

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter describes the general approach of research design and the methodology used in this study.

General Approach of Research Design

This research attempts to study customers' perceptions of the service quality of UMBC. Service quality is defined in this study as the overall evaluation of the bank resulting from a comparison of the bank's performance as perceived by its customers with the customers' general expectations of how the bank should perform. Perceived service quality, Gap 5 as identified by Parasuraman et al. (1985b), is the result of consumers' comparison of expected service and perceived service.

The perceived service quality will be measured using the multi-item scale used by Lim (1992) in her study on service quality of commercial banks in Malaysia which, in turn, was adapted from the original SERVQUAL scale developed by Parasuraman et al. (1988a). This study will follow closely the steps taken to measure the unweighted average SERVQUAL scores and the weighted average SERVQUAL scores by studies done by Kaura (1993), and Ow (1994). In

computing the unweighted average SERVQUAL scores and the weighted average SERVQUAL scores, the 19 statements of SERVQUAL (as per Appendix 1, Questionnaire) in both the expectations and perceptions statements have been grouped according to the five basic dimensions:

<u>Dimensions</u>	<u>Statements</u>
1. Tangibles	Statements 1 to 3
2. Reliability	Statements 4 to 7
3. Responsiveness	Statements 8 to 11
4. Assurance	Statements 12 to 15
5. Empathy	Statements 16 to 19

The steps taken to compute the unweighted average SERVQUAL scores and the weighted average SERVQUAL scores follow those in the study by Kaura (1993). The first step was to calculate the SERVQUAL score for each of the 19 pairs of expectation/perception statements. SERVQUAL score is a difference score defined and computed as follows:

$$\text{SERVQUAL score} = \text{Perception} - \text{Expectation score}$$

The next step was to compute the SERVQUAL score for each dimension by adding the SERVQUAL score for each statement pair obtained in the first step, across all the statements relating to that particular dimension, and dividing by the number of statement pairs. For example, SERVQUAL score for tangibles would be obtained by adding SERVQUAL scores for statement pairs 1 to 3 and dividing by 3.

In Step 3, SERVQUAL scores, for each of the dimensions, were added for all the respondents and divided by the total number of respondents. The overall SERVQUAL score was obtained in Step 4 by adding up the five SERVQUAL scores obtained for each of the five dimensions and dividing by 5. This overall SERVQUAL score is an unweighted average of the five scores computed in Step 3.

In step 5, the points allocated to the five dimensions in Section III of the questionnaire were used to compute a weighted SERVQUAL score. The SERVQUAL scores obtained in Step 2 were multiplied by the corresponding weights of the dimension. The weight was the number of points allocated to each dimension divided by 100.

In Step 6, weighted scores of each respondent calculated in Step 5 were added across the five dimensions. The scores obtained in Step 6 were added up for all the respondents and divided by the total number of respondents to give the overall weighted SERVQUAL score.

Questionnaire Design

The questionnaire used in this study was adapted from the multi-item scale used by Lim (1992) in her study on service quality of commercial banks in Malaysia which, in turn, was adapted from the original SERVQUAL scale developed by Parasuraman et al. (1988a). However, one of

the sections on the relative importance of the SERVQUAL dimensions from the refined SERVQUAL scale used by Parasuraman et al. (1991) study was incorporated into the scale used in this study.

The questionnaire used in this study was divided into five sections. As a screening question, the respondent was first asked whether they had done a transaction, through their account and/or credit facilities, during the past three months. Section I and II of the questionnaire, made up of expectations statements and perceptions statements respectively, were the adapted version of the SERVQUAL instrument from the study conducted by Lim (1992). Section I consisted of a 19-item scale to measure customers' expectations of services provided by banks in general. Section II consisted of a corresponding 19-item scale to measure the customers' perception of the services provided by UMBC. The score for each item was recorded on a seven-point Likert scale, with "1" being labelled as "Strongly Disagree" and "7" labelled as "Strongly Agree". Furthermore, in accordance with the recommended procedures for scale development (Churchill 1979), approximately half of the 19-items were worded negatively.

Section III of the questionnaire was incorporated from Parasuraman et al (1990) revised SERVQUAL scale which required respondents to allocate points to the five dimensions of service quality that is tangibles,

reliability, responsiveness, assurance and empathy. The respondents were asked to allocate a total of 100 points along the five dimensions according to how important each dimension was to the respondents. In this section, the respondents were also requested to select among the five dimensions, the most important dimension, second most important dimension and the least important dimension.

Section IV was an adapted version from the scale used in the study by Lim (1992) which consisted five statements relating to frequency of usage, types of service enjoyed, complaints, satisfaction and the overall rating of the quality of service of UMBC.

Section V was also adapted from the scale used in Lim's (1992) study which dealt with socio-demographic details of the respondents. Questions relating to sex, age, marital status, ethnicity, education level, occupation, and income level were asked in this section.

The questionnaires were prepared in two versions - English Language and Bahasa Malaysia as shown in Appendices 1 and 2. The Bahasa Malaysia version of the SERVQUAL instrument, Section I and II, Section IV and Section V of the questionnaire were taken from the study done by Lim (1992) with some minor refinement by the researcher. Section III of the Bahasa Malaysia version of the questionnaire was translated by the researcher. The

English Language version of Section III of the questionnaire was adapted from the study done by Parasuraman et al. (1991).

Sampling and Data Collection

Due to time and resource constraints, convenience sampling was used for this study. The selected respondents were customers of six UMBC branches within the Kuala Lumpur area namely Kuala Lumpur Main Office, Jalan Tun Perak Branch, Jalan Bukit Bintang Branch, Damansara Heights Branch, Menara Tun Razak Branch, and Ampang Branch. A total of 340 questionnaires were distributed to the branches for redistribution to their customers. Each branch was allocated between forty to sixty questionnaires to be distributed depending on the size of the branch. Branches were given between two to three weeks to distribute and collect the completed questionnaires from their customers. The completed forms were then collected personally by the researcher from the branches. The respondents were also given the choice to mail the completed questionnaires although this was discouraged.

Out of the total of 340 questionnaires distributed, only 50.0% or 171 questionnaires were returned. Out of the returned questionnaires, 2 questionnaires were not completed and were omitted from the analysis. Out of the 169 questionnaires used in the study 36 or 21% were

responded to by staff of UMBC who are customers of the Bank.

Data Analysis

The software programme used to process and analyse the data was the Statistical Package for Social Science (SPSS/PC+). Various statistical techniques were used to analyse the data, namely frequencies, factor analysis and stepwise regression analysis. Cronbach's Alpha was computed to determine the reliability of the dimensions extracted. Stepwise regression was conducted to determine the importance of the dimensions in influencing the consumers' perception of service quality. Kruskal-Wallis one way ANOVA was then conducted for analyses of the demographic data with SERVQUAL scores.

Summary statistics of the respondents' entries were first obtained. Factor analysis was used to extract the dimensions of the customers' perception of the service. Principal-components analysis technique was used to extract the factors with orthogonal procedure (varimax rotation). The criteria used to decide on the number of factors extracted were the latent root and scree test criteria. Factors with latent roots (eigenvalues) greater than one were considered significant. All factors with latent roots less than one were considered insignificant and disregarded. A factor loading represents the correlation

between an original variable and its factor. In this study, with a sample size greater than 50, factor loadings greater than 0.4 were considered significant for any variable to be included in a particular factor (Hair et al. 1992).

To ascertain the reliability of the measurement scale, Cronbach's Alpha was computed for the expectation and perception statements, each set of statements that comprised a dimension and for the total scale. Cronbach's Alpha permits testing internal consistency of the measurement scales. Using Nunnally's guideline (Davis and Cosenza 1988) on deciding the coefficient alpha, this study which is exploratory in nature adopted a minimum alpha value of 0.5.

Stepwise multiple regression was used to examine the contribution of each dimension to the overall perception of service quality. All the five dimensions, namely tangibles, reliability, responsiveness, assurance and empathy, were considered for inclusion prior to developing the model equation, and only those dimensions that were significant were included in the final model.

To avoid any assumptions with regard to the distribution of data, a non-parametric statistical test (Kruskal-Wallis one-way ANOVA) was used to test the significance of the difference in means between demographic

variables and SERVQUAL scores computed. A significance level of 5% was used for the entire analysis.

Frequencies tables was also used to analyse other general variables.