



UNIVERSITI PUTRA MALAYSIA

**CUSTOMER SATISFACTION ON SERVICE QUALITY OF
UNIVERSITY VETERINARY HOSPITAL (UVH) FELINE SECTION,
UNIVERSITI PUTRA MALAYSIA (UPM):
APPLICATION OF SERVQUAL MODEL**

MARLIA BINTI MARJI

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UNIVERSITI PUTRA MALAYSIA (UPM):
APPLICATION OF SERVQUAL MODEL**

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Faculty of Veterinary Medicine, Universiti Putra Malaysia
In partial fulfillment of requirement for the
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CERTIFICATION

It is hereby certified that we have read this project paper entitled “Customer Satisfaction on Service Quality of University Veterinary Hospital (UVH) Feline Section, Universiti Putra Malaysia (UPM): Application of SERVQUAL Model”, by Marlia Binti Marji and in our opinion it is satisfactory in terms of scope, quality, and presentation as partial fulfillment of the requirement for the course VPD 4999 - Project

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DEDICATIONS

In the name of Allah, The Most Benevolent, The Most Merciful

To my family,

Marji Bin Giran

Zubaidah Binti Kamsin

Marlina Binti Marji

Marhalim Bin Marji

Maryadi Bin Marji

Marhanina Binti Marji

Marhaniza Binti Marji

Maridayani Binti Marji

Mohd Salehuddin Bin Marji

And to all my teachers who have committed themselves towards the noble cause of
education.

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ABSTRACT

An abstract of the project paper presented to the Faculty of Veterinary Medicine in partial fulfilment of the course VPD 4999 – Project.

**CUSTOMER SATISFACTION ON SERVICE QUALITY OF UNIVERSITY
VETERINARY HOSPITAL (UVH) FELINE SECTION, UNIVERSITI PUTRA
MALAYSIA (UPM): APPLICATION OF SERVQUAL MODEL**

By

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2016

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Service quality is an assessment of how well a delivered service fit to the customers' expectations. It is important to measure service quality to ensure delivered service meets customer satisfaction. Service quality can be measured using the SERVQUAL model. There have not been any studies thus far investigating service quality in veterinary hospitals. Therefore, this study was conducted to measure service quality in the Feline section of University Veterinary Hospital (UVH), Universiti Putra Malaysia (UPM) to identify areas to improve performances. This study was conducted at the Feline section for four weeks. Two sets of questionnaires based on the SERVQUAL model were

given to the customers. The first set of questionnaire is on customers' expectations of veterinary hospitals in general, while the second set of questionnaire is on customers' perceptions of UVH. The SERVQUAL model measures service quality based on gap score (GS) of five dimensions which are tangibles, reliability, responsiveness, assurance and empathy. A gap score on each dimensions was computed based on the following formula; $GS = \text{Perception (P)} - \text{Expectation (E)}$. 89 respondents participated in this study. Customers' perceptions do not meet customers' expectations in all five dimensions. There was a significant difference in mean of expectations and mean of perceptions ($P < 0.05$) in all dimensions except for empathy. The lowest gap scores were exhibited by tangible (-0.176) and empathy (-0.140) dimensions. The highest gap scores were exhibited by reliability (-0.494) and responsiveness (-0.431) dimensions. Although assurance dimension had a gap score of -0.281, UVH have closely met the customers' high expectations in this dimension. UVH should invest to improve its reliability and responsiveness dimensions for better performances in service quality.

Keywords: *service quality, customer satisfaction, SERVQUAL, cat*

ABSTRAK

Abstrak daripada kertas projek yang dikemukakan kepada Fakulti Perubatan Veterinar untuk memenuhi sebahagian daripada keperluan kursus VPD 4999 – Projek.

**KEPUASAN PELANGGAN TERHADAP KUALITI PERKHIDMATAN
HOSPITAL VETERINAR UNIVERSITI (UVH) SEKSYEN KUCING,
UNIVERSITI PUTRA MALAYSIA (UPM): APLIKASI MODEL SERVQUAL**

Oleh

Marlia Binti Marji

Penyelia: Dr. Lim Sue Yee

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Dr. Puteri Azaziah Megat Abdul Rani

Kualiti perkhidmatan adalah penilaian terhadap tahap perkhidmatan yang diberikan memenuhi jangkaan pelanggan. Ianya adalah penting untuk mengukur kualiti perkhidmatan bagi memastikan perkhidmatan yang diberikan mencapai kepuasan pelanggan. Kualiti perkhidmatan boleh diukur dengan menggunakan model SERVQUAL. Masih tiada kajian mengenai kualiti perkhidmatan yang dijalankan di hospital veterinar. Oleh itu, kajian ini dijalankan untuk mengukur kualiti perkhidmatan di seksyen Kucing, Hospital Veterinar Universiti (UVH), Universiti Putra Malaysia (UPM) untuk mengenalpasti bahagian yang perlu diperbaiki bagi meningkatkan prestasi UVH. Kajian ini telah dijalankan di seksyen Kucing selama empat minggu. Dua set soalan berdasarkan model SERVQUAL diberikan kepada pelanggan. Set pertama adalah

mengenai jangkaan pelanggan terhadap hospital veterinar secara umum, manakala, set kedua adalah mengenai persepsi pelanggan terhadap UVH. Model SERVQUAL mengukur kualiti perkhidmatan berdasarkan jarak skor lima dimensi iaitu “*tangibles*”, kebolehpercayaan, koresponsifan, jaminan dan empati. Jarak skor setiap dimensi dikira berdasarkan formula ini; Jarak skor (GS) = Persepsi (P) – Jangkaan (E). Kajian ini telah disertai oleh 89 responden. Persepsi pelanggan tidak mencapai jangkaan pelanggan dalam setiap dimensi. Terdapat perbezaan bererti dalam purata jangkaan dan purata persepsi ($P < 0.05$) dalam setiap dimensi kecuali empati. Jarak skor terendah dilihat pada dimensi “*tangible*” (-0.176) dan empati (-0.140). Jarak skor tertinggi dilihat pada dimensi kebolehpercayaan (-0.494) dan koresponsifan (-0.431). Walaupun dimensi jaminan mempunyai jarak skor -0.281, UVH hampir mencapai jangkaan tinggi pelanggan dalam dimensi ini. UVH perlu melabur untuk memperbaiki dimensi koresponsifan dan kebolehpercayaan untuk meningkatkan prestasi dalam servis perkhidmatan.

Kata Kunci: kualiti perkhidmatan, kepuasan pelanggan, SERVQUAL, kucing

1.0 INTRODUCTION

Currently, there are increases in the number of veterinary clinics opened in Malaysia. In Selangor and Federal Territory of Kuala Lumpur, there are around 70 veterinary clinics (Pet Finder). To continue the pursuit of a competitive strategy, veterinary clinics, like other customer based services such as banking, retailing, hospitality, education and healthcare must satisfy the customers in services provided. Veterinary industry is similar to the healthcare industry, where one of the important issues is service quality. Service quality is defined as an assessment of how well a delivered service fits to the clients' expectations. Measuring service quality is important to the business to improve service in meeting customers' satisfaction. Furthermore, service quality has been increasingly identified as the main factor in distinguishing between services and building competitive advantages (Wan Rashid W.R., & Jusoff, Hj.K., 2009). This could increase demand of the service provided and enable the business to grow.

To measure service quality, there are many types of models that were introduced. Those models include Higher Education Performance (HedPERF) (Abdullah F. 2006), Electronic Service Quality (ES QUAL) (Parasuraman A., Zeithaml, V.A., & Malhotra, A., 2005), Service Performance (SERVPERF) (Landrum H., Prybutok, V.R., & Zhang, X., 2007) and Service Quality (SERVQUAL) (Parasuraman A., Zeithaml, V.A., & Berry, L., 1985). However, SERVQUAL have been commonly used in measuring service quality in hospitals service.

SERVQUAL model was developed in the eighties by Zeithaml, Parasuraman and Berry, and aimed at measuring the scale of quality in the marketing service. SERVQUAL was adapted into healthcare environment by Babakus and Mangold, 1992. Since then, SERVQUAL have been used in many hospitals including University health clinic (Anderson E., 1995), government hospital (Lim P.C., & Tang, N.K.H., 2000) and private hospital (Muhammad Butt, M., & Cyril de Run, E., 2010). SERVQUAL measure service quality based on gap scores according to this formula: Perception - Expectation. Expectations are the wants of consumers, that is, what they feel a service provider should offer while perceptions refer to the consumers' evaluation of the service provider.

There have not been any studies thus far investigating service quality in veterinary hospitals. This type of study is needed because veterinary hospitals such as UVH need to get insight in the service quality they need to prioritize and to improve its business. Therefore, this study was conducted to measure service quality by using SERVQUAL model in the Feline section of University Veterinary Hospital (UVH), Universiti Putra Malaysia (UPM).

The objectives of this study are:-

- 1) To identify customers' expectations on different dimensions.
- 2) To identify customers' perceptions of quality services on different dimensions.
- 3) To learn differences (service gap) between expectations and perceptions.
- 4) To identify areas in which UVH, UPM must prioritize to improve its service performances.

2.0 LITERATURE REVIEW

2.1 Service quality and customer satisfaction

Service quality is defined as a measure of how well the service level delivered conforms to the customers' expectations on a consistent basis (Webster C., 1989). Service quality also can be defined as a comparison of customers' expectations of the services they will receive with customers' perceptions of the performance of the service provider. Expectations are the wants of customers, which is also what they feel a service provider should offer while perceptions refer to the customers' evaluation of the service provider. In veterinary healthcare, service quality can be defined as an assessment of how well a delivered veterinary service meets to pet owners' expectations.

Customer satisfaction in relation to service quality was explained by Zeithaml, Parasuraman and Berry (1985) as the gap score between predicted or expected service (customers' expectations) and perceived service (customers' perceptions). If customers' expectations are greater than customers' perceptions, a gap scores exists and this means that the customers are not satisfied with the service provided. Bigger gap score does not necessarily mean that service quality is low, but rather it shows that customers' perceptions do not meet customers' expectations and therefore customer dissatisfaction occurs. This present opportunities to improve service for better performances. In veterinary healthcare, customer satisfaction is a measure of the degree to which a veterinary healthcare service meets the customers' expectations.

2.2 Type of service quality

There are two forms of quality that are relevant to service-providing organizations: technical quality and functional quality (Gronroos C., 1984). Technical quality refers to the quality of the service, whereas functional quality refers to the manner in which the service is delivered. In the health care environment, technical quality is defined on the basis of the technical accuracy of the diagnosis and procedures. While, functional quality refers to the manner in which the health care service is delivered to the patient (Babakus E., & Mangold, W.G., 1992).



Models used to measured service quality

There are many models that have been used to measure service quality such as Higher Education Performance (HedPERF), Electronic Service Quality (ES QUAL), Service Performance (SERVPERF) and Service Quality (SERVQUAL). HedPERF was introduced as a new measuring instrument of service quality for the higher education (Abdullah F., 2006). ES QUAL was introduced to assess electronic service quality such as online banking (Parasuraman A., Zeithaml, V.A., & Malhotra, A., 2005). SERVPERF was introduced to measure service quality based on performances only (Landrum H., Prybutok, V.R., & Zhang, X., 2007). SERVQUAL was introduced to measure service quality based on the differences between customers' perceptions with customers' expectations (Parasuraman A., Zeithaml, V.A., & Berry, L., 1985).

2.4 SERVQUAL model as a tool to measure service quality

In this study, SERVQUAL was used to measure service quality in veterinary service settings. In previous studies, SERVQUAL have been used in many service based industries such as marketing, banking and hotels. The developers' of SERVQUAL have suggested that this model can be adapted to fit the characteristics or specific research needs of a particular organization (Parasuraman A., Zeithaml, V.A., & Berry, L., 1985) thus Babakus and Mangold (1992) have adapting the SERVQUAL model to measure service quality in hospital environment in 1992.

The SERVQUAL model measures service quality based on the gap scores. These gap scores are obtained from differences in customers' perceptions with customers' expectations. SERVQUAL contains 22 pairs of Likert-type items. One half of these items measures customers' expected levels of service for a particular service industry (expectations) while the other half measures the perceived level of service provided by a particular organization (perceptions). The items are presented in a seven-point Likert scale ranging from "strongly disagree = 1" to "strongly agree = 7". Babakus and Mangold (1992) modified the SERVQUAL model from marketing service to suit the hospital service. The modified version consists of 15 pairs of matching expectations and perceptions items representing all five dimensions of service quality. Instead of using the original seven-point Likert format, Babakus & Mangold (1992) modified it to five-point Likert scale ranging from "strongly disagree = 1" to "strongly agree = 5". This modifications were indicated because the five-point Likert format reduces the frustration

level of the respondent patients and helps to improve quality of the responses (Babakus E., & Mangold, W.G., 1992).

2.5 SERVQUAL dimensions

The original SERVQUAL model defined service quality using 10 dimensions of quality: reliability (involves consistency of performance and dependability), responsiveness (concerns the willingness or readiness of employees to provide service), competence (possession of the required skills and knowledge to perform the service), access (approachability and ease to contact), courtesy (involves politeness, respect, consideration and friendliness of contact personnel), communication (keeping customers informed in language they can understand and listening them), credibility (involves trustworthiness, believability, honesty), security (freedom from danger, risk or doubt), understanding (involves making the effort to understand the customer's needs), and tangibles (include the physical evidence of the service).

The 10 SERVQUAL dimensions were then consolidated into five: tangibles, reliability, responsiveness, assurance and empathy (Parasuraman A., Zeithaml, V.A., & Berry, L., 1988). Tangibles dimension can be described as appearance of physical facilities, equipment, personnel and communication materials. Reliability is the ability to perform the promised service dependably and accurately. Responsiveness is the willingness to help customers and provide prompt service. Assurance dimension includes knowledge, courtesy and trustworthiness of the personnel. Empathy dimension can be described as understanding the customers which making the effort. The SERVQUAL

model was then adapted to measure service quality in the hospital service industry based on the new five dimensions by Babakus & Mangold, (1992).

2.6 University Veterinary Hospital (UVH)

UVH was established by the Faculty of Veterinary Medicine, UPM as a center to provide veterinary services through research, animal health care and disease diagnosis. UVH provide routine outpatient consultancy and also offers specialized services in veterinary medicine and surgery, imaging as well as laboratory diagnosis. There are two units in UVH which are small animal unit and large animal unit. The small animal unit of UVH consists of two sections which are canine and feline section. There have not been any studies thus far investigating service quality in UVH, UPM. This study aims to measure customers' expectations and perceptions of quality services in UVH, UPM and to learn the gap score between it. The results of this study will indicate which areas must be improved to meet customer satisfaction.

3.0 MATERIALS AND METHODS

3.1 Sampling and data collection

A survey was conducted to measure service quality in the Feline section of UVH, UPM. This survey was conducted for four weeks from 11th January 2016 until 5th February 2016.

This survey was conducted using a modified version of the SERVQUAL questionnaire which was adapted from the marketing perspective into the hospital environment (Parasuraman A., Zeithaml, V.A., & Berry, L., 1988; Babakus E., & Mangold, W.G., 1992).

Two sets of questionnaires were given to the customers at Feline section, UVH. Each set of questionnaire had English and Malay versions (refer to Appendices). Customers were given a choice to choose any version to answer the questions. The first set of questionnaire measured customers' expectations of service quality regarding veterinary hospitals in general, while the second set of questionnaire measured customers' perceptions specific to the quality of service provided by UVH. The section on customers' expectations was given to the customer after registration process while they are waiting for consultation or treatment. The section on perceptions of service quality provided was given to the customers after the billing session when service had been delivered.

Each questionnaire (customers' expectation and customers' perception) contained 15 pairs of statements representing the five SERVQUAL dimensions of service quality: tangibles (3 questions), reliability (3 questions), responsiveness (3 questions), assurance

(4 questions) and empathy (2 questions) (Parasuraman A., Zeithaml, V.A., & Berry, L., 1988). The questions were presented in a five-point Likert scale ranging from “Strongly disagree = 1” to “Strongly agree = 5”. Additionally, respondents were asked on overall perception of UVH and whether or not they intended their pet to receive treatment here again (Babakus E., & Mangold, W.G., 1992). The overall quality perceptions statement was measured on a five-point Likert scale ranging from “very poor = 1” to “very good = 5”.

3.2 Data preparation and editing

Data were prepared and edited in Excel® (Microsoft Corporation, Redmond). SERVQUAL measures service quality as the gap score between a customer’s expectations for a service offered and the customers’ perceptions of the service received. Simple statistical methods, namely means are used to compute the SERVQUAL gap score.

The first step in the assessment of service quality was the calculation of SERVQUAL gap scores of the 15 pairs of expectation/ perception statements for each respondent as:

$$\text{SERVQUAL gap score (GS)} = \text{perception score (P)} - \text{expectation score (E)}.$$

The second step in the computation of SERVQUAL gap score is to total up the scores obtained in the first step or each of service dimensions and then divide the number of statements in the particular dimension. For example: tangibles dimension have 3 statements. The gap scores in tangible dimension was obtained as the mean of individual statements making up the dimension.

Next, the SERVQUAL gap score for each dimension are added for all respondents and then divided by the number of respondents. This would give the mean of SERVQUAL gap score for the service dimensions.

3.3 Data analysis

All statistical analyses were performed using IBM SPSS statistics version 22. Shapiro-Wilk test was used to ascertain the normality of the dataset. Mann Whitney U-test was used to identify the mean difference between customers' expectations and customers' perceptions. Pearson correlation was used to study the relationship between continuous variables. $P < 0.05$ was considered significant.

4.0 RESULTS

4.1 Demographic of the respondents

Category		Frequency (n = 89)	Percentage (%)
Gender	Male	10	11.2
	Female	79	88.8
Race	Malay	85	95.5
	Chinese	2	2.2
	Indians	0	0
	Others	2	2.2
Employment	Employed	44	49.4
	Self - employed	11	12.4
	Unemployed	10	11.2
	Retired	5	5.6
	Student	19	21.3
Income per month	Low income (<RM1,499)	3	3.4
	Low medium income (RM1,500-RM2,999)	18	20.2
	High medium income (RM3,000-RM4,999)	15	16.9
	High income (>RM5,000)	53	59.6
Education level	Primary school	1	1.1
	Secondary school	14	15.7
	Certificate	1	1.1
	Diploma	27	30.3
	Degree	34	38.2
	Postgraduate degrees	12	13.5
Address	Selangor	61	68.5
	Kuala Lumpur	22	24.7
	Others	6	6.7

Table 1: Demographic profile of the respondents at Feline section, UVH categorized by gender, race, employment status, income per month, education level and address. The frequency and percentage of the respondents was computed for each category.

A total of 89 respondents participated in this survey. Majority of respondents were females of Malay descent. More than half of the respondents were employed and were categorized as high income per month (>RM5000). Additional demographic profiles of the respondents at Feline section, UVH categorized by gender, race, employment status, income per month, education level and address are summarized in Table 1.

4.2 Mean expectations and perceptions by questionnaire item

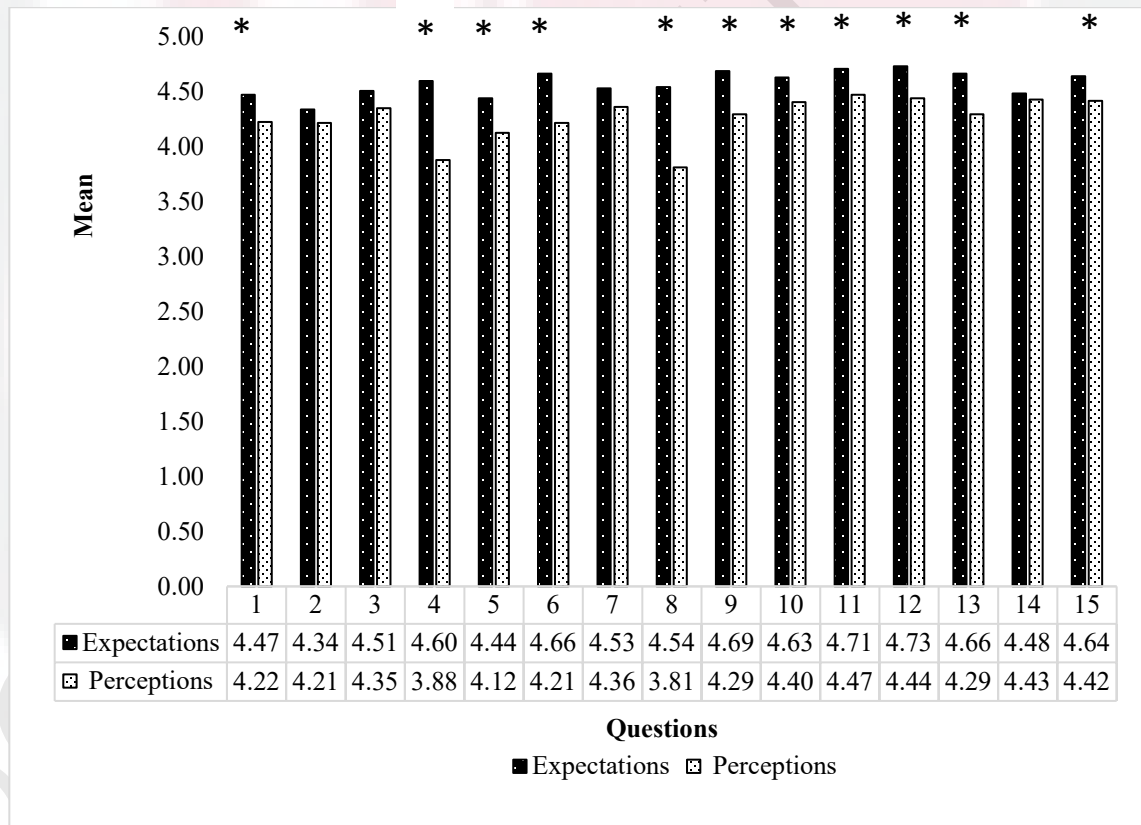


Figure 1: Mean expectations and perceptions by questionnaire item. Customers' perceptions do not meet customers' expectations in all questions. * Significant ($P < 0.05$) differences between mean of expectations with mean of perceptions.

Customers' perceptions do not meet customers' expectations in all questions (Figure 1). Three of the highest expectations were: E12- Veterinary hospital employees should be polite, E11- Veterinary hospital employees should be knowledgeable and E9- Veterinary hospital employees should always be willing to help pet owners and their pets. Three of the highest perception statements: P11- UVH's employees are knowledgeable, P12- UVH's employees are polite and P14- UVH's employees give pet owners and their pets' personal attention (Figure 1). Statistical differences ($P < 0.05$) were noted for paired-questions number 1, 4, 5, 6, 8, 9, 10, 11, 12, 13 and 15.

4.3 Mean expectations and perceptions by SERVQUAL dimension

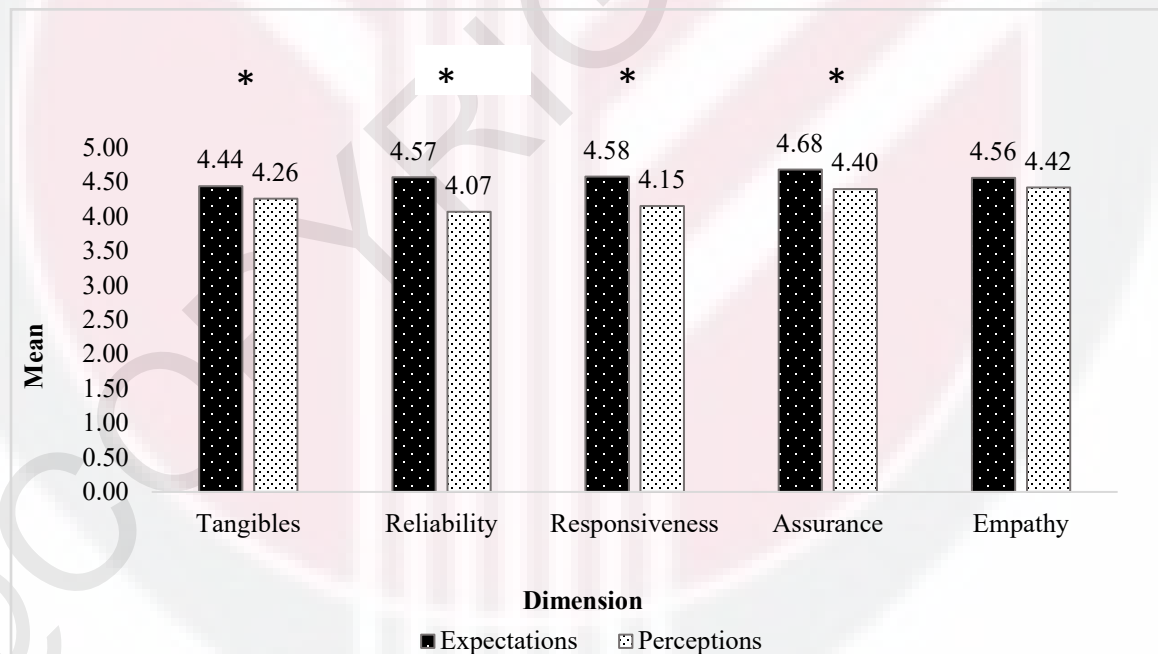


Figure 2: Mean expectations and perceptions by SERVQUAL dimension. Customers' perceptions do not meet customers' expectations in all dimensions. *Significant ($P < 0.05$) differences between means of expectations and mean of perceptions in all dimensions except for empathy.

Customers have highest mean expectations on assurance dimension (4.68) and lowest expectations on tangibles dimension (4.44). Customers have highest perceptions on empathy dimension (4.42) and lowest perceptions on reliability dimension (4.07). Customers' perceptions do not meet customers' expectations in all dimensions (Figure 2). Statistically, there are significant differences between means of expectations and mean of perceptions in all dimensions except for empathy ($P < 0.05$).

4.4 Mean of gap scores by SERVQUAL dimension

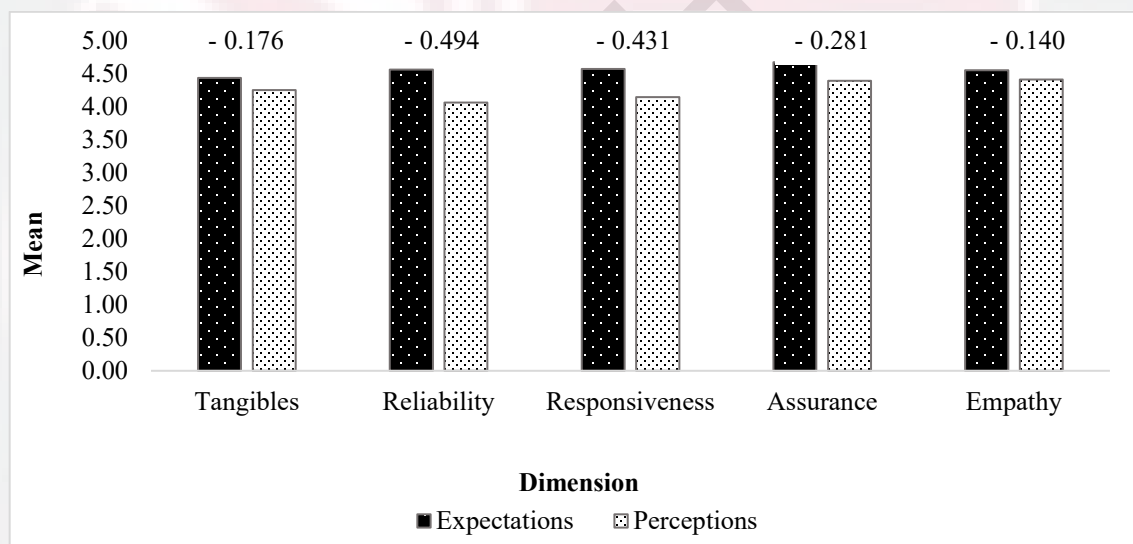


Figure 3: Mean of gap scores by SERVQUAL dimensions. Negative gap scores indicate dissatisfaction. The larger the gap score, the more the dissatisfaction.

There are negative gap scores in all dimensions (Figure 3). These show that customers' perceptions do not meet customers' expectations in all dimensions. Empathy (GS= -0.140) and tangibles (GS= -0.176) dimensions exhibit the smallest gap scores. The largest gap scores were exhibit by reliability (GS= -0.494) and responsiveness (GS= -

0.431) dimensions. Assurance has highest customers' expectations and perceptions but do not exhibit the largest gap scores.

4.5 Overall customers' perception of UVH

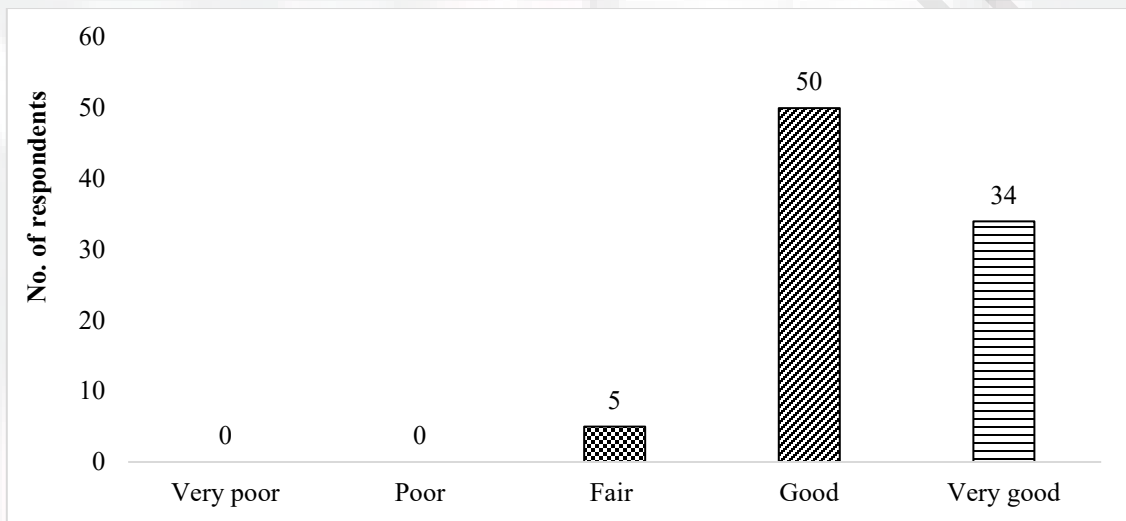


Figure 4: Overall customers' perception of UVH. The overall quality perceptions statement was measured on five-point Likert scale ranging from "Very poor = 1" to "Very good = 5".

56.2% (n = 50) and 38.2% (n = 34) of the respondents agreed that UVH was good and very good, respectively, in delivering services (Figure 4).

4.6 How likely are customers to return to UVH

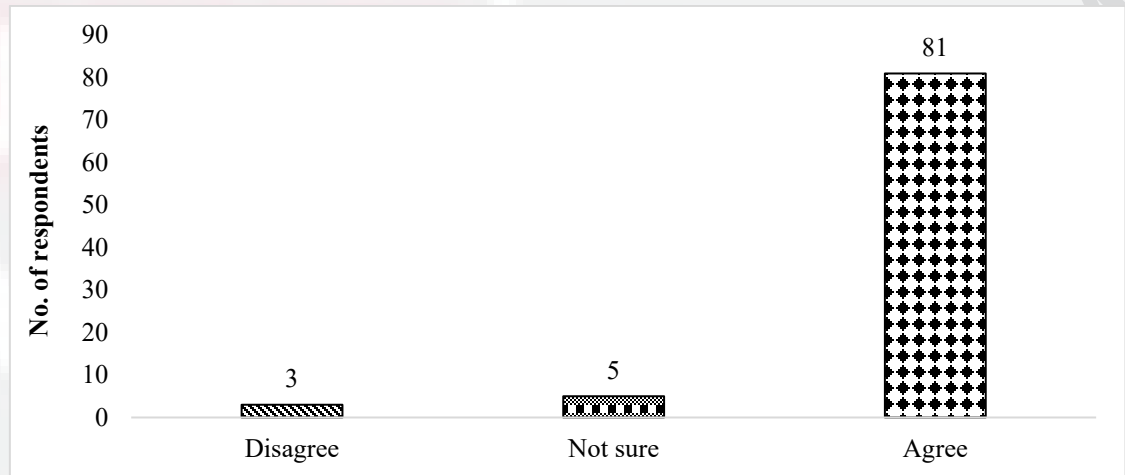


Figure 5: How likely are customers to return to UVH. This statement was measured on three-point Likert scale ranging from “Disagree = 1” to “Agree = 3”.

91% (n = 81) of respondents agreed that they are likely to return to UVH to receive services provided by UVH. 5.6% (n = 5) of respondents were not sure while 3.4% (n = 3) disagreed (Figure 5).

4.7 How likely are customers to return across gap scores

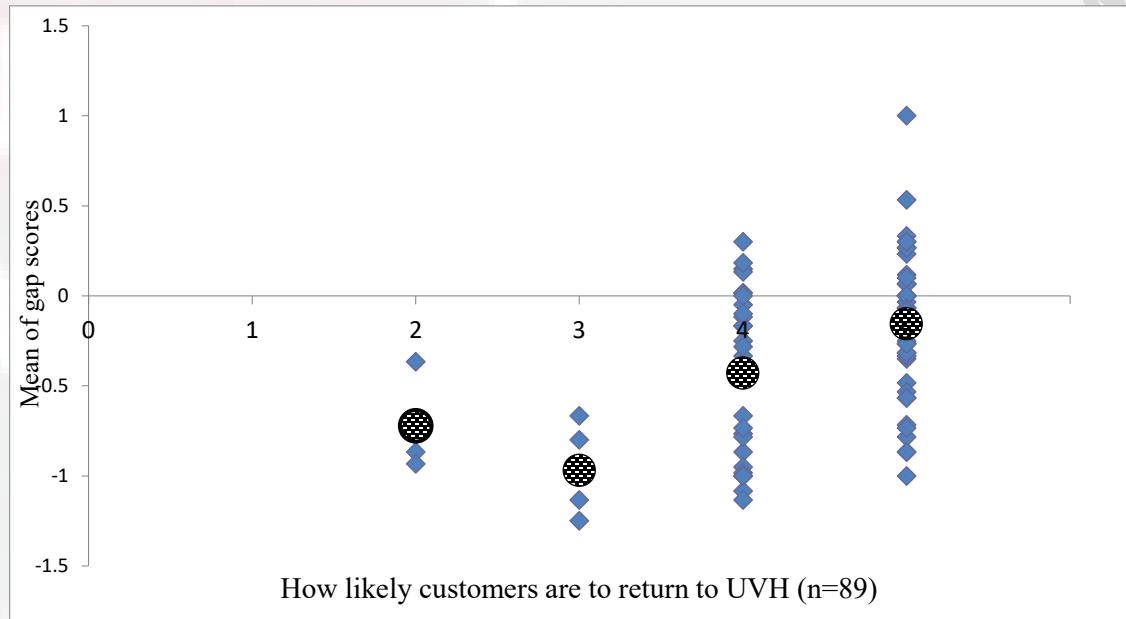


Figure 6: How likely customers are to return across gap scores. The x-axis showed how likely customers are to return and measured by five-point Likert scale ranging from “Strongly disagree = 1” to “Strongly agree = 5”. The y-axis indicate the mean of gap scores of the respondents. The smaller the gap scores, the more likely customers are to return.

There were no statistically significant between gap score and how likely customers' are to return. Although there were no relationship between gap score and how likely customers are to return, but looking at the trend, the smaller the gap scores, customers were strongly agreed to return to get veterinary service from UVH.

5.0 DISCUSSION

Profile of the respondents showed that majority of them were Malay, females, and living in the vicinity of Selangor (Table 1). Most of the respondents were Malays which are Muslims. They are likely to have cats as pets because they consider cats as the most preferable pet. However, the results from this study may be skewed to a certain race (Malays) or gender (female) due to this preference for cats. Most of the respondents were employed and half of them have high income (> RM5, 000). This showed that they have the purchasing power to choose any veterinary clinics or hospitals to get services for their pets.

Customers' perceptions do not meet customers' expectations in all questions and dimensions as demonstrated by negative gap scores (Figure 1 and 2). Negative gap scores indicate the customers were not satisfied with the service provided by UVH. The larger the gap scores, the more customers the dissatisfaction.

Across dimensions, customers' perceptions do not meet customers' expectations in all five SERVQUAL dimensions (Figure 2). Customers had highest expectations on assurance dimension (this includes knowledge, courtesy and trustworthiness of the personnel) and the lowest expectations on tangibles dimension (this includes appearance of physical facilities, equipment, personnel and communication materials). As for customers' perceptions, empathy dimension (this includes being caring and making an effort to understand customers) scored the highest, while reliability dimension (this

includes the ability to perform the promised service dependably and accurately) scored the lowest.

When looking closer into individual statements, customers had the highest expectations on statements E12, E11 and E9. Two out of three of the highest customers' expectations (E12, E11) were in the assurance dimension and this is consistent with a study done by Anderson E. (1995). Statement E9 was in the responsiveness dimension.

The customers' expectations clearly showed that assurance and responsiveness dimensions were the two most critical dimensions of veterinary hospital services. These results represent an important message from customers to veterinary hospitals: be polite, be knowledgeable and be willing to help pet owners and their pets. This findings showed that customers focus their expectations more to functional aspects or more simply put, "how things are done". This is consistent with a study done by Lim P.C., & Tang, N.K.H. (2000). Hence, to improve customers' perception of UVH service quality, UVH should focus more on the functional aspects (captured in the assurance and responsiveness dimensions) rather than the technical aspects (captured in the tangibles dimension). As for customers' perceptions, customers had the highest perceptions on statements P11, P12 and P14. Statements P11 and P12 were in the assurance dimension while statement P14 was in the empathy dimension. Customers' perceptions showed that UVH's employees were knowledgeable, polite and give pet owners and their pets' personal attention. Statements P11 and P12 matched the customers' expectations on statements E11 and E12. Thus, UVH closely met 2/3 of the highest customers' expectations statements which were: veterinary employees should be polite and knowledgeable (assurance dimension).

However, the areas in which UVH need to improve cannot be identified by looking at the mean of expectations and mean of perceptions in all SERVQUAL dimensions only. Mean of gap scores in all SERVQUAL dimensions need to be considered as well (Figure 3). Empathy and tangibles dimensions exhibited the smallest gap scores. However, these two dimensions had the lowest customers' expectations and this is again consistent with a study done by Anderson E. (1995). This showed that, UVH closely met customers' expectations on the appearance of physical facilities, equipment, personnel and communication materials (tangible dimension) and making an effort to understand customers (empathy dimension). Therefore, it is unnecessary to allocate additional financial and human resources in these dimensions.

The largest gap scores were on reliability and responsiveness dimensions (Figure 3). These two dimensions represent the second and third highest customers' expectations. However, customers' perceptions were far behind the customers' expectations as shown by the largest gap scores. This shows that UVH was under-performing in these two dimensions by not performing the promised service dependably and accurately (reliability dimension) and by not having willingness to help customers or provide prompt service (responsiveness dimension). Therefore, UVH should consider investing its financial and human resources into these two dimensions to improve performances for better service quality. For example, UVH should hire staffs that can deliver services accurately and are willing to help customers.

Assurance dimension showed the highest customers' expectations and this is consistent with a study by Yousapronpaiboon & Johnson (2013) (Figure 3). UVH performed well in this dimension by achieving the highest perceptions and exhibited a small gap score. Thus, this dimension represented UVH's strengths which include having employees that were knowledgeable, courteous and trustworthy. This in turn affected the overall customers' perception of UVH (Figure 4) and influence customers' likelihood to return (Figure 5). Majority of the customers rate the overall perception of UVH as "good" and "very good". Most of the customers agreed to return because UVH employees' were knowledgeable, courteous and trustworthy (assurance dimension). The smaller the gap scores, the more likely customers are to return (Figure 6). Therefore, to increase customers' loyalty, UVH should reduce service gap scores.

This was the first study on evaluating customers' satisfaction on service quality at a veterinary practice. It proves to be useful as a pilot study to get insights in the quality of service given to the customer. The results of this study may help veterinary hospital identified their strength and weakness to improve service quality in meeting customers' satisfaction.

There were some limitations in this study. Firstly was the smaller number of respondents and secondly the short duration of study. Increasing the duration of study will increase the number of respondents and will lead to better reflection of the demographic profile of the respondents. Other than that, it is recommended that in future studies on service quality in veterinary hospitals it is imperative to modify the current SERVQUAL model adapted by Babakus & Mangold (1992). The term "employees" that have been

used in the current statements of expectations and perceptions should be replaced with more specific terms. This is because the word “employees” was too general. In a veterinary hospital, employees refer to front desk staff, assistant veterinary officers and veterinary officers. This may confuse customers on their evaluations. Therefore, further studies need to be more specific on types of employees evaluated by customers in order to get more specific results.

6.0 CONCLUSION

This study revealed that customers' perceptions do not meet customers' perceptions in all SERVQUAL dimensions as shown by negative gap scores. However, UVH performed well in the assurance dimension which meant that UVH employees' were knowledgeable, courteous and trustworthy. UVH did not perform well in reliability and responsiveness dimensions. This means UVH did not perform the promised services dependably and accurately and did not have the willingness to help customers and provide prompt service. Therefore, UVH should invest and allocate more financial and human resources in these two critical dimensions in order to improve service performances in the future.

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APPENDICES

Table 2: Comments and suggestions from respondents at Feline section, UVH

Respondents ID	Comments/ Suggestion
F001	Waiting time after consultation to billing session is too long
F002	Waiting time after registration to consultation too long, however veterinary service was good but the cost quite expensive
F004	I hope that waiting time from registration to consultation can be shorter, and front desk staff need to be more friendly to the customers
F006	As student, I'm not afford to the service price, maybe hospital should give discount to the student especially UPM students'
F010	Waiting time from consultation to billing session too long and the staff was not friendly
F011	Waiting time from registration to consultation too long, however, I will come because of the up-to-date diagnostic equipment
F013	In the afternoon, waiting area for feline section quite hot because of direct sunlight from outside
F016	Veterinary service was good, front desk staff was not friendly and not alert to the customers, waiting time after consultation to billing session too long. However, I will come again because of the veterinary doctor service was good
F017	Veterinary doctor was efficient, nice and polite. However, front desk staff/ billing person was slow. As suggestion, I hope that the staff can work fast, and cooperate each other, so that I no need to wait an hour for billing session
F019	Waiting time from consultation to billing session is too long
F020	Waiting time from consultation to billing session is too long
F025	Ventilation need to be good. Quite hot in the afternoon.

F026	Front desk and billing person in charge need to be more efficient as the waiting time for that session too long
F028	I would suggest that maintain the same doctor for revisit case to avoid difference in opinions
F044	Overall perception of UVH was good, however waiting time is too long and need to improve
F045	UVH delivered good service so far, but have to keep waiting.
F046	Waiting time for consultation is too long. And waiting time for billing session even worse
F047	Waiting time for consultation too long, however, service from veterinarian very good
F048	Overall, I was satisfied with the service. However waiting time is too long
F051	Billing service too slow. Billing service need to be more efficient
F057	Veterinary doctor service was good. However, waiting time quite long
F059	Waiting time for billing session take too long. And sequence of walking need to be more organize.
F063	Doctor service was good. However waiting time quite long
F064	Waiting time too long. Consultation fee quite expensive (RM37.10)
F065	I was satisfied with the overall service. Waiting time for the consultation pretty long. Normally, the duration it takes from taking number to billing session is 3 hours and more. Sometime, duration after consultation to billing session takes more than 1 hour.
F069	Waiting time too long
F070	Waiting time quite long

F071	Hospital should exhibit the price details in the waiting area so that customers able to estimate the cost of the treatment. Waiting time too long
F072	Waiting time quite long
F073	Billing sometimes was not accurate. Doctor charge with billing person different. Waiting time bit long. I suggest UVH use electronic device to be more efficient
F078	Happy with UVH service.
F079	For me, it's quite hard to open the doors while holding the cage. The line arrow system was good and easy to follow. Overall I ok with UVH.
F080	Waiting time quite long, but, I was satisfied with doctor service
F082	UVH service was slow
F083	Waiting time quite long

Date: _____	Call number _____
Time: _____ (Call number) / _____ (Billing time)	Case number _____
ID No: F _____	Pet name _____
Customer Satisfaction Survey on Quality Service of University Veterinary Hospital (UVH), UPM (Feline section)	
1. Gender	Male / Female
2. Race	Malay / Chinese / Indian / Others: _____ (State)
3. Age	_____
4. Marital status	Single / Married / Others: _____ (State)
5. Employment status	Employed / Self-employed / Unemployed / Retired / Student
6. Highest education level	No formal education / Primary school / Secondary school / Certificate / Diploma / Degree / Postgraduate degrees
7. Household income per month	<RM1,499 / RM1,500-RM2,999 / RM3,000-RM4,999 / >RM5,000
8. Address	Selangor / Kuala Lumpur / Others: _____ (State)
9. Transportation to UVH	Own / Public / Others: _____ (State)
10. Visiting status	First opinion / Second opinion / Referral
11. Where did you get information about UVH	Friends / Family / Electronic media (Internet, television) / Printed media (Newspaper, Pamphlets) / Others: _____ (State)
Part 1: Expectation of veterinary hospitals (In general)	
	Strongly disagree Strongly agree
Veterinary hospitals should have up-to-date equipment.	1 2 3 4 5
Veterinary hospitals' physical facilities should be visually appealing.	1 2 3 4 5
Veterinary hospital employees should appear neat.	1 2 3 4 5
Veterinary hospital should provide their services at the time they promise to do so.	1 2 3 4 5
When owners or patients have problems, veterinary hospital employees should be sympathetic and reassuring.	1 2 3 4 5
Veterinary hospitals should be accurate in their billing.	1 2 3 4 5
Veterinary hospital employees should tell pet owners exactly when services will be performed.	1 2 3 4 5
It is realistic for pet owners to expect prompt service from veterinary hospital employees.	1 2 3 4 5
Veterinary hospital employees should always be willing to help pet owners and their pets.	1 2 3 4 5
Pet owners and their pets should be able to feel safe in their interactions with veterinary hospital employees.	1 2 3 4 5
Veterinary hospital employees should be knowledgeable.	1 2 3 4 5
Veterinary hospital employees should be polite.	1 2 3 4 5
Veterinary hospital employees should get adequate support from their employers to do their jobs well.	1 2 3 4 5
Veterinary hospital employees should be expected to give pet owners and their pets personal attention.	1 2 3 4 5
It is realistic to expect veterinary hospitals to have pet owners and patients' best interest at heart.	1 2 3 4 5

Figure 7: First set of questionnaire: Customers' expectation of veterinary hospital (English version)

Date: _____	Call number _____
Time: _____ (Call number)/ _____ (Billing time)	Case number _____
ID No.: F _____	Pet name _____
Customer Satisfaction Survey on Quality Service of University Veterinary Hospital (UVH), UPM (Feline section)	
Part 2: Perception UVH	
	Strongly disagree Strongly agree
UVH has up-to-date equipment.	1 2 3 4 5
UVH's physical facilities are visually appealing.	1 2 3 4 5
UVH's employees appear neat.	1 2 3 4 5
UVH provides its services at the time it promises to do so.	1 2 3 4 5
When pet owners or patients have problems, UVH's employees are sympathetic and reassuring.	1 2 3 4 5
UVH is accurate in its billing.	1 2 3 4 5
UVH's employees tell pet owners exactly when services will be performed.	1 2 3 4 5
Pet owners receive prompt service from UVH's employees.	1 2 3 4 5
UVH's employees are always willing to help pet owners and their pets.	1 2 3 4 5
Pet owners and their pets feel safe in their interactions with UVH's employees.	1 2 3 4 5
UVH's employees are knowledgeable.	1 2 3 4 5
UVH's employees are polite.	1 2 3 4 5
UVH's employees get adequate support from their employers to do their jobs well.	1 2 3 4 5
UVH's employees give pet owners and their pets personal attention.	1 2 3 4 5
UVH has pet owners and patients' best interest at heart.	1 2 3 4 5
Part 3: Overall Perception UVH	
	Very poor Very good
In terms of the quality care received, what is your overall impression of UVH?	1 2 3 4 5
	Strongly disagree Strongly agree
If I were to find my pet in the same situation it was in when I came to UVH, I would want my pet to receive treatment here again.	1 2 3 4 5

Figure 8: Second set of questionnaire: Customers' perception on UVH (English version)

Tarikh: _____		No. panggilan	_____		
Masa: _____ (No. Panggilan)/ _____ (Bil)		No. kes	_____		
No. ID: F _____		Nama Kucing	_____		
Kajian Soal Selidik Mengenai Tahap Kepuasan Pelanggan Terhadap Kualiti Perkhidmatan Hospital Veterinar Universiti (UVH), UPM (Seksyen Kucing)					
1. Jantina	Lelaki / Perempuan				
2. Bangsa	Melayu / Cina / India / Lain-lain: _____ (Nyatakan)				
3. Umur	_____				
4. Status Perkahwinan	Bujang / Berkahwin / Lain-lain: _____ (Nyatakan)				
5. Status Pekerjaan	Bekerja / Bekerja Sendiri / Tidak Bekerja / Pesara / Pelajar				
6. Tahap Pelajaran Tertinggi	Tiada Pelajaran Formal / Sekolah Rendah / Sekolah Menengah / Sijil/ Diploma / Ijazah / Pascasiswazah				
7. Pendapatan Bulanan Isi Rumah	_____				
8. Alamat	Selangor / Kuala Lumpur / Lain-lain: _____ (Nyatakan)				
9. Pengangkutan ke UVH	Sendiri / Awam / Lain-lain: _____ (Nyatakan)				
10. Status Lawatan	Rujukan pertama / Rujukan kedua / Dirujuk dari klinik swasta				
11. Informasi mengenai UVH daripada	Rakan / Keluarga / Media elektronik (Internet, televisyen) / Media cetak (Surat khabar, Risalah) / Lain-lain : _____ (Nyatakan)				
Bahagian 1: Jangkaan hospital veterinar (Secara umum)					
		Sangat tidak setuju	Sangat setuju		
Hospital veterinar mesti ada kelengkapan yang termoden.	1	2	3	4	5
Hospital veterinar mesti ada kemudahan fizikal yang menarik.	1	2	3	4	5
Hospital veterinar mesti ada staff yang berpenampilan kemas.	1	2	3	4	5
Hospital veterinar mesti beri perkhidmatan tepat dalam masa yang dijanjikan.	1	2	3	4	5
Apabila pelanggan atau pesakit mengalami masalah, staff hospital veterinar mesti bersimpati dan menenangkan hati pelanggan.	1	2	3	4	5
Hospital veterinar mesti ada bil perkhidmatan yang tepat.	1	2	3	4	5
Staff hospital veterinar mesti beritahu pelanggan bila perkhidmatan akan diberikan.	1	2	3	4	5
Ianya adalah realistik untuk pelanggan mengharapkan perkhidmatan yang segera daripada staff hospital veterinar.	1	2	3	4	5
Staff hospital veterinar mesti bersedia membantu pelanggan dan pesakit.	1	2	3	4	5
Pelanggan dan pesakit mesti berasa selamat semasa berinteraksi dengan staff hospital veterinar.	1	2	3	4	5
Staff hospital veterinar mestilah berpengetahuan.	1	2	3	4	5
Staff hospital veterinar mesti bersifat sopan santun.	1	2	3	4	5
Staff hospital veterinar mesti mendapat sokongan yang mencukupi daripada majikan mereka supaya mereka boleh bekerja dengan baik.	1	2	3	4	5
Staff hospital veterinar perlu memberikan perhatian penuh terhadap pelanggan dan pesakit.	1	2	3	4	5
Ianya adalah realistik untuk mengharapkan hospital veterinar menjaga kepentingan pelanggan dan pesakit.	1	2	3	4	5

Figure 9: First set of questionnaire: Customers' expectation of veterinary hospital (Malay version)

Tarikh: _____		No. panggilan	_____		
Masa: _____ (No. Panggilan)/ _____ (Bil)		No. kes	_____		
No. ID: F _____		Nama kucing	_____		
Kajian Soal Selidik Mengenai Tahap Kepuasan Pelanggan Terhadap Kualiti Perkhidmatan Hospital Veterinar Universiti (UVH), UPM (Seksyen Kucing)					
Bahagian 2: Persepsi UVH					
		Sangat tidak setuju	Sangat setuju		
UVH ada kelengkapan yang termoden.	1	2	3	4	5
UVH ada kemudahan fizikal yang menarik.	1	2	3	4	5
UVH ada staff yang berpenampilan kemas.	1	2	3	4	5
UVH ada beri perkhidmatan tepat pada masa yang dijanjikan.	1	2	3	4	5
Apabila pelanggan atau pesakit mengalami masalah, staff UVH menunjukkan rasa simpati dan menenangkan hati pelanggan.	1	2	3	4	5
UVH mengenakan bil yang tepat.	1	2	3	4	5
Staff UVH memaklumkan kepada pelanggan bila sesuatu perkhidmatan akan diberikan.	1	2	3	4	5
Pelanggan menerima perkhidmatan segera daripada staff UVH.	1	2	3	4	5
Staff UVH sentiasa bersedia membantu pelanggan dan pesakit.	1	2	3	4	5
Pelanggan dan pesakit berasa selamat semasa berinteraksi dengan staff UVH.	1	2	3	4	5
Staff UVH adalah berpengetahuan.	1	2	3	4	5
Staff UVH bersifat sopan santun.	1	2	3	4	5
Staff UVH mendapat sokongan yang mencukupi daripada majikan untuk menjalankan kerja dengan baik.	1	2	3	4	5
Staff UVH memberikan perhatian penuh terhadap pelanggan dan pesakit.	1	2	3	4	5
UVH menjaga kepentingan pelanggan dan pesakit.	1	2	3	4	5
Bahagian 3: Persepsi Keseluruhan UVH					
		Sangat lemah		Sangat bagus	
Berdasarkan kualiti perkhidmatan yang telah diterima, apakah persepsi keseluruhan anda terhadap UVH?	1	2	3	4	5
		Sangat tidak setuju		Sangat setuju	
Jika situasi haiwan kesayangan saya di UVH adalah sama seperti yang telah kami alami, saya ingin haiwan kesayangan saya mendapat rawatan di sini lagi.	1	2	3	4	5

Figure 10: Second set of questionnaire: Customers' perception on UVH (Malay version)