Methodology

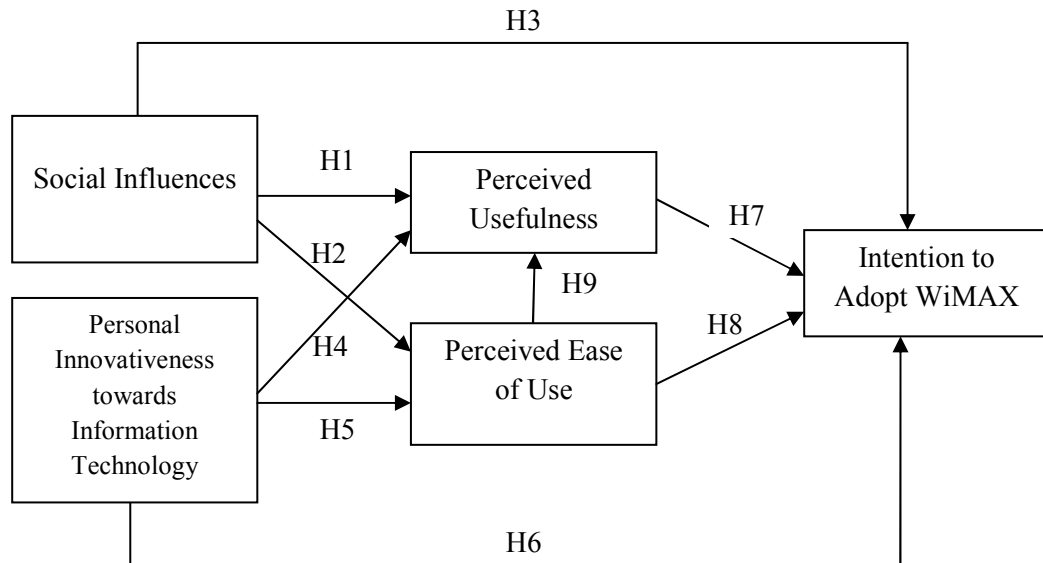## 3.1 Theoretical Framework and Hypotheses

Figure 0.1: Theoretical Framework

The theoretical framework (Figure 3.1) of the current study consists of four main constructs that are posited to have impact towards adoption of WiMAX. The constructs are namely social influences, personal innovativeness towards information technology, perceived usefulness and perceived ease of use. From the model, 9 hypotheses (H_1 to H_9) were drawn out to understand the factors that would affect the WiMAX adoption as follows.

H_1: Social influences have positive impact on perceived usefulness

H_2: Social influences have positive impact on perceived ease of use

H_3: Social influences have positive impact on intention to adopt WiMAX

H_4: Personal innovativeness towards information technology has positive impact on perceived usefulness of WiMAX

H_5: Personal innovativeness towards information technology has positive impact on perceived ease of use of WiMAX

H_6: Personal innovativeness towards information technology has positive impact on intention to adopt WiMAX

H_7: Perceived usefulness has positive effect on intention to adopt WiMAX

H_8: Perceived ease of use has positive effect on intention to adopt WIMAX

H_9: Perceived ease of use has positive effect on perceived usefulness

The four main constructs are hypothesized to have direct effect towards WiMAX adoption as stated in H_3, H_6, H_7 and H_8 or via indirect path through perceived ease of use and perceived usefulness as in H_1, H_2, H_4 and H_5. As a completion to the hypotheses, H_9 hypothesize the relationship between perceived ease of use and perceived usefulness.

3.2 Sampling Design

The objective of this research is to examine the factors that influence the working adults in Klang Valley to adopt WiMAX. Hence, a questionnaire was designed and distributed to the University of Malaya, Master of Business Administration students randomly as convenience subject samples. A cover letter was included in the questionnaire explaining the purpose of the study and the guarantee of confidentiality. The questionnaire was divided into two sections. Section A was designed to ask respondent to express his or her agreement with the statements. There are in total 20 questions in section A which consisted of 5 different constructs namely Intention to adopt WiMAX, perceived usefulness, perceived ease of use, social influences and personal innovativeness toward information technology. The questionnaire uses seven Likert-type scales with anchors ranging from "strongly disagree" to "strongly agree". There are eight questions in section B, which is mainly use to collect respondents' demographic data which include age, gender, nationality, race, religion, education, income, and occupation.

3.3 Data Collection Procedure

The questionnaires were printed as hard copy and distributed physically to the students at University Malaya City Campus. The questionnaire was also made available online through Google Documents and distributed through Online University of Malaya Master of Business Administration Yahoo Groups. In total, there were 200 printed questionnaires that were distributed to the University Malay, Master of Business Administration students at city campus randomly before the commencement of lecture sessions from Monday to Friday. A box was prepared and left at the office counter to allow respondents to return the completed questionnaires. Meanwhile, the online questionnaires automatically generated data when the students completed the online questionnaires. All the data collected (via handout and online questionnaires) were tabled and analyzed using Statistical Package for the Social Sciences (SPSS) software.

3.4 Questionnaires Development

The survey questionnaire was replicated from Lu et al. (2005). The construct perceived usefulness was initially developed and validated by Thompson et al. (1994). There are many researchers using the same measurement (e.g. Chau, 1996; Jiang et al., 2000 as per cited by Lu et al., 2005). Meanwhile the constructs perceived ease of use and intention to adopt Wireless Internet Services via Mobile Technology (WIMT) were originally created by Davis (1989, 1993). In addition to that, slight modification was made to the original four-item scale developed by Agawal and Prasad (1998) which was used to measure personal innovativeness towards information technology. Social influences was adapted from the study by Venkatesh and Davis (2000) which was used to measure modified variables on subjective norm and image in Technology Acceptance Model 2 (TAM2).

Questions were grouped under each construct in the questionnaire to ensure that the respondents follow the logical flow of ideas under each construct. This is as suggested by Davis and Venkatesh (1996) where grouped format was noted to be better for predicting and explaining user behavior. The questionnaire is listed in appendix A.

3.5 Data Analysis Strategy

Data collected from the current study will be tabled and analyzed using Statistical Package for the Social Science (SPSS) as stated earlier. The data analysis strategy will begin with normality check to ensure the data collected was in normal distribution before any statistical analysis of the various variables. Various normality tests will be performed such as histogram, skewness and kurtosis.

After performing the normality check, reliability test using Cronbach Alpha will be applied to the data collected. Cronbach Alpha is a coefficient of reliability and it is commonly used as a measure of internal consistency or reliability of a psychometric test score for a sample of examinees. Internal consistency is typically a measure based on the correlations between different items on the same test (or the same subscale on a larger test). It measures whether several items that propose to measure the same general construct produce similar scores.

AMOS (Analysis of Moment Structures) is an add-on module for Statistical Package for the Social Science (SPSS). It is designed primarily for structural equation modeling, covariance structures, path analysis to test the model fit. It features with user friendly graphical interface that allow statistical or analyzer to specify models by drawing them. In this research, SPSS AMOS 16 will be used to perform the statistical analysis. We will be following the 2 two-stage approach which was recommended by Anderson and Gerbing (1998) to analyze the data collected. At the first stage, we use confirmatory factor

analysis (CFA) to test the measurement models for each factor, to establish good fit of the data.

Structural equation modeling (SEM) which is a statistical technique for testing and estimating causal relations using a combination of statistical data and qualitative casual assumptions is used at the second stage. It is used to examine the hypothesized causal path among the constructs by performing simultaneous test after an acceptable measurement model had been obtained. This test helps us to observe whether the proposed conceptual framework had provided an acceptable fit to the empirical data.