ANALYZING USING TAM MODUL ON PRIMARY SCHOOL TEACHERS IN IMPLEMENTING SPPBS: STUDY OF TEACHERS IN KEDAH, PERLIS AND PENANG.

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2014

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ABSTRACT

Adaptation to the changes of information age cause educational discipline all over the world to adopt the use of information systems in the educational institutions. With this regards, Ministry of Education introduced that the School Based Assessment (PBS) as a component of the assessment conducted by the school assessment carried out by teachers of subjects continuously in the process of teaching and learning. Due to the nature of PBS as a type of continuous assessment to observe the student's development as a whole, the introduction of SPPBS application is thought to be handy for teachers to record and store the academic and non-academic data. Despite the benefit of better information management by the system, users among the teachers found the system too difficult to use and have not been able to scale down that hurdle to user acceptance and usage of the SPPBS. Therefore, this research aimed to find the determinants of system usage and relationship between system acceptance and system adoption among the primary school teachers. The data was collected through the use of survey questionnaire, distributed to 379 primary school teachers dispersed around the area of Kedah, Perlis and Penang. The result showed that the most important factor in determining teachers' adoption towards SPPBS was perceived of ease in using the system. There were negative correlation between perceive of usefulness and perceive of dependability towards SPPBS adoption, while there was positive correlation between perceive of ease of use and SPPBS adoption among the primary school teachers.

ABSTRAK

Penyesuaian terhadap perubahan zaman maklumat menyebabkan disiplin pendidikan di seluruh dunia mula menerima pakai penggunaan sistem maklumat dalam institusi pendidikan. Sehubungan dengan itu , Kementerian Pelajaran Malaysia telah memperkenalkan Sistem Pentaksiran Berasaskan Sekolah (PBS) sebagai satu komponen penilaian oleh sekolah yang dijalankan oleh guru-guru mata pelajaran secara berterusan dalam proses pengajaran dan pembelajaran. Disebabkan sifat PBS sebagai sejenis penilaian secara berterusan untuk memantau perkembangan pelajar secara keseluruhan, pengenalan aplikasi SPPBS dianggap berguna untuk guru-guru untuk merekod dan menyimpan data akademik dan bukan akademik.Walaupun terdapat faedah pengurusan maklumat yang lebih baik yang disumbangkanoleh sistem ini, pengguna di kalangan guru-guru mendapati sistem tersebut terlalu sukar untuk digunakan dan tidak dapat untuk melepasi halangan tersebut kepada penerimaan dan penggunaan SPPBS. Oleh itu , kajian ini bertujuan untuk mencari penentu penggunaan sistem serta hubungan antara penerimaan sistem dan penggunaan sistem di kalangan guru-guru sekolah rendah. Data dikumpulkan melalui penggunaan soal selidik yang diedarkan kepada 379 guru sekolah rendah yang mengajar di sekitar kawasan Kedah , Perlis dan Pulau Pinang. Keputusan menunjukkan bahawa faktor yang paling penting dalam menentukan penerimaan guru terhadap SPPBS ialahtanggapan kemudahan dalam menggunakan sistem. Terdapat korelasi negatif antara tanggapan penggunaan dan tanggapan kebergantungan terhadap penggunaan SPPBS , manakala terdapat korelasi positif antara tanggapankemudahan untuk menggunakan SPPBS kalangan guru-guru sekolah rendah.

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SPPBS   Sistem Pengurusan Pentaksiran Berasaskan Sekolah

KSSR   Kurikulum Standard Sekolah Rendah

TAM   Technology Acceptance Model

CHAPTER ONE

INTRODUCTION

1.1. Introduction

We call the world we live in today as information age,booming with various technological developments and advancements, urge different sectors, disciplines and organizations to stay critically sensitive with technology changes. At this age, due to many significant factors such as continuous developments in information technologies, information exchange, increasing expectations of the society, modern managing perceptions and applications, force the organizations around the globe to develop new information system or information technology in order to survive (Demir, 2003). Recently, contributions of information technologies (IT) to educational field have been among the most highlighted in past researches (Yuen et al., 2003; Webber, 2003; Flanagan & Jacopsen, 2003; Pelgrum, 2001).

Haag et al., (1998) emphasized that information systems support not only information process but also innovations to educational institutions, such as school. These systems are helpful in order to cope with the demands for change as the entities being adaptable to changes. Therefore, the management of information systems posed several advantages to the educational field: (1) improve the adaptation of the educational institutions to the environment, (2) enable the institutions to

comprehend and define inner and outer information transfer, (3) institutional leaders meet both the demands and expectations of its inner (teacher, student) and outer members (parents, ministry), and (4) ensures that institutional activities are arranged accurately and timely (Pegler, 1992).

Educational institutions information systems can be defined as a management information system designed to match the structure, management task, instructional processes and special needs of the educational institutions (Telem, 1999). In a broader sense, the definition of information systems contributions to educational institutions is regard as making programs more effective, making the teaching process and the changes in learning environment become professional, enabling teachers to exchange their experiences in a more systematic way, working in teams, determining the needs of the students (Gurr, 2000; Pegler, 1992), supporting the educational leaders and other staffs in doing their duties, developing their performances, effectiveness and efficiencies (Telem & Buvitski, 1995).In other words, information management systems increase institutions' effectiveness and efficiency by saving time and facilitating development of alternative solutions for sophisticated problems (Vissher & Wild, 1997).

Yuen et al. (2003) also stated that the use of information systems can increase effectiveness at work by processing information, increasing leadership effectiveness by meeting the need for information and gaining superiority in competitions by directing strategies. In this case, information management systems is sought to provide support for the administrative and educational activities of the educational leaders by processing information.

Adaptation to the changes of information age cause educational disciplineall over the world to adopt the use of information systems in the educational institutions such as school. Malaysia is no exception. In conjunction with the robust information technologies developments, Malaysia has acquired changes in its educational information management system and administration especially on the student's performance and assessment. The changes have affected all parties in the school, particularly towards the teachers as they shoulder the responsibility to assess the student performance and record their achievement. Therefore, this research particularly aims to find the teacher's adaptation to the information system introduced by the Ministry of Education from the primary school teacher's perspective.

1.2.   Research Background

Changesin Malaysian education system have gone through several phases before independence, after independence and also through system reform itself. Such changes were viewed as a means to help the student progress indirectly through the curriculum to meet the needs of all communities in the country.The education system prior to independence was more focused on the divide and rule principle and the establishment of a school were based on the composition of particular group of people. Significant changes in the education system after independence was involving the views and assessments made by the leaders of education in our country so that the education in our country has direction and able to meet the needs of all communities and the country as contained in the Razak Report (1956) and subsequent Rahman Talib Report. The implications and effects of both of these reports resulted in the establishment of Education Act 1961. This meant that all the

people in Malaysia are required to start school sessions as young as five years old in pre-school until graduation at a higher level. In addition, both of these reports concern for solidarity and helped to generate our economy.

It is now clear that the educational system hasbeen constantly changing in line with the current progress and evolution in education. Nowadays, education in our country not only aim for racial unity, but focus even more to the development and formation of the students as a whole which involves changes in physical, emotional, intellectual and spiritual well balanced in accordance with the National Education Philosophy. The goal was not only to be able to see the potential of the students in the academic field butto enable the students to develop their potential of to have the skills and have great appearance, and our education system has the ability to produce students who excel and meet the development needs of the country.

In this advanced technology age, the government and the parties involved have worked towards improving the level of education quality to anyone who wants to improve their educational level. Various efforts have been undertaken by the Ministry of Education to build the human capital of quality teachers with the aimthat the knowledge and skills possessed by teachers can be used in generating a knowledgeable and civilizedsociety. With this regards, Ministry of Education explained that the School Based Assessment (PBS) is a component of the assessment conducted by the school assessment carried out by teachers of subjects continuously in the process of teaching and learning. In educational context, assessment is an episode in the learning process that encompasses activities such as describing, collecting, recording, giving a score, and interpreting information about student learning outcomes for a particular purpose (Mohd Farik, 2008). School assessment is an assessment that is designed, built, managed, examined and reported by teachers in

schools involving students, parents, and external organizations (Syed Ismail & Ahmad Subki, 2010).

PBS planned, administered, scored, recorded and reported in a systematic manner according to the procedures prescribed by the Malaysian Examinations Board (MEB).PBS component consists of School Assessment, Central Assessment, Assessment of Physical Activity, Sport and Co-curricular and Psychometric Assessment (MOE, 2013). PBS concept is not new, as this is an assessment that has been undertaken by the teachers at the school (homework, projects, quizzes, Q & A, etc.). PBS proposed an improvement to the PBS already implemented by introducing a reference standard assessment and documentation. Thus, in line with the advancement of technology, the PBS was implemented along with the introduction of School-Based Assessment Management System (SPPBS) by Examination Board (*Lembaga Peperiksaan*), for which its development was aimed to ease the teacher's recording and documentation works (Examination Board, 2012). Due to the nature of PBS as a type of continuous assessment to observe the student's development as a whole, the introduction of SPPBS application is thought to be handy for teachers to record and store the academic and non-academic data (Examination Board, 2012). Data stored in the system supposed to be automated efficiently and effectively to produce synchronous report for school level, *Pejabat Pendidikan Daerah*(PPD),*Jabatan Pendidikan Negeri*(JPN) or Ministry of Education Malaysia (MOE) as illustrated in Figure 1.1 (Examination Board, 2012).

Due to the implementation of PBS, teachers are required to record several types of student's score and assessment achievement. For each and every student, the data that need to be key-in into PAJSK SPPBS application are such as SEGAK (*Standard Kecergasan Fizikal Kebangsaan*) score, BMI (Body Mass Index) score,

Sports/Co-curricular activities score, Extra-curricular activities score and Student Development File (*Fail Perkembangan Murid*). Therefore, the amount of data handled by SPPBS is very large considering the fact that there are hundreds thousands ofPBS targeted students (Standard 1 to 3 for primary school and Form 1 to 3 for secondary school); the SPPBS system cause a lot of data entry work that need to be done by the teachers and teachers might lose their focus on the essential of teaching and learning. Visscher and Bloeman (1999) in their research found that leaders and teachers indicated that while educational management information systems had positive effects on evaluation of efficiency of the institutions, development of using sources, quality of educational programming and communication, it increased their workload and caused stress.Consequently, teachers may hardly accept the implementation of so called "to reduce teacher's workload" information management system in the educational institution as it turned out to be the other way round. Thus, success in the implementation of an information management system such as SPPBS must be preceded with the technology acceptance and usability among its users.
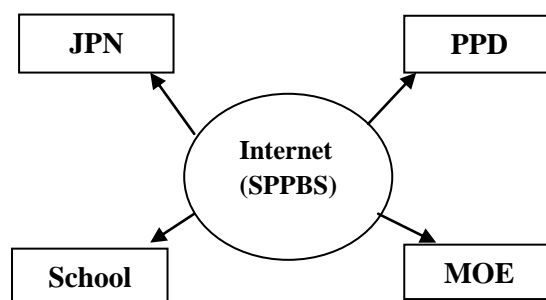
Figure 1.1: Data stored in SPPBS produce synchronous report for school, PPD, JPN and MOE (adapted from Examination Board, 2012)

1.3.   Statement of Problem

Information technology acceptance and use is a prolonged issue that has been attracted wide attention among the researchers and practitioners. Successful implementation of information systems can lead to enhanced productivity, while failed systems may caused undesirable consequences such as time loss and dissatisfaction among the users. Since system that are used must be effective, no matter what their technical merits, it is important to understand how use decide whether they willing to accept and use a particular information systems.

Since its introduction in 2011, SPPBS has been running for three consecutive years. Throughout the implementation of PBS, the SPPBS as the official information systems for PBS has received numerous critics and complaint especially from teachers. Mohd Solihin (2014) wrote that due to the implementation of SPPBS, teachers are stressful with the extra workload for data entry into the system. Besides, there is specific time duration given to the teachers to key-in the student's score in the system, caused some of the teachers were not able to do so (Raziatul Hanum, 2013). Another pressing problem of the SPPBS is the technical issues such as outdated browser compatibility, limited bandwidth and access server that are not able to comprehend the number of users pooling in to login and key-in the data at the same time (Harakahdaily, 2013). Additionally, hierarchical pressure received by the teachers from the administration, and the administration from PPD and JPN caused the accumulated dissatisfactions towards the systems was exploded among the teachers. The rage eventually witnessed hundreds thousands of teachers supported a Facebook account named "*Kami Mahu SPPBS Dimansuhkan*" ("We Want SPBBS To Be Abolished") created to voice out their dissatisfaction and rejection of the system.

In this case, users may have found the system too difficult to use and have not been able to scale down that hurdle to user acceptance and usage of the SPPBS. The initial benefits of the system as stated by the MOE will not be obtained if the users (teachers) fail to adopt the SPPBS. Among other factors that might lead to the system's underutilization, the researcher believes that the Technology Acceptance Model will address why users accept or reject information technology and how user's acceptance is influenced by SPPBS's characteristics. The current research is also expected to further our understanding of the determinants of system usage and how these perceptions form and differ among various demographic profiles.

1.4. Research Objectives

1- To determine the factors of systems adaptation among primary school teachers in Perlis, Kedah and Penang.

2- To identify the most important factors that determines the level of systems adaptation among primary school teachers in Perlis, Kedah and Penang.

3- To investigate the moderate factors between adaptation factors & acceptance level of the systems.

1.5. Research Questions

The research attempted to answer the following research questions:

1- What are the factors that determine the system adaptations among primary school teachers?

2- What are the most important factors that determine the users' systems adaptation among primary school teachers?

3- Do age, gender and educational experience moderate the relationship between adaptation factors and acceptance level of the systems?

1.6. Significance of Study

This research will expand on previous research addressing theories on information technology adoption, in particularly of the new student assessment system - SPPBS. The results of this study may expand theoretical development and a practical perspective in the following ways:

a) This study may posit and find empirical support for a theory of how acceptance of an information system drives teachers' adoption of the SPPBS.

b) This study may identify factors that can be critical in determining teacher's acceptance of SPPBS through their positive influence on usefulness, ease of use and dependability. When teachers perceive the use of this information to be organizationally mandated, school administrators should take into account the need for training and the timely dissemination of student performance information.

c) This study also may helps the policy makers to refine and design a better system and its architectural in order to take note the need of ensuring the teachers acceptance of the system so that robust handling of student assessment data could be implemented.

1.7. Scope and Limitations

The study is targeted to the primary school teachers of Perlis, Kedah and Pulau Pinang states. Thus, the result obtained for this study is specifically focused on the Northern Peninsula, and may not be generalizable to Malaysia as a whole. The study was conducted between end of 2013 to early 2014, for which this denotes that the implementation of SPPBS has matured (3 years old) and revision on the system may have take place during the data collection, hence empirical evidence of this study may as well change.

The independent variables are perceived of use, perceived of ease and perceived of dependability of SPPBS system. The researcher intend to find the determinant factor that contribute to the technology acceptance among primary school teachers and relate the technology acceptance and their adoption of the system technology.

1.8. Definitions of Terms

1.8.1 Data, Information, and Knowledge

Data are objective facts, presented without any judgment or context. Data becomes **information** when it is categorized, analyzed, summarized, and placed in context. Information develops into **knowledge** when it is used to make comparisons, assess consequences, establish connections, and engage in a dialogue. Knowledge can be seen as information that comes laden with experience, judgment, intuition, and values. (Empson, 1999)

1.8.2　Information Technology

Information technology refers to the collection of products and services than turn data into useful, meaningful, accessible information.

1.8.3　Perceive of usefulness

Davis et al. (1989, p.985) defined perceived usefulness as "the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organizational context." In this definition, perceive of usefulnessfulness is linked to whether teachers will ultimately gain rewards from their use of SPPBS.

1.8.4　Perceive of ease of use

Davis et al. (1989, p.985) define perceived ease of use as "the degree to which the prospective users expect the target system to be free of effort." This concept will check whether it is easy for teachers to learn to interpret the student performance information, and to interact with other faculty members in a clear and understandable way. In this research, perceived ease of use was regarded as perceive of ease of use (POE) in using SPPBS.

1.8.5 Perceive of Dependability

Perceive of dependability in this research refers to the reliability and maintainability of the system in handling the task and solve related problem in assessment among the teachers. Literally, dependable can be defined as trustworthy and reliable.

1.8.6 SPPBS

SPPBS is an acronym for "*Sistem Pengurusan Pentaksiran Berasaskan Sekolah*" or literally known as the School-Based Assessment Management System. From the guideline provided by Ministry of Education,SPPBS is the application system developed by the MOE to record and keeps track of student proficiency in PBS and reports can be generated from student performance SPPBS applications.

1.9. Organization of Thesis

The study comprises six chapters of which the current chapter is one that involves the introduction, research background, statement of the problem, objectives of the study, research questions, scopes and limitations, significance of the study, definitions of key terms, and the organization of the study; chapter two is the literature review, chapter three is methodology, chapter four presents the research results and analysis, chapter five comprises of results discussion and the final chapter is the conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1.   Introduction

This chapter presents the literature review on information technology in general sense, the use of information technology in educational field, past research on user acceptance, also covered some of the available literature on the Technology Acceptance Model (TAM), the theoretical review, looking at the principle of TAM – the variables and extensions to the TAM. The rationale of the literature review was to discuss existing literature with the objective of revealing contributions made by earlier scholars, weaknesses and gaps in existing knowledge and lessons learnt. The sources of the literature were journals, text books and online materials by scholars and academicians.

2.2.   Information Technology

According to Sharma (2002), information technology is an amalgam of some wonderful inventions of the 20th centuryin electronics and communication. During a very short span of time it has acquired animportant place in almost all aspects of human life and particularly in the field ofeducation.Many significant factors such as continuous developments in information technologies, information exchange, increasing expectations of the society, modernmanaging perceptions and applications cause organizations all over the world to develop new applications inorder to survive (Demir, 2003, as cited in Demir, 2006). Consequently, because of their priority in

modern societies, Information Technologies havereached a state of high priority in education, too (Demir, 2006).Information technology, such as e-commerce ande-government, is changing people's life and workingways (Chen et.al, 2006).

Visscher (1996) in a study found that computers can help school managers in finding creative solutions for complex allocation problems (e.g., teacher allocation, timetable construction) and supporting them in monitoring carefully how the school operates. Using ICT in education has become widespread rapidly and even it hasbecome indispensable. Many people believe that computers make the works easier, more effective and more fun(Seferoğlu, 2002, as cited in Tosun & Baris, 2011).Therefore; the role of ICT in the development of education has been a popular research subject nowadays. Even not only education content but it has started to be dwelt on how to develop education documents, education management, school libraries and an entire education institute via ICT as well (Tosun & Baris, 2011).

In Malaysia, the use of ICT in education becomes more important as development of technology. Information Communication Technology (ICT) breakthroughs have brought challenges and opportunities in the field of education which enhances Malaysia's overall competitiveness in the global arena. According to Policy on ICT in Education (2010), various workshops with officers from relevant divisions in MOE and otherstakeholders, for example, Malaysia Administrative Modernization and ManagementPlanning Unit (MAMPU), Economic Planning Unit (EPU), Prime Minister's Department,Ministry of Science, Technology and Information (MOSTI), Ministry of Finance (MOF),Malaysian Communications and Multimedia Commission (MCMC) and focused-groupdiscussions (FGDs) with

school and education institutions' stakeholders, including theheads of schools / deputy, school administrators, teachers and students, and thecommunity including parents have been conducted to gather their input and feedback forthe formulation of the policy for ICT in education.

Being at the beginning stage of the School Management Information Systems, computerization of the schoolmanagement is the basic subject of today's school management. Principals have started to make use ofinformation systems in the gradually-increasing daily management staffs (May, 2003, as cited in Demir, 2006). According to Yuen et al. (2003), the reasons to use information systems can be stated as increasing effectiveness at work by processing information, increasing managerial effectiveness by meeting the need for information and gaining superiority in competitions by directing strategies.School Management Systems allows users to store almost all of their school's information electronically. Most importantly, this information can be easily shared with authorized users, recordscan be easily searched, and reports can be easily generated (Brumbulli et.al, 2008).

2.3. Information Communication Technology (ICT) in Education

A research report produced by Sim and Lau (2007) highlighted from the study, it would appear that future training should be designed to increase teachers' familiarity with a wider range of ICT applications, and teachers' be encouraged to reflect on, and make decisions about their own ICT development needs on ongoing basis. Lau and Sim (2008) in a study found that, it would appear that mechanisms need to be put in place to ensure that teachers utilize computer technology for further

development and communication, and training need to be designed to increase teachers' familiarity with a wider range of ICT applications.Hence,elements of change management, Business Process Re-engineering (BPR), riskmanagement and crisis management are also suggested as part of the policy measures toenhance the integration of ICT in Education in Malaysia (Policy on ICT in education, 2010). Krish and Noraza (2007) highlighted that Information Communication Technology (ICT) breakthroughs have brought challenges andopportunities in the field of education which enhances Malaysia's overallcompetitiveness in the global arena.

2.4. User Acceptance

User acceptance was identified as "the demonstrable willingness within a user group to employ technology for the tasks it is designed to support" (Dillion & Morris, 1996). User acceptance of information technology - a phenomenon which is not yet well understood - and usage are unquestionably crucial factors in the ultimate determination of information system success, since information systems that are not used are of little value (Mathieson et al., 2001).An individual's acceptance of a system is influenced by its accuracy in representing the phenomenon of interest (Janis et al., 2010).

It is important to study the acceptance among users for identifying whether the technology is successful to use or not. Hence, software tools can only be effective if users accept them.Investigating user acceptance requires a model explainingpeople's attitudes and behaviour as well as reliable andvalid measurement instruments(Laitenberger & Dreyer, 1998). Atife and Ozkan (2009) in a study found

that,in order to increase user acceptancein an organization first of all organization have to createappropriate environment to support and encourage the usersto use the IS throughout their work.Investigating user acceptance requires a model explainingpeople's attitudes and behaviour as well as reliable andvalid measurement instruments (Laitenberger & Dreyer, 1998). Assessing the success of Information Systems (ISs) has been identified as one of the most critical issues in IS field (Al-adaileh, 2009).

According to Chen et.al (2008), in the research of individual acceptance behaviour on information technology/information system (IT/IS), manyscholars gave different model. Such as Theory of Reasoned Action(TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM,TAM2), Decomposed theory of Planned Behavior, Unified Theory of Acceptance and Use of Technology (UTAUT).The TAM is a technology adoption model that considers user acceptance of information systems (Mandy & Asarnusch, n.d.). The dominant model, in the IT domain, is the Technology Acceptance Model (TAM) (Davis, 1989), which contends that behavioural intention to use an IS is contingent on two salient beliefs, namely perceived usefulness and ease of use. TAM has been widely applied to understand the attitude one holds about the use of technology, which is used to predict the adoption and use of IT (Bugembe, 2010.).

Phuangthong and Malisuwan (2008) in a study found that, in the past decades, a number of studies have provided some theoretical frameworks for research in the acceptance of information technology and information system (IT/IS) (i.e. Ajzen, 1991: 181; Davis, 1989: 319; Mathieson, 1991: 173; Moore, 1987: 214;

Taylor and Todd, 1995: 144). It is part of the picture that technology acceptance research is a mature field in information systems research (Venkatesh et al., 2003). There have been a number of studies applied to understand end-user technology acceptance. Among the studies that have been proposed and examined, the Technology Acceptance Model (TAM), originated by Davis (1989: 319), appears to be the most promising, parsimonious, and influential in explaining IT/IS adoption behaviour (Phuangthong and Malisuwan , 2008).

According to Davis et al. (1989), to predict, explain and increase user acceptance, organizations need to betterunderstand why people accept or reject IS/IT. TAM is one of the most influential models widely used in the studies of the determinant of IS/IT acceptance (Ramayah& Muhamad, n.d.).Technology acceptance model (TAM) is generally considered as the most influential and common theory in information systems field (Lee et al., 2003). The most widely employed model of information technologies adoption and use is the technology acceptance model (Venkatesh &Bala, 2008).

As cited by Ramayah and Jantan (n.d.), in the education sector Ramayah et al. (2003c) tested the TAM incorporating motivational variables toexplain Internet usage among students of institutions of higher learning. Ramayah and Aafaqi (2004, as cited in Ramayah & Jantan, n.d.),Ramayah et al. (2004a, as cited in Ramayah & Jantan, n.d.) expanded the use of TAM in predicting e-library usage with the aid of self-efficacy.Whereas Ramayah et al. (2004b, as cited in Ramayah & Jantan, n.d.) used the TAM model to explain PC (Personal Computer) useamong students of a private institution of higher learning.As cited by Johnson (2005), TAM has been

used primarily to explain the usage of information technology (Ma and Liu 2004), for example, it was employed to study user acceptance of microcomputers (Igbaria et al., 1989), the World Wide Web (Lederer et al., 2000), software, and decision support systems (Morris & Dillon, 1997).

2.5.   Teachers Acceptance towards PBS

The research by Ting and Woo (2005) found that attitude towards computer is one of the three factors that contributed to teachers acceptance towards the use of computer apart from computer characteristics factor and important critical policies to the acceptance of computer usage.

Previously, Abdul Shukor (1991) highlighted that the success or failure of a school is dependent on the role of school leader and administrative of the school principal. School principal or headmaster is the school's leaders who often referred as "the gatekeeper of change". Their role is not as easy as anyone would think of, for they are the key to changes; one of the most outstanding and commonly occurred indicator in implementing the changes in education beside from the "wrong perception", is "misinterpretation" regarding on what does it means by "change" (Fullan & Stiegelbauer, 1991).

According to Moersch (1995), a teacher will move from one stage to another stage based on the use of technology in teaching and learning (P&P). The increase of technology acceptance in teaching lead to higher level of achievement among the teachers and the norm of teacher-based teaching will eventually change to student-based teaching. Afifah Hamdzah (2005) also found that there were several other factors influencing the computer acceptance such as the encouragement from the

school administration, provision of adequate computer facilities and support from colleagues.

2.6. Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is use as a model to study the acceptance of IT. It was usedto analyze and understand the factors that influence the acceptance towards the use of computer technology within an organization, firstly introduced by Fred Davis in the year of 1989. TAM was the expansion product from Theory of Reasoned Action (TRA), which was initially introduced by Fishbein and Ajzen in 1975. TAM is a model that was used to reason the cause and effect between confidence (the use of computer technology and the ease of use) and attitude (purpose or needs).

Van der Heijden (2003) described the TAM as a parsimonious, theoretically and empirically justified model intended to explain the acceptance of information systems.TAM posits that user adoption of a new informationtechnology is determined by the users'intention to usethe system, which in turn is determined by the users'beliefs about the system (Hamza, Young & Aymen, 2011, as cited in Al-Fahim, 2012).Based on Atife and Ozkan (2009), Technology Acceptance Model is one of the best ways to understand the behavioural intention of people and their attitudes toward using an "Information and Communication Technologies" (ICT).

TAM and many empirical studies offer good theoretical base and method for examining the factors contributing to individual acceptance behaviour in IT/IS (Chen

et.al, 2008).In the individual's adoption areas the Technology Acceptance Model (TAM) by Davis has been widely used. The TAM is an information systems (IS) model developed to predict the adoption and use of an IS (Moghadam & Bairamzadeh, 2009).The goal of the TAM is to provide an explanation of the determinants of technology acceptance. TAM posits that two particular user beliefs, usefulness and ease of use, are of primary relevance for technology acceptance behaviour, which is an important requirement for actual technology usage(Laitenberger & Dreyer, 1998).

Since its introduction TAM has enjoyed increasingly wide acceptance and has proven to be a reasonably accurate predictor of both users' intentions to use an information technology and of their system usage (Money & Turner, 2005). The decision to use the technology acceptance model was based on it being easier to apply and it having a slight empirical advantage (Vaidyanathan, Sabbaghi & Bargellini, 2005). Yuan Gao states that "technology acceptance models can serve the purpose of evaluating competing products such as text books and technology systems" and provide a valuable tool to educators (El-Gayar & Moran, 2007).

The research of Gong, Xu, and Yu (2004) studied resistance to educational technology using the TAM by measuring teachers' technology acceptance using an expanded TAM that included computer self-efficacy as a behavioural construct.Smith (2006) used a modified version of the TAM to investigate the relationship between teachers' acceptance of an online teacher professional-development course and their continuance intentions regarding online development.

Based on Ramayah and Janta (n.d), the Technology Acceptance Model (TAM) pioneered by Davis (1989) advances the TRA by postulating that perceived usefulness (PU) and perceived ease of use (PEU) are key determinants that inevitably lead to the actual usage of a particular technology or system. Perceived usefulness is defined as "the degree to which an individual believes that using a particular system would enhance his or her productivity" while perceived ease of use is defined as "the degree an individual believes that using a particular system would be free of effort" (Davis, 1989).

As cited by Porter & Donthu (2006), the technology acceptance model (TAM) suggests that perceived usefulness and perceived ease of use are beliefs about a new technology that influence an individual's attitude toward and use of that technology (Davis et al., 1989).TAM provides a foundation for measuring beliefs and attitudes that may predict future behaviours(Hubona & Burton-Jones, 2002, as cited in Slatten, 2010). The research of Alkis and Ozkan (2010) studied TAM takes the linkages between belief, attitude, intention and behaviour. TAM mainly presents two important variables that affect the intention of user towards usage of computer related systems or applications which are "perceived ease of use" and "perceived usefulness". TAM tries to explain the relations between perceived ease of use, perceived usefulness, user attitudes, behavioural intention and actual system use.

As cited by Chesney (2006), perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320). Perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort"

(Davis, 1989, p. 320). According to Ku (2009), Davis assumed these two beliefs influence users' attitude toward using the system, therefore, perceived usefulness and perceived ease of use were hypothesized to have direct effects on the individual's attitude toward using the system, while perceived ease of use was also hypothesized to have a direct impact on perceived usefulness.

Attitude toward Using in TAM as a concept of attitude is the assessment statement or judgement towards the object, people or event (Robbins, 2001). This can be observed from one's attitude towards the system usage in the form of acceptance or rejection when they use a certain technology in their job or workplace. In other words, attitudes toward using the system and perceived usefulness were hypothesized to predict behavioural intention to use, and the actual system use then hypothesized to be directly impacted by the behavioural intention to use. Figure 2.1 shows the Technology Acceptance Model (TAM) have four important key to evaluate the user acceptance which are perceived usefulness (U), perceived ease of use (E), attitude toward using (A) and behavioural intention to use (BI).

The use of technology should be fully utilized by teachers and users effectively so that PBS can be accepted and mastered by teachers and students in the implementation of PBS. The use of technology in PBS can help teachers to work effectively and efficiently implementing the PBS without any problem in making the student's assessment. Past research has reported the importance of PBS in enhancing the student's learning process (Rohaya, 2009). Nonetheless, the effectiveness is dependent on attitude, orientation and teacher's philosophy towards their students in teaching and learning process. Black and William (1998) in their report emphasized that teacher's assessment is an important criteria in enriching the learning experience to achieve high quality of education level.
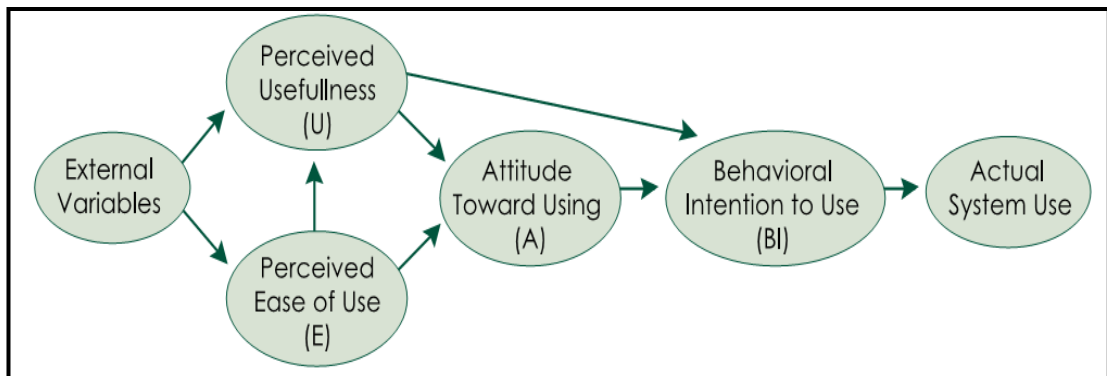
Figure 2.1: The Technology Acceptance Model (Adapted from Slatten, 2010)

2.7.   Individual Differences

The term individual differences can be interpreted most generally to connote dissimilarities among people including differences in perceptions and behaviours, traits and personality characteristics, and variables that connote differences attributable to circumstances such as education and experience.

Reviewing and synthesizing the research literature on IT implementation and use, Zmud (1979) notes that individual differences can be categorized into three classes: (1) cognitive style, the mode of functioning shown by an individual in his or her perceptual and thinking behaviour; (2) personality, the cognitive and affective structures maintained by individuals to facilitate adjustments to events, people, and situations encountered; and (3) demographic/situational variables, such as sex, age, experience, education, and professional orientation (p.95). Studies have shown that individual differences (e.g. gender, age, education, and professional orientation) play

an important role in the how information technology is used (Zmud, 1979). In an analysis of diffusion research, Rogers (1995) found that early adopters of an innovation had higher socioeconomic statusthan later adopters. Status was typically indicated by such variables as income, education and occupational prestige.

Among various individual differences, the constructs of 'self-efficacy' and "personal innovativeness' have been identified with strong theoretical underpinnings. Self-efficacy refers to individual's beliefs about their ability and motivation to perform specific tasks (Bandura, 1977, 1986). In the domain of information technology, studies of the effects of self-efficacy collectively point to its crucial role in determining individual behaviour toward and performance using information technologies (Compeau & Higgins, 1995, Gist, Schwoerer, & Rosen, 1989). According to Agarwal and Prasad (1998), personal innovativeness in the domain of information technology is defined as "the willingness of an individual to try out any new information technology (p. 206)." Empirical results suggest that personal innovativeness moderates the relationship between beliefs and intentions. Other research has examined individual difference variables such as user involvement (Jackson et al., 1997), training (Compeau & Higgins, 1995; Venkatesh & Davis, 1996), and prior experience (Thompson et al., 1994).

2.7.1. Gender Difference in Technology Acceptance

There have been findings showing that gender differences in computer acceptance are prevailing.Young (2000) found significant gender differencesin

computer attitudes of 462 middle and high schoolstudents. The male domain scale showed that boyswere more likely to have claimed computers as amale area. Thus, higher levels of confidence and, formales, the absence of negative teacher attitudeswere associated with greater computer skills. UsingTAM as the theoretical framework, Venkatesh &Morris (2000) found that, compared to women, menplaced a greater emphasis on perceived usefulnessin determining behavioural intention. On the otherhand, women weighted perceived ease of use morestrongly in determining behavioural intention thanmen did at earlier time frame.

There were some other empirical studies showed that gender differences in information technology acceptance do exist. Yuen and Ma (2002) found significant gender differences in beliefs while applying the technology acceptance model to a group of pre-service teachers; Houtz and Gupta (2001) found that males generally are more interested in information technology. In a much earlier study by Gattiker and Nelligan (1988), they suggested that there is an association between gender and attitudes of information technology.

On the other hand, interestingly, in their study of Australian Women in IT, Hellens and Nielsen (2001) indicated gender and IT were socially constructed as they suggested that cultural differences might be more important than gender alone, "Women of Asian background significantly outnumber all other ethnic female students in Australian IT degree studies" (p.48).Gefen and Straub (1997) reported that women showed higher values of perceived usefulness, while men were found to report a higher ease of use with computers. In another previous research, Busch, 1996 showed that women usually report lower levels of computer-related self-efficacy and a higher computer anxiety, as well as a lower subjective technical

confidence when using technical devices such as computer system (Ziefle et al., 2004).

2.7.1. *Age differences in Technology Acceptance*

The factor user's age plays an important role in the explanation of variability in system acceptance and performance. Research concordantly demonstrated that older adults express lower levels of technology acceptance and that they were more hesitantly adopt new technologies (Melenhorst et al., 2001). Moreover, especially older users with restricted levels of technical experience or computer knowledge and age-related declines cognitive abilities (spatial and memory abilities) face greater difficulties in acquiring ICT skills and successfully interacting with ICT devices and perceive higher usability and acceptance (Kelley & Charness, 1995). Apart from that, restricted self-confidence to use technical devices also exerted negative effects on technology acceptance (Levine & Donitsa-Schmidt, 1998).

Zajicek and Hall (2000) stated that perceived usefulness of a technology is lower in older adults, because they weigh the perceived usefulness against the time to learn how to operate the system.With regard the performance when using a device, previous studies congruently showed that older users usually have greater difficulties in handling a computer device or in the acquisition of computer skills (Goodman, Gray, Khammampad & Brewster, 2004). However, the knowledge about the influence of age on the estimation of perceived of use and perceived of ease as well as its relation to adoption is limited.

2.8   Theoretical Framework

The theoretical framework for this research is illustrated as in Figure 2.2. The purpose of the study is to determine the relationship between the levels of SPPBS acceptance among the primary school teachers with their SPPBS adoption level.

In this study, the model of Relationship among Traits, Perception and Adoption developed by Ndubisi, (2007) has been adopted as the most appropriate model in measuring the adoption technology or systems in social science research. The instrument of TAM also used in order to understand the role of perceptions such as usefulness and ease of use in determining technology adoption (Ndubisi, 2007).

In TAM theories, external variables influence behavioural intention to use and actual usage of technologies, indirectly through their influence on perceived usefulness and perceived ease of use. As refer to Ndubisi, (2001, 2007), the adoption of TAM model has been modified into his framework in order to examine teachers acceptance in technology adoption.

Based on the TAM, which has been reproduced in many previous researches such as illustrated in Slatten (2010), the technology acceptance was measured using the level of perceive of usefulness and perceive of ease of use by the users towards the technology. In addition to these two measurements, additional measurement of perceive of dependability was included in this study. Therefore the theoretical framework that relates the association between the independent variables (i.e., perceive of usefulness, perceive of ease of use and perceive of dependability) and dependent variable (SPPBS adaptation) is illustrated as following:
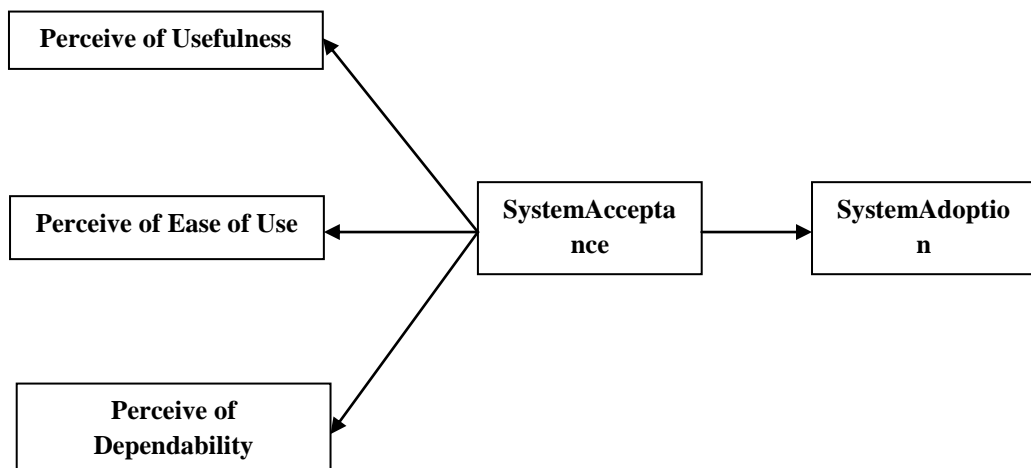
Figure 2.2: Theoretical framework

2.9   Hypotheses

Based on the literature, it can be hypothesized that positive level of perceive of usefulness and perceive of ease of use is related to positive level of technology acceptance. Therefore, it can be deduced that acceptance of technology leads to significant adoption of the technology. Hence, in this study several hypotheses have been developed in order to study the relationship between the technology acceptance factor and SPPBS adoption among the primary school teachers, such as following:

Hypothesis 1:

Ho1:   There is no significant relationship between perceive of usefulness of SPPBS and SPPBS adaptation.

Ha1:   There is significant relationship between perceive of usefulness of SPPBS and SPPBS adaptation.

Hypothesis 2:

Ho1:   There is no significant relationship between perceive of ease of use of SPPBS and SPPBS adaptation.

Ha1:   There is significant relationship between perceive of ease of use of SPPBS and SPPBS adaptation.

Hypothesis 3:

Ho1:   There is no significant relationship between perceive of dependability of SPPBS and SPPBS adaptation.

Ha1:   There is significant relationship between perceive of dependability of SPPBS and SPPBS adaptation.

2.10   Summary

This chapter had presented a review of literature that focused on the factors of technology acceptance – perceive of usefulness and perceive of ease of use. The effect of gender and age difference on technology acceptance was also reviewed. Based on the review, theoretical framework was developed and three hypotheseswere utilized in this study. The following chapter describes in the detail the procedures and methodology that were used for data collection and analysis in this investigation.

CHAPTER THREE

METHODOLOGY

3.1.   Introduction

This chapter discusses the methodology of this study that deals with research design, data collection, explanation of the development of survey questionnaire, sampling design that also describe on data analysis technique that used as well as the measurement of the variable.

3.2.   Research Design

This study is shifted by the fact of new systems complied by the Ministry of Education in introducing the new technology to the teachers. As for that matter, a quantitative cross-sectional research was employed to gather data for this study. This study also describes the adoption of usage by offering a profile of the factors (Independent Variable) such as perceive of usefulness, perceive ease of use and dependability. Besides, the dependent variable of this study is described as the acceptance level of the systems among primary school teachers. The mediating variables also occupied in this study to see the different effect on dependent variable. Mediating variables involve age, gender and educational experience.

The research design used a surveyed using structured questionnaire. Basically, this design of questionnaires adopted the approach design by Davis, et

al.(1989). It is widely used by many researchers such as Davis and Venkatesh (1996); Igbaria, et al. (1997); Ndubisi, et al. (2003). However, in this study, there is a modification made to capture the hypothesis effect of adoption factors.

This study also used a quantitative studies which focusing on the primary school teacher who will use the systems to place students' score systematically. According to Sekaran, (2003), quantitative data are standard, simple analysis, systematic and easy to analysis in a short time. Data obtained from questionnaire that is distributed to respondents consisting of teachers in Northern areas. As refer to Sekaran, (2003), questionnaire will introduce the research topic and will motivate respondents to give their frankly answers.

3.2.1. *Model Selection*

In this study, the model develop by Ndubisi, (2007) has been adopted. The model known as Relationships among Traits, Perception and Adoption is considered the most appropriate model in measuring the adoption technology or systems in social science research. The instrument of TAM also used in order to understand the role of perceptions such as usefulness and ease of use in determining technology adoption (Ndubisi, 2007).

In TAM theories, external variables influence behavioral intention to use and actual usage of technologies, indirectly through their influence on perceived usefulness and perceived ease of use. As refer to Ndubisi, (2001, 2007), the adoption of TAM model has been modified into his framework in order to examine teachers acceptance in technology adoption.

3.3. Data Collection Method

To gather information that pertains to the above objective, the primary data will be collected through survey method. As for that matter, the relevant and suitable questionnaire is developed as the main instrument. Self- administered questionnaire also is selected due to its advantages. Through this method, researcher will be able to make clear the aim of the study and the important of this research to the university as a whole. By doing this method, researcher also will able to encourage the respondent to take part in the survey as well as to motivate them to give their honest opinions at the same time used to explain at the spot term or part of the questions which the respondents could not understand and to collect the completed responses within a short period time.

3.4. The Sampling Design

The population for this study is the teachers around Kedah, Perlis and Pulau Pinang. The teachers involved are the teachers in primary school. The sampling frame was obtained from Jabatan Pendidikan Negeri Kedah, Jabatan Pendidikan Perlis and Jabatan Pendidikan Pulau Pinang. A sample population is sufficient to study a population since it is able to draw conclusion that would be generalized to the population of interest (Sekaran, 2003)

3.4.1. The Sample and Sampling Technique

In this study, the purposive sampling technique will be utilized. Sekaran (2003) mentioned that the purposive sampling used to confine the specific types of people who can provide the desired information. The sample population to be obtained is subjected to a set of criteria that consist of the primary school teacher who experiencing SPPBS usage especially in Kedah, Perlis and Pulau Pinang states.

3.4.2. *The Population and Sampling Frame*

Sampling is the process of selecting sufficient number of elements from the population so that by studying the sample and comprehend the characteristics of sample subjects, it will generalize the same characteristics to the population elements. The sample of population must be sufficient to study a population and must able to draw conclusions that generalize to the population of interest. (Sekaran, 2003).

The number of sample size required in this study was obtained by referring to the widely used table of sample size by Krejcie and Morgan (1970).They developed the table based on scientific method of calculating sample size using the following formula:

$$S = X^2 NP\ (1\text{-}P) / d2\ (N\text{-}1) + X2P\ (1\text{-}P) \qquad (1)$$

Where,

S = the required sample size

X^2 = the table value of chi-square for 1 degree of freedom at the confidence level of 3.841

N = the population size

P = population proportion assumed to be 0.50 which provides the maximum sample size

D = the degree of accuracy expressed. In this study, 0.05 was used.

Based on the social statistics published by the Department of Statistics Malaysia (DOSM), the number of primary school's teachers in Kedah were 17, 447 people, Penang 10, 913 people, and Perlis 2,434 people (DOSM, 2012). Thus, the number of target population in this study was 30, 794 primary school's teachers. Referring to the table of sample size for the population size of 30, 000, the adequate number of sample size was 379 teachers.

The primary school teachers can be explained as the teachers who teach year 1, until year 6 of primary school that involve with the implementation of Kurikulum Standard Sekolah Rendah (KSSR). This KSSR has been introduced by Ministry of Education in 2011. For the time being only year 1, 2 and 3 teachers directly involve with the new curriculum and it will affect year 4 teachers in next year and so on.

3.5.   Questionnaire Design

A questionnaire design is an integral part of the research project and was chosen as the method of conducting survey. A set of question has been designed and

it comprises two (2) main sections. Section A is design to ask about the demographic of respondents whereas for section 2, it is designed to ask about the usage of SPPBS. In Section B, the questions is asking about perceive of usefulness, perceive of ease of use, dependability and the adoption level of Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS). In total, there are 26 questions have been developed.

Table 3.1: Questionnaire Structure

Dimension	No. of Questions
Section A: Demographics	4
Section B: Usage of SPPBS - Perceive of usefulness	6
- Perceive of ease of use	7
- Dependability	6
- SPPBS's Adoption	3
Total Questions	26

The main form of data collection in this research is questionnaire. Together with questionnaire is a covering letter. Covering letter is used to explain the purpose of research, confidentiality assured of their response and the instructions on how to complete the answers. As mentioned earlier, the questionnaire of this research consists of 2 main sections namely Section A and Section B.

Section A is related to demographic measurement while Section B asked about the dimension of the usage of SPPBS among primary school teachers. In this Section A, respondent were asked about the demographic profiles that includes age,

gender, education level, working experiences and broadband subscriber. The second part which is Section B consists of 26 questions. The whole questions were based on the dimension of the technology usage among teachers as a keystone. This section was divided into three categorized namely Perceive of usefulness, Perceive of ease of use, Dependability and SPPBS's adoption.

The first dimensions of Section B, Perceive of usefulness contains six (6) questions. However the second dimension, Perceive of ease of use consists of seven (7) questions. Follow by was, the third dimension Dependability. In dependability, six (6) questions were designed. Last dimension was the adoption of SPPBS that contains 3 questions. All the questions designed were adopted from Ndubisi, (2007) except the demographic dimension. All those questions were modified accordingly to meet the research objectives.

3.5.1 *Administrative of the Field Study*

The actual field study will be conducted after the questionnaire is verified. It is estimated to take about 4 weeks time to complete. The researcher will personally collect the data to develop sense of commitment and encouraged respondent to give the feedback within the time frame. For the purpose of better understanding, a set of English-Malay questionnaire is made available to the respondents.

3.6. Data Collection

The survey questionnaire was uploaded into Google Docs application and the link of the document was distributed to the primary school teachers in random in

three states – Perlis, Kedah and Penang.Based on the statistics of primary school teachers in service within Perlis, Kedah and Penang states obtained from the statistics published by Department of Statistics Malaysia (DOSM, 2012), a total of 379 respondents were required to obtain a reliable sample for this research. Therefore, the process of sending out the document link via email and school's website or blog was repeated several times with different schools across three states until the number of returned and fully answered questionnaire reach the required number. The data collected was then being analyzed.

3.7. Data Analysis

There are two types of analysis used in this research: (i) descriptive analysis and (ii) inferential analysis. The data analysis was conducted using IBM SPSS (Statistical Package for Social Science) version 20.

3.7.1 Descriptive Analysis

Descriptive analysis was used to convert the profiles of both the respondents and the firms into numerical representation. The data was represented by frequency, percentage, mean and standard deviation. Besides, in order to measure the level of agreement as perceived by the respondents, level analysis based on mean value was conducted. Table 3.2 shows the range of mean value to determine the level of respondents' agreement.

Table 3.2: Range of mean value to determine the level of respondents' agreement

Range	Level

1.00 – 2.33	Low
2.34 – 3.67	Medium
3.68 – 5.00	High

3.7.2 One-way ANOVA

One-way ANOVA was utilized to measure the significant difference of each independent variable between the gender groups, age groups, educational qualification groups and subscribers groups among the teachers.

3.8 Hypothesis Testing

3.8.1 Pearson's Correlation

Correlation is a relationship measure among different parties or factors and the strength and direction of the relationship. In this research it was used to show the degree of agreement between the technology acceptance factors and SPPBS adoption among the primary school teachers. Germano (2009) stated that there are certain degrees of measurement for the correlation, such as following:

Degree of Correlation:

1) **Perfect correlation:** If Pearson's correlation coefficient value is near ± 1

2) **High degree of correlation:** If Pearson's correlation coefficient value lies between ± 0.75 and ± 1.

3) **Moderate degree of correlation:** If Pearson's correlation coefficient value lies between ± 0.25 and ± 0.75.

4) Low degree of correlation: When Pearson's correlation coefficient value lies between 0 and ± 0.25.

3.9.2 Multiple Regression Analysis

Multiple regressions generally explain the relationship between multiple independent or multiple predictor variables and one dependent variable. In multiple regressions, a dependent variable will be a model for a function of several independent variables with corresponding multiple regression coefficients, along with the constant term. It is called multiple regressions because it requires two or more predictor variables (Germano, 2009). In this study, 1 multiple regression analysis was used to find the predictor factor of the SPPBS adoption as perceived by the primary school teachers..

3.10 Summary

Overall, this chapter discussed the main method utilized in data collection, the instrument's construct and analysis method. The instrument items were constructed based on the review of literature. The data was collected using survey questionnaire.

The analysis was done using SPSS software. Subsequent chapter presents the result

obtained from the analysis and discussions accordingly

CHAPTER FOUR

RESULTS AND ANALYSIS

4.1.   Introduction

This chapter presents the results of the data analysis. This study aims to achieve the research objectives as well as answers the research questions that highlighted in chapter one. Data were analyzed by using descriptive statistics (frequencies and means) and one way-ANOVA, correlation and regression were used to test the hypotheses made in chapter two.

4.2   Sample Characteristics

A set of 400 questionnaires were distributed to the respondents through Google Docs application, whom consist of teachers from the primary schools around Kedah, Perlis and Pulau Pinang. Three weeks gap has been given in order to obtain the response from the respondents. From 400 set of questionnaires distributed, there were 399 respondents returned the questionnaires. However, 2 of the questionnaires were not fully answered and thus discarded from the analysis. Table 4.1 summarized the response rate obtained in this study.

Table 4.1: Response Rate

	Total	Percentage, %
Questionnaire distributed	400	100

Collected questionnaires	399	99.75
Usable questionnaires	397	99.25
Discarded questionnaires	2	0.50
Uncollected questionnaires	1	0.25

4.3   Descriptive Statistics of Respondents Information

Based on the descriptive statistical analysis, a total of 136 (35.9%) respondents were male teachers, whereby 243 (64.1%) of the respondents were female teachers. The results of the conducted survey demonstrated that there were a balance proportion between teachers of age range 21-30 (41.7%) and 31-40 (43.0%) years old. Teachers with the age range of 41 – 50 constituted of 50 (13.2%) respondents, while the least number of teachers are from the age range of 51-60 years old with only 8 (2.1%) respondents.

Majority of the respondents have tertiary educational qualification, 307 (81.0%) of the respondent were Bachelor degree's holder, 46 (12.1%) respondents were diploma holder, and 17 (4.5%) have Master degree. There were 3 (0.8%) of the respondents were SRP and STPM graduate, respectively. 2 (0.5%) respondents were SPM graduate and 1 (0.3%) respondent was a doctorate graduate (PhD). Majority of the respondents, with 352 (92.9%) of them were broadband or wireless (internet) subscribers, while the remaining 27 (7.1%) respondents did not subscribe to any internet service. Table 4.2 summarize the respondent's demographic profiles and information.

Table 4.2: Respondent's demographic profile and information

Demographic Information		Frequency	Percentage, %
Gender	Male	136	35.9
	Female	243	64.1
Age	21-30	158	41.7
	31-40	163	43.0
	41-50	50	13.2
	51-60	8	2.1
Highest Education	PMR/SRP	3	0.8
Qualification	SPM	2	0.5
	STPM	3	0.8
	Bachelor Degree	307	81.0
	Diploma	46	12.1
	Master Degree	17	4.5
	PhD	1	0.3
Broadband or	Yes	352	92.9
Wireless	No	27	7.1
Subscriber			

4.4. Descriptive Statistics of Variables

Tables 4.3to Table 4.4 provide the mean and standard deviation scores of independent variables and dependent variables employed in this study. In the survey questionnaires, the respondents were asked to rate the five dimensions on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Overall, the

mean scores for the system acceptance factors demonstrated low to moderate mean values which ranged from 1.36 to 2.42. Meanwhile, the overall mean score for system adoption items havehigh mean values which ranged from 4.01 to 4.18.

4.4.1 Perceive of Usefulness

As tabulated in table 4.3, all the items have means between 1.36 and 1.58, indicating low level of perceive of usefulness of the SPPBS among the primary school teachers. Among these lowly perceived items, item BPU 10, "SPPBS enable teacher to accomplish task more quickly"has the least mean value, indicating that the respondents regards the use of SPPBS has slowing down their task accomplishment. Although item BPU6, "using SPPBS gives teachers greater control over their work" received the highest mean (M = 1.58, SD = 0.929) among the other items, yet it is still fall at the range of low perception among the teachers. This indicates that the primary schoolteachers do not perceive that the SPPBS is useful in assisting the teachers to have greater control over their work.

Table 4.3: Mean and standard deviation of items measuring perceive of usefulness

Items	Mean	Standard Deviation	Level
BPU- Teacher's job would be difficult	1.50	1.009	Low

without SPPBS			
BPU6- Using SPPBS gives teachers greater control over their work	1.58	0.929	Low
BPU7- Using SPPBS improves the quality of teacher's work	1.56	0.948	Low
BPU8- Using SPPBS makes teachers job easier	1.44	0.872	Low
BPU9- Overall, the SPPBS is useful for teachers	1.45	0.878	Low
BPU10- SPPBS enable teacher to accomplish task more quickly	1.36	0.815	Low

4.4.2 Perceive of Ease of Use

Overall, the respondent's perceive of ease of use level towards SPPBS were at low level (mean value ranging from 1.65 to 2.31), and only BPE14 stating "it is easy to become skilful in using SPPBS" obtained the moderate level (M = 2.42, SD = 1.333) for perceive of ease of use towards SPPBS. Table 4.4 summarized the mean and standard deviation of items measuring perceive of ease of use.

Table 4.4: Mean and standard deviation of items measuring perceive of ease of use

Items	Mean	Standard Deviation	Level

BPE11- Frequent errors are not common when using SPPBS	1.73	0.989	Low
BPE12- I rarely need help when using SPPBS	2.22	1.319	Low
BPE13- It is easy to use SPPBS to do what I need them to do	1.65	0.994	Low
BPE14- It is easy to become skillful in using SPPBS	2.42	1.333	Moderate
BPE15- Learning to operate SPPBS is easy	2.31	1.301	Low
BPE16- The results of using SPPBS are apparent	1.85	1.157	Low
BPE17- SPPBS is easy to use	1.73	1.092	Low

4.4.3 Perceive of Dependability

In overall, there is a low level of respondent's perception level towards SPPBS dependability.This indicates a low perception among the teachers regarding the dependability of SPPBS in accomplishing the required task. Among the items, item BPD20, "SPPBS provides their service for teachers at the time it promises to do so" has the lowest level of mean value (M = 1.38, SD = 0.775) as perceived by the respondents. This implied that SPPBS does not deliver its service timely according to the service promises. Table 4.4 represented the mean and standard deviation of items measuring perceive of dependability.

Table 4.5: Mean and standard deviation of items measuring perceive of dependability

Items	Mean	Standard Deviation	Level
BPD18- When teachers have problems, SPPBS will help teachers solving it	1.48	0.892	Low
BPD19- SPPBS provides the good service for the first time users	1.51	0.895	Low
BPD20- SPPBS provides their service for teachers at the time it promises to do so	1.38	0.775	Low
BPD21- Teachers believe handling the SPPBS are reliable and trouble free for data collection	1.47	0.895	Low
BPD22- Teachers believe SPPBS is dependable systems for that data collection	1.56	0.939	Low
BPD23- Teachers believe handling computer is available for education systems to use for accurate data collection at any times	1.56	0.939	Low

4.4.4 SPPBS Adoption

Table 4.6 indicates the mean and standard deviation of the items measuring SPPBS adoption. The results shows that there is high level of SPPBS adoption among the teachers where the mean value of its items ranging from 4.01 to 4.18. The

items BAU24 "knowledge about SPPBS" scored the highest mean value (M = 4.18, SD = 0.897).

Table 4.6: Mean and standard deviation of items measuring SPPBS adoption

Items	Mean	Standard Deviation	Level
BAU24- Knowledge about SPPBS	4.18	0.897	High
BAU25- Frequency of using SPPBS	4.01	1.274	High
BAU26- Experience of using SPPBS	4.11	1.061	High

4.5　Factor Analysis

Factor analysis attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance that is observed in a much larger number of manifest variables (SPSS Statistics Base User's Guide 17.0, 2007). In this study, all the factor items were included in the factor analysis. A principal component analysis was conducted on a total of 19 items with varimax rotation. Bartlett's test of of spericity is statistically significant at $p < 0.05$ level and the Kaiser-Meyer-Olkin value is 0.946, which is good for this analysis and falls into the acceptable range of above 0.6, as tabularized in Table 4.7.

Table 4.7: Kaiser-Meyer-Olkin and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.946
	Approx. Chi-Square	5874.929
Bartlett's Test of Sphericity	Df	171
	Sig.	.000

Table 4.8shows that all 19 items were extractable from the analysis along with the initial eigenvalues, the percentage of variance attribution to each factor, and the cumulative of the factors. Three principal components had eigenvalues of Kaiser's criterion of 1 and in combination explained 70.87% of the variance.The items that clustered and structured in the same component were consistent with the initial conceptualization where perceive of usefulness, perceive of ease of use and perceive of dependability scale items were loaded in the same underlying dimensions.

Factor 1, which accounted for 54.722% of the variance, represented largely by perceive of usefulness with all six of its items and part of perceive of ease of use with two of its items, that are "frequent errors are not common when using SPPBS" and "It is easy to use SPPBS to do what I need them to do". This shows that in order for users to accept the technology introduced to them, the technology should focus on its usefulness with least errors and easy to use to do particulartask. Factor 2 was perceived of dependability with all of its seven items underlying the same component, which accounted for 8.85% of the variance. This indicates that system dependability is highly required by the users at the time they need the system to function and deliver the task properly. Lastly, factor 3, represented by perceive of

ease of use with five of its items accounted for 7.30% of total variance. This implied that the users are less concerns on the systems ease of use for as long as the system serve its purpose and also dependable at the time when teachers need to use it.

Table 4.8: Factors influencing the SPPBS system acceptance

Items	Factor Loadings		
	1	**2**	**3**
Perceive of Usefulness			
Overall, the SPPBS is useful for teachers	0.831		
Handling SPPBS enable teacher to accomplish task more quickly	0.823		
Using SPPBS makes teachers job easier	0.806		
Using SPPBS improves the quality of teacher's work	0.778		
Using SPPBS gives teachers greater control over their work	0.737		
Teacher's job would be difficult without SPPBS	0.706		
Perceive of Dependability			
Teachers believe SPPBS is dependable systems for that data collection		0.812	
Teachers believe handling computer is available for education systems to use for accurate data collection at any times		0.803	
Teachers believe handling the SPPBS are reliable and trouble free for data collection		0.781	
SPPBS provides their service for teachers at the time it promises to do so		0.779	
SPPBS provides the good service for the first time users		0.704	
When teachers have problems, SPPBS will help teachers solving it		0.647	

Table 4.8 (continued)

Items	Factor Loadings		
	1	**2**	**3**
Perceive of Ease of Use			
Frequent errors are not common when using SPPBS	0.543		
It is easy to use SPPBS to do what I need them to do	0.530		
It is easy to become skilful in using SPPBS			0.851
Learning to operate SPPBS is easy			0.845
I rarely need help when using SPPBS			0.708
SPPBS is easy to use			0.587
The results of using SPPBS are apparent			0.575
Eigenvalues	10.397	1.682	1.387
% of Total Variance	54.722	8.852	7.301
% Cumulative Variance	54.722	63.574	70.874

4.6.   Descriptive Statistic of Variables

Among the three elements of system acceptance factors, perceive of ease of use had the highest mean score (M = 1.99, SD = 0.915) that was followed by perceive of dependability (M = 1.49, SD = 0.758), and perceive of usefulness (M = 1.48, SD = 0.779). However, the mean value for each of the three factor elements are still fall in the low range, indicated that the users have low acceptance towards SPPBS. Surprisingly, the SPPBS system adoption among the teachers is at high level (M = 4.10, SD = 0.922) despite the low level of the system acceptance. Table 4.13 below shows the descriptive statistics for four variables in this study.

Table 4.9: Descriptive statistics of variables

	Means	SD
Perceive of usefulness	1.48	0.779
Perceive of ease of use	1.99	0.915
Perceive of dependability	1.49	0.758
SPPBS Adoption	4.10	0.922

4.7   One-way ANOVA for Variables

4.7.1   SPPBS Acceptance

The results of ANOVA are shown in table 4.10. In the case of gender, the F value is 1.026. This F value is insignificant at the level 0.428. This indicates that there is no significant difference in the mean of gender towards the SPPBS acceptance. Similar result is shown when the test was conducted on age factor. The F value of 0.924and is not significant at the level of 0.702. Furthermore, the highest qualification also indicates there is no significant difference at F value of1.185 and 0.122 level. Lastly, the broadband subscription status produces insignificant difference at the level of 1.000 and F = 0.487.

Table 4.10: One-Way ANOVA between gender, age, highest qualification and broadband/wireless subscriber with SPPBS acceptance

	F	Sig
Gender	1.026	0.428
Age	0.924	0.702
Highest qualification	1.185	0.122
Broadband/wireless subscriber	0.487	1.000

4.8.1   SPPBS Adoption

Theresults of ANOVA are shown in table 4.11. In the case of gender, the F value is 2.049. This F value is significant at the level 0.020. This indicates that there is significant difference in the mean of gender towards the SPPBS acceptance. Similar result is shown when the test was conducted on age factor. The F value of 0.856and is not significant at the level of 0.593. Furthermore, the highest qualification also indicates there is no significant difference at F value of1.132 and 0.333 level. Lastly, the broadband subscription status produces insignificant difference at the level of 0.685 and F = 0.765.

Table 4.11: One-Way ANOVA between gender, age, highest qualification and broadband/wireless subscriber with SPPBS adoption

	F	**Sig**
Gender	2.049	0.020
Age	0.856	0.593
Highest qualification	1.132	0.333
Broadband and wireless subscriber	0.685	0.765

4.8. Restatement of Hypotheses

Hypothesis 1:

Ho1:   There is no significant relationship between perceive of usefulness of SPPBS and SPPBS adaptation.

Ha1:   There is significant relationship between perceive of usefulness of SPPBS and SPPBS adaptation.

Hypothesis 2:

Ho1:   There is no significant relationship between perceive of ease of use of SPPBS and SPPBS adaptation.

Ha1:   There is significant relationship between perceive of ease of use of SPPBS and SPPBS adaptation.

Hypothesis 3:

Ho1:   There is no significant relationship between perceive of dependability of SPPBS and SPPBS adaptation.

Ha1:   There is significant relationship between perceive of dependability of SPPBS and SPPBS adaptation.

4.9   Hypothesis Testing

4.9.1   Correlation

Table 4.12 shows the correlation analysis result of perceive of usefulness and SPPBS system adoption. Since the variables are all interval, Pearson Correlation test was conducted. There is a significant relationship between perceive of usefulness and SPPBS adoption with a significant value of 0.010. Hence **we accept** hypothesis Ha1 and reject Ho1. In other words, perceive of usefulness and SPPBS adoption are related with a strong negative relationship (r = -0.132).

Table 4.12: Correlation between perceive of usefulness and SPPBS adoption

		Perceive of Usefulness	SPPBS Adoption
Perceive of Usefulness	Pearson Correlation	1	-.132**
	Sig. (2-tailed)		.010
	N	379	379
SPPBS Adoption	Pearson Correlation	-.132**	1
	Sig. (2-tailed)	.010	
	N	379	379

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.13 shows the correlation analysis result of perceive of ease of use and SPPBS adoption. There is no significant relationship between perceive of ease of use and SPPBS adoption with significant value 0.084. Hence, **we accept** hypothesis Ho2. In other words, perceive of ease of use and SPPBS adoption are not related with each other.

Table 4.13: Correlation between perceive of ease of use and SPPBS adoption

		SPPBS Adoption	Perceive of Ease of Use
SPPBS Adoption	Pearson Correlation	1	.089
	Sig. (2-tailed)		.084
	N	379	379
Perceive of Ease of Use	Pearson Correlation	.089	1
	Sig. (2-tailed)	.084	
	N	379	379

Table 4.14 shows the correlation between perceive of dependability and SPPBS adoption. The table proves that there is a significant relationship between perceive of dependability and SPPBS adoption with a significant 0.006. Hence **we accept** Ha3. In other words, perceive of dependability and SPPBS adoption are related with a strong negative relationship (r = -0.142).

Table 4.14: Correlation between perceive of dependability and SPPBS adoption

		SPPBS Adoption	Perceive of Dependability
SPPBS Adoption	Pearson Correlation	1	-.142[**]
	Sig. (2-tailed)		.006
	N	379	379
Perceive of Dependability	Pearson Correlation	-.142[**]	1
	Sig. (2-tailed)	.006	
	N	379	379

**. Correlation is significant at the 0.01 level (2-tailed).

4.9.2 Multiple Regressions

The results of regression the threefactors of SPPBS accceptance against SPPBS adoption can be seen in Table 4.15. The first table in the output 'Model Summary' shows the threefactor variables that are entered into the regressing model, the R = 0.328, which is the correlation of the three independent variables: perceive of usefulness, perceive of ease of use and perceive of dependability with the dependent variable: SPPBS adoption. After all the inter correlations among the three independent variables are taken into account, the R square value is 0.108. This is the explained variance. Thus, it demonstrates only 10.8% of the three variables influence the dependent variables. The F value of 15.09 is from ANOVA analysis and significant at the 0.000 level. This implied that the variance (R^2) in SPPBS adoption has been significantly represented by the three independent variables.

The next table, 'Coefficients' helps to explain which among the three independent variables is the most important in explaining the variance in SPPBS adoption. At the column Beta under Standardized coefficients, the highest number is -0.293 (closer to 1) for "perceive of dependability" dimension, which is significant at the 0.000 level. This is followed by "perceive of usefulness" dimension with Beta = -0.212 at the level of 0.003. The least important dimension that explain the SPPBS adoption is "perceive of ease of use" with Beta = 0.430 which significant at the level of 0.000. The predictor of SPPBS adoption can be describe as following:

SPPBS adoption = 4.141 − 0.356 (perceive of dependability) − 0.251 (perceive of

usefulness + 0.433 (perceive of ease of use)

Table 4.15: Multiple Regressions

Model Summary[b]

Model	R	R square	F change	Sig. F change	Durbin-Watson
1	0.328[a]	0.108	15.09	0.000	1.821

[a] Predictors: (Constant), Perceive of Dependability, Perceive of usefulness, perceive of ease of use

[b] Dependent variable: SPPBS Adoption

Coefficients

Dimension	B	Beta (β)	t	Sig
Perceive of usefulness	-0.251	-0.212	-2.974	0.003
Perceive of ease of use	0.433	0.430	5.989	0.000
Perceive of dependability	-0.356	-0.293	-3.920	0.000

4.10 Summary

The three hypotheses proposed earlier have been tested. Using a sample of 379 respondents, data was obtained from primary school teachers around Kedah, Perlis and Pulau Pinang. There were two levels of statistical analysis conducted with two different steps. The first level involved analysis of the basic characteristics of the data which is descriptive statistics. While the second level involved two main statistical analyses, which are analysis of difference (one-way ANOVA) and analysis of relationship and influences (correlation and regression analysis).

Based on test conducted, all the Ha1, Ho2 and Ha3 are accepted. Regression test proves that perceive of dependability is the most important factor for SPPBS adoption, followed by perceive of usefulness then perceive of ease of use.

CHAPTER FIVE

DISCUSSION

5.1 Factors that Determine the System Acceptance among Primary School Teachers

Based on the result determining the level of perceive of usefulness, perceive of ease of use and perceive of dependability, the primary school teachers demonstrated that they have low level acceptance in all three dimensions. This indicates that the primary school teachers did not accept all aspect of the SPPBS introduced as the student assessment information system. The deduction can be made from this is that the usefulness, the ease of use and dependability of SPPBS is viewed as poor among the teachers, causing their rejection towards the system. Nonetheless, the system adoption among the teachers in terms of knowledge, frequency and experience of use are at high level. This inverse result between acceptance and adoption among the teachers may due to the pressing compulsory implementation of SPPBS in all government school, forcing teachers to adopt the system irrespective of their view on the acceptance. The result differs from Davis et al. (1989), who found that in a workplace environment, a system will be adopted if it is regarded as useful.

5.2   Most Important Factors that Determine the Users' System Acceptance among Primary School Teachers

The result obtained from the factor analysis and ranking showed that the most important factor that determines the users' system acceptance among primary school teachers towards SPPBS is the ease of using the system. Due to the fact that teachers have to divide their workload between teachings and spending time to use the system in assessing the student achievement, thus, they expected the system must be easy to use to avoid time and focus loss due to unresolve issues with the SPPBS. System ease of use covered the friendly user interface of the system, browsing easiness, architectural design that easy for the teachers to follow, and most importantly, as the system is an online system, the bandwidth and server service of the system must be adequate enough to support huge volume of traffic and data entry.

With this regard, it is important that before a particular system being implemented, user acceptance tests must be performed earlier in design, if sufficiently predictive of user acceptance, could reduce the risk of user rejection by enabling designers to better screen, prioritize and refine application ideas. Given the large investments at stake when developing new systems, itis of essence to forecast user acceptance as early as possible in the design process (Gould et al., 1991).

5.3   The Relationship between Acceptance Factors and Adoption Factors

The correlation between acceptance factors and adoption factors for SPPBS indicated there was mixed correlation between both dimensions. Perceive of

usefulness had negative correlation with teachers' system adoption, perceive of ease of use had positive correlation with SPPBS adoption, and perceive of dependability has negative correlation with system adoption.

The negative correlation between perceive of usefulness with system adoption meant that the teachers form positive adoption of the system even though the SPPBS was proven not to be a useful utility to the assessment practice. This result is in contrast with Davis et al. (1989) who found that in a workplace environment, a system will be adopted if it is regarded as useful, irrespective of attitude provided to the use of the system perceived to offer direct benefits to the user.

The findings of the study revealed there was positive correlation between perceive of ease of use towards the system adoption. This implies that perceive of ease of use by the teachers on the SPPBS have positive influence towards system adoption. In other words, users intend to use the SPPBS system more frequently if the system proven to be easy to use. This finding is consistent with Daviset al. (1989), who proposed that perceived ease of use not only predicts attitude towards the IS, but is also an antecedent of perceived usefulness that is to say the less effort a system is to use, the more using it can increase job performance (Venkatesh& Davis, 2000; Sallyet al., 2006).

The negative correlation found between the system acceptance and system adoption towards SPPBS among the teachers indicate that the teachers was adopting to the system even though the system was not dependable enough for them to perform the assessment task.

5.4 Gender, Age and Education Qualification Moderation in the Relationship between Adaptation Factors and Acceptance Level of the Systems

Based on the results that determine the differences in agreement between male and female teachers,there emphasis of differences in agreement between male and female teachers regarding the SPPBS was more on the perceive of usefulness items. Female teachers were seen to weight more on the ease of use with regard to their adoption towards SPPBS system. This result is in line with the behavioural intention study by Venkatesh and Morris (2000), found that compared to women, men placed a greater emphasis on perceive usefulness in determining their behavioural intention, while on the other hand, women weighted perceive of ease of use of use more strongly in determining their behavioural intention. The result also in line with the finding by Yuen and Ma (2002) which found that there was a significant gender differences in beliefs while applying technology acceptance model to a group of pre-service teachers. This generally implies that, the difference in system adoption is mediated by the difference point of view between genders.

The result from ANOVA analysis between age group of the teachers showcased significant differences in terms of perceive of usefulness. This is likely because perceive of usefulnessfulness of a technology is lower in older adults, because they weigh the perceived usefulness against the time to learn how to operate the system. The deduction that can be obtained from the result was that the older the teachers get, the more difficult for them to adopt the system introduced for educational and student assessment purpose.

The differences in educational qualification profiles among the teachers reasoned that there was significant difference in perceive of usefulness towards the SPPBS. The results indicated the variation of educational background caused the variation in teachers' point of view whether a particular system is useful in accomplishing the required task. The study on the difference in educational background was limited in the literature; therefore it is unknown whether different educational background could mediate the resulting acceptance towards the information system. Besides, in this study, the proportion of each of the educational background among the teachers was largely deviated from each other, thus there was no justifiable evidence that supports educational qualification moderated the SPPBS adoption among the primary school teachers.

CHAPTER SIX

CONCLUSION

This research highlighted that the most important factor in determining the teachers' adoption towards SPPBS was perceive of ease of use in using the system. The finding from this research also suggest that perceive of usefulness and perceive of dependability had negative correlation with the SPPBS adoption, while perceive of ease of use had positive correlation with SPPBS adoption among the primary school teachers.

Based on the analysis on the effect of teachers' demographic profile and background, it can be deduce that gender and age have significant moderating effect in determining the teachers' acceptance and adoption of SPPBS, while there is vague effect of the educational background towards the acceptance and adoption of SPPBS among the teachers.

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APPENDIX A: SURVEY QUESTIONNAIRE

Tarikh / Date:

Kepada Responden yang dihormati / Dear Respected Paticipant,

Anda terpilih untuk menyertai kajian soal selidik Master ini.Objektif utama kajian ini adalah untuk mengkaji penggunaan Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS) dikalangan guru-guru Sekolah Rendah di kawasan Utara terutama Kedah, Perlis dan Pulau Pinang.Saya sangat berterima kasih kerana anda dapat meluangkan masa untuk menjawab semua soalan dalam soal selidik ini.

Tidak ada jawapan benar atau salah untuk soal selidik ini.Semua keputusan akann digunakan untuk tujuan kajian sahaja.Penglibatan anda dalam soal selidik ini adalah sukarela. Jawapan anda didalam soal selidik ini tidak akan memberi sebarang implikasi terhadap aktiviti kerja dan rekod peribadi anda.

Namun demikian, kerjasama anda adalah PENTING untuk kajian ini.Maklumat yang anda berikan adalah sulit dan hanya digunakan untuk tujuan kajian ini sahaja.Sila baca arahan dengan cermat dan menjawab sebaik mungkin.

Jika anda mempunyai seolan mengenai soal selidik ini, sila hubungi saya. Penglibatan anda pasti akan membuat sumbangan yang signifikan kepada kajian saya. Terima kasih untuk waktu, kerjasama dan usaha anda.

You have been selected to participate in a Master survey research. The main purpose of this survey is to study the usage of Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS) among primary school teachers specifically in Kedah, Perlis and Pulau Pinang. I would appreacite it very much if you could spend some time to answer all the questions in this questionnaire.

There will be no right or wrong answers to these questions. All results will be used for research purpose only. Your participation in this survey is completely voluntary. Your responses in this survey will have no impact on any of your work-related activities and personal record.

Nevertheless, your cooperation is VITAL to this study. The information you provide is strictly confidential and will only be used for the purpose of this study. Please read the instructions carefully and answers as accurate as possible.

Should you have any questions concerning this survey, please free to contact me. Your participation will certainly make a significant contribution to my research. Thank you very much for your time, cooperation and effort.

Yours sincerely,

……………………….
(NAILILHUDA BINTI AHMAD)
Master Student (Student No: 806074)
Othman Yeop Abdullah Graduate Business School
University Utara Malaysia
Sintok, Kedah
HP: 012-4625838

Jawab SEMUA soalan dalam soal selidik ini.Keputusan dalam soal selidik ini adalah sulit dan hanya digunakan untuk tujuan kajian ini sahaja. Maklumat anda tidak akan diberi atau digunakan oleh individu ataupun organisasi lain. Tidak ada jawapan benar atau salah.Yang penting adalah anda harus menjawab semua solan dengan sejujur mungkin dengan membaca setiap soalan dengan cermat.

Please answer ALL questions in this questionnaire. Your responses in this questionnaire will be treated strictly confidential and will only be used for the purpose of this study. Your information will not be forwarded or employed by any other individual or organizations. As each respondent may perceive the question differently, there is therefore no right or wrong answers. What is important is you have to answer all the questions as honest as you can by reading carefully each of the following questions.

Section A: Maklumat Peribadi dan Kerja / *Personal and Work Information*

Berikut adalah beberapa soalan tentang peribadi dan latar belakang pekerjaan.Soalan berikut ini hanya untuk tujuan analisis. Mohon menjawab dengan menulis tanda (√) bagi pilihan jawapan anda:

Below are few questions on your personal and job background. The following questions are meant only for analysis purpose. Kindly answer by writing or tick (√) your choice of answer:

A1. Jantina / Gender   Lelaki/   Wanita/
MaleFemale

A2. Umur/ *Age*: Sila nyatakan/ *Please specify*   Tahun/ *Years*

A3. Kelayakan Tertinggi / *Highest Qualification*   SRP
                                                      SPM
                                                      STPM
                                                      Diploma
                                            Ijazah/ *degree*
Lain-lain/*others;* Sila nyatakan/ *Please specify*

A4.   Adakah anda melanggan perkhidmatan jalur lebar? (Maxis, Celcom, Digi, P1 Wimax,Streamyx) *Do you subscribe any broadband or wireless services? (Maxis, Celcom, Digi, P1 Wimax,Streamyx)*

          Ya/ *Yes*   Tidak/ *No*

Dalam bahagian ini, pernyataan dibawah adalah tentang persepsi anda terhadap Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS).Sila tunjukkan sejauh mana anda bersetuju dengan kenyataan di bawah ini dengan melingkari jawapan anda mengikut skala berikut.

In this section, the statements below are about your perception towards the usage of Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS). Kindly answer all questions with honest.Please indicate to what extent you agree with the statements below by circling your response according to the following scale.

Arahan/ Instruction: Sila bulatkan respon anda mengikut skala yang diberikan / *Please circle your response according to the following scale.*
1.Sangat Tidak Setuju / *Strongly Disagree*
2.Tidak Setuju / *Disagree*
3.Antara Tidak Setuju / *Neither Disagree nor Agree*
4. Setuju / *Agree*
5. Sangat Setuju / *Strongly Agree*

Pernyataan dibawah adalah mengenai pilihan persepsi penggunaan SPPBS / *Below are statements that describe your perception towads the usefulness of SPPBS.*

BPU 5	Kerja guru menjadi susah tanpa SPPBS. *Teachers job would be difficult without SPPBS.*	1 2 3 4 5
BPU 6	Guru dapat mengawal kerja mereka dengan menggunakan SPPBS. *Using SPPBS gives teachers greater control over their work.*	1 2 3 4 5
BPU 7	SPPBS meningkatkan kualiti kerja guru. *Using SPPBS improves the quality of teacher's work .*	1 2 3 4 5
BPU 8	Dengan menggunakan SPPBS kerja guru menjadi mudah. *Using SPPBS makes teachers job easier.*	1 2 3 4 5
BPU 9	Secara keseluruhannya, kerja guru menjadi mudah dengan SPPBS. *Overall, the SPPBS is useful for teachers.*	1 2 3 4 5
BPU 10	Dengan menggunkan SPPBS, guru dah menyiapkan kerja dengan lebih cepat. *Handling SPPBS enable teacher to accomplish task more quickly.*	1 2 3 4 5

Dalam bahagian ini, pernyataan dibawah adalah tentang persepsi mudah terhadap Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS).Sila tunjukkan sejauh mana anda bersetuju dengan kenyataan di bawah ini dengan melingkari jawapan anda mengikut skala berikut.

In this section, the statements below are about your perception of ease towards Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS). Kindly answer all questions with honest.Please indicate to what extent you agree with the statements below by circling your response according to the following scale.

BPE 11	Kesalahan biasa tidak kerap berlaku apabila menggunakan SPPBS. *Frequent errors are not common when using SPPBS.*	**5** **1**	**2**	**3**	**4**	
BPE 12	Saya jarang memerlukan pertolongn bil menggunkan SPPBS. *I rarely need help when using SPPBS.*	**1**	**2**	**3**	**4**	**5**
BPU 13	Ia adalah mudah untuk menggunakan SPPBS untuk melakukan apa yang saya perlu ia lakukan. *It is easy to use SPPBS to do what I need them to do.*	**1**	**2**	**3**	**4**	**5**
BPU 14	Senang untuk mahir dalam SPPBS. *It is easy to become skillful in using SPPBS.*	**1**	**2**	**3**	**4**	**5**
BPU 15	Belajar menggunakan/ mengoperasikan SPPBS adalah senang. *Learning to operate SPPBS is easy.*	**1**	**2**	**3**	**4**	**5**
BPU 16	Keputusan SPBBS adalah jelas. *The results of using SPPBS are apparent.*	**1**	**2**	**3**	**4**	**5**
BPU 17	SPPBS senang digunakan. *SPPBS is easy to use.*	**1**	**2**	**3**	**4**	**5**

Arahan/ Instruction: Sila bulatkan respon anda mengikut skala yang diberikan / *Please circle your response according to the following scale.*
1.Sangat Tidak Setuju / *Strongly Disagree*   2.Tidak Setuju / *Disagree*
3.Antara Tidak Setuju / *Neither Disagree nor Agree* 4. Setuju / *Agree*
5. Sangat Setuju / *Strongly Agree*

Dalam bahagian ini, pernyataan dibawah adalah tentang tahap kebergantungan anda terhadap Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS). Sila tunjukkan sejauh mana anda bersetuju dengan kenyataan di bawah ini dengan melingkari jawapan anda mengikut skala berikut.

In this section, the statements below are about your dependability towards Sistem Pengurusan Pentaksiran Berasaskan Sekolah (SPPBS). Kindly answer all questions with honest.Please indicate to what extent you agree with the statements below by circling your response according to the following

BD 18	Apabila guru mempunyai masalah, SPPBS akan membantu guru-guru menyelesaikannya. *When teachers have problems, SPPBS will help teachers solving it.*	1 5	2	3	4
BD 19	SPPBS menyediakan perkhidmatan yang baik untuk pengguna kali pertama. *SPPBS provides the good service for the first time users.*	1 5	2	3	4
BD 20	SPPBS menyediakan perkhidmatan mereka untuk guru-guru pada mengikut masa yang telah dijanjikan/ dinyatakan. *SPPBS provides their service for teachers at the time it promises to do so.*	1 5	2	3	4
BD 21	Guru percaya, SPPBS adalah dipercayai dan bebas masalasah dalam pengumpulan data/markah murid. *Teachers believe handling the SPPBS are reliable and trouble free for data collection.*	1 5	2	3	4
BD 22	Guru boleh bergantung dengan SPPBS terutama dalam pengumpulan data/ markah. *Teachers believe SPPBS is dependable systems for that data collection.*	1 5	2	3	4
BD 23	Guru percaya, SPPBS boleh menyediakan koleksi data yang tepat untuk sistem pendidikan pada bila-bila masa. *Teachers believe handling computer is available for education systems to use for accurate data collection at any times.*	1 5	2	3	4

BAU 24- Pengetahuan saya tentang SPPBS / *My knowledge about SPPBS*

    (1) Tidak pernah mendengar tentangnya. /*Never heard of it.*

    (2) Saya tahu hanya sedikit tentang SPPBS./ *I know little about it.*

    (3) Saya Cuma ada sedikit pengetahuan tentang SPPBS./ *I have some basic ideas about it.*

    (4) Saya tahu tentang SPPBS. / *I know it quite well.*

    (5) Saya memang tahu tentang SPPBS. / *I know it very well.*

BAU 25 – My frequency of using SPPBS / *Kekerapan menggunakan SPPBS.*

    (1) Kurang dari sekali / *Less than once.*

    (2) 2-5 kali / *2-5 times.*

    (3) 6-10 kali / *6-10 times.*

    (4) 11- 15 kali / *11-15 times.*

    (5) Lebih dari 15 kali / *More than 15 times.*

BAU 26 – My experience of using SPPBS is. */ Pengalaman menggunakan SPPBS.*

    (1) Tiada pengalaman / *No experience at all.*

    (2) Sangat sedikit pengalaman */ I have a little experience.*

    (3) Sedikit pengalaman / *I have some experience.*

    (4) Pengalaman yang sederhana */ I have considerable experience.*

    (5) Banyak pengalaman */ I have a lot of experience.*

APPENDIX B: DESCRIPTIVE ANALYSIS

Demographic:

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	136	35.9	35.9	35.9
	Female	243	64.1	64.1	100.0
	Total	379	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21 - 30	158	41.7	41.7	41.7
	31 - 40	163	43.0	43.0	84.7
	41 - 50	50	13.2	13.2	97.9
	51 - 60	8	2.1	2.1	100.0
	Total	379	100.0	100.0	

Highest Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PMR	3	.8	.8	.8
	SPM	2	.5	.5	1.3
	STPM	3	.8	.8	2.1
	Bachelor Degree	307	81.0	81.0	83.1
	Diploma	46	12.1	12.1	95.3
	Master Degree	17	4.5	4.5	99.7
	PhD	1	.3	.3	100.0
	Total	379	100.0	100.0	

Broadband or Wireless Subcriber

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	352	92.9	92.9	92.9
	No	27	7.1	7.1	100.0
	Total	379	100.0	100.0	

Variable Items:

Perceive of Usefulness

Statistics

		Teacher's job would be difficult without SPPBS	Using SPPBS gives teachers greater control over their work	Using SPPBS improves the quality of teacher's work	Using SPPBS makes teachers job easier	Overall, the SPPBS is useful for teachers	Handling SPPBS enable teacher to accomplish task more quickly
N	Valid	379	379	379	379	379	379
	Missing	0	0	0	0	0	0
Mean		1.50	1.58	1.56	1.44	1.45	1.36
Std. Deviation		1.009	.929	.948	.872	.878	.815

Perceive of Ease of Use

Statistics

		Frequent errors are not common when using SPPBS	I rarely need help when using SPPBS	It is easy to use SPPBS to do what I need them to do	It is easy to become skillful in using SPPBS	Learning to operate SPPBS is easy	The results of using SPPBS are apparent	SPPBS is easy to use
N	Valid	379	379	379	379	379	379	379
	Missing	0	0	0	0	0	0	0
Mean		1.73	2.22	1.65	2.42	2.31	1.85	1.73
Std. Deviation		.989	1.319	.994	1.333	1.301	1.157	1.092

Perceive of Dependability

Statistics

		When teachers have problems, SPPBS will help teachers solving it	SPPBS provides the good service for the first time users	SPPBS provides their service for teachers at the time it promises to do so	Teachers believe handling the SPPBS are reliable and trouble free for data collection	Teachers believe SPPBS is dependable systems for that data collection	Teachers believe handling computer is available for education systems to use for accurate data collection at any times
N	Valid	379	379	379	379	379	379
	Missing	0	0	0	0	0	0
Mean		1.48	1.51	1.38	1.47	1.56	1.56
Std. Deviation		.892	.895	.775	.895	.939	.939

SPPBS Adoption

Statistics

		Knowledge about SPPBS	Frequency of using SPPBS	Experience of using SPPBS
N	Valid	379	379	379
	Missing	0	0	0
Mean		4.18	4.01	4.11
Std. Deviation		.897	1.274	1.061

Variables:

Descriptive Statistics

	N	Mean	Std. Deviation
Perceive of Usefulness	379	1.4802	.77918
Perceive of Ease of Use	379	1.9872	.91506
Perceive of Dependability	379	1.4943	.75790
SPPBS Adoption	379	4.0976	.92240
Valid N (listwise)	379		

APPENDIX C: Reliability Analysis

Scale: Perceive of Usefulness

Case Processing Summary

		N	%
	Valid	379	100.0
Cases	Excluded[a]	0	.0
	Total	379	100.0

a. Listwise deletion based on all variables in the

procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.927	.930	6

Item Statistics

	Mean	Std. Deviation	N
Teacher's job would be difficult without SPPBS	1.50	1.009	379
Using SPPBS gives teachers greater control over their work	1.58	.929	379
Using SPPBS improves the quality of teacher's work	1.56	.948	379
Using SPPBS makes teachers job easier	1.44	.872	379
Overall, the SPPBS is useful for teachers	1.45	.878	379
Handling SPPBS enable teacher to accomplish task more quickly	1.36	.815	379

Inter-Item Correlation Matrix

	Teacher's job would be difficult without SPPBS	Using SPPBS gives teachers greater control over their work	Using SPPBS improves the quality of teacher's work	Using SPPBS makes teachers job easier	Overall, the SPPBS is useful for teachers	Handling SPPBS enable teacher to accomplish task more quickly
Teacher's job would be difficult without SPPBS	1.000	.534	.601	.550	.547	.567
Using SPPBS gives teachers greater control over their work	.534	1.000	.727	.702	.678	.664
Using SPPBS improves the quality of teacher's work	.601	.727	1.000	.782	.775	.722
Using SPPBS makes teachers job easier	.550	.702	.782	1.000	.833	.801
Overall, the SPPBS is useful for teachers	.547	.678	.775	.833	1.000	.850
Handling SPPBS enable teacher to accomplish task more quickly	.567	.664	.722	.801	.850	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Teacher's job would be difficult without SPPBS	7.38	15.818	.626	.406	.937
Using SPPBS gives teachers greater control over their work	7.30	15.461	.757	.590	.918
Using SPPBS improves the quality of teacher's work	7.32	14.828	.840	.719	.906

Using SPPBS makes teachers job easier	7.44	15.284	.852	.766	.905
Overall, the SPPBS is useful for teachers	7.44	15.225	.855	.802	.905
Handling SPPBS enable teacher to accomplish task more quickly	7.53	15.784	.835	.761	.909

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
8.88	21.856	4.675	6

Scale: Perceive of Ease of Use

Case Processing Summary

		N	%
Cases	Valid	379	100.0
	Excluded[a]	0	.0
	Total	379	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.891	.893	7

Item Statistics

	Mean	Std. Deviation	N
Frequent errors are not common when using SPPBS	1.73	.989	379
I rarely need help when using SPPBS	2.22	1.319	379
It is easy to use SPPBS to do what I need them to do	1.65	.994	379
It is easy to become skillful in using SPPBS	2.42	1.333	379
Learning to operate SPPBS is easy	2.31	1.301	379
The results of using SPPBS are apparent	1.85	1.157	379
SPPBS is easy to use	1.73	1.092	379

Inter-Item Correlation Matrix

	Frequent errors are not common when using SPPBS	I rarely need help when using SPPBS	It is easy to use SPPBS to do what I need them to do	It is easy to become skillful in using SPPBS	Learning to operate SPPBS is easy	The results of using SPPBS are apparent	SPPBS is easy to use
Frequent errors are not common when using SPPBS	1.000	.507	.581	.458	.417	.463	.511
I rarely need help when using SPPBS	.507	1.000	.553	.614	.550	.421	.518
It is easy to use SPPBS to do what I need them to do	.581	.553	1.000	.518	.438	.566	.671
It is easy to become skillful in using SPPBS	.458	.614	.518	1.000	.757	.555	.567
Learning to operate SPPBS is easy	.417	.550	.438	.757	1.000	.569	.563

| The results of using SPPBS are apparent | .463 | .421 | .566 | .555 | .569 | 1.000 | .620 |
| SPPBS is easy to use | .511 | .518 | .671 | .567 | .563 | .620 | 1.000 |

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Frequent errors are not common when using SPPBS	12.18	33.140	.607	.411	.884
I rarely need help when using SPPBS	11.69	29.696	.667	.488	.878
It is easy to use SPPBS to do what I need them to do	12.26	32.180	.697	.575	.875
It is easy to become skillful in using SPPBS	11.49	28.520	.753	.650	.866
Learning to operate SPPBS is easy	11.60	29.305	.712	.626	.872
The results of using SPPBS are apparent	12.06	31.047	.670	.499	.877
SPPBS is easy to use	12.18	30.964	.730	.580	.870

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.91	41.029	6.405	7

Scale: Perceive of Dependability

Case Processing Summary

		N	%
Cases	Valid	379	100.0
	Excluded[a]	0	.0
	Total	379	100.0

a. Listwise deletion based on all variables in the
procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.924	.924	6

Item Statistics

	Mean	Std. Deviation	N
When teachers have problems, SPPBS will help teachers solving it	1.48	.892	379
SPPBS provides the good service for the first time users	1.51	.895	379
SPPBS provides their service for teachers at the time it promises to do so	1.38	.775	379
Teachers believe handling the SPPBS are reliable and trouble free for data collection	1.47	.895	379
Teachers believe SPPBS is dependable systems for that data collection	1.56	.939	379
Teachers believe handling computer is available for education systems to use for accurate data collection at any times	1.56	.939	379

Inter-Item Correlation Matrix

	When teachers have problems, SPPBS will help teachers solving it	SPPBS provides the good service for the first time users	SPPBS provides their service for teachers at the time it promises to do so	Teachers believe handling the SPPBS are reliable and trouble free for data collection	Teachers believe SPPBS is dependable systems for that data collection	Teachers believe handling computer is available for education systems to use for accurate data collection at any times
When teachers have problems, SPPBS will help teachers solving it	1.000	.601	.658	.642	.613	.618
SPPBS provides the good service for the first time users	.601	1.000	.732	.580	.652	.659
SPPBS provides their service for teachers at the time it promises to do so	.658	.732	1.000	.670	.682	.654
Teachers believe handling the SPPBS are reliable and trouble free for data collection	.642	.580	.670	1.000	.732	.730
Teachers believe SPPBS is dependable systems for that data collection	.613	.652	.682	.732	1.000	.843
Teachers believe handling computer is available for education systems to use for accurate data collection at any times	.618	.659	.654	.730	.843	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
When teachers have problems, SPPBS will help teachers solving it	7.48	14.928	.719	.532	.918
SPPBS provides the good service for the first time users	7.45	14.772	.742	.603	.915
SPPBS provides their service for teachers at the time it promises to do so	7.59	15.280	.792	.660	.910
Teachers believe handling the SPPBS are reliable and trouble free for data collection	7.49	14.542	.782	.637	.910
Teachers believe SPPBS is dependable systems for that data collection	7.40	13.966	.831	.755	.903
Teachers believe handling computer is available for education systems to use for accurate data collection at any times	7.41	13.988	.827	.753	.903

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
8.97	20.679	4.547	6

APPENDIX D: Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.946
Bartlett's Test of Sphericity	Approx. Chi-Square	5874.929
	df	171
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.397	54.722	54.722	10.397	54.722	54.722	5.173	27.229	27.229
2	1.682	8.852	63.574	1.682	8.852	63.574	4.659	24.522	51.751
3	1.387	7.301	70.874	1.387	7.301	70.874	3.633	19.123	70.874
4	.663	3.489	74.363						
5	.610	3.210	77.573						
6	.582	3.065	80.637						
7	.553	2.909	83.546						
8	.427	2.249	85.795						
9	.390	2.054	87.850						
10	.373	1.963	89.812						
11	.316	1.664	91.477						
12	.283	1.487	92.964						
13	.266	1.398	94.362						
14	.233	1.226	95.589						
15	.214	1.124	96.713						
16	.183	.964	97.677						
17	.170	.897	98.574						
18	.148	.780	99.354						
19	.123	.646	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component		
	1	2	3
Using SPPBS makes teachers job easier	.833	-.331	.137
Using SPPBS improves the quality of teacher's work	.816	-.327	
Overall, the SPPBS is useful for teachers	.809	-.383	.151
Handling SPPBS enable teacher to accomplish task more quickly	.797	-.385	.147
Teachers believe SPPBS is dependable systems for that data collection	.792	.125	-.404
Teachers believe handling computer is available for education systems to use for accurate data collection at any times	.792		-.397
It is easy to use SPPBS to do what I need them to do	.774		.184
SPPBS is easy to use	.766	.186	.168
When teachers have problems, SPPBS will help teachers solving it	.753		-.258
Teachers believe handling the SPPBS are reliable and trouble free for data collection	.751	.103	-.399
SPPBS provides their service for teachers at the time it promises to do so	.749		-.420
SPPBS provides the good service for the first time users	.742	.128	-.304
Using SPPBS gives teachers greater control over their work	.739	-.273	.222
Frequent errors are not common when using SPPBS	.716		.207
The results of using SPPBS are apparent	.705	.375	
It is easy to become skillful in using SPPBS	.638	.508	.357
I rarely need help when using SPPBS	.630	.333	.326

Learning to operate SPPBS is easy	.594	.579	.286
Teacher's job would be difficult without SPPBS	.590	-.400	.158

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix^a

	Component		
	1	2	3
Overall, the SPPBS is useful for teachers	.831	.310	.194
Handling SPPBS enable teacher to accomplish task more quickly	.823	.306	.185
Using SPPBS makes teachers job easier	.806	.344	.236
Using SPPBS improves the quality of teacher's work	.778	.365	.210
Using SPPBS gives teachers greater control over their work	.737	.230	.274
Teacher's job would be difficult without SPPBS	.706	.171	
Frequent errors are not common when using SPPBS	.543	.266	.436
It is easy to use SPPBS to do what I need them to do	.530	.328	.496
Teachers believe SPPBS is dependable systems for that data collection	.275	.812	.266
Teachers believe handling computer is available for education systems to use for accurate data collection at any times	.297	.803	.249
Teachers believe handling the SPPBS are reliable and trouble free for data collection	.265	.781	.233
SPPBS provides their service for teachers at the time it promises to do so	.332	.779	.142

SPPBS provides the good service for the first time users	.277	.704	.294
When teachers have problems, SPPBS will help teachers solving it	.429	.647	.189
It is easy to become skillful in using SPPBS	.186	.181	.851
Learning to operate SPPBS is easy		.221	.845
I rarely need help when using SPPBS	.289	.174	.708
SPPBS is easy to use	.420	.358	.587
The results of using SPPBS are apparent	.170	.531	.575

Extraction Method: Principal Component Analysis.

 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Component Transformation Matrix

Component	1	2	3
1	.636	.602	.482
2	-.684	.152	.713
3	.356	-.784	.508

Extraction Method: Principal Component Analysis.

 Rotation Method: Varimax with Kaiser Normalization.

Appendix E: One-way ANOVA

SPPBS Acceptance:

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Gender	Between Groups	38.148	163	.234	1.026	.428
	Within Groups	49.050	215	.228		
	Total	87.198	378			
Age	Between Groups	89.669	163	.550	.924	.702
	Within Groups	127.999	215	.595		
	Total	217.668	378			
Highest Qualification	Between Groups	70.581	163	.433	1.185	.122
	Within Groups	78.575	215	.365		
	Total	149.156	378			
Broadband or Wireless Subcriber	Between Groups	6.764	163	.041	.487	1.000
	Within Groups	18.313	215	.085		
	Total	25.077	378			

SPPBS Adoption:

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Gender	Between Groups	5.489	12	.457	2.049	.020
	Within Groups	81.709	366	.223		
	Total	87.198	378			
Age	Between Groups	5.942	12	.495	.856	.593
	Within Groups	211.726	366	.578		
	Total	217.668	378			
Highest Qualification	Between Groups	5.337	12	.445	1.132	.333
	Within Groups	143.818	366	.393		
	Total	149.156	378			
Broadband or Wireless Subcriber	Between Groups	.551	12	.046	.685	.766
	Within Groups	24.525	366	.067		
	Total	25.077	378			

Appendix F: Correlations

Correlations

		Perceive of Usefulness	SPPBS Adoption
Perceive of Usefulness	Pearson Correlation	1	-.132[**]
	Sig. (2-tailed)		.010
	N	379	379
SPPBS Adoption	Pearson Correlation	-.132[**]	1
	Sig. (2-tailed)	.010	
	N	379	379

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		SPPBS Adoption	Perceive of Ease of Use
SPPBS Adoption	Pearson Correlation	1	.089
	Sig. (2-tailed)		.084
	N	379	379
Perceive of Ease of Use	Pearson Correlation	.089	1
	Sig. (2-tailed)	.084	
	N	379	379

Correlations

		SPPBS Adoption	Perceive of Dependability
SPPBS Adoption	Pearson Correlation	1	-.142[**]
	Sig. (2-tailed)		.006
	N	379	379
Perceive of Dependability	Pearson Correlation	-.142[**]	1
	Sig. (2-tailed)	.006	
	N	379	379

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix G: Multiple Regressions

Descriptive Statistics

	Mean	Std. Deviation	N
SPPBS Adoption	4.0976	.92240	379
Perceive of Usefulness	1.4802	.77918	379
Perceive of Ease of Use	1.9872	.91506	379
Perceive of Dependability	1.4943	.75790	379

Correlations

		SPPBS Adoption	Perceive of Usefulness	Perceive of Ease of Use	Perceive of Dependability
Pearson Correlation	SPPBS Adoption	1.000	-.132	.089	-.142
	Perceive of Usefulness	-.132	1.000	.653	.686
	Perceive of Ease of Use	.089	.653	1.000	.691
	Perceive of Dependability	-.142	.686	.691	1.000
Sig. (1-tailed)	SPPBS Adoption	.	.005	.042	.003
	Perceive of Usefulness	.005	.	.000	.000
	Perceive of Ease of Use	.042	.000	.	.000
	Perceive of Dependability	.003	.000	.000	.
N	SPPBS Adoption	379	379	379	379
	Perceive of Usefulness	379	379	379	379
	Perceive of Ease of Use	379	379	379	379
	Perceive of Dependability	379	379	379	379

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Perceive of Dependability, Perceive of Usefulness, Perceive of Ease of Use[b]	.	Enter

a. Dependent Variable: SPPBS Adoption

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.328[a]	.108	.101	.87478	.108	15.090	3	375	.000	1.821

a. Predictors: (Constant), Perceive of Dependability, Perceive of Usefulness, Perceive of Ease of Use

b. Dependent Variable: SPPBS Adoption

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.643	3	11.548	15.090	.000[b]
	Residual	286.967	375	.765		
	Total	321.610	378			

a. Dependent Variable: SPPBS Adoption

b. Predictors: (Constant), Perceive of Dependability, Perceive of Usefulness, Perceive of Ease of Use

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

	(Constant)	4.141	.113		36.685	.000
	Perceive of Usefulness	-.251	.084	-.212	-2.974	.003
1	Perceive of Ease of Use	.433	.072	.430	5.989	.000
	Perceive of Dependability	-.356	.091	-.293	-3.920	.000

a. Dependent Variable: SPPBS Adoption

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.1564	5.5188	4.0976	.30273	379
Residual	-2.96672	1.73034	.00000	.87131	379
Std. Predicted Value	-3.109	4.694	.000	1.000	379
Std. Residual	-3.391	1.978	.000	.996	379

a. Dependent Variable: SPPBS Adoption