stage*	.8375	
Q24	Explain purchase agreement	.8787	
Factor 2	Tangibles ^b		
Q7	Office visually appealing		.8482
Q9	Neat appearance of staff*		.8875
Q12	Modern looking equipment		.8524
Q13	Pamphlets visually appealing*		.7064
Q20	Convenient operating hours		.6604

Notes: Factor 1: Cronbach alpha = .9896 and percentage of explained variation = 69.1%.
Factor 2: Cronbach alpha = .8414 and percentage of explained variation = 11.9%
*Added in RESERV or SERVQUAL scales.
^aIncludes items similar to RESERV items in reliability, responsiveness, assurance, empathy, professionalism and availability dimensions.
^bSimilar to RESERV tangibles dimension.

the lowest factor loading was .66.¹ Two factors, compared to five-factor solutions for RESERV and SERVQUAL, were extracted and explained 80.9% of the overall variation in the data. Low levels of variability in responses to the scale items (many 6s and 7s), indicating satisfaction with the service elements, may explain the reduced dimensionality of the in-house survey instrument. Internal consistency of these two dimensions (.99, .84) is high according to coefficient alpha (Cronbach, 1951; 1971). Exhibit 1 shows the name of each construct (Agent Characteristics and Tangibles), which variables load on each latent construct, and corresponding Cronbach alphas and explained variation.

Sum scores for the two factors in Exhibit 1 were computed (similar to computing mean scores) instead of using factor scores so as not to lose 19% of the information obtained from the home buyers. By doing so, the 19% unexplained variance not accounted for by the two factors, and the information from homebuyers that variance represents, was not excluded from the analysis. These scores became the two service quality factors. The overall rating of the quality of service received, an indication of whether or not the firm will be used in the future and an indication of whether or not the firm would be recommended to others, are the three customer satisfaction measures. The hypothesized relationships among the variables are shown in Exhibit 2.

Exhibit 2 | Hypothesized Model



The analysis was designed to assess the effects of two correlated service quality factors on three customer satisfaction measures. LISREL (LInear Structural RELationships), a statistical modeling technique, was chosen to generate a model that best fits the data. LISREL combines features of multiple regression, factor analysis, and path analysis to allow the examination of both observed and latent variables in complex relationships. LISREL provides a simultaneous estimation of the model, estimation of causal relationships among latent variables with multiple indicators, inclusion of both measurement and structural properties of theoretical models, measurement of direct and indirect effects, inclusion of measurement errors and correlation of residuals, and estimation of non-recursive causation.

LISREL requires the researcher to provide a base or starting point called the hypothesized model. Then, through a series of iterative modification indices, LISREL provides information that guides the researcher toward an amelioratory empirical model. Once the model's structure or explanatory power has been maximized, the researcher has a final model.

The hypotheses are as follows:

H_0 : The fitted model is the same as the perfect model.

H_a : The fitted model is not the same as the perfect model.²

Results

The overall model is assessed using goodness-of-fit (GOF) criteria (see Exhibit 3). The first measure, a chi-square test, indicates the model's overall fit. Since the chi-square's corresponding p -value (.378) is greater than a high alpha value of .05 (corresponding to a 95% confidence level), H_0 is *not* rejected and the model is *not* significantly different from the perfect model. A second indicator of the model's fit is the ratio, chi-square/degrees of freedom. If the ratio is below 3.0

Exhibit 3 | Goodness-of-Fit Measures for the Final Structural Equation Model Shown in Exhibit 6

Goodness-of-Fit Measure	Value
Chi-Square Value	3.090
Degrees of Freedom	3.000
p -value	0.378
Chi-Square Value/D.F.	1.030
Goodness-of-Fit Index	0.993
Adjusted Goodness-of-Fit Index	0.965
Root Mean Square Residual	0.009

Exhibit 4 | Maximum Likelihood Estimates of the Effects of the Exogenous Variables on the Endogenous Variables for the Final LISREL Model

Customer Satisfaction Measures	Service Quality Factors			
	Agent Characteristics		Tangibles	
	ML-Est.	t-Test	ML-Est.	t-Test
Overall service quality rating	1.07 (.94)	35.13 ^a		
Do business in the future	0.19 (.16)	2.53 ^a		
Recommend to other people			0.16 (.12)	3.29 ^a

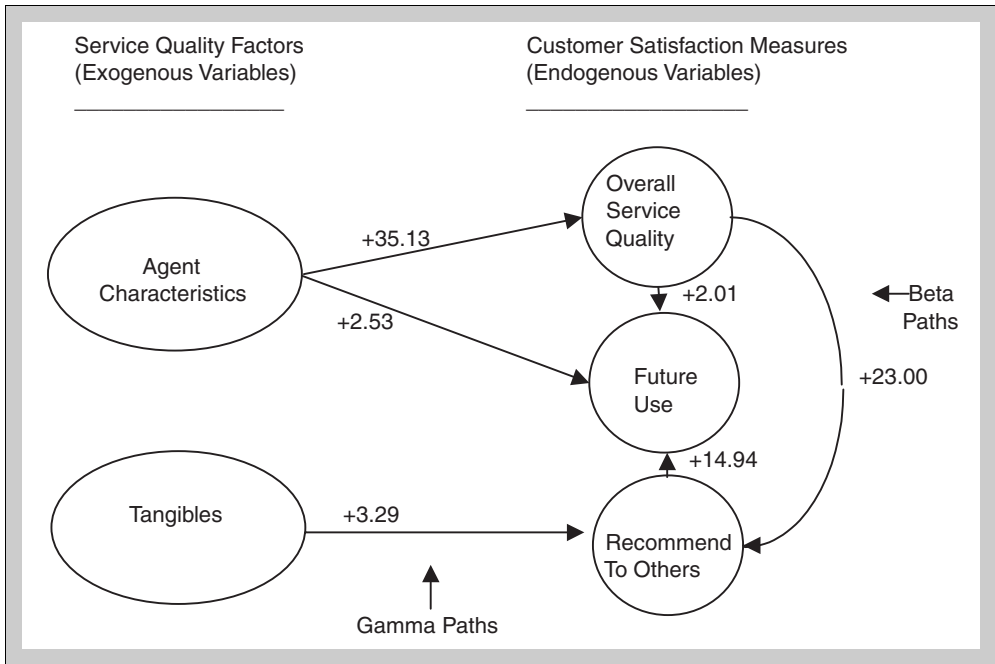
Notes: The customer satisfaction measures are the endogenous variables and the service quality factors are the exogenous variables. Standardized solutions are in parentheses.
^aStatistically significant at the .01 level.

Exhibit 5 | Maximum Likelihood Estimates of the Effects of the Endogenous Variables on the Endogenous Variables for the Final LISREL Model

Customer Satisfaction Measures	Customer Satisfaction Measures					
	Overall Service Quality Rating		Do Business in the Future		Recommend to Other People	
	ML-Est.	t-Test	ML-Est.	t-Test	ML-Est.	t-Test
Do Business in the Future	0.15 (.15)	2.01*			0.65 (.69)	14.94*
Recommend to Other People	0.92 (.84)	23.00*				

Notes: The customer satisfaction measures are the endogenous variables. Standardized solutions are in parentheses.
 *Statistically significant at the .01 level.

Exhibit 6 | Final Model



($n < 200$), the model's fit is good (Ketinger and Lee, 1995). The ratio for this model is 1.03, indicating an excellent fit. Third and fourth measures of fit are the GOF index and the adjusted GOF index. The perfect model has a GOF index of 1.0. Any value greater than .9 is considered a good fit (Taylor, Sharland, Cronin and Bullard, 1993). This model's GOF index equals .993 and the adjusted GOF equals .965, both very credible measures. A fifth measure of fit is the root mean square residual. The closer the value is to zero, the better the fit. The root mean square residual equals .009, again indicating an excellent fit (Rupp and Segal, 1989).³

Individual relationships are examined for statistical significance as well. The effects of the two service quality factors or exogenous variables on the three customer satisfaction measures or endogenous variables (gamma paths) and the effects of the endogenous variables on the endogenous variables (beta paths) are determined using *t*-Statistics. Each path forms its own hypothesis.

Exhibit 4 presents the effects of the two service quality factors on the three customer satisfaction measures (gamma paths) for the final model. Maximum Likelihood estimates, unstandardized and standardized solutions, and *t*-Statistics are shown for each of the effects. All causal relationships are significant at the .01 level. There are significant positive causal relationships between real estate agent characteristics and both overall service quality and intention to do business

in the future, as well as between tangibles and intention to recommend the firm to others.

Exhibit 5 presents the effects of the endogenous variables on the endogenous variables (beta paths) for the final model. Maximum Likelihood estimates, unstandardized and standardized solutions, and *t*-Statistics are provided for each of these effects. The relationships between overall service quality and the intention to do business in the future and to recommend the firm to others is significantly positively related. In addition, there is a significant positive causal relationship between the intention to recommend the firm to others and the intention to do business in the future. These paths are statistically significant at the .01 level. The final model is shown in Exhibit 6.

Conclusion

Service quality evaluations from 190 home buying customers of a real estate brokerage firm were analyzed. LISREL was used to determine the significant relationships between two service quality factors and three overall customer satisfaction measures. The fitted model was not significantly different from the perfect model and significant paths were identified.

The LISREL analysis provides clear empirical results that translate into service quality implications for this real estate firm. As can be concluded from the significant positive relationships, real estate agent characteristics are important in determining overall service quality and future use of the firm. Thus, real estate firms must carefully select, train and monitor their real estate agents. Additionally, the tangible aspects of the firm affect whether the firm will be recommended to others. This effect indicates that for a buyer to recommend the firm to others, it is not enough for the buyer to be satisfied overall. The buyer must find the real estate office, the office equipment, the agent, and advertising pamphlets to be visually appealing and the firm must have convenient operating hours. The buyer may be extremely satisfied with overall service quality, but would be reluctant to recommend the firm to others if he/she found the tangible aspects of the firm to be undesirable. As expected, if a homebuyer is satisfied with the overall service quality, he/she will likely use the firm in the future and recommend the firm to others.

A word of caution should be noted. The data in this study were gathered from just one real estate firm in one geographic region using a company-specific service quality evaluation form. Therefore, the results should not automatically be generalized to other firms. However, this study provides a foundation on which future research can be directed.

Despite the valuable information this in-house model provides, the service quality evaluation instrument may be improved to more accurately measure real estate brokerage service quality. Important variables may be missing, causing the model to be misidentified. For example, the in-house instrument excluded fourteen items

found in the RESERV instrument. Missing variables and low variation in the responses likely resulted in two factors being extracted. Nineteen variables load on one factor, while the other five variables load on the second factor. Previous studies included additional variables that are typically important when measuring service quality. The real estate agent's reputation and well-advertised properties, to name a few, should also be included (Nelson and Nelson, 1995). An augmented list of variables will likely form additional dimensions, yielding a more complex set of exogenous variables that affect the service quality relationship. If the RESERV instrument (Nelson and Nelson, 1995) was used to survey this real estate firm's customers, the results may differ. RESERV has other important service quality dimensions not found in this analysis. Instead, thirteen of the RESERV items in dimensions responsiveness, professionalism, empathy, assurance, reliability and availability are included in the Agents Characteristics factor. Furthermore, RESERV exhibits both high internal consistency and convergent validity.

The service quality survey instrument used by the firm in this study may exhibit an order effect bias that results from asking overall customer satisfaction questions at the end of the evaluation instrument. Instead, overall customer satisfaction questions should be asked before the twenty-four service quality items, thus eliminating any influence the specific questions may have on the overall measure.

All real estate brokerage firms should test their current service quality instrument, which is most likely different from the instrument used in this study, to determine if it is measuring what they are attempting to measure. By employing statistical methods, such as LISREL, firms can develop reliable and valid service quality instruments. An even easier solution is to use an instrument already developed, such as RESERV, which would allow firms to eventually compare themselves to other firms and to an industry norm. RESERV possesses the advantages of using SERVQUAL as a basis during development, including expectations as well as performance measures, and being refined to a five-dimension scale. Further research should be conducted to test RESERV on larger samples of clients from many firms. Once a standardized and normed instrument is available, it could be adopted by the industry as the preferred assessment tool. Important questions to consider during further research efforts include whether it would be necessary to develop firm and/or geographic area specific models or whether general models would be more appropriate.

If a standardized instrument and model are selected over customized, in-house questionnaires, firms will be able to make more accurate and effective marketing/service decisions. After interpreting the results of this study, the real estate firm does *not* know: what its clients' expectations were on each service quality item and how the firm's performance compared to customer expectations, to other firms performance or to norms. The lack of comparison data and a misidentified model may have hampered the firm's ability to measure its level of service quality and to identify areas in need of concentrated effort to improve service quality.

Endnotes

- ¹ See Hair, Anderson, Tatham and Black (1995) for a discussion of critical value cutoffs. There is an inverse relationship between sample size and Pattern Matrix coefficient significance. The critical value (95% level of confidence) associated with the sample size is .40. Since the lowest critical value in this study is .66, the value is significant at the 99% level of confidence.
- ² The perfect model is defined as the (unobtainable) benchmark that fully and completely represents all relationships among all relevant variables. Since it is virtually impossible to quantify any relationship exactly, a model relative to the perfect model is measured.
- ³ Several studies in various fields discuss acceptable levels of measurable indicators for model quality. See, for example, Herting and Costner (1985), Anderson, Jay, Schweer and Anderson (1986), Anderson (1987), Biddle and Marlin (1987), Anderson and Gerbing (1988), Lavee (1988), Rodgers (1991), Saunders and Jones (1993), Kettinger and Lee (1995) and Segars and Grover (1993).

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