CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter will explain the methodology used in this study. This section includes the development of hypotheses explaining the e-service adoption model proposed by Featherman and Pavlou (2003), selection of measures, sampling design, data collection procedure and data analysis techniques.

3.2 DEVELOPMENT OF HYPOTHESES

Implications' of a country's e-government initiatives for its economy, citizens' rights and democratic processes are assumed to be huge (Jorgensen & Cable, 2002). Subsequently, the citizens' reactions are important to understand as they may be perceived as cues of overall service performance. The specific theoretical basis utilized here is the Technology Acceptance Model (TAM), (Davis, 1989). TAM was designed to enable predictions of information system (IS) acceptance and usage. This particular model gathers evaluative measures of IS quality and suitability to job requirements.

A measure of perceived risk (PR) is deemed necessary to be included into TAM because users consciously and unconsciously perceive risk when evaluating

services for adoption. PR has formally been defined as ‘‘a combination of uncertainty plus seriousness of outcome involved’’ (Bauer, 1967)’. For the purpose of this research the definition by Featherman and Pavlou, 2003; “the potential for loss in the pursuit of a desired outcome of using an e-service’’ is used.

Featherman and Pavlou (2003) inferred from Cunningham (1967) two major dimensions of PR; performance and psychosocial. It was further deduced that PR as having six dimensions—(1) performance, (2) financial, (3) opportunity/time, (4) safety, (5) social and (6) psychological loss (Cunningham, 1967). These risk facets have been extensively adopted by various consumer behavior literatures in evaluating consumer products and services and will be used in this study. It is also important to note that performance risk explain more variance in the overall perceived risk measured by the study by Jacoby and Kaplan (1972) and all risk facets pivot from performance risk (Cunningham, 1967).

However, measures of safety (physical) risk will not be included due to obvious reasons. Privacy risk measures were developed to supersede safety risk mentioned above. Privacy risk comprise of (a) concern for the theft of their private information, or (b) misuse of privileged information by the company collecting them. Featherman and Pavlou (2003) deduced (from focus group)

common concerns that inhibit adoption are the possible loss of privacy of personal financial information and potential ‘‘identity-theft’’.

Meanwhile financial risk (the monetary value that are associated not only with the initial purchase price and subsequent maintenance cost but also to the possibility of fraud related financial loss (Grewal et al., 1994 and Featherman and Pavlou, 2003) is deemed to be irrelevant since e-filing system in Malaysia involves only reporting of information and devoid of any financial transaction.

Social risk defined as “Potential loss of status in one’s social group as a result of adopting a product or service, looking foolish or untrendy” by Featherman and Pavlou (2003) does not apply to Malaysia’s e-filing system as e-government services, not only e-filing are being promoted as the next and long awaited step to a more efficient, effective and transparent government.

Most consumers are very time oriented and concerned about potential risks of ‘‘wasting time’’ implementing, learning how to use a new e-service. These time-conscious consumers protect themselves from the possibility of loss of time risk, and are less likely to adopt the e-service that they consider as have high switching, setup and maintenance costs (Featherman and Pavlou, 2003). The risk facets are defined in Table 3.1. It is the proposed that:

H_1: Perceived risk comprises the facets of (1) performance, (2) psychological, (3) privacy and (4) time.

Table 3.1
Description and definition of perceived risk facets

Perceived Risk Facets	Description/ Definition
Performance risk	‘‘The possibility of the product malfunctioning and not performing as it was designed and advertised and therefore failing to deliver the desired benefits.’’ (Grewal et al., 1994)
Psychological Risk	The negative effect on the consumer’s peace of mind or self-perception that is associated with the risk of both the selection and performance of the producer. (Mitchell, 1992)
Privacy Risk	“Potential loss of control over personal information, such as when information about you is used without your knowledge or permission. The extreme case is where a consumer is ‘‘spoofed’’ meaning a criminal uses their identity to perform fraudulent transactions.” (Featherman and Pavlou, 2003)
Time Risk	Potential lost of time due to bad purchasing/adopting decision. This involves time wasted in researching and making the purchase, learning how to adopt a service or use a product and replacing the unsatisfactory service or product. (Featherman and Pavlou, 2003)
Overall Risk	Takes into account the trade off effect when all the risk facets are measured together. (Jacoby and Kaplan, 1972)

The information systems adoption has been shown to create anxiety and discomfort for consumers. Usage of the Internet delivery medium in e-filing also adds additional uncertainties and potential dangers due to its perceived

unsecured nature. The combination of uncertainty (probability of loss) and danger (cost of loss) that make up perceived risk have been shown to hinder service evaluation and adoption (Dowling and Staelin, 1994).

An overall measure of perceived risk consists of several independent varieties of risk after a risk ‘‘tradeoff’’ behavior occurred (Jacoby and Kaplan, 1972). Example given by Featherman and Pavlou (2003), a large automobile may reduce physical (safety) risk but increase financial risk. Measures of overall perceived risk were added to the above mentioned risk facets in order analyze the following hypothesis. Therefore, it follows that:

H_2: Higher levels of e-filing perceived risk will be negatively related to adoption intention.

Meanwhile, TAM presumes that an attitude toward using an IS is based on two primary antecedent variables—perceived usefulness and perceived ease of use. Perceived Usefulness (PU) is defined as ‘‘the prospective user’s subjective probability that using a specific application system will increase his or her job performance within an organizational context’’ (Davis et al., 1989). Perceived Ease of Use (PEOU) is defined as the ‘‘the degree to which the prospective user expects the target system to be free of effort” (Davis, 1989). Software perceived as being helpful in performing important tasks and easy to use are typically

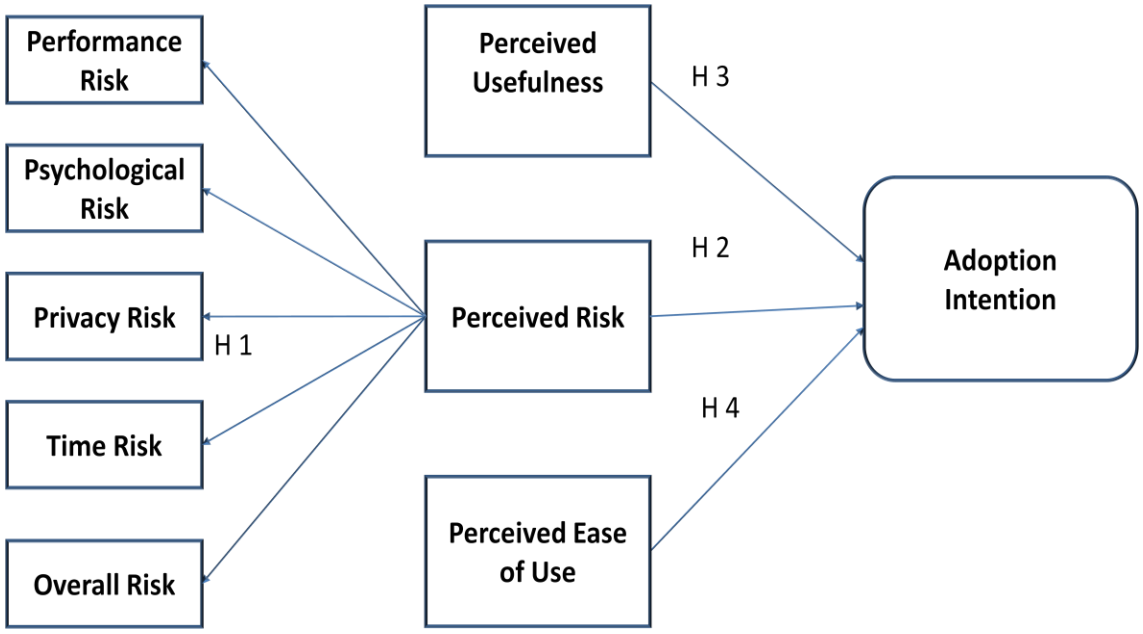
evaluated more highly and often deemed more desirable. It is then proposed that:

H_3: High level of e-filing perceived usefulness will be positively related to higher levels of adoption intention.

H_4: Higher levels of e-filing perceived ease of use will be positively related to higher levels of adoption intention.

The framework below is adopted from Featherman and Pavlou (2003) with few modifications such as both the financial and social risk facets were dropped to align the research framework with Malaysia's electronic tax filing.

Figure 3.1
Research Framework



H_1: Perceived risk comprises the facets of (1) performance, (2) psychological, (3) privacy and (4) time risk.

H_2: Higher levels of e-filing perceived risk will be negatively related to adoption intention.

H_3: Higher level of e-filing perceived usefulness will be positively related to higher levels of adoption intention

H_4: Higher levels of e-filing perceived ease of use will be positively related to higher levels of adoption intention.

3.3 SELECTION OF MEASURES

This research follows Featherman and Pavlou (2003) that incorporated measures of PR variable into TAM. Constructs were measured using multiple-item scales, drawn from pre-validated measures in previous studies. Items for PU, PEOU, and AI were adapted from Davis (1989) and Chau and Hu (2002); items for all the Perceived Facets were from Jacoby and Kaplan (1972).

Featherman and Pavlou (2003) identified seven risk facets including financial risk and social risk. However, the above two facet of risks (financial and social) were dropped for the purpose of this research due to the fact that those facets are not directly associated with e-filing. The present questionnaire is divided into three sections containing forty two items. Section A covers risk facets and contains nineteen items while Section B measures the TAM variables (PU and PEOU) as well as taxpayers' adaption intentions. The rest of the items in Section C cover the demographic profile of the respondents. Table 3.1 lists the variables of this research and the number of items representing them. All items were measured using a five-point Likert-type scale with anchors on ''strongly agree'' and ''strongly disagree.'' The final version of the Questionnaires is included in Appendix 1.

Table 3.2
Questionnaire Items

Variables	Number of Items
Performance Risk	Items No. 1 - 5
Privacy Risk	Items No. 6 - 8
Psychological Risk	Items No. 9 - 10
Time Risk	Items No. 11-14
Overall Risk	Items No. 15-19
ADPI	Items No. 20 - 22
PU	Items No. 23 - 26
PEOU	Items No. 27 -32
Demographic factors	Items No. 33 -42

3.4 SAMPLING DESIGN

States-wide questionnaire-based survey was conducted with support from IRB. This study was conducted using stratified random sampling design. This particular random sampling design involves a process of segregation followed by random selection of subjects from the group. The taxpaying citizen of Malaysia is first divided into mutually exclusive groups (manual or e-filers) before subjects are chosen from e-filers in random.

3.5 DATA COLLECTION PROCEDURES

Questionnaires, the instrument used for this research were distributed in two different manners. Prior to collection of data, an official written request to conduct the survey was submitted to Director of Tax Operations, IRB. After permission was granted, the above instrument was firstly distributed to the taxpayers at IRB Branches in Federal Territory Kuala Lumpur and Putrajaya (Jalan Duta, Cheras and KL Bandar) as well as Selangor (Shah Alam and Petaling Jaya). Secondly, the questionnaires were also distributed at randomly selected major corporations around Federal Territory Kuala Lumpur and Putrajaya and Selangor.

Thus 750 questionnaires were distributed to individua" taxpayers (both employment and sole proprietorship). 259 questionnaires were returned and completed that were deemed usable which means that this research recorded a thirty four point five three percent (34.53%) return rate.

3.6 DATA ANALYSIS TECHNIQUES

The data from this research was analyzed using SPSS 16.0 program. Cronbach's Alpha was calculated to test internal consistency reliability for the scale. The items and scales were then tested with factory analysis (FA). Standard multiple regression was adopted to explore the predictive ability of all

the perceived risk facets on the dependent measures of adoption intention (ADPI). Correlation was then use to explore the relationship between the variables (perceived ease of use, perceived usefulness and adoption intention).

The demographic characteristics were also explored using t-test and ANOVA in order to identify potential determinants. This analysis can provide distinguished characteristics of the taxpayers and give insight into the reasons that are associated with e-filing adoption intentions of Malaysian taxpayers.