



UNIVERSITI PUTRA MALAYSIA

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

NURHAYATI BINTI RAMLI

**Ip
FPV 2016 43**

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

NURHAYATI BINTI RAMLI

**A project paper submitted to the
Faculty of Veterinary Medicine, Universiti Putra Malaysia
In partial fulfillment of requirement for the
DEGREE OF DOCTOR OF VETERINARY MEDICINE**

**Universiti Putra Malaysia,
Serdang, Selangor Darul Ehsan.**

MARCH 2016

CERTIFICATION

It is hereby certified that we have read this project paper entitled “Customer Satisfaction on Service Quality of University Veterinary Hospital (UVH) Canine Section, Universiti Putra Malaysia (UPM): Application of SERVQUAL Model”, by Nurhayati binti Ramli 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

DR. LIM SUE YEE
DVM (UPM), Ph.D. (Hokkaido),
Senior lecturer,
Faculty of Veterinary Medicine
Universiti Putra Malaysia
(Supervisor)

DR. NORHARIANI BINTI MOHD NOR
DVM (UPM), M.Sc. (Utrecht), Ph.D. (Utrecht),
Senior lecturer,
Faculty of Veterinary Medicine
Universiti Putra Malaysia
(Co- Supervisor)

DR. PUTERI AZAZIAH MEGAT ABDUL RANI
DVM (UPM), Ph.D. (Queensland),
Senior lecturer,
Faculty of Veterinary Medicine
Universiti Putra Malaysia
(Co- Supervisor)

DEDICATIONS

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

To my family,

Ramli bin Paisol

Maizan binti Mahmud Mokhtar

Nurliyana binti Ramli

Muhammad Dinie bin Ramli

Nurmaisarah binti Ramli

Nurkamaliah binti Ramli

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

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation and deepest gratitude to my supervisor, Dr. Lim Sue Yee for the time, wisdom, expertise, and guidance that she had granted me throughout the completion of this project.

To my co- supervisors, Dr. Norhariani Binti Mohd Nor and Dr. Puteri Azaziah Binti Megat Abdul Rani for their unwavering support and encouragement to improve the project.

To Professor Dr. Mohamed Ariff Omar, thank you for assisting me in the statistical analysis. I would also like to thank the UVH's staff especially at Canine section for granting me access to the records.

A special thank you to all my classmates of DVM 2016 who assisted me directly or indirectly in this project with special mention to Marlia binti Marji, Fatin binti Omar, Nur Azlin binti Misran, Nur Hafizatul Aeizzah binti Daud, Siti Nor Azizah binti Mahamud and Nurul Asikin binti Abu Bakar Hamzah.

Last but not least, my most heartfelt gratitude to my parents, my family and my beloved friends; Siti Maryam, Adilah, Nor Syafawati, Shahrul Izwan, Yuzzuan, Muhammad Ezir, Irsyaruddin Faiz and Jabal Mukhtar for their love and support throughout my studies.

CONTENTS

TITLE	III
CERTIFICATION	IV
DEDICATIONS	VI
ACKNOWLEDGEMENTS	VII
CONTENTS	VIII
ABSTRACT	XI
ABSTRAK	XIII
1.0 INTRODUCTION	1
2.0 LITERATURE REVIEW	4
2.1 Definition of service quality	4
2.2 Importance of measuring service quality.....	5
2.3 Classification of service quality.....	5
2.4 Methods of measuring service quality	5
2.5 SERVQUAL instrument dimensions.....	7
3.0 MATERIALS AND METHODS	8
4.0 RESULTS	9
5.0 DISCUSSION	19
6.0 CONCLUSION	23

7.0 REFERENCE..... 24

APPENDIX..... 29



List of Tables

Table 1: Demographic profile of respondents in frequency and percent **Error! Bookmark not defined.**

Table 2: Means (n = 70) of expectations, perceptions, and gap score across five dimensions and 15 individual questionnaire items of SERVQUAL model. **Error! Bookmark not defined.**

List of Figures

Figure 1: Mean expectations and perceptions of individual questionnaire items..... 13

Figure 2: Mean expectations and perceptions in dimensions. 14

Figure 3: Mean gap score of each dimensions based on genders. 15

Figure 4: Overall customers' impression on service provided in Canine section, UVH 16

Figure 5: Likelihood to use the service in the Canine section of UVH in the future.. 17

Figure 6: Mean gap scores and the likelihood to use the service at the Canine section of UVH again in the future..... 18

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

By

Nurhayati Binti Ramli

2016

Supervisor: Dr. Lim Sue Yee

Co-Supervisor : Dr. Norhariani Mohd. Nor,

Dr. Puteri Azaziah Megat Abdul Rani

Service quality is important in planning the market strategy and financial performance of a business. SERVQUAL instrument is commonly used to measure service quality by comparing the gap between customer expectations and perceptions across five dimensions of service quality: tangibles, reliability, responsiveness, assurance and empathy. This gap score indicates how well the service is performing towards fulfilling customer satisfaction. There have been no studies so far reporting service quality in veterinary services worldwide. The aim of this study was to identify customer expectations, perceptions and satisfaction on the quality of service provided by the

University Veterinary Hospital (UVH) Canine section. This will enable UVH to identify areas requiring improvement for better quality service. Two sets of questionnaire containing 15 questions each; the first set on the customers' expectations towards veterinary hospitals in general, and the second set on customers' perceptions of the service received in UVH were distributed among customers to the Canine section over four weeks. Gap scores were computed based on the following formula: Gap Score (GS) = Perception (P) – Expectation (E). A total of 70 respondents were obtained. Majority of the respondents were working Chinese females with high income. Perceptions were significantly ($P < 0.05$) lower than expectations across all 15 questions and 5 dimensions, indicating negative gap scores. The reliability dimension exhibited the biggest gap score (-0.66) while tangible and empathy dimensions had the smallest gap scores (-0.38 and -0.39) respectively. UVH should invest more in the reliability dimension to improve its service quality.

Keywords: service quality, veterinary, SERVQUAL, customer satisfaction, dog

ABSTRAK

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

**TAHAP KEPUASAN PELANGGAN TERHADAP SERVIS KUALITI
HOSPITAL UNIVERSITI VETERINAR (UVH) SEKSYEN KANIN,
UNIVERSITI PUTRA MALAYSIA (UPM): APLIKASI SERVQUAL MODAL**

Oleh

Nurhayati Binti Ramli

2016

Penyelia: Dr. Lim Sue Yee

Penyelia bersama: Dr. Norhariani Mohd. Nor,

Dr. Puteri Azaziah Megat Abdul Rani

Servis kualiti adalah penting dalam merancang strategi pasaran dan prestasi kewangan sesebuah perniagaan. Instrumen SERVQUAL sering digunakan untuk mengukur servis kualiti dengan membandingkan jurang antara jangkaan dan persepsi melalui lima dimensi servis kualiti iaitu 'tangible', kereliabelan, kersponsifan, jaminan dan empati. Jurang skor ini adalah indikasi terhadap tahap prestasi servis yang diberikan dalam usaha memenuhi tahap kepuasan pelanggan. Tiada kajian yang pernah dijalankan mengenai kualiti servis bagi perkhidmatan veterinar seluruh dunia. Kajian ini adalah bertujuan untuk mengenal pasti jangkaan, persepsi dan tahap kepuasan pelanggan terhadap servis kualiti Hospital Universiti Veterinar (UVH) Seksyen Kanin. Kajian ini membantu dalam mengenal pasti bahagian yang memerlukan penambahbaik servis

kualiti. Dua set soal selidik yang mengandungi 15 soalan setiap satu; set pertama mengenai jangkaan pelanggan terhadap hospital veterinar secara umum dan set kedua mengenai persepsi pelanggan terhadap servis yang diterima di UVH, telah diedarkan di kalangan pelanggan di seksyen kanin dalam tempoh masa empat minggu. Jurang skor telah dikira melalui formula: Jurang skor (GS) = persepsi (P) – jangkaan (E). Seramai 70 orang responden telah diperolehi. Majoriti daripada responden adalah wanita berbangsa Cina yang bekerja dan berpendapatan tinggi. Persepsi adalah jauh lebih rendah berbanding jangkaan terhadap kesemua 15 soalan dan lima dimensi, menunjukkan jurang skor yang negatif. Dimensi kereliabelan mempunyai jurang skor yang terbesar (-0.66) manakala dimensi ‘tangible’ dan empati mempunyai jurang skor yang terkecil (-0.38 dan -0.39). UVH perlu melabur lebih dalam dimensi ‘reliability’ bagi meningkatkan servis kualiti.

Kata kunci: quality servis, veterinar, SERVQUAL, kepuasan pelanggan, anjing

1.0 INTRODUCTION

The increase in pet companionship leads to increase in growth of pet care services such as animal clinics and hospitals, pet shops and pet grooming centers (Euromonitor International, 2015). This is evident in the number of veterinary clinics in Malaysia that increased from about 73 in year 2011 (Pet finder) to over 100 veterinary clinics in year 2016 (Puteri Azaziah, M. A. R, personal communications, March 15, 2016). This means that pet owners are willing to spend money in trying their best to ensure their companion animals are able to live well, and this includes providing proper medical healthcare. Additionally, these pet owners tend to search for the best healthcare services with high expertise in diagnosing the problem faced by their pets and they expect good quality service in veterinary clinics.

In order to match the expectation of good quality service, a service-producing business such as veterinary clinics and hospitals need to measure the quality of services they are providing. This will enable them to identify the progression level of the business; either it meets the customer needs and expectations or not. It also enable them to differentiate their service from others, besides knowing which areas require improvement (Anderson, 1995), and thus improving their business.

Quality service can be measured by using the SERVQUAL instrument developed by Parasuraman, Zeithaml and Berry (1985) that measures the gap between customers' expectations and perceptions (Anderson, 1995). It is used to assess and measure the service quality based on the primary expectation of customer and their satisfaction

outcome through its five dimensions which are tangible (physical facilities, equipment, staff appearance), reliability (ability to perform service dependably and accurately), responsiveness (willingness to help and respond to client need), assurance (ability of staff to inspire confidence and trust), and empathy (caring individualized service), (Parasuraman, Zeithaml & Berry, 1985; 1988).

No study on quality service has been done in University Veterinary Hospital (UVH), Universiti Putra Malaysia (UPM). UVH is a non-profit teaching hospital designed to train undergraduate and postgraduate students and at the same time, also provides veterinary services to the public since 1975. It is a good start to measure the service quality in UVH, UPM because the finding of this study will enable us to know the current status of service in UVH; what are the customers actually expecting and how well UVH is performing currently. Besides determining the clients' expectations, perceptions, and satisfaction levels on the services provided in the Canine Section, UVH, it will also give an idea and indication in which areas should improvements to the service be made. In order to meet the clients' expectation and increase their satisfaction level, a study about quality service at UVH is needed.

The overall objectives of this study are:

1. To identify client expectation and perception on the services provided in Canine section of the Small Animal Practice Clinic, UVH.
2. To determine client satisfaction on service quality provided in Canine Section of Small Animal Practice Clinic, UVH.

3. To suggest appropriate plan to improve the service quality in the Canine Section of Small Animal Practice Clinic, UVH.



2.0 LITERATURE REVIEW

2.1 Definition of service quality

Service itself is a performance, not an object that can be counted, measured, inventoried, tested and verified in advanced to assure the quality (Shostack, 1977; Bateson, 1977; Berry, 1980; Lovelock, 1981). It varies from producers to producers, from customers to customers, and from day to day causing difficulties in assuring its consistency (Booms & Bitner, 1981). Service is also inseparable between production and consumption (Regan, 1963; Gronroos, 1978; Carman & Langeard, 1980; Upah, 1980). Quality is view as a form of overall evaluation on features and characteristics of products (Olshavsky, 1985) or services that bear on its ability to satisfy and implied needs (Eargle, 2005). The quality of the performance only occurs at the time the service is being delivered during the interaction between client and the contact person from the service firm (Lehtinen & Lehtinen, 1982).

Therefore, service quality is a global value of judgment or attitude (Parasuraman, Zeithaml & Berry, 1988) that focuses on meeting consumer requirements and how well service providers meet the customers' expectation (Lewis & Booms, 1983). It can be defined as the degree of differences between clients' expectations for the service and their perceptions of service performances (Parasuraman, Zeithaml & Berry, 1985).

2.2 Importance of measuring service quality

Service quality is known to be a driver of corporate marketing and financial performance (Buttle, 1996). Since services are produced and consumed at same time, it is important to establish provider-consumer relationship as potential of variation in service quality (Babakus & Mangold, 1992). Evaluation of services is incomplete and biased if customers' perspective is not taken into account (Larsen, Attkisson, Hargreaves & Nguyen, 1979).

2.3 Classification of service quality

There are two forms of service quality, which are technical quality and functional quality (Grönroos, 1984). Technical quality refers to the technical accuracy of diagnosing and performing procedures, while functional quality is referring to how and in what manner the service is being delivered (Babakus & Mangold, 1992).

Not everyone is acquainted with healthcare technique and thus are able to access the technical quality (example: performing surgery) (Bopp, 1990). Therefore, the functional quality (example: explanation about disease) is used instead, as precursor in determining the customers' perceptions quality (Donabedian, 1980; Kovner & Smits, 1978).

2.4 Methods of measuring service quality

There are several types of models that can be used to measure quality service such as Service Quality scale (SERVQUAL) (Parasuraman, Zeithaml & Berry, 1985), Service

Performance scale (SERVEPERF) (Cronin & Taylor, 1992, 1994), Bankers Services (BANKSERV) (Kemal Avkiran, 1994), and Retail Service Quality Scale model (RSQS) (Dabholkar, 1996).

SERVQUAL measures the differences between expectations and perceptions of the service quality. It was first used in retail banking, credit card, securities brokerage, and product service repair and maintenance (Parasuraman, Zeithaml & Berry, 1985). It was adapted to many service industries such as banking services (Charles, Kumar & Suggu, 2013), tourism and hospitality services (Markovic, Komsic, & Stifanic, 2003), and recently in healthcare services (Muhammad Butt & Cyril de Run, 2010; Ritu, 2010; Wan Edura Wan & Hj. Kamaruzaman, 2009).

SERVQUAL is a multiple-item scale that was designed to provide an instrument for measuring service quality that can be applied across broad range of services with minor modifications in the scale (Babakus & Boller, 1992; Parasuraman, Zeithaml & Berry, 1988). This instrument provides good reliability and validity that a service provider can use to better understand the service expectations and perceptions of consumers, and helps in improving service quality (Babakus & Mangold, 1992; Muhammad Butt & Cyril de Run, 2010; Parasuraman, Zeithaml & Berry, 1988). SERVQUAL can also identify the symptoms and provide starting points for examination of underlying problems that inhibit provision of quality service (Nekoei-Moghadam & Amiresmaili, 2011).

2.5 SERVQUAL instrument dimensions

Initially there are 10 dimensions identified, which are later consolidate into five dimensions (Parasuraman, Zeithaml & Berry, 1988). The five dimensions are tangible, reliability, responsiveness, assurance and empathy. Tangibles measures the physical appearance of the equipment, facilities and personnel; reliability measures the ability for the service provider to perform promised service dependably and accurately; responsiveness measures the employees willingness to help and provide prompt service to clients; assurance measures the knowledge and courtesy of employees in inspiring trust and confidence to the customers and lastly, empathy measures the ability of employees to provide care and personal attention to clients (Parasuraman, Zeithaml & Berry, 1988). The last two dimensions (assurance and empathy) contain items that representing the seven original dimensions which are communication, credibility, security, competence, courtesy, understanding/ knowing customers and access (Parasuraman, Zeithaml & Berry, 1988).

3.0 MATERIALS AND METHODS

This study was conducted to measure the service quality in the Canine section, UVH, UPM. Data collection was done by a veterinary student over a period of four weeks (January 13, 2016 until February 5, 2016) via purposive sampling; selecting people based on purpose of experiment. Respondents were among the customers that came and brought their pets for treatment. The customers were interviewed based on the expectation questions after registration, while waiting for their turns to be called into the consultation room. Later, the same customers will be interviewed again based on perceptions questions after they have paid their bill.

Questionnaires used for the interview were available in an English version and a Malay version. Two sets of questionnaires containing 15 statements each; with the first set containing statements to measure customers' expectation of a veterinary hospital in general and the second set containing statements to measure customers' perception of service received in UVH. The 15 statements were adapted and modified based on the SERVQUAL instruments and represented the five service quality dimensions; tangibility, reliability, willingness, assurance and empathy. Prior to being distributed to customers, these questionnaires were evaluated; refined and proof-read by three academic staff who were also veterinarians.

The first set of 15 questions were on customers' expectations on how a healthcare operation service should be provided. While the second set of 15 questions were on the perceptions of customers based on their experience with UVH operation service. Each

statement was accompanied by the five-point Likert scale ranging from “strongly disagree = 1” to “strongly agree = 5”. Additionally, two questions were included into the second set to gather information on customers’ satisfaction of overall service provided by UVH and also their intentions to use the current service in the future. Besides that, questions on basic demographic profile were also included in the questionnaire. Gap score define the customers’ satisfaction levels and was computed based on the following formula:

$$\text{Gap Score (GS)} = \text{Perception (P)} - \text{Expectation (E)}$$

Microsoft Excel® 2013 (Microsoft corporation, Redmond) was used to edit the collected data and to construct graphic data. Data were analyzed using the IBM Statistical Package of Social Science (SPSS). Mann Whitney test was used to compare the mean differences between perceptions and expectations, and Pearson correlation was used to identify the relationship between two continuous variables. A P-value of < 0.05 was considered statistically significant.

4.0 RESULTS

Total of 70 respondents were obtained in this study. The demographic profiles of the respondent were presented in Table 1.

Category		Frequency	Percent (%)
Gender	Male	28	40
	Female	42	60
Race	Malay	1	1.4
	Chinese	42	60
	Indian	18	25.7
	Others	9	12.9
Age	20-29 years old	14	20
	30-39 years old	18	25.7
	40-49 years old	13	18.6
	50-59 years old	13	18.6
	60-69 years old	10	14.3
Marital Status	70-79 years old	2	2.9
	Single	24	34.3
	Married	45	64.3
Employment Status	Others	1	1.4
	Under employment	26	37.1
	Self-Employed	20	28.6
	Unemployed	6	8.6
	Retired	11	15.7
	Student	7	10

Education Level	Primary School	1	1.4
	Secondary School	15	21.4
	Certificate	1	1.4
	Diploma	16	22.9
	Degree	19	27.1
	Postgraduate	18	25.7
Income per Month	Less than RM1499	23	32.9
	RM1500-RM2999	6	8.6
	RM3000-RM4999	12	17.1
	More than RM5000	29	41.4
Address	Selangor	47	67.1
	Kuala Lumpur	20	28.6
	Others	3	4.3
Transportation to UVH	Own Transport	70	100
	Public	0	0
Visiting Status	First Opinion	45	64.3
	Second Opinion	4	5.7
	Referral	21	30
Information about UVH	Friends	28	40
	Family	5	7.1
	Electronic	6	8.6
	Printed	1	1.4
	Others (Vet clinic)	30	42.9

Table 1. Demographic profile of respondents in frequency and percent.
Abbreviation: University Veterinary Hospital (UVH)

Majority of the customers were females of Chinese descendants. Only one Malay customer obtained. This was because of the uncommon culture for Malays to own dogs as pets. Customers' ages were between 20-70 years old and more than half of them were married. Majority were working (either under employment or self-employed) and were mostly earning high incomes of more than RM5,000 per month. This indicated that these

customers could have high purchasing power. Besides, half of the total respondents had high education levels, thus, their expectations towards services may also be higher.

The mean expectations, perceptions and gap scores of each questionnaire items and also each dimension were tabulated in Table 2.

Dimension	Questionnaire item	Expectations	Perceptions	Gap score	Gap score (dimension)
Tangible	1	4.86	4.29	-0.57	-0.38
	2	4.49	4.24	-0.24	
	3	4.61	4.30	-0.31	
Reliability	4	4.90	4.13	-0.77	-0.66
	5	4.79	4.30	-0.49	
	6	4.89	4.17	-0.71	
Responsiveness	7	4.90	4.47	-0.43	-0.53
	8	4.83	4.06	-0.77	
	9	4.84	4.44	-0.40	
Assurance	10	4.91	4.51	-0.40	-0.42
	11	4.83	4.44	-0.39	
	12	4.81	4.47	-0.34	
	13	4.87	4.31	-0.56	
Empathy	14	4.77	4.47	-0.30	-0.39
	15	4.87	4.40	-0.47	

Table 2. Means (n = 70) of expectations, perceptions, and gap score across five dimensions and 15 individual questionnaire items of SERVQUAL model. Negative gap scores indicate dissatisfaction.

Figure 1 shows the mean expectations and perceptions across 15 questions asked in the SERVQUAL instrument.

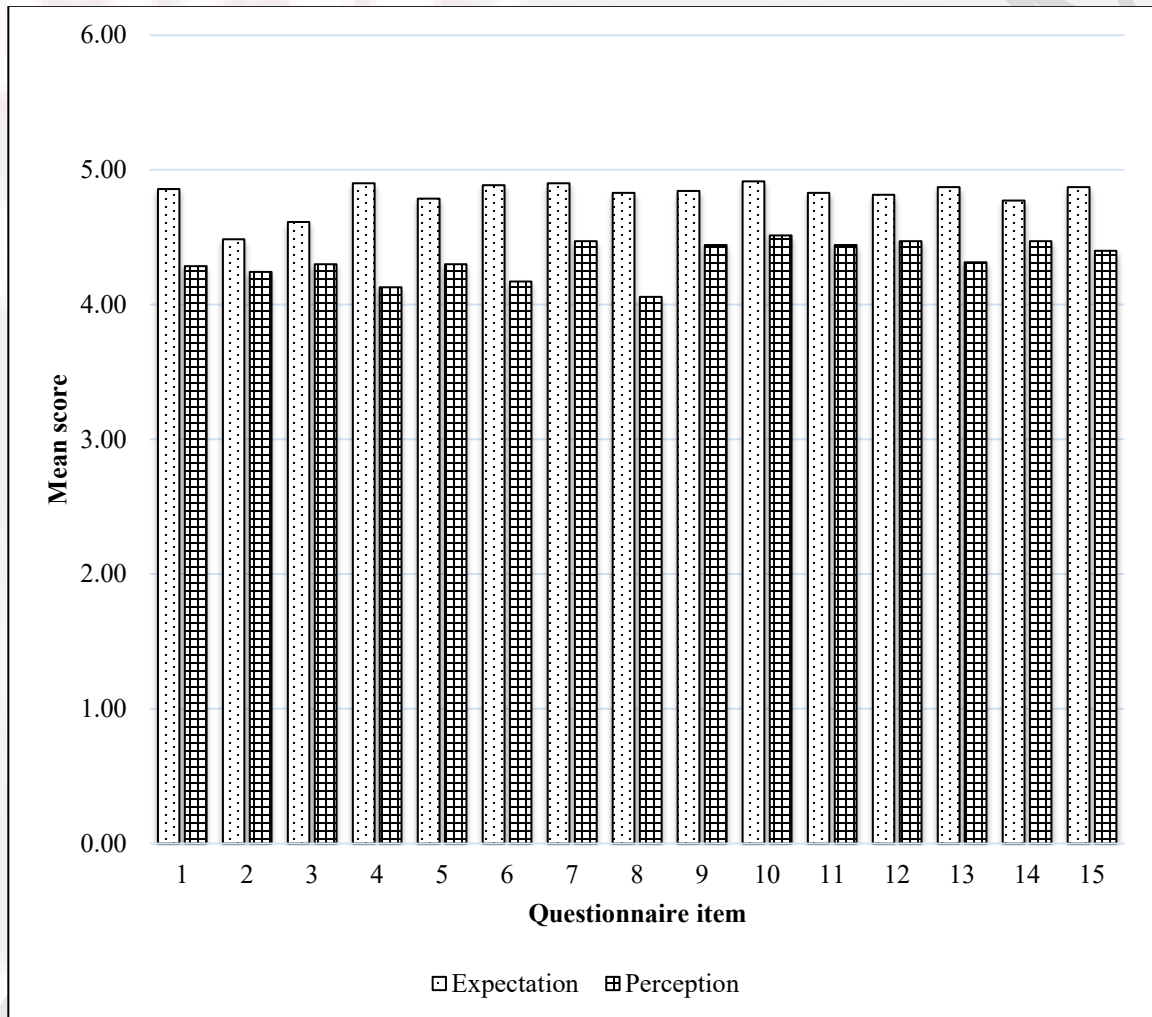


Figure 1. Mean (n = 70) expectations and perceptions of individual questionnaire items.

Expectations for questions 4, 7 and 10 scored the highest mean values while perceptions for questions 7, 12 and 10 scored the highest mean values in ascending manner (Figure 1). Expectations and perceptions of questions 7 and 10 closely matched

each other with small gap scores indicating that perceptions closely met the customers' expectations.

Figure 2 shows the mean expectations and perceptions across the five dimensions of SERVQUAL (tangible, reliability, responsiveness, assurance and empathy). In all 15 questions (Figure 1) and five dimensions (Figure 2), perceptions do not meet expectations, and this was statistically significant ($P < 0.05$).

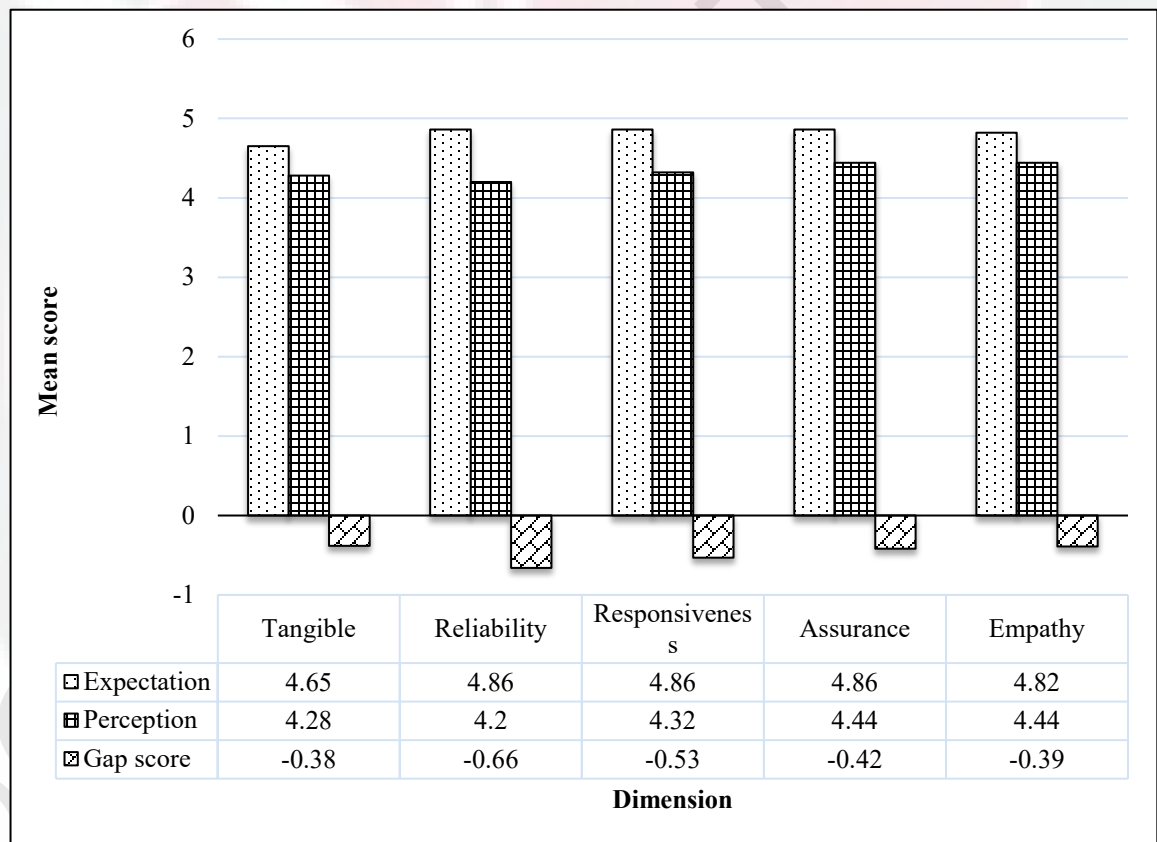


Figure 1. Mean (n=70) expectations and perceptions in dimensions. Gap scores are defined as the differences between perceptions and expectations. Gap scores indicate satisfaction levels, with negative values indicating dissatisfaction. With increasing gap scores, satisfaction levels decrease.

Reliability dimension exhibited the biggest gap score, responsiveness had the second biggest gap score and followed by assurance, while empathy and tangible exhibited the smallest gap scores (Figure 2).

Both males and females showed similar trends across the five dimensions (Figure 3); however this was not statistically significant. Females had bigger gap scores compared to males in all dimensions.

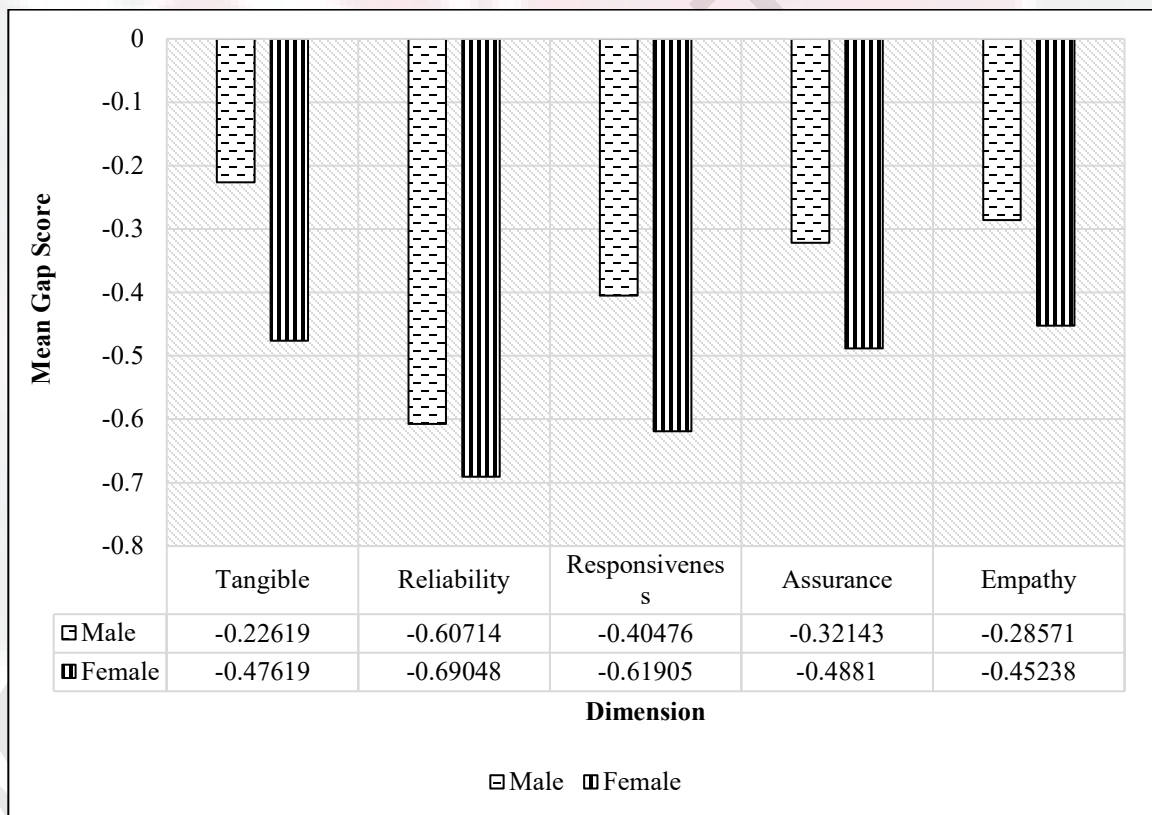


Figure 3. Mean ($n = 70$) gap score of each dimensions based on genders. Gap scores indicate satisfaction levels, with negative values indicating dissatisfaction. With increasing gap scores, satisfaction levels decrease.

Figure 4 showed the overall impression of customers on service provided by the canine section in UVH. Most of these customers agreed that they will use the service in Canine section, UVH in the future (Figure 5).

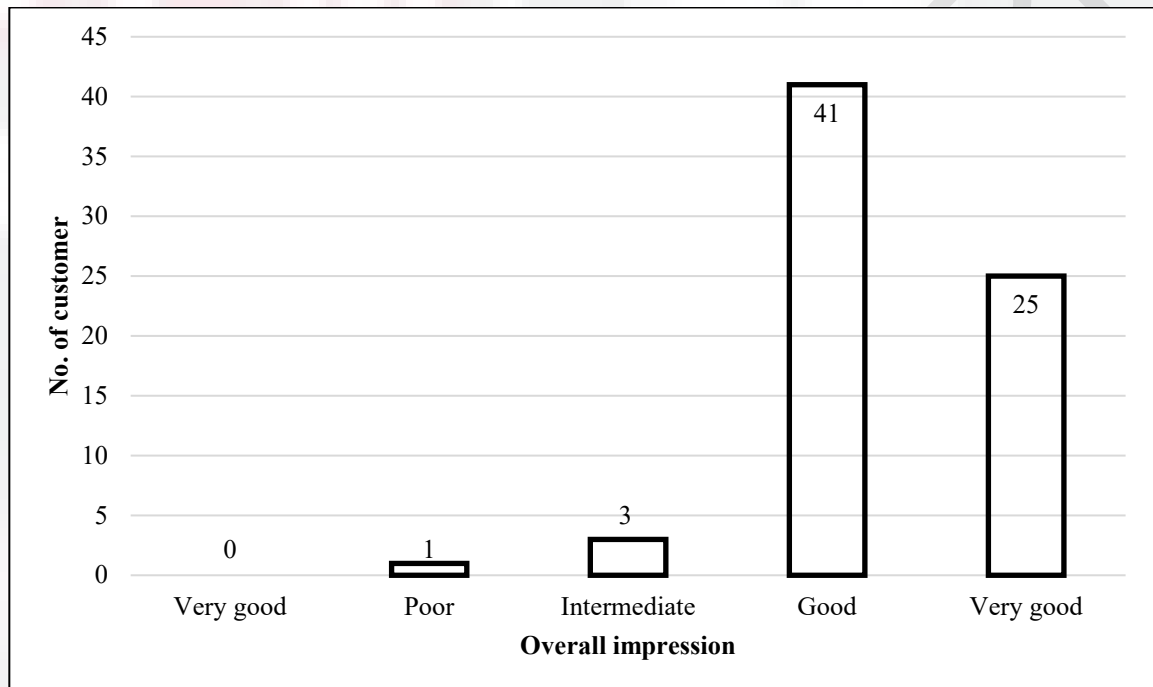


Figure 4. Overall customers' impression on service provided in Canine section, UVH, n = 70.

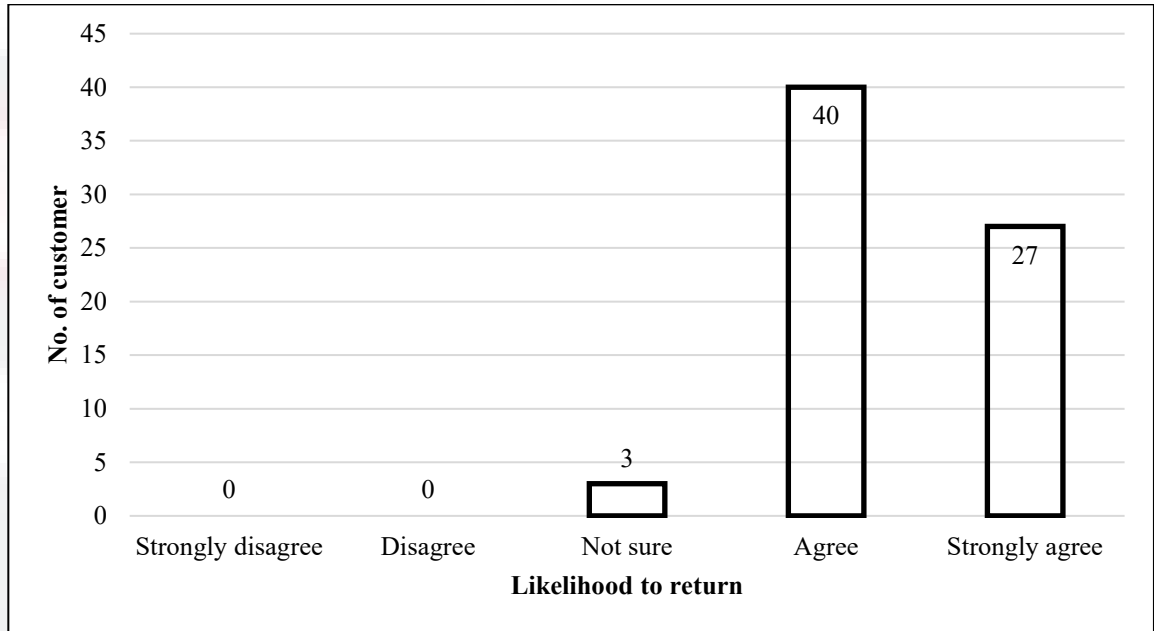


Figure 2. Likelihood to use the service in the Canine section of UVH in the future, n = 70.

Statistically, there was no relationship between gap scores and the likelihood for the customers to return, but looking at the trend, customers with small gap scores responded that they are more likely to return and use the service in UVH Canine section (Figure 6).

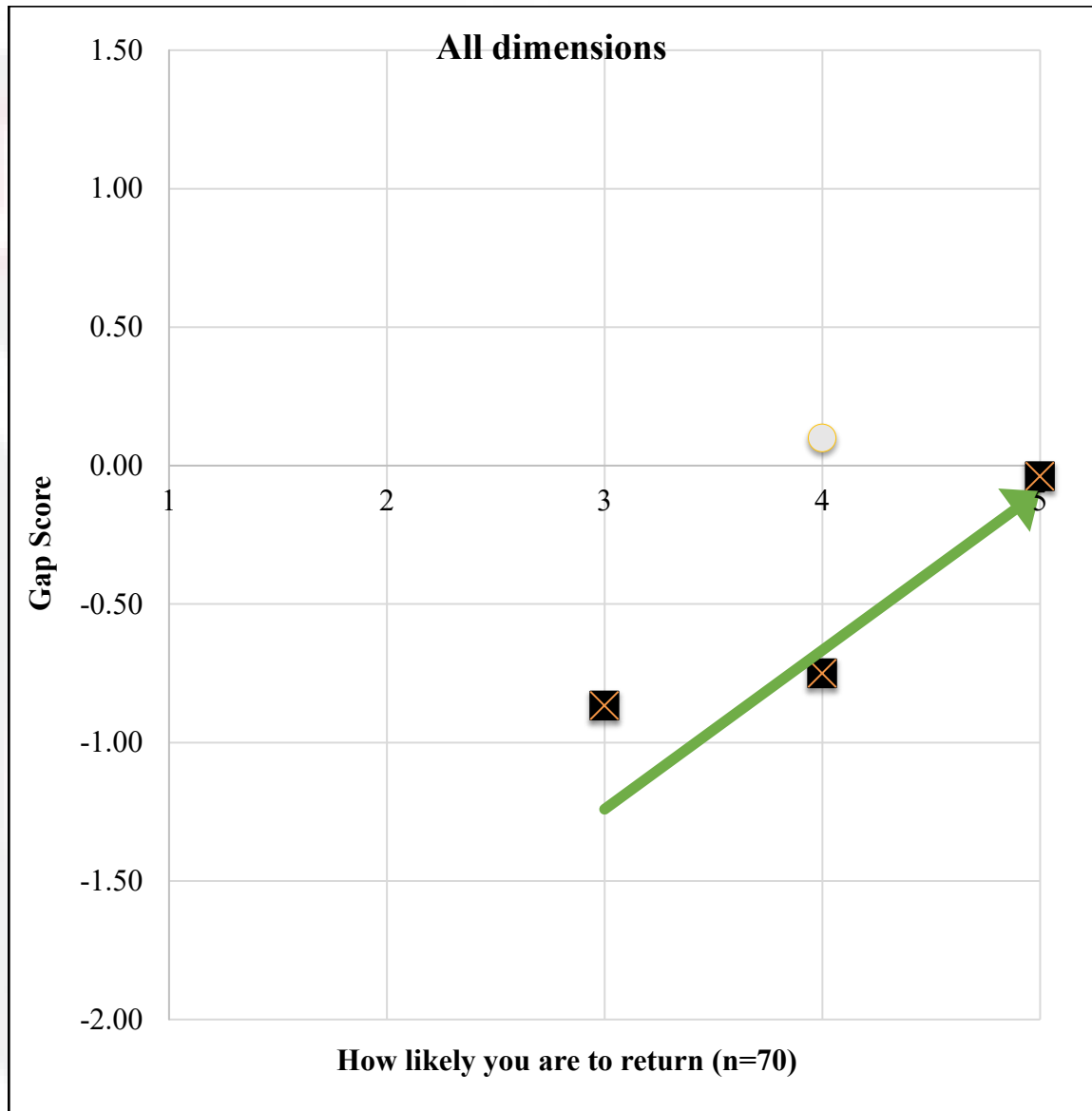


Figure 3. Mean (n = 70) gap scores and the likelihood to use the service at the Canine section of UVH again in the future. Round shape indicates gap scores and square shape indicate mean gap scores. The arrow shows the trend: with smaller gap scores, likelihood to return to use service at the Canine section of UVH again in the future increases.

5.0 DISCUSSION

In all 15 individual questionnaire items and five dimensions of SERVQUAL, perceptions do not meet expectations. Bigger gap scores indicate poorer satisfaction levels. Females were less satisfied compared to males based on their gap scores. There was no relationship between gap scores and the likelihood for the customers to return. However a trend showed that with smaller gap scores, customers tend to return and use the service at UVH again in future.

The perceptions of Questions 7 and 10 closely match its expectations (Figure 1). This shows that UVH employees performed well in informing the customers on services that will be performed and ensuring the customers and their pets feel safe during interaction and handling.

Gap scores (Figure 2) showed that performance of UVH in terms of empathy and tangible closely met customers' expectations in contrast to reliability, responsiveness and assurance. A small gap score does not necessarily mean that a hospital is performing well in a particular category. However, it indicates a relatively close match between customers' expectations and perceptions. Even though empathy and tangible exhibited small gap scores, comparing the level of expectations between both, tangible had lower expectation and perception than empathy. This showed that tangible was the least important aspect, followed by empathy. Although tangible scored the lowest in expectations, customers still expect a veterinary hospital to be well equipped and this are one of the main reasons for them to come to UVH. State of the art equipment are not necessary; rather it is important

to have well-functioning equipment that can provide accurate diagnosis and proper treatment. In addition, most customers think that UVH have a good and comfortable waiting area and consultation rooms, but are poorly maintained. In terms of empathy, customers and patients like to be cared for and to be provided with personal attention, and UVH performed well in providing these aspects in the empathy dimensions as shown by the small gap score. By having small gap scores and closely meeting customers' expectations in the tangible and empathy dimensions, additional investments to these dimensions are less critical.


The big gap scores in reliability and responsiveness dimensions showed that customers were not satisfied. Additional investments should be allocated on reliability dimension as it had the biggest gap score. With high expectation level but gaining the lowest perception scores on reliability dimension indicates that the canine section of UVH performed poorly in this category. Reliability dimension reflects on the punctuality of providing services, employees being sympathetic and reassuring towards the customers and patients, and also the accuracy in providing billing. Among all three aspects of reliability dimension, most of the customers were concerned about the punctuality of services provided. Customers expected a more systematic and efficient service from UVH. If UVH could update customers on the current situation, they could have a better understanding and tolerance towards the long waiting hours.

In the responsiveness dimension, most of the customers were happy when they were informed of the procedures that will be conducted and were made aware of its associated

risks and side effects. Most were also happy with the helpful employees that assisted them and their pets in the consultation rooms. However, in terms of providing prompt service, most of the customers think that UVH performed poorly as reflected by the long waiting hours, especially for walk-in cases. Therefore, UVH should invest by providing more manpower especially during peak hours.

In the assurance dimension, UVH employees were polite and they performed well in ensuring customers and patients feel secure and safe during interactions in the consultation room. Customers were also happy as UVH employees were knowledgeable. This was especially true for the professional staff that were able to respond to referred cases from other private clinics. Thus, with this kind of confidence and courtesy provided by UVH employees, customers were able to give good feedback and hence promote the good service to others in the future. Therefore, the performance of this dimension should be maintained so that consumer demand will increase and this will eventually lead to the increase in the hospital income. However, all other dimensions were currently doing well should be maintained.

Gap scores indicate the level of customers' satisfaction. Satisfaction level decreased with bigger gap scores and vice versa. Females had bigger gap scores than males in all dimensions (Figure 3). This indicated that females were harder to be satisfied compared to males.

Although perceptions do not meet  expectations in all 15 questionnaire items and five dimensions of SERVQUAL (Figure 1 and Figure 2), majority of the customers thought

that the Canine section of UVH provided good services (Figure 4). Since majority of customers reside in Selangor area (Table 1), they prefer to come and get service from UVH. Besides that, with the availability of specialized veterinarians in UVH, it also encourages them to come back again in future (Figure 5) and remain as UVH's customers.

Two limitations were encountered during this project. One was the small sample size, which was due to the holiday seasons, and two was short time of study conducted. Thus, in the future, the sample size should be bigger with appropriate time allocated based on the average customer came daily. Specification of employees (front line staff or professional staff) is also recommended in order to make the results more specific. Despite these limitations, this pilot study showed the usefulness of SERVQUAL to measure service quality in veterinary hospital. Moreover, in authors' knowledge, this is the first study measuring service quality in veterinary hospitals. Additional study on service quality after improvements have been implemented could be beneficial in the future.

6.0 CONCLUSION

As a conclusion, this is the first study on service quality in veterinary hospital. The SERVQUAL model was useful in identifying key customers' expectations and also areas requiring improvement. Although UVH fall short of customers' expectations across all five dimensions of SERVQUAL, the Canine section of UVH performed best at the empathy dimension, indicating that UVH is a caring hospital but performed poorly at the reliability dimension. For the Canine section, UVH should invest more on the reliability dimension to improve the service quality in addition to other dimensions.

7.0 REFERENCE

- Anderson, E. (1995). Measuring service quality at a university health clinic. *International Journal of Health Care Quality Assurance* 8:32-37.
- Babakus, E., & Boller, G. (1992). An empirical assessment of the SERVQUAL scale. *Journal of Business Research* 24:253-268.
- Babakus, E., & Mangold, W. (1992). Adapting the SERVQUAL scale to hospital service: an empirical investigation. *Health Service Research* 26:765-786.
- Bateson, John E. G. (1977), Do we need service marketing. In *Marketing Consumer Services: New Insights* 77-115.
- Berry, Leonard L. (1980), Service marketing is different. *Business* 24-29.
- Booms, B., & Bitner, M. (1981). Marketing strategies and organization structures for service firms. *Marketing of Services* 25:47-52.
- Bopp, K. (1990). How patients evaluate the quality of ambulatory medical encounters: a marketing perspective. *Journal of Health Care Marketing* 10.

Buttle, F. (1996). SERVQUAL: review, critique, research agenda. *European Journal of Marketing* 30:8-32.

Carman, J., & Langeard, E. (1980). Growth strategies for service firms. *Strat. Mgmt. J.* 1: 7-22.

Charles, V., Kumar, M., & Suggu, S. (2013). Adapting Fuzzy Linguistic Servqual Model: A Comparative Analysis of Bank Service. *Middle-East Journal of Scientific Research* 18:1119-1132.

Cronin, J., & Taylor, S. (1994). SERVPERF versus SERVQUAL: Reconciling Performance-Based and Perceptions-Minus-Expectations Measurement of Service Quality. *Journal of Marketing* 58:125.

Cronin, J., & Taylor, S. (1992). Measuring service quality: a reexamination and extension. *Journal of Marketing* 56:55.

Dabholkar, P. (1996). Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality. *International Journal of Research in Marketing* 13:29-51.

Donabedian, A. (1980). Explorations in quality assessment and monitoring. The Definition of Quality and Approaches to Its Assessment. Michigan: Health Administration Press.

Eargle, F. (2005). Ferd's glossary of quality-related terms. Retrieved 25 February 2016 from https://books.google.com.my/books?id=An_zCAAAQBAJ

Euromonitor International: Pet Care in Malaysia (August, 2015). Retrieved 20 February 2016, from <http://www.euromonitor.com/pet-care-in-malaysia/report>

Gronroos, C. (1978). A service-orientated approach to marketing of services. *European Journal of Marketing* 12:588-601.

Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing* 18:36-44.

Kemal Avkiran, N. (1994). Developing an instrument to measure customer service quality in branch banking. *Intl Jnl of Bank Marketing* 12:10-18.

Kovner, A., & Smits, H. (1978). Point of view: consumer expectations of ambulatory care. *Health Care Management Review* 3:69-75.

Larsen, D., Attkisson, C., Hargreaves, W., & Nguyen, T. (1979). Assessment of client/patient satisfaction: development of a general scale. *Evaluation and Program Planning* 2:197-207.

Lehtinen, U., & Lehtinen, J. (1982). *Service quality: a study of quality dimensions*. Service Management Institute. Helsinki.

Lewis, R., & Booms, B. (1983). The marketing aspects of service quality. *Emerging Perspectives on Service Marketing* 65:99-107.

Markovic, S., Komsic, J., & Stifanic, M. (2013). Measuring service quality in city restaurant settings using DINESERV scale. *Recent Advances in Business Management and Marketing* 7:176-181

Muhammad Butt, M., & Cyril de Run, E. (2010). Private healthcare quality: applying a SERVQUAL model. *International Journal of Health Care Quality Assurance* 23:658-673.

Narang, R. (2010). Measuring perceived quality of health care services in India. *International Journal of Health Care Quality Assurance* 23:171-186.

Nekoei-Moghadam, M., & Amiresmaili, M. (2011). Hospital services quality assessment.

International Journal of Health Care Quality Assurance 24:57-66.

Olshavsky, R. (1985). Perceived quality in consumer decision making: an integrated theoretical perspective. *Perceived Quality* 4:3-29.

Parasuraman, A., Zeithaml, V., & Berry, L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing* 49:41-50.

Parasuraman, A., Zeithaml, V., & Berry, L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing* 64:12-40.

Pet Finder. (2011, August 19). Vet List in Malaysia. Retrieved 26 February 2016 from <http://forums.petfinder.my/showthread.php?t=5973>

Regan, W. (1963). The service revolution. *Journal of Marketing*, 27:57-62.

Shostack, G. L. (1977). Breaking free from product marketing. *Journal of Marketing* 41:73-80.

Upah, G. (1980). Mass marketing in service retailing: a review and synthesis of major methods. *Journal of Retailing* 56:59-76.

Wan Edura Wan Rashid, & Hj. Kamaruzaman Jusoff. (2009). Service quality in health care setting. *International Journal of Health Care Quality Assurance* 22:471-482.

APPENDIX

Questionnaire English version (Set 1: Expectation)

Date: _____	Call number _____
Time: _____ (Calling number)/ _____ (Billing)	Case number _____
ID No: C _____	Pet name _____
Customer Satisfaction Survey on Quality Service of University Veterinary Hospital (UVH), UPM (Canine 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	_____
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 hospital (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	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 their patients' best interest at heart.	1	2	3	4	5

Questionnaire English version (Set 2: Perception)

Date: _____	Call number _____
Time: _____ (Call number)/ _____ (Billing)	Case number _____
ID No: C _____	Pet name _____
Customer Satisfaction Survey on Quality Service of University Veterinary Hospital (UVH), UPM (Canine 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	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

Questionnaire Malay version (Set 1: Expectation)

Tarikh: _____		No. panggilan _____
Masa: _____ (No. Panggilan)/ _____ (Bil)		No. kes _____
No. ID : C _____		Nama Anjing _____
Kajian Soal Selidik Mengenai Tahap Kepuasan Pelanggan Terhadap Kualiti Perkhidmatan Hospital Veterinar Universiti (UVH), UPM (Seksyen Anjing)		
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
lanya 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 mesti memberikan perhatian penuh terhadap pelanggan dan pesakit.	1	2	3	4	5
lanya adalah realistik untuk mengharapkan hospital veterinar menjaga kepentingan pelanggan dan pesakit.	1	2	3	4	5

Questionnaire Malay version (Set 2: Perception)

Tarikh: _____	No. panggilan _____
Masa: _____ (No. Panggilan)/ _____ (Bil)	No. kes _____
No. ID: C _____	Nama anjing _____

**Kajian Soal Selidik Mengenai Tahap Kepuasan Pelanggan Terhadap
Kualiti Perkhidmatan Hospital Veterinar Universiti (UVH), UPM
(Seksyen Anjing)**

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