
Originally published in *Journal of Financial Services Marketing*, 10(3), 244-259. Available at: [http://dx.doi.org/10.1057/palgrave.fsm.4770190](http://dx.doi.org/10.1057/palgrave.fsm.4770190)

Copyright © 2006 Palgrave Macmillan Ltd.

This is the author’s version of the work. It is posted here with the permission of the publisher for your personal use. No further distribution is permitted. If your library has a subscription to this journal, you may also be able to access the published version via the library catalogue.
Finding the Sweet Spot: A Two Industry Study Using the Zone of Tolerance to Identify Determinant Service Quality Attributes

Dr. Srinivas Durvasula
Professor and Edward A. Brennan Chair in Marketing
Marquette University

Dr. Antonio C. Lobo
Senior Lecturer, Department of Marketing, School of Business
Swinburne University of Technology, Melbourne, Australia

Dr. Steven Lysonski
Professor of Marketing
Marquette University

Dr. Subhash C. Mehta
Professor of Marketing, School of Business
University of Southern Maine

March, 2005

Note: All authors contributed equally.
Finding the Sweet Spot: A Two Industry Study Using the Zone of Tolerance to Identify Determinant Service Quality Attributes

Abstract

This paper makes a detailed comparison of two major financial services in Singapore: Life Insurance and Stockbrokerage. Relationships of perceptions and expectations of service quality, mean service adequacy (MSA), and mean service superiority (MSS) with service satisfaction and loyalty are examined. Results indicate that the reliability aspect of service quality is strongly related to satisfaction and loyalty in the stock broker industry, while the assurance aspect of service quality enjoyed such a status in the life insurance industry. Results also confirm that while MSA and MSS both drive satisfaction and loyalty, perceptions of actual service have the strongest correlations with those behavioral outcomes. The findings of this paper present some interesting managerial implications.

Keywords: Service Quality, Satisfaction, Loyalty, Zone of Tolerance, Financial Services
INTRODUCTION

The theme of satisfying customers has taken on a monolithic status both in industry and in services research. Founded on the belief that satisfaction drives loyalty which then drives profits, a plethora of studies has focused on empirically validating the connections among service related variables and behavioral outcomes. Behind this background is a suspicion, however, that satisfied customers are not always likely to be faithfully loyal. Indeed, Jones and Sasser\(^1\) provide compelling evidence that even satisfied customers can defect and go elsewhere despite the fact that they are satisfied. What can account for such an anomaly? Xerox has found that customers who rate a firm as strongly satisfied (5 on a likert scale) vs. 4 (satisfied) are much more likely to be loyal customers and not defect to a competitor. Jones and Sasser\(^1\) found that this occurrence was likely in service related firms such as automobile, hospital, airline and telephone services. Such findings provoke us to ask how customers can be made more satisfied so that they are likely to remain loyal in the long term.

We argue in our study that firms must drill deeper into understanding the dynamics of the multidimensional expectations of services and how these relate to overall service quality, satisfaction, and behavioral intentions. We wish to probe if providing the desired service level is likely to be the sweet spot that can capture customers and induce them to be loyal so that they are less likely to defect. Ostensibly, providing only the adequate level of service as compared to desired level of service is most likely less powerful in driving behavioral intentions. To explore this theme our paper examines the “zone of tolerance”, service adequacy, service desired, and how satisfaction and behavioral intentions are related to these two service levels. These concepts allow us to go beneath the surface of satisfaction and identify the dynamics that operate in producing satisfaction and loyalty.
We chose two industries (stockbrokers and insurance) for our investigation; both of these industries have offerings that are unarguably high in intangibility and credence properties. Our analysis is based on data collected from two separate samples of subjects in Singapore, where one sample evaluated stock broker services while the other evaluated the services of life insurance agents. Since stockbrokers and insurance agents rely upon repeat business to sustain profitability, understanding these issues is of paramount importance. With rising recognition of the importance of customer retention and loyalty, companies that can understand such dynamics will be able to build upon marketing strategies specific to their needs. Further, our research contributes to the literature by advancing the zone of tolerance framework to two industries that have not been well investigated.

THE STOCK BROKER AND LIFE INSURANCE INDUSTRIES

Stock brokers

Empirical research investigating the service aspects of the stockbroker industry is almost nonexistent. However, based on what we do know, the delivery of proper service is one strategy that has been related to success for stock brokerage firms. With the advent of online trading and state-of-the-art technology interfaces, service quality is becoming a critical differentiator among brokers. Advertising themes now stress service quality indicators such as broker reliability, trustworthiness, and the eagerness that brokers show in the personal interest of each customer’s situation.

The services provided by stockbrokers encompass a number of unique characteristics that differentiate this sector from other financial services industries. In shares trading, both parties (the broker and the client) communicate about the price and number of lots to buy/sell for a particular stock. The perceived performance of the broker, to a great extent, is only evident once the service is provided in the form of share purchase and their appreciation or depreciation.
Intangibility is very high as brokerage services are performances rather than objects. The heterogeneity in terms of quality of service rendered makes this type of service very labor intensive. As quality and essence of the service can vary widely from broker to broker, from customer to customer, and from day to day, it is difficult for stock broking houses to achieve standardization and quality control. Stock broker services are also perishable because they cannot be inventoried, resulting in a problem of coordinating demand and supply. In a bull market, many investors find it difficult to contact their brokers; whereas during a bear market brokers are easily available as most investors are reluctant to do many transactions. Given these dynamics, the way service quality drives satisfaction and loyalty may be different in the stock broker industry as compared to other financial service industries.

**Life Insurance**

Life insurance providers offer services that are credence products with very few cues to signal quality. It has been suggested that consumers usually rely on extrinsic cues like brand image to ascertain and perceive service quality.\(^6\) This factor is especially true for a “pure” service such as insurance, which has minor tangible representations of its quality and is highly relational during most transactions. There is also a lack of price signal in the market due to specialized customer needs and difficulty in comparing prices; thus consumers cannot rely solely on price as an extrinsic cue to signal quality.

The outcomes of life insurance purchase are often delayed, and thus do not allow immediate post-purchase valuation. As such, the consequences of a purchase do not produce an immediate reaction towards overall satisfaction. This situation is more apparent as the future benefits of the “product” purchased are difficult to foresee and take a long time to “prove” its effects.\(^7\) Infrequent purchase and “usage” of such credence products by consumers would mean an inability or difficulty in forming service expectations due to limited understanding of and
familiarity with the service. At the same time, because of the amount of money that is typically invested in an insurance policy, customers seek long-term relationships with their insurance companies and respective agents in order to reduce risks and uncertainties. Pure services like insurance may, therefore, conjure different expectations than that of services that include tangible products.

An insurance policy is almost always sold by an agent who, in 80% of the cases, is the customer’s only contact. Customers are, therefore, likely to place a high value on their agent’s integrity and advise. The quality of the agent’s service and his/her relationship with the customer serves to either mitigate or aggravate the perceived risk in purchasing the life insurance product. Putting the customer first, and, exhibiting trust and integrity have found to be essential in selling insurance. Yet, Sherden laments that high quality service (defined as exceeding “customers’ expectations”) is rare in the life insurance industry but increasingly demanded by customers.

Toran points out that quality should be at the core of what the insurance industry does. Customer surveys by Prudential have identified that customer want more responsive agents with better contact, personalized communications from the insurer, accurate transactions, and quickly solved problems. A different study by the National Association of Life Underwriters found other important factors such as financial stability of the company, reputation of the insurer, agent integrity and the quality of information and guidance from the agent. Clearly, understanding consumers’ expectations of life insurance agent’s service is crucial as expectations serve as standards or reference points against which service performance is assessed. Technology has also become an important factor in how the agent operates in the field including other functions such as distribution, claim costs and administration.
In sum, both stock brokerage and life insurance are pure services that represent two
different sectors of the financial services industry. Although each shares some similarities with
the other, the differences are much more marked. In the case of stock brokers, the results or
benefits of the service provider are seen by the customer in the short term after a trade has been
executed. In contrast, the results of life insurance are far removed into the distant future when the
policy is redeemed upon the death of the benefactor. Even the terms used to describe the
customers are different; in the stockbroker sector customers are called investors while in the life
insurance business customers are termed beneficiaries or benefactors. Consequently, there is
likely to be a variation in the importance of certain service quality attributes between the two
industries. The dominance of some attributes is more likely to drive service satisfaction and
future intentions in stock brokerage differently versus life insurance. One goal of our study is to
identify which service quality attributes are the most strongly related to customer satisfaction and
loyalty in each of the industries. The table below captures some of the major differences
between the two industries.

<table>
<thead>
<tr>
<th>Perceived Characteristic</th>
<th>Insurance Services</th>
<th>Stockbroking Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Customer Turnover</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>2 Feedback</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>3 Word-of-mouth</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>4 Information Access</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>5 Frequency of Contact</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>6 Tangibility of Outcome</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>7 Risk</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>8 Rewards to Provider</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>9 Time Pressure</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>10 Need</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>11 Loyalty to Organizations</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>12 Planning Horizon</td>
<td>Long</td>
<td>Short</td>
</tr>
<tr>
<td>13 Commitment</td>
<td>Very Long-term</td>
<td>Short/ medium term</td>
</tr>
</tbody>
</table>
SERVICE QUALITY, SATISFACTION, AND BEHAVIORAL INTENTIONS

Service Quality and Its Consequences

Service quality has emerged as a key variable in understanding differences among service firms. Early proposals define service quality as a result of the gap between customers’ expectations and their perceptions of the performance of the service. This conception of service quality has been popularly known as the “Gap Model”. More recently, service quality has also been defined broadly as “consumers’ assessment of the overall excellence or superiority of the service”. It is viewed as an attitude or global judgment about the overall excellence of a service, with comparison of expectations and performance as the measuring tools.

Service quality, therefore, is viewed as a critical component of customer perceptions of service. In the case of pure services, service quality will be the dominant element in customer’s evaluations. The services literature posits that service quality is a critical predictor of perceptions of value and is an antecedent of satisfaction. Researchers have argued strongly that improved service quality leads to higher customer satisfaction. Customer satisfaction, then, is viewed a critical driver of intentions to repeat purchase. Service quality is also seen as a driving force impacting behavioral outcomes such as positive word of mouth and repeat purchase intentions.

Behavioral Intentions and their Antecedents

Behavioral intentions of customers resulting from the service delivery process are of crucial interest to companies in this era of relationship building in service management. Essentially, behavioral intentions are described by Zeithaml et al. as “indicators that signal whether customers remain with or defect from the company”. In their research, behavioral intentions are classified as comprising both a favorable and an unfavorable element. The favorable element relates to positive word of mouth (WOM), recommending behavior, loyalty to
company, increased expenditure on the firm’s services and a willingness to pay a price premium. The unfavorable element includes negative WOM, intentions to switch, complaining behavior and decreased expenditure with the firm. Extant research shows that purchase intentions, loyalty, and recommending behavior (i.e., positive WOM) are positively correlated with service quality and satisfaction. This finding is reflected in research by Cronin et al.\textsuperscript{28} and Durvasula et al.\textsuperscript{29} while context-specific studies done, for example in hospitals, the hospitality industry, and schools also arrive at the same conclusion.\textsuperscript{30-32}

**Multi-Expectations Framework: Zone of Tolerance**

In their original framework for measuring service quality, Parasuraman et al.\textsuperscript{20} used a single expectation standard, desired expectations (i.e. what a consumer feels a service provider should offer) as a comparison against which service performance is assessed. More recently, these same authors have developed an integrative model that captures both service quality and satisfaction perspective of expectations. Specifically, the model proposes that service expectations exist at two different levels, one is the desired level of service and the other is the adequate level of service.\textsuperscript{10} Between these two levels of expectations lies the “zone of tolerance” (ZOT), which represents a range of performance that the service consumer considers as acceptable. It has been suggested that the ZOT gap is affected by factors that determine both desired and adequate service expectations.

The ZOT framework offers a powerful way of understanding levels of satisfaction that may not be captured by the conventional way of measuring satisfaction. The ZOT difference scores were found to be less subject to response error compared to a single expectation measure of satisfaction. Moreover, such difference scores also provide more detailed information useful for diagnosing consumers’ reactions to a service. Compared to the SERVQUAL instrument, the ZOT model offers a richer measure of service quality. It illustrates the difference between
perceived service and desired service – known as Measure of Service Superiority (or MSS) and also the difference between perceived service and adequate service – labeled as Measure of Service Adequacy (or MSA). In addition to improving our comprehension of the multiple expectations, understanding the concept of ZOT provides practitioners better opportunities to enhance resource allocations in their continual attempt to meet/exceed customer expectations.17

Only a few studies have examined variations across service industries in the width of ZOT. In a study conducted by Chen33, significant difference was found between the consumer’s desired and adequate levels of in-flight service delivery of Philippine Airlines. It was also noted that customers who were below the adequate level were more ready to take their business elsewhere the moment they perceived a viable service alternative. By understanding customer’s tolerance zone, the author could identify areas in the airline service that required improvements. Another study offered empirical support for the ZOT concept of expectations and provided a list of factors that might influence the width of consumers’ zones of tolerance.17

Despite advances in measuring service quality, there still remains an incomplete understanding in how the level of service quality is likely to drive loyalty or other behavioral outcomes. That is why researchers concluded that more empirical research was needed to verify and validate the relationship of each expectation component with its respective determinants.10

In sum, we know that service quality is a determinant of satisfaction and behavioral intentions. Satisfaction is crucial to loyalty according to extant research since dissatisfied customers may defect to a competitor if they are not satisfied at the proper level. Satisfaction becomes the linchpin in the connection between quality and loyalty. Our goal is to explore the links in this process by using the multi-expectation paradigm which provides a powerful lens to go beneath the surface. Our study will compare how overall perceptions, adequate service, desired service, MSA, and MSS affect satisfaction and behavioral intentions. In particular, our
aim is to assess how ZOT operates in this dynamic process. We examine two different industries which are pure services as a way of seeing if these relationships may be common across service sectors. Although life insurance and stock brokerage share commonalities (as noted above), the major differences between the two would suggest that different relationships would emerge. The research questions delineated in the next section reflect the nature of our inquiry in light of the insights we garnered from the literature.

**RESEARCH QUESTIONS**

We gathered data to give answers to the following research questions:

1) What are the differences among perceptions, adequate service expectations, and desired service expectations for the 5 service quality dimensions? Are there variations in these differences between stockbrokers and life insurance?

2) What are the MSA and MSS for the 5 service quality dimensions and do these differ between the 2 industries? What are the zones of tolerance?

3) What are the correlations of the 5 service quality dimensions for perceptions, adequate service, and desired service, MSA, MSS with the behavioral outcomes of satisfaction, attitudinal loyalty and behavioral loyalty? Which correlations are higher?

**METHOD**

**About the Survey Measures**

In both the life insurance and stock broker studies, the questionnaire included a modified version of the SERVQUAL scale and measures of satisfaction, attitudinal loyalty, and behavioral loyalty as discussed below.

**Service Quality Measure:** In the life insurance study we used a modified SERVQUAL scale that is relevant to the insurance industry. It was constructed by including items from the original five dimensions (Tangibles, Reliability, Responsiveness, Empathy and Assurance) of the SERVQUAL instrument. The items were refined and paraphrased in both wording and contextual application as appropriate to suit the life insurance sector. As part of this process, we conducted a focus group of 10 respondents with previous insurance buying experience to find out...
what aspects of service quality they desired most in life insurance buying. Their responses formed the basis for preparing the final service quality scale consisting of 22 items.

In the stock broker study also we used a modified version of the SERVQUAL scale. Published literature was helpful in generating a pool of scale.\textsuperscript{34,35} These items were subsequently revised and reworded on the basis of input from a group of local brokers in Singapore. The final version of this scale also had 22 items.

In both the life insurance and stock broker studies, we applied the 22-item service quality scale to measure service perceptions as well as service expectations. The 22-item desired and adequate service scales were side by side in one section while the 22-item perception scale was placed in a separate section. The anchors for the scale ranged from (1) Low to (7) High.

**Satisfaction and Behavioral Intentions:** In both studies, the survey included measures of satisfaction and behavioral intentions. **Satisfaction** was measured with a three-item scale for both industries which paralleled questions used by others.\textsuperscript{7,23,27} In both samples, the three-item satisfaction scale was found to have acceptable reliability (coefficient alpha > .70).

The **behavioral intentions scale** measured both **attitudinal loyalty** and **behavioral loyalty**. In the life insurance study, a two-item scale measured attitudinal loyalty (e.g., say positive things about the agent, recommend to others). A single item scale was used in this study to measure behavioral loyalty (e.g., provide future business to the agent). The stock broker study included a single item measure of attitudinal loyalty (e.g., recommend to others) and a two item measure of behavioral loyalty (e.g., continue to give business to the broker, will move to a new brokerage if my broker moves there). For all of these measures, subjects provided their level of agreement on a 7-point scale ranging from “low” to “high”. The mean scores of satisfaction, attitudinal loyalty, and behavioral loyalty ranged from 4.56 to 4.72 in the stock broker sample and 4.57 to 5.06 in the life insurance sample.
About the Sample

Purposive sampling method was used to select survey respondents in the life insurance study. Respondents had purchased either a whole life insurance policy and/or an endowment policy within a one-year period from an agent. This time requirement allowed recollections of their purchase experience and post-purchase reactions. Of the 210 survey forms distributed in Singapore, 189 forms were returned representing a 90% response rate. Seven surveys were incomplete, thus giving us a final sample of 182.

In the stock broker study, the relevant population was defined as investors who had invested or transacted in the stock market for the past one year. This criterion was similar to that used by others. The survey was distributed to respondents who fulfilled this criterion at Raffles Place in Singapore. Raffles Place was chosen as it is the hub of Singapore’s financial institutions especially stockbrokerage houses. A total of 240 questionnaires were given out in a period of four weeks. All respondents were requested to either mail back the completed questionnaire to the researcher or call the researcher for collection of the questionnaire once completed. A total of 170 questionnaires were returned out of the 240 distributed, giving a response rate of 71%. 23 were later omitted due to incomplete data resulting in a final sample size of 147.

For both data sets, the samples are fairly evenly divided by gender, with males comprising 46% of the sample in the life insurance study and 48% of the sample in the stock broker study. The stock broker sample had a higher percent of people (63%) whose monthly income was above $2500 vs. 45% in the life insurance sample.
RESULTS

Dimensionality and Reliability of Service Quality Measures

Dimensionality tests show that there is some support for viewing service quality as a multi-dimensional construct. Results of these tests are presented in Table 1. As compared to the null model of no relationships among service quality scale items, the chi-square statistics are significantly lower (as we wish) when service quality is modeled as having five distinct yet correlated dimensions. High values for goodness-of-fit index (GFI) and comparative fit index (CFI), coupled with a low root mean square error (RMR) indicate a strong fit between the hypothesized model – which in this case is that service quality has five distinct but correlated dimensions. The relative size of these indices points to a moderate model fit. Results are virtually consistent across the data, whether we consider service perceptions and service expectations (adequate and desired) alone or when looking at MSA and MSS that represent difference scores between perceptions and expectations. Between the two industries, however, fit statistics are somewhat stronger for the life insurance data.

While confirmatory factor analysis results provide only moderate support for the multi-dimensional service quality concept, across all service quality measures, individual service quality dimensions demonstrated acceptable reliability values (i.e., scale reliabilities are > .70). We treated the five scale dimensions as separate dimensions since we are likely to get better insight into what features of service quality drive satisfaction and behavioral intentions. Therefore, the rest of our analyses are undertaken with the assumption that the five service quality dimensions are indeed distinct. Results presented in subsequent tables help us address the various research questions as described below.

------------------ Table1 About Here ------------------------
For the reader’s ease, we repeat each research question below and the results that we found in our analysis.

1) **Are there differences in mean values among perceptions, adequate level vs. desired level for the 5 different SERVQUAL dimensions? Are there variations in these differences between stockbrokers and life insurance?**

Table 2 provides the results while Figure 1 displays the relative location of mean service perceptions as compared to adequate and desired service expectations. Stock brokers are rated most favorably on the assurance aspect, while the life insurance agents are rated most favorably on both the reliability and assurance aspects of service quality. In both industries, service provider perceptions are generally above the neutral point of 4. The tangibles dimension in the stock broker industry is an exception, where the mean is closer to the scale neutral point.

Mean scores of service provider perceptions, adequate service expectations, and desired service expectations are higher in the life insurance as compared to stock brokerage. The last row of Table 2 shows the overall service quality index (SQ Index) which is obtained by averaging responses over the 22 scale items. This index is also significantly higher (p < .05) in the life insurance sample than in the stock broker sample. Hence, life insurance respondents have a better perception of the five service quality attributes (or dimensions) than those dealing with stockbrokers. Yet, they also have higher expectations regarding adequate and desired service.

2) **What are the MSA and MSS for the 5 different SERVQUAL dimensions and do these differ between the 2 industries? What are the zones of tolerance?**

Table 2 provides results concerning these gap scores. While MSA shows the gap between service perceptions and adequate service expectation, MSS describes the gap between service perceptions and desired service expectations. In the areas of tangibles, reliability, and responsiveness stock brokers’ service is less than adequate. Life insurance agents’ service is less
than adequate on the assurance dimension. Overall, there is not much of a difference when comparing the MSA service quality index in the two industries.

In both industries, actual service is inferior to the desired service. There is a performance gap as indicated by MSS mean scores. While this gap is slightly wider in the stock broker industry as compared to the life insurance industry, the overall MSS service quality index indicates that this difference is statistically insignificant (p > .05).

The ZOT, which is the difference between desired and adequate service expectations, is slightly wider in the life insurance industry vs. the stock broker industry. However, the mean ZOT index for the two industries (1.09 vs. 1.11) is about the same in a statistical sense (p > .05). Further, a comparison of MSA, MSS and ZOT mean scores show that the actual service rendered in both industries is fairly closer to the respective adequate service expectations. This result implies that there is a significant room for improving the service quality in both life insurance and stock broker industries.

3) **What are the correlations of the 5 service quality dimensions for perceptions, adequate service, and desired service, MSA, MSS with the behavioral outcomes of satisfaction, attitudinal loyalty and behavioral loyalty? Which correlations are higher?**

As shown in Table 3, correlations of service quality dimensions with related measures (e.g., satisfaction, attitudinal loyalty, and behavioral loyalty) are higher for “perception” measures than for “adequate service” expectations or “desired service” expectations. When we examine the last column of Table 3, we find no significant difference between life insurance and stock brokerage concerning the correlations of “perceptions” based service quality index with related measures. However, when it comes to service expectations (adequate or desired), the correlation of service quality with related measures is stronger in the stock broker industry. This result is because all correlation estimates for expectations are higher in size for the stock broker
sample. In 16 out of 36 correlation comparisons, the differences in correlations are also significant (p < .1). Such a finding implies that service expectations are more likely to drive satisfaction and behavioral intentions in the stock broker industry than in the life insurance industry.

Table 4 provides correlations of MSA and MSS measures with related measures. When examining these correlations, it is obvious that they are relatively stronger in the life insurance sample compared to the stock broker one. In fact, as shown in the last column of Table 4, the service quality indices, constructed from MSA and MSS scores have significantly higher correlations with satisfaction, attitudinal loyalty, and behavioral loyalty in the life insurance sample than in the stock broker sample.

An interesting question is to ask whether the MSA measure of service quality or MSS based service quality measure has a stronger correlation with behavioral outcomes? We can answer this question by comparing the correlations in the last two columns of Table 4. While MSS correlations are slightly larger than MSA correlations in magnitude, they are not significantly different in a statistical sense (p > .05).

--------- Tables 3 and 4 About Here ---------

**DISCUSSION AND IMPLICATIONS**

The results of this study are particularly noteworthy in light of the changing business models in both industries. In the age of e-Business, it is now much easier for customers to shop around and therefore be less loyal. Competing through quality service is likely to intensify in both industries. Nonetheless, it is important to note that stock brokerage and life insurance are two different industries offering very different products. Customers have different expectations in each of these industries due to the nature of the offering as observed in the findings. Customers of stockbrokers have lower expectations due in part to the risk and variability they
know exists with investments. In contrast, those who buy life insurance do not perceive such risk or variability as a life insurance policy is more clear-cut and ostensible. Since both services are in the financial sector, they deal with money invested for strictly a long term goal such as life insurance or for a mix of short term and long term goals as we find with investments in financial instruments.

For stockbrokers, one service area that needs definite improvement is “tangibles”. Tangibles deal with the office setting of the brokerage firm and even the professional appearance of those who work in the office. Most importantly, the existence of technology may play a big role in how customers perceive the tangible aspect of brokerage firms. If the brokerage firm can provide up to date quotes either on the phone or the Internet and can offer research advise from respected sources, customers are likely to rate the tangibility of the firm higher. The financial statements given to customers are also important. It is crucial that brokerage firms try to boost consumer perceptions on tangibles given the finding in our study.

For the stock broker industry (among the SERVQUAL dimensions), “responsiveness” and “assurance” consistently have the strongest relationship with satisfaction and the two types of loyalty, while “empathy” enhances satisfaction. These results indicate that the “bed side” manner of stockbrokers is essential in the perception of quality and in gaining satisfaction and loyalty. Brokers need to be attuned to the needs of each customer in a personalized and empathetic fashion. Being available or responsive to customers is necessary if they call for assurance when making a correct investment decision or in understanding the fluctuations in their portfolios. An empathetic broker is more likely to be perceived as responsive and concerned with the interests of the customer.

In the life insurance industry, in contrast, assurance has the strongest relationship with overall perceptions of satisfaction and loyalty. This finding makes sense because insurance
represents a huge investment and customers evaluate highly those agents who are perceived to be trustworthy and make customers feel assured that they made the correct decision. In the personalized selling process of whole life insurance, Loo\textsuperscript{39} cited the views of industry observers and experts that insurance products are a very personal matter where people enjoy the comfort of talking to experts who are knowledgeable on insurance. Moreover, the nature of the products was described as varied, making it difficult to judge the appropriateness of the products and creating a preference to talk to someone when a claim arises. These ideas confirm the critical role of the agent-policyholder relationship and the role of assurance in that relationship.

“Reliability” was also found to be an important dimension in the life insurance industry. Next to assurance, reliability is the factor with the strongest relationship with satisfaction and loyalty. Reliability implies that the agent will be prepared to deliver on the terms of the life insurance policy when it is redeemed. Reliability also means that the customer can count on the agent to resolve any problems should they arise.

In financial services, service quality can be better represented by perception measures as compared to gap scores such as MSS and MSA. This discovery is seen when inspecting correlations of various service quality measures with satisfaction and behavioral outcomes. The ZOT is about the same in both industries and its relatively large size indicates that both stockbrokers and life insurance agents have a substantial room for improvement in how they serve their customers. In the stock broker sector, the perceptions of service on tangibles, reliability, and assurance factors are slightly below the minimum desired service level. These results may signal a red flag in that stockbrokers may be deficient in delivering the kind of service that customer want. Failure to deliver the appropriate service may produce defections to other brokerage firms and poor word of mouth. In the life insurance industry, perception of service on the assurance dimension is below that of the minimum desired level. This finding is clearly disturbing since the
assurance dimension has the strongest correlation with satisfaction and loyalty. Clearly, if some customers feel that insurance agents are not knowledgeable or courteous and cannot convey trust and confidence, such customers will defect.

Managerial Implications

The findings on the two industries examined provide several managerial implications. For example, our study substantiated the growing evidence that expectations drive evaluations of service quality by consumers. This finding implies service providers can no longer afford to ignore consumer expectations or possess a one-sided view of expectations. Rather, industry-specific assessment of expectations is vital to determine the precise levels of both adequate and desired expectations for various service quality dimensions. With such an understanding, more precise resource allocations could be made as advocated by Walker and Baker\textsuperscript{17} to improve crucial aspects of service quality that are deemed important by consumers.

In life insurance as well as stock brokerage, both MSA and MSS were found to be consistent predictors of satisfaction and behavioral intentions. Moreover, for different service quality dimensions, consumers attached differing levels of expectations. While for some dimensions meeting and/or exceeding the minimum level of expectations drove satisfaction and positive behavioral intentions, for other dimensions consumers expected their desired level of expectations to be met. Our finding that MSS correlations with satisfaction and loyalty are larger (though not often in a statistically significant sense than MSA correlations with those same measures) implies that service providers need to examine how their service compares with desired service. Any significant performance gap with respect to desired service will hinder satisfaction and customer loyalty.

From a managerial perspective, understanding ZOT framework has far reaching implications for the effective delivery of service. Given that companies have limited resources,
they are incapable of fulfilling or exceeding all the expectations investors have of their service providers. This study offers some insights into what aspects of service quality need improvement for the delivery of effective customer service and the management of customer expectations in view of these resource constraints.

Walker and Baker\textsuperscript{17} noted that customers have differing adequate expectations and narrower zones of tolerance when service attributes were perceived as more essential to the service context. For example, in the life insurance sample of our study, we found high service expectations and the narrowest ZOT for the “assurance” dimension of service quality. Yet, this also is the dimension which has the largest correlation with satisfaction and loyalty. In such a situation, the onus on the service provider is to meet customers’ minimum or adequate expectations first on these attributes before moving on to the desired expectation standards.

As customers in both life insurance and stock broker sectors are more likely to be satisfied and engage in positive behaviors if perceptions exceeded the adequate expectations of service, it is necessary to maintain customer’s perceptions within the ZOT. In doing so, service providers must realize that promises made to customers should be taken very seriously. Once promises are made, customer’s adequate expectations would be adjusted upwards, making it even more difficult for service providers to meet or exceed customer’s adequate expectations. However, as competition in the industry become more intense, it would be worthwhile to both life insurance agents and stock brokers to provide “surprises” to customers along the way to delight them, thereby surpassing the desired expectations of customers and enhancing chances of customer loyalty. The ultimate goal is to discourage defections and build this loyalty.

**Future Research**

The concept of a multi-expectation framework on service quality is still at its infancy stage. Future research should identify the various antecedents of desired and adequate service
levels. For instance, situational factors, advertising, price and word of mouth are several factors that might affect desired and adequate service level. Subsequent empirical research should look at the impact of these factors on customer expectations.

Another area for future investigation is to examine whether or not service quality expectations of inexperienced consumers differ from those of experienced customers and how these differences affect satisfaction and loyalty. Also, we do not have a clear understanding of the impact of customer demographics on service expectations. Demographics may play an important role in service quality perceptions, affect service quality expectations, and influence the ZOT for different service quality dimensions. Looking into this area would offer insights to managers in formulating market segmentation strategies.

Future studies in this area should also measure changes in service quality expectations over time in order to have a better understanding of how MSS and MSA relate to satisfaction and loyalty. This is because service expectations are known to be affected by customers’ immediate reaction to specific service encounters. Cross-sectional studies that measure service expectations at one point in time may understate or overstate true service expectations, depending on whether customers had a positive or negative experience with the service provider.
REFERENCES


Figure 1
Hi-Lo Plot showing Mean Scores of Adequate, Actual, and Desired Service Perceptions

Note: Figure shows adequate service level (lower end of the line), desired service level (upper end of the line), and mean perceptions of actual service (solid circle).
Table 1 Scale Fit Statistics

<table>
<thead>
<tr>
<th>Service Quality Factor</th>
<th>Perceptions Stkbrkr LifeIns</th>
<th>Adequate Service Stkbrkr LifeIns</th>
<th>Desired Service Stkbrkr LifeIns</th>
<th>MSA Stkbrkr LifeIns</th>
<th>MSS Stkbrkr LifeIns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>χ² (199 df.)</td>
<td>707.05</td>
<td>481.37</td>
<td>655.54</td>
<td>482.99</td>
</tr>
<tr>
<td></td>
<td>χ²null (231 df)</td>
<td>2560.66</td>
<td>2532.65</td>
<td>2851.85</td>
<td>2513.89</td>
</tr>
<tr>
<td></td>
<td>GFI</td>
<td>.65</td>
<td>.80</td>
<td>.70</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>CFI</td>
<td>.78</td>
<td>.88</td>
<td>.83</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>SRMR</td>
<td>.10</td>
<td>.06</td>
<td>.10</td>
<td>.06</td>
</tr>
</tbody>
</table>

Note: 57 out of 60 scale reliabilities are above .7.

Table 2: Comparison of Mean Scores¹ of Service Quality Dimensions in Life Insurance and Stock Brokerage

<table>
<thead>
<tr>
<th></th>
<th>Perceptions Stkbrkr</th>
<th>Adequate Service Stkbrkr</th>
<th>Desired Service Stkbrkr</th>
<th>MSA² Stkbrkr</th>
<th>MSS³ Stkbrkr</th>
<th>ZOT⁴ Stkbrkr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LifeIns</td>
<td>LifeIns</td>
<td>LifeIns</td>
<td>LifeIns</td>
<td>LifeIns</td>
<td>LifeIns</td>
</tr>
<tr>
<td>Tangibles</td>
<td>3.97</td>
<td>5.13</td>
<td>4.02</td>
<td>4.40</td>
<td>5.14</td>
<td>5.63</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.04</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1.16</td>
<td>-0.48</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.12</td>
<td>1.22ns</td>
</tr>
<tr>
<td>Reliability</td>
<td>4.63</td>
<td>5.25</td>
<td>4.66</td>
<td>5.17</td>
<td>5.78</td>
<td>6.29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.03</td>
<td>0.08ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1.15</td>
<td>-1.02ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.12</td>
<td>1.12ns</td>
</tr>
<tr>
<td>Responsiv</td>
<td>4.58</td>
<td>4.97</td>
<td>4.60</td>
<td>4.86</td>
<td>5.70</td>
<td>6.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.02</td>
<td>0.10ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1.12</td>
<td>-1.05ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.10</td>
<td>1.17ns</td>
</tr>
<tr>
<td>Assurance</td>
<td>5.31</td>
<td>5.04</td>
<td>5.03</td>
<td>5.08ns</td>
<td>5.99</td>
<td>6.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.28</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.68</td>
<td>-1.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.96</td>
<td>1.05ns</td>
</tr>
<tr>
<td>Empathy</td>
<td>4.44</td>
<td>4.71</td>
<td>4.36</td>
<td>4.50ns</td>
<td>5.51</td>
<td>5.59ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.08</td>
<td>0.21ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1.06</td>
<td>-0.86ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.14</td>
<td>1.09ns</td>
</tr>
<tr>
<td>ServQual Index</td>
<td>4.59</td>
<td>4.97</td>
<td>4.53</td>
<td>4.79</td>
<td>5.62</td>
<td>5.90</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.05</td>
<td>0.17ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1.04</td>
<td>-0.92ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.09</td>
<td>1.11ns</td>
</tr>
</tbody>
</table>

Note: 1. Mean scores are reported on a 7-point scale (1=low, 7=high). Mean scores for stock broker and life insurance samples are significantly different from each other (p<.05) unless indicated otherwise. A superscript “*” implies mean difference at p < .10 and a “ns” implies mean difference is not significant.
2. MSA = Perception – Adequate Service Expectation; 3. MSS = Perception – Desired Service Expectation
4. ZOT = Desired Service Expectation – Adequate Service Expectation
Table 3: Correlations of Service Quality Dimensions with Related Measures

<table>
<thead>
<tr>
<th>Correlations of:</th>
<th>Tangibles Stkbrkr</th>
<th>Lifeins</th>
<th>Reliability Stkbrkr</th>
<th>Lifeins</th>
<th>Responsiveness Stkbrkr</th>
<th>Lifeins</th>
<th>Assurance Stkbrkr</th>
<th>Lifeins</th>
<th>Empathy Stkbrkr</th>
<th>Lifeins</th>
<th>ServQual Index Stkbrkr</th>
<th>Lifeins</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service Quality “Perception” Dimensions and</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>.44</td>
<td>.52*ns</td>
<td>.70</td>
<td>.74*ns</td>
<td>.74</td>
<td>.74*ns</td>
<td>.67</td>
<td>.80</td>
<td>.71</td>
<td>.75*ns</td>
<td>.77</td>
<td>.82*ns</td>
</tr>
<tr>
<td>Attitude Loyalty</td>
<td>.40</td>
<td>.54*ns</td>
<td>.64</td>
<td>.73*ns</td>
<td>.72</td>
<td>.67*ns</td>
<td>.69</td>
<td>.80</td>
<td>.61</td>
<td>.69*ns</td>
<td>.72</td>
<td>.79*ns</td>
</tr>
<tr>
<td>Behavioral Loyalty</td>
<td>.48</td>
<td>.51*ns</td>
<td>.59</td>
<td>.69*ns</td>
<td>.70</td>
<td>.67*ns</td>
<td>.67</td>
<td>.72*ns</td>
<td>.64</td>
<td>.68*ns</td>
<td>.70</td>
<td>.75*ns</td>
</tr>
<tr>
<td><strong>Service Quality “Adequate Service” Dimensions and</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>.26</td>
<td>.13*ns</td>
<td>.31</td>
<td>.16*ns</td>
<td>.33</td>
<td>.14*ns</td>
<td>.28</td>
<td>.21*ns</td>
<td>.29</td>
<td>.17*ns</td>
<td>.33</td>
<td>.19*ns</td>
</tr>
<tr>
<td>Attitudinal Loyalty</td>
<td>.27</td>
<td>.16*ns</td>
<td>.38</td>
<td>.19*ns</td>
<td>.43</td>
<td>.18</td>
<td>.39</td>
<td>.29*ns</td>
<td>.36</td>
<td>.25*ns</td>
<td>.42</td>
<td>.26*ns</td>
</tr>
<tr>
<td>Behavioral Loyalty</td>
<td>.22</td>
<td>.15*ns</td>
<td>.28</td>
<td>.18*ns</td>
<td>.36</td>
<td>.15</td>
<td>.30</td>
<td>.25*ns</td>
<td>.31</td>
<td>.26*ns</td>
<td>.34</td>
<td>.25*ns</td>
</tr>
<tr>
<td><strong>Service Quality “Desired Service” Dimensions and</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>.30</td>
<td>.14*ns</td>
<td>.39</td>
<td>.18</td>
<td>.41</td>
<td>.16*ns</td>
<td>.41</td>
<td>.25* ns</td>
<td>.36</td>
<td>.22*ns</td>
<td>.43</td>
<td>.23* ns</td>
</tr>
<tr>
<td>Attitudinal Loyalty</td>
<td>.31</td>
<td>.19*ns</td>
<td>.43</td>
<td>.23</td>
<td>.52</td>
<td>.22</td>
<td>.54</td>
<td>.32</td>
<td>.42</td>
<td>.28*ns</td>
<td>.50</td>
<td>.31</td>
</tr>
<tr>
<td>Behavioral Loyalty</td>
<td>.27</td>
<td>.17*ns</td>
<td>.43</td>
<td>.16</td>
<td>.48</td>
<td>.16</td>
<td>.46</td>
<td>.24</td>
<td>.38</td>
<td>.27*ns</td>
<td>.46</td>
<td>.25</td>
</tr>
</tbody>
</table>

Note: Life insurance sample correlations are significantly different from stock broker sample correlations unless indicated otherwise. Superscript “*” implies significant difference at p < .10 and superscript “ns” implies no significant difference in correlations (p > .10).
Table 4: Correlations of MSA and MSS Dimensions with Related Measures

<table>
<thead>
<tr>
<th>Correlations of:</th>
<th>Tangibles</th>
<th>Reliability</th>
<th>Responsiveness</th>
<th>Assurance</th>
<th>Empathy</th>
<th>ServQual Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stkbrkr</td>
<td>Lifens</td>
<td>Stkbrkr</td>
<td>Lifeins</td>
<td>Stkbrkr</td>
<td>Lifeins</td>
</tr>
<tr>
<td>Service Quality “MSA” Dimensions and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>.21</td>
<td>.32&lt;sup&gt;ns&lt;/sup&gt;</td>
<td>.36</td>
<td>.52&lt;sup&gt;*&lt;/sup&gt;</td>
<td>.41</td>
<td>.48&lt;sup&gt;ns&lt;/sup&gt;</td>
</tr>
<tr>
<td>Attitude Loyalty</td>
<td>.16</td>
<td>.31</td>
<td>.25</td>
<td>.48</td>
<td>.30</td>
<td>.41&lt;sup&gt;ns&lt;/sup&gt;</td>
</tr>
<tr>
<td>Behavioral Loyalty</td>
<td>.18</td>
<td>.16&lt;sup&gt;ns&lt;/sup&gt;</td>
<td>.29</td>
<td>.25&lt;sup&gt;ns&lt;/sup&gt;</td>
<td>.34</td>
<td>.30&lt;sup&gt;ns&lt;/sup&gt;</td>
</tr>
<tr>
<td>Service Quality “MSS” Dimensions and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>.15</td>
<td>.36</td>
<td>.36</td>
<td>.55</td>
<td>.46</td>
<td>.52&lt;sup&gt;ns&lt;/sup&gt;</td>
</tr>
<tr>
<td>Attitudinal Loyalty</td>
<td>.11</td>
<td>.33</td>
<td>.27</td>
<td>.50</td>
<td>.36</td>
<td>.43&lt;sup&gt;ns&lt;/sup&gt;</td>
</tr>
<tr>
<td>Behavioral Loyalty</td>
<td>.12</td>
<td>.33</td>
<td>.23</td>
<td>.51</td>
<td>.37</td>
<td>.49&lt;sup&gt;ns&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note: Life insurance sample correlations are significantly different from stock broker sample correlations unless indicated otherwise. Superscript “*” implies significant difference at p < .10 and superscript “ns” implies no significant difference in correlations (p > .10).