The Impact of Service Quality on Customer Satisfaction: A Case Study Based on Sri Lankan Veterinary Hospital

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ABSTRACT

Sri Lanka is experiencing steady economic growth which invariably contributed in increasing purchasing power and affordability. Steady increase in participation by women in labor force has created lack of social security and loneliness among family members, which is an issue remarkably addressed by having companion animal. This favorable environment made much demand with high competition in veterinary healthcare. The competitive edge and survival mainly harnessed by offering satisfactory service quality. In order to gain knowledge about service quality, it has to be measured.Literature review confirmed that other service sectors already the established impact of service quality on customer satisfaction. The Sri Lankan veterinary healthcare sector lacks research in this field. Therefore purpose of the study was to examine whether there is impact of service quality on customer satisfaction and to determined most important service quality dimensions. The sample size was 200 and it was drawn from all registered clients by systematic random sampling technique. Descriptive statistics, the Cronbach's alpha test and multiple regression analysis were used for analysis. The multiple regression analysis revealed there is positive relationship between service quality and customer satisfaction. The most important service quality dimension for customer satisfaction is empathy followed by responsiveness and assurance. Therefore customer satisfaction can be further increased by implementing well-structured employee training program.

KEYWORDS: *Customer Satisfaction, Service Quality, Veterinary Healthcare,*

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1 Introduction

Sri Lanka is experiencing rapid economic growth with peace and harmony among civilians of different religions and cultures. According to Central Bank Report (2014) growth of GDP in real terms were 8.2% (2011), 6.3% (2012) and 7.3% (2013). The Per Capita GDP were US$ 2836 (2011), 2922 (2012) and 3280 in 2013 (Central Bank Report, 2014). Such economic growth invariably increases affordability and purchasing power among Sri Lankans. The population growth rate was 1.1% in 2005 and it became 0.8% in 2013 (Central Bank Report,2014). This declination of population growth rate reflects greatly in family size and number of children in a family. All island labor force was 67.1% males and 30.9% females in 2005, 32.2% females in 2008 and in 2013 it was 35.1% females (Central Bank Report, 2014). This increased participation of women in labor force made children and elderly parents left home prolonged time without proper care. They suffer loneliness and lack of social security. Such circumstances can be resolved satisfactorily by adopting a companion animal. The satisfactory income level and liberalization of economy made them to adopt sophisticated breeds of companion animal which demand more attention in feeding and management. Such pets need frequent and regular veterinary healthcare.

1.1 Research Problem

This highly favorable demand for veterinary healthcare made lucrative income generating activity among veterinary practitioners. There are around 250 private animal clinics or hospitals throughout the country and most of them concentrated in suburbs. There are 58 animal clinics or hospitals in Colombo and Gampaha districts. Therefore, furious competitiveness exist between competitors in veterinary healthcare.

In the battle ground of technical quality, most of them were more or less similar and sustainable competitive advantage mainly obtained by offering high quality service delivery process. Berry et al. (1988) revealed that service quality make organization a distinctive service provider and it is the strongest factor which keeps organization in competitive frontline. Previous studies have shown that offering high quality services is directly related to increase profits, market share and cost savings (Devlin and Dong, 1994). However, service quality is an abstract and elusive subject and it is difficult to measure it. But it has to be measured and acquire deep insight about the level of service quality, in order to make remedial measures.

The concept of customer satisfaction is the main outcome of marketing practices and occupies an important position in both theory and practice (Churchill and Surprenant, 1982). Customer satisfaction has positive effects on an organization profitability. The more customers are satisfied with products or service offer, the more chances for any successful business as customer satisfaction leads to repeat purchases, loyalty and customer retention (Zairi,2000). Therefore acquired knowledge on service quality and customer satisfaction in veterinary healthcare may helpful while making remedies and strategies in future. Again, there is no previous literature on service quality and customer satisfaction in Sri Lankan veterinary health context.

Statement of the Problem

Based on the above content, this study focused, "What is the extent of impact exist between service qualityon customer satisfaction according to clients' perception at the Sri Lankan veterinary hospital?"

1.2 Objectives of the Study

The purpose of this study was to examine whether there are significant positive correlations exist between tangibles, reliability, responsiveness, assurance and empathy dimensions of service quality with customer satisfaction and determined extent and significance of such relationships.

2 Review of Literature

2.1 Service Quality

Zeithaml et al. (1990) defined service quality as "customer's perception of how well a service meets or exceeds their expectations". Parasuraman et al. (1988) defined service quality as the discrepancy between consumer's perceptions of services offered by a particular firm and their expectations about firm's offering such services. Prior to measure service quality, it is important to understand and acknowledge the characteristics of service quality. They were intangibility, heterogeneity and inseparability (Parasuraman et al, 1985).

Donabedian (1980) defined healthcare quality as kind of care which is expected to maximize an inclusive measure of patient welfare, after one has taken into account of the balance of expected gains and losses that attend the process of care in all its parts. The American Medical Association (1984) defined healthcare quality as such care, which consistently contributes to the improvement or

maintenance of quality and or duration of life.

2.2 Customer Satisfaction

Kotler (2002) defined satisfaction as "the level of one's feelings after comparing the performance perceived with expectation". The literature on customer satisfaction revealed that there are two different conceptualizations. They were: transaction specific and cumulative (Boulding, 1993). Customer satisfaction defined as "overall evaluation based on the total purchase and consumption experience with a good or service overtime (Anderson et al, 1994: Fornell, 1992). In the extant literature, some researchers defined customer satisfaction as "a function of pre purchase expectations and post purchase perceived performance of the product or service (Fornell, 1994: Tse and Wilton, 1988: Oliver, 1993).

2.3 SERVQUAL and Criticism of SERVQUAL

According to Parasuraman et al. (1988), service quality can be identified by five dimensions. They were: tangibles, reliability, responsiveness, assurance and empathy. They explained that five dimensions with the help of twenty two statements which they have identified as attributes (Parasuraman et al, 1988). Many researchers (Babakus and Mangold,1992: Rohini and Mahadevappa, 2006: Mangkolrat, 2008) were declared SERVQUAL as valid and reliable model for measuring the service quality in healthcare settings.

Despite its world-wide usage, some researchers observed limitations in applicability of SERVQUAL. Their concern mainly focused on validity, reliability and length of the questionnaire. According to Brown et al. (1993) measurement of scores of differences in expectation and perception of customers are often weak reliability. The measurement of difference score with low reliability may leads to problems in construct validity. Uniqueness of the services offered by healthcare services may not permit generalized it by SERVQUAL (Vandamme and Leunis, 1993). Many researchers in healthcare were failed to extract typical five factor generic dimensions from SERVQUAL and were able to obtained less than five factors (Mostafa, 2005: Yelsida and Direktor, 2010).Babakus and Boller (1992), Bolton and Dew (1991) and Carman (1990) stressed the need of more precise scale because of the vagueness of expectation scale in SERVQUAL.

2.4 SERVPERF Scale

The SERVPERF Scale was developed by Cronin and Taylor in 1992. They removed expectation component and kept performance scale and named it as SERVPERF. The SERVPERF scale is more efficient and explain greater variance in overall service quality (Jain and Guptha, 2004). Many researchers (Babakus and Boller, 1992: Bolton and Drew, 1991: Churchill and Supernant, 1982) were successfully used SERVPERF in their studies. When applied simultaneously with SERVQUAL, the SERVPERF outperformed the SERVQUAL scale (Babakus and Boller, 1992: Cronin and Taylor, 1992). Therefore researchers wanted to take similar decision and used SERVPERF scale for this study.

3   Methodology

This cross-sectional, explanatory research performed at Out Patient Department (OPD) of a leading Sri Lankan Veterinary Hospital (SLVH). All registered clients at SLVH considered as population for the study.The selected sample size was 200 and it was determined by Yamanne (1967) equation. The sampling technique used in this study was systematic random sampling.

Inclusion criteria for sample were: willingness to respond questionnaire, able to read, write and understand either Sinhala or English, above 18 years of old and visit SLVH at least twice within last six months.

Primary data collection was done by questionnaire with three parts. The Part 1 of the questionnaire derived from SERVQUAL with 22-items and slight modification of wording according to requirement of domain of veterinary healthcare with performance only scale. Therefore Part 1 of the questionnaire referred as SERVPERF.

The Part 2 of the questionnaire had four items which measured overall customer satisfaction. Both constructs received responses by five point likert scale.

The Part 3 of the questionnaire completely devoted to obtain socio-demographic profile of sample. The questionnaire originally developed in English and later translated it in to Sinhala language. The questionnaire has submitted to selected respondents after the service delivery process at OPD. Most of the respondents took more than 20 minutes and less than 45 minutes to complete the given questionnaire.

Descriptive statistics namely, frequency and percentages were calculated for socio-demographic

characters of the sample. Reliability of SERVPERF and customer satisfaction constructs were obtained by Cronbach's alpha Test. Primary data gathered by survey questionnaire were subjected to Multiple Regression Analysis (MRA) by stepwise method with the help of SPSS 21 version.
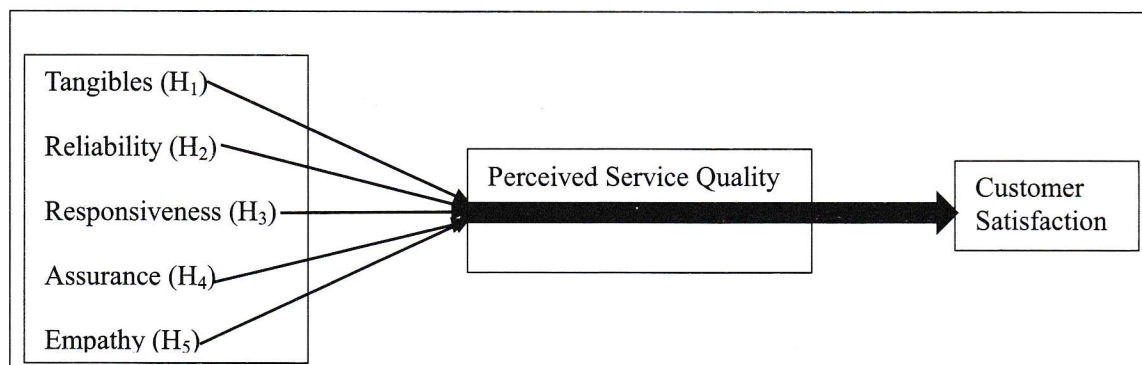

Figure 1: Conceptual Framework (Source: Parasuraman et al. 1985)

3.1 Operational Definitions

Independent variables in this study were: tangibles, reliability, responsiveness, assurance and empathy. The dependent variable was customer satisfaction. According to Parasuraman et al. (1988), following definitions were made for independent variables. They were:

Tangibles- physical facilities, up-to-date equipment and appearance of employees in the veterinary hospital.

Reliability- an ability to perform the service accurately and dependably.

Responsiveness-willingness to help customers and provide prompt service.

Assurance- employees' knowledge, courtesy and ability to convey trust and confidence.

Empathy- caring and individualized attention towards customers which was extended by customers.

Customer satisfaction defined according to Kotler and Armstrong (1999). They defined customer satisfaction as the customer's perception that compares pre-purchase expectation with post purchase perception.

In this study, perceived service quality defined according to Zeithaml (1988) as "the judgment about the superiority or excellence of a product or service".

3.2 Hypotheses

Following five hypotheses were developed in order to fulfill objectives of the study.

H_1- There is a significant positive correlation exists between tangibility and customer satisfaction at SLVH.

H_2- There is a significant positive correlation exists between reliability and customer satisfaction at SLVH.

H_3- There is a significant positive correlation exists between responsiveness and customer satisfaction at SLVH.

H_4- There is a significant positive correlation exists between assurance and customer satisfaction at SLVH.

H_5- There is a significant positive correlation exists between empathy and customer satisfaction at SLVH.

4 Results and Discussion

4.1 Socio-demographic Profile of the Sample

Socio-demographic characters were tabulated at Table 1 below. Most of the respondents (73) and 36% were in 50 to 60 years age group followed by 46 (23%) in 18 to 29 years age group. Sixty four percent (64%) of the respondents were above 40 years of age. Therefore maturity and life experience among them can be considered as an added value for this study. The lowest frequency (12) and 6% were in 60

200

plus age group which can be explained by due to age related debility with low retirement wages, they may be withdrawn from having a companion animal.

The sample for the study consists 48% males and 52% females and this male to female ratio closely follow Sri Lankan population ratio. The highest 46% of the respondents were in secondary level category, followed by 24% in graduate level educational category. Therefore educational level of the study sample was satisfactory and their responses can be counted seriously without any hesitation.

Most of the clients (24%) were in monthly family income above SLR 45,000 to 60,000 category and 69% of total respondents were in above SLR 45,000 category. Therefore respondents were mainly in middle and upper middle class families. The lowest monthly family income level was less than SLR 30,000, and 13% of respondents were in that group. Therefore SLVRH must have program which attract and help lower income range clients.

4.2 Reliability Statistics

Part 1 and 2 of the questionnaire were subjected to Cronbach's alpha test to predict internal consistency. The SERVPERF scale and construct for customer satisfaction were able to secure 0.946 and 0.891respectively. The lowest Cronbach's alpha value obtained by assurance dimension and it was 0.750. The empathy dimension was able to obtain highest among other service quality dimensions and it was 0.909. Reliability and responsive dimensions were able to secure 0.831 and 0.872 respectively. All Cronbach's alpha values were above 0.7 threshold value and therefore, internal consistency of two constructs were in acceptable level for further analysis.

Table 1: Socio-demographic Characteristics of Sample

Character	Category	Frequency	Percentage
Age	18 to 29 years	46	23%
	30 to 39 years	24	12%
	40 to 49 years	45	22%
	50 to 59 years	73	36%
	60 plus	12	6%
Gender	male	95	48%
	Female	105	52%
Educational Background	Primary	5	3%
	Secondary	92	46%
	Diploma	41	20%
	Graduate	48	24%
	Postgraduate	14	7%
Monthly Family Income	Less than SLR 30,000	25	13%
	Above 30,000 to 45,000	36	18%
	Above 45,000 to 60,000	49	24%
	Above 60,000 to 75,000	44	22%
	Above 75,000	46	23%

Source: Survey Data (2014)

Table 2: Results from Cronbach's alpha Test

Dimension / Construct	Cronbach's alpha Value
Tangibles	0.785
Reliability	0.831
Responsiveness	0.872
Assurance	0.750
Empathy	0.909
SERVPERF	0.946
Customer Satisfaction	0.891

Source: Survey Data (2014)

4.3   Multiple Regression Analysis (MRA)

Primary data obtained by Part 1 and 2 of the questionnaire were subjected to multiple regression analysis with the help of SPSS version 22 by stepwise method. Resultant three models were displayed in Table 3 below. The Model 1 solely described impact of empathy dimension on customer satisfaction. Model 2 explained dependent variable customer satisfaction by using two independent variables and they were empathy and responsiveness. The Model 3 explained variability of customer satisfaction by three independent variables. They are empathy, responsiveness and assurance. The Model 3 shows highest values for R (0.821), R Square (0.674) and Adjusted R Square (0.669) and lowest value for Standard Error of Estimates. An approximately 67% of variance in customer satisfaction can be described by Model 3 and considered best and most parsimonious model with comparison to Model 1 and 2.

The ANOVA Test for three models were tabulated in Table 4 with F values. The F value for Model 1 was 294.868 and it was significant (p <0.05). For Model 2 the relevant F value was 188.119 and it was significant (p < 0.05). The F value for the selected best model 3 secured 135.290 and it was significant (p < 0.05).

Table 3: Model Summary by Stepwise Analysis

Model	Predictor / Outcome Variable	R	R Square	Adjusted R Square	Std. Error of the Estimates
Model 1	(Constant), empathy and customer satisfaction	0.773	0.598	0.596	1.943
Model 2	(Constant), empathy, responsiveness and customer satisfaction	0.810	0.656	0.653	1.801
Model 3	(Constant), empathy, responsiveness assurance and customer satisfaction	0.821	0.674	0.669	1.758

Source: Survey Data (2014)

Table 4: ANOVA for Regression Models.

Model	Sums of Squares	df	Mean Squares	F	Sig.
Model 1. Regression	1113.488	1	1113.488	294.868	.000
Residual	747.692	198	3.776		
Total	1861.180	199			
Model 2. Regression	1221.564	2	610.782	188.119	.000
Residual	639.616	197	3.247		
Total	1861.180	199			
Model 3. Regression	1255.084	3	418.361	135.290	.000
Residual	606.096	196	3.092		
Total	1861.180	199			

Source: Survey Data (2014)

Table 5: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
3. (Constant)	2.179	.812		2.683	.008		
Empathy	.302	.045	.434	6.674	.000	.392	2.551
Responsiveness	.249	.058	.289	4.278	.000	.364	2.745
Assurance	.236	.072	.187	3.292	.001	.513	1.949

Source: Survey Data (2014)

Table 6: Result of Hypotheses Test

Hypotheses	t-value	Sig.	Result
H_1-There is a significant positive correlation exists between tangibility and customer satisfaction	Not selected		Reject
H_2-There is a significant positive correlation exists between reliability and customer satisfaction	Not selected		Reject
H_3-There is a significant positive correlation exists between responsiveness and customer satisfaction	4.278	.000 ($p < 0.05$)	Accept
H_4-There is a significant positive correlation exists between assurance and customer satisfaction	3.292	.000 ($p < 0.05$)	Accept
H_5-There is a significant positive correlation exists between empathy and customer satisfaction	6.674	.000 ($p < 0.05$)	Accept

Source: Survey Data (2014)

The hypotheses testing that was conducted to examine direct relationships between service quality dimensions and customer satisfaction were tabulated in Table 5 with relevant values. The empathy (β =.434, $p < 0.05$; t-value = 6.674), responsiveness (β = .289, $p < 0.05$, t-value = 4.278) and assurance (β =.187, $p < 0.05$, t-value = 3.292). The tangibility and reliability were not included in stepwise regression. That means including them did not make any significant change in customer satisfaction. The regression equation arrived from multiple regression analysis with stepwise entering method was named as equation (1) below.

Customer Satisfaction = .434 (Empathy) + .289 (Responsiveness) + .187 (Assurance) + 2.179   (1)

When examine Beta values, it is possible to conclude that most important service quality dimension for customer satisfaction was empathy followed by responsiveness and assurance. Tangible and reliable dimensions do not have a significant positive correlation with customer satisfaction in SLVH.

In order to find out whether there is a multicollinearity among independent variables, Tolerance and Variance Inflation Factor (VIF) were measured and tabulated in Table 5. When there is multicollinearity problem, tolerance values becomes very closer to zero (< 0.01). In this study, all three independent variables secure higher than threshold tolerance values (.392, .364 and .513). The VIF value for empathy, responsiveness and assurance were 2.551, 2.745 and 1.949 and they were well below threshold value 10. Therefore, in this study, multicollinearity is far beyond consideration.

At the end of the literature study, researchers were able to formulate five hypotheses. According to MRA by stepwise method, some of prior formulated hypotheses were accepted and two of them were rejected. All of them were briefly tabulated in Table 6. First two hypotheses were rejected because they are not included in Model 3, which considered most parsimonious model. According to Table 6, H_3, H_4 and H_5 have given high t-values (4.278, 3.292 and 6.674) with $p < 0.05$ and therefore accepted.

5 Conclusion and Recommendations

Respondents were mainly from middle aged, with sound educational background and from middle or upper middle class families. Therefore, SLVH must have special concern which helps lower income group clients. Most important service quality dimension was empathy followed by responsiveness and assurance. According to this study, tangibility and reliability has no significant positive impact on customer satisfaction. Therefore clients at SLVH have more concern on humane aspect of service quality and it is very tightly adhere to values inherent with Sri Lankan socio-cultural context. Therefore in order to improve customer satisfaction, hospital administrators must pay more attention when adopting technology and knowledge from western, blend them thoroughly with values of our culture in order to provide positive, concerning attitude towards patients and clients in need.

5.1 Future Research

Researchers would like to extend similar research for compare Public and Private Veterinary Hospitals and would like to include employees of veterinary hospitals in order to measure internal customer satisfaction.

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