3 RESEARCH METHODOLOGY

3.1 Research Hypotheses

This study would like to test these hypotheses :

H_0 = There are no difference between the number of companies using online payment and not using online payment

H_0 = There are no difference between the number of companies intending to use online payment and not using online payment

H_0 = The awareness of the benefits of online payment systems does not correlates with the knowledge of online payment technologies

H_0 = The barriers to using online payment does not correlates with the motivators to use online payment systems

H_0 = There is no difference between security, legal, technical, social, and business suitability concerns relating to the barriers of using online payment.

H_0 = There is no correlation between security, legal, technical, social, and business suitability concerns relating to the barriers of using online payment.

H_0 = The barriers to online payment has no link with knowledge of online payment, the benefits of online payment, the number of employees in the organization, and the number of years the companies have been in operation.

H_0 = There is no difference in organizational characteristics in relation with the use of online payment systems.

H_0 = There is no difference in organizational characteristics in relation with the intention to use online payment systems.

H_0 = There is no significant difference between the type of industries in relation with the knowledge, benefits, motivators and barriers to online payment.

H_0 = There is no significant difference between the types of industries in relation with the security, legal, technical, social and business suitability concern which form the barriers to online payment.

3.2   Selection of Measures

The measures of the study will be the use of online payment, the knowledge of online payment technologies, the awareness of the online payment benefits, barriers to online payment, and motivators to using online payment variables.

The use of online payment will be measured by asking the respondents to indicate whether they are using/not using/intend to use the four online payment technologies listed in the Section 2 of the questionnaire (see Appendix 1).

The knowledge of online payment systems will be measured by respondents indicating, from a scale of one to five, their level of knowledge on those listed online payment technologies. One signifies that the respondent has no knowledge at all while five signifies that the respondent has complete knowledge of the technologies. The variable 'knowledge of online payment systems' will be measured by summing up the responses to the four online payment systems.

The awareness of online payment benefits will be measured by respondents indicating, from a scale of one to seven in Section 3 of the questionnaire, their opinion on the benefits of online payment. One signifies that the respondent feels that the benefit is very low while seven signifies that the respondent feels that the benefit is very high. The variable 'benefits of online payment systems' will be measured by summing up the responses to all the ten statements.

Meanwhile, the motivators to online payment will be measured by respondents

indicating, from a scale of one to five in Section 4, their opinion on the importance of each factor. One signifies that the respondent feels that the factor is not important while five signifies that the respondent feels that factor is very important. The variable 'motivators to online payment systems' will be measured by summing up the responses to the eight statements.

Lastly, the barriers to online payment will be measured by respondents indicating, from a scale of one to five, the seriousness of each factor which hinders or slows down the use of online payment in the company. One signifies that the respondent feels that the factor is not serious while five signifies that the respondent feels that factor is very serious. Combining statement 1 to 4 form the security variable, statement 5 to 8 form the legal variable, statement 9 to 12 form the technical variable, statement 13 to 16 the form the social variable, and statement 17 to 20 form the business suitability variable. Combination of the security, legal, technical, social, and business suitability variable will form the 'barriers to online payment systems' variable.

3.3   Sampling Design

The sample will be selected using a non-probability technique, which means that every unit has a zero probability of being chosen as a sample. The sample will be chosen from the list used for the *Universiti Malaya - National Productivity Council Survey On E-Commerce* project. As online payment is still new in the country, the questionnaire is send only to selected companies in certain industries where online payment is most applicable e.g retailing, manufacturing, and banking.

3.4   Data Collection Procedure

The data collection procedure will utilize the survey method. This research will combine both mailed-questionnaire survey and personal interview. The questionnaire will be directed to the Information Technology or Information Systems Manager of the company. In the absence of such managers, the head of the company will be asked to respond to the questionnaire.

To serve its purpose as an exploratory study, only a total of 150 questionnaires will be mailed while another 50 questionnaires will utilize the personal interview method. The larger number of mailed-questionnaires compared to the personal interview is justified because of time and cost constraints, plus the preference of big companies to have mailed-questionnaires than to have personal interview. A self-addressed and stamped envelope will be attached to the mail questionnaire to make it more convenient to the companies to send back the questionnaire.

3.5   Data Analysis Technique

This study will utilize a number of statistical techniques to analyse the data and to test the hypotheses. Among them are the frequency analysis, t-test, chi-square test, analysis of variance (ANOVA), simple correlation coefficient, and reliability test (Zikmund, 1997).

The frequency analysis will be utilized to see the distribution of the response to the items in the questionnaire. Reliability test will be first conducted to test the reliability of the items measured in the knowledge, benefits, barriers, and motivators of online payment scales. Chi-square (x^2) test is a test that statistically determines the significance in the analysis of frequency distributions (Zikmund,

1997). The non-parametric chi-square test will be utilized to see the whether there are statistical differences between the number of companies using and not using online payment, and the number of companies intending to use and not to use online payment.

The t-test for difference of means is a technique used to test the hypotheses that the mean scores on some interval-scaled variable will be significantly different for two independent samples or groups. This test is used when the number of observations (sample size) is small and the population standard deviation is unknown (Zikmund, 1997). The paired t-test test will be utilize to see the difference between security, legal, technical, social, and business suitability concerns, in terms of barriers to online payment.

ANOVA is the analysis of the effects of one treatment variable on an interval-scaled or ratio-scaled dependent varaible, a technique to determine if statistically significant differences of means occur between two or more groups (Zikmund, 1997). This test will be utilized to see whether there are significant differences between the type of industries in relation to the knowledge, benefits, barriers, and motivators to online payment. The test will also be used to check whether there are significant differences between the type of industries in relation to the five concerns which form the barriers to online payment; legal, security, technical, social, and business suitability.

Simple correlation co-efficient is a statistical measure of the co-variation of or association between two variables (Zikmund, 1997). Simple correlation co-efficient test will also be conducted to see the relationship between the concerns. Simple correlation coefficient will be used to see the correlation between knowledge of

online payment and awareness of benefits on online payment, plus the correlation between the barriers and the motivators of using online payment.