

**THE IMPACT OF USER'S SATISFACTION  
ENABLERS ON NET BENEFITS OF HUMAN  
RESOURCE MANAGEMENT INFORMATION  
SYSTEM (HRMIS) IN THE MALAYSIAN PUBLIC  
ORGANIZATIONS**

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RESOURCE MANAGEMENT INFORMATION  
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ORGANIZATIONS**

**by**

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## LIST OF ABBREVIATIONS

<b>AVE</b>	Average Variance Extracted
<b>DTP</b>	Digital Transformation Programme
<b>DV</b>	Dependent Variable
<b>EUCS</b>	End-User Computing Support
<b>GDP</b>	Gross Domestic Product
<b>GQM</b>	Goal Question Metric
<b>HRMIS</b>	Human Resource Management Information System
<b>ICT</b>	Information Communications and Technology
<b>IQ</b>	Information Quality
<b>IS</b>	Information System
<b>ISIR</b>	Information System Interaction Readiness
<b>ISUS</b>	Information System User Satisfaction
<b>IT</b>	Information Technology
<b>IV</b>	Independent Variable
<b>JPA</b>	Jabatan Perkhidmatan Awam
<b>KPI</b>	Key Performance Indicator
<b>MAMPU</b>	Malaysian Administrative Modernization and Management Planning Unit
<b>MIS</b>	Management Information System
<b>MMCSB</b>	Multimedia Consortium Sdn Bhd
<b>MPCU</b>	Model of PC Utilization
<b>MSC</b>	Multimedia Super Corridor
<b>NB</b>	Net Benefits
<b>PLS</b>	Partial Least Square
<b>SAPs</b>	Sistem Analisis Peperiksaan Sekolah

<b>SEM</b>	Structural Equation Modeling
<b>SERVQ</b>	Service Quality
<b>SME</b>	Small and Medium Enterprise
<b>SMS</b>	Short Messaging System
<b>SQ</b>	System Quality
<b>S-R</b>	Self-readiness
<b>TAM</b>	Technology Acceptance Model
<b>THIS</b>	Total Hospital Information System
<b>TPB</b>	Theory of Planned Behavior
<b>TRA</b>	Theory of Reasoned Action
<b>TRI</b>	Technology Readiness Index
<b>TS</b>	Technostress
<b>UI</b>	User Involvement
<b>UIS</b>	User Information Satisfaction
<b>UTAUT</b>	Unified Theory of Acceptance and use of Technology
<b>US</b>	User Satisfaction
<b>UUM</b>	Universiti Utara Malaysia
<b>VIF</b>	Variance Inflation Factor



**KESAN PEMBOLEH KEPUASAN PENGGUNA TERHADAP MANFAAT  
SISTEM MAKLUMAT PENGURUSAN SUMBER MANUSIA (HRMIS)  
DALAM ORGANISASI AWAM DI MALAYSIA**

**ABSTRAK**

Kajian ini didorong oleh kurangnya pengetahuan dalam memahami kepuasan pengguna di kalangan pekerja sistem maklumat (IS) di Organisasi Awam Malaysia. Kajian ini cuba mengisi jurang pengetahuan dengan mengenal pasti faktor-faktor yang menyumbang kepada kepuasan Sistem Maklumat Pengurusan Sumber Manusia (HRMIS). Pemilihan HRMIS adalah berdasarkan kemerosotan tahap penerimaan pekerja, terutamanya menangani isu-isu yang berkaitan dengan kepuasan pengguna. Di samping itu, penggunaan HRMIS adalah satu kemestian di semua agensi kerajaan dalam menguruskan sumber manusia. Berdasarkan model IS DeLone dan McLean, kajian menggunakan pembolehubah berikut; kualiti sistem, kualiti maklumat, teknostres, kualiti perkhidmatan, penglibatan pengguna dan kesediaan diri bagi menguji hubungan antara kepuasan pengguna dan manfaat IS. Kesimpulannya, hasil analisis menunjukkan bahawa kualiti sistem, kualiti maklumat, kualiti perkhidmatan, kepuasan pengguna menyokong hubungan ke arah manfaat IS. Bagaimanapun, teknostres didapati tidak menyokong hubungan ke manfaat IS. Sementara itu, penglibatan pengguna didapati menyokong mengukuhkan hubungan antara kepuasan pengguna dan manfaat IS. Seterusnya, hasil kajian digunakan untuk membangunkan senarai semak sistem maklumat sebagai satu garis panduan bagi menilai persepsi pekerja terhadap HRMIS. Walau bagaimanapun, garis panduan ini juga boleh diaplikasikan untuk penilaian IS lain khususnya di dalam organisasi awam di Malaysia, bagi memahami persepsi pekerja terhadap IS yang digunakan.

**THE IMPACT OF USER’S SATISFACTION ENABLERS ON NET  
BENEFITS OF HUMAN RESOURCE MANAGEMENT INFORMATION  
SYSTEM (HRMIS) IN THE MALAYSIAN PUBLIC ORGANIZATIONS**

**ABSTRACT**

This study is motivated by the lack of knowledge in understanding users’ satisfaction among the employees of information system (IS) in Malaysian Public Organizations. In this regard, this study attempts to fill the knowledge gap by identifying the factors that contribute to the satisfaction of the Human Resource Management Information System (HRMIS). The HRMIS was selected based on deterioration of employees’ acceptance, especially in addressing the issues related to user satisfaction. In addition, the usage of HRMIS is a must in all government agencies in managing human resource. Therefore, based on the underlying IS models by DeLone and McLean, the study applied the following variables; system quality, information quality, technostress, service quality, user involvement and self-readiness to test the relationship between IS users’ satisfaction and net benefits. Conclusively, the result of the analysis showed that system quality, information quality, service quality, user satisfaction, respectively, has supported the relationship towards net benefits. However, technostress was found not supported the relationship to net benefits. Meanwhile, user involvement has strong support in strengthening the relationship between user satisfaction and net benefits. Next, the findings were used to develop an information system audit checklist as a guideline in evaluating employees’ perception toward HRMIS. In addition, the guideline also can be adapted in other IS evaluation as well in Malaysian Public Organization, in order to understand employees’ perception toward the IS being used.

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

Today, Malaysia is one of the fastest growing countries in the Southeast-Asia region as its economy has been expanding rapidly since its independence in 1957. In this regard, Malaysia is known as one of the leading economy in the region as its gross domestic product (GDP) has been consistently growing at 6.5% every year (Trading economics, 2016). One factor behind this is the government's vital role in helping the achievement of realistic GDP between 4.5% and 5.5% per years after 2015 and despite the weak and uncertain of global economic conditions, the nation is very optimistic that it is heading forward with a good pace (Trading economics, 2016). Furthermore, the country is blessed with plenty of natural resources which boosted other sectors such as commerce, science, tourism and medical tourism. As a result, Malaysians enjoy stability, prosperity, and the Malaysian population has reached 28 million and it is rated as 42<sup>nd</sup> most populated country in the world (World Population Review, 2016).

One of the government's initiatives is planning a series of actions to create balanced and successful transformation which can be achieved in a timely manner. In this light, the government has been promoting a wider coverage of information communications and technology (ICT) throughout government agencies. Moreover, as ICT can facilitate and accelerate the economy, the government has taken a lot of initiatives to ensure better internet services can be delivered to Malaysians.

In the meantime, employees are the main backbone in the Malaysian public organization, as they deliver the services provided by organizations to the citizens as part of the business process. Hence, they are the key that can determine the success or failure of an organization in the public sector (Daud & Amirrudin, 1997). Consequently, IT used in the Malaysian public organization comprises of two dimensions, office automation and information system (IS); office automation is employed to raise productivity and efficiency, while IS has broader functions such as to organize information and facilitate decision making for management, increase the efficiency of the public organization as well as to improve the effectiveness and productivity within an organization (Government Information System, 1995).

In this light, IS can be considered as the essence of the public organization processes that smoothen business processes and can be defined as group of interrelated components that performs tasks such as collecting, processing, storing, retrieving and disseminating knowledge or information that can facilitate decision making in an organization (Laudon & Laudon, 1998).

As a result, more technology will be adopted into the management of the Malaysian public organization environment, particularly IS to provide services Malaysians; as we witness nowadays, many new communication technologies have been integrated into the delivery of public services such as the short messaging services (SMS), Android and Apple IOS mobile applications, social media platforms and advanced communication devices.

## **1.2 Background of the Study**

IS seem to have direct relationship with user (Ravichandran & Rai, 2000), thus, a good IS must reflect its users' needs (Razavi & Ahmad, 2011). In this regard, IS development comprises of a set of activities needed to cater to business solutions,

hence, IS must be carefully designed based on the users' requirements and specifications.

In the Malaysian public services, ICT projects are implemented in three ways, namely, outsourcing, in-house development and co-sourcing through MAMPU (Haslinda, Azizah & Othman, 2013). Outsourcing refers to adopting external services to implement the project, in-house development refers to using and consulting internal experts, while co-sourcing means combining external services and internal experts to develop ICT projects. In this regard, Malaysian government's ICT projects can be divided into seven categories: ICT research, strategic planning, IS development, hardware and software, IS enhancement and IS expansion.

Moreover, the level of IS in the public organization can be viewed in three different levels; strategic, managerial and operational. Each organization represents different functions in terms of level of control and data requirements which are ran by authorized group of people known as IS user; IS users refer to trained personnel who use computers in organizing, planning, controlling, coordinating, and to make decisions within an organization (MAMPU, 2011). In this regard, IS users in the Malaysian public organization can be categorized according to their scheme grades of services, which represent different functions at each organizational level. In keeping with world-world trends, the governments has made huge step in investing to e-Government services to link government departments together and to deploy a variety of IS for more effective delivery of public service (Xavier & Sambasivan, 2011).

In Malaysian public sector setting, operational IS users represent the biggest portion of IS users in the Malaysian public organization, as according to Malaysian Labor Force Survey Report 2015, with 697,600 or 5.5% were employed in public

administration in 2015. Employees working in this category of IS require high levels of concentration as they deal with a massive amount of data and usually operate in the current time frame (Daud & Amirrudin, 1997). These groups of workers play important roles on the public organization as the data at this level are usually the first to be systemized and computerized (Government Information System, 1995).

In the meantime, the adoption of IS into organizations has been growing at a rapid pace and consequently, the use of IS has evolved to provide evolutionary helping hands as they introduce changes into fundamental business procedures. Hence, more often than not, the use of IS are progressively perceived as benefiting public organization as the use of ICT are integral in today's competitive environment. As a result, the value of IS, is sometimes viewed as net the benefits which can be in many forms, such as operational cost reduction, improved decision making, improved productivity, increased sales, jobs creation, increased sales, improved profits and economic development (Petter, DeLone & McLean, 2008).

Therefore, ICT must be able to deliver value to businesses as the value of IS increasingly questioned and because of this, the use of IS must be optimized to improve public service delivery performance and reduce operational costs (The Malaysian Public Sector ICT Strategic Plan, 2011). Subsequently, issues regarding IS values has been the concerns of most organizations around the world (Gurbaxani & Whang, 1991). It was stated that the importance of the relationship between IT and organization lies in value of IS or how IS can give impacts to the organization. Generally, most businesses spent around half of their ICT budget on improving IT infrastructure such as computers, networking equipment and Internet Service Providers (ISP) (Gurbaxani & Whang, 1991).

In 2013, the Network Hardware and Forrester Consulting, in a study entitled '*Challenging the Status Quo on Maintenance Contract and Refresh Cycles to Lower Costs*' revealed that there was a surprising number of failures in IT decision making which lead to the failure in managing IT operational costs. The study involved 304 IT decision makers and found that there are too many cases where companies have not been successful at reducing their IT costs. The study revealed 40% of IT budgets allocations are consumed by investments in infrastructures, making it difficult to find ways to save money. In addition, 79% of organizations were reported to do unnecessary maintenance on equipment, such as for their networking infrastructure every five years, even when some of the equipment are still in good condition. In this regard, 72% of companies said they are very concerned with reducing IT operational costs so they can invest more in products and services.

Prior to the aforementioned study, a 2009 survey conducted by Ernst & Young in the Czech Republic revealed that more than 50% of IS projects were not completed on time or had gone over budget (Antlova, K., 2010). Furthermore, Wright and Capps (2010) stated that most large-scaled IS projects would exceed their original budget by 50%. This is especially apparent in the government organization, compared to the private industry. Similar occurrences can be observed in the Malaysian public organization, where the values of IS in reducing the operational costs in organizations are questionable. This is because, the cases regarding IT operational costs have increased at alarming rate in Malaysian public organization, especially in the management of ICT projects. It was reported that that 16% of projects were cancelled before they were even completed while 53% of projects cost had spiraled to twice of their original estimated cost and the overall success rate was less than 31% (Haslinda, Azizah & Othman, 2013).

One example was recorded in the Attorney's report in 2006, where RM290 million was spent by the Customs Department for the purpose of ICT enhancement (KeithRozario.com, 2012). Too many re-specifications on user requirements were stated as the reason why the IS of the department needed to be reutilized and hardware and equipment such as computers and networking cables were replaced to cater to a new IS, even though some of the equipment still can be used.

In the meantime, the trading equipment policy is practiced by the vendors that required software, hardware and services to change over time, for instance, Human Resource Management Information System (HRMIS) which is a large scale online application system implemented by the Public Service Department (JPA) as part of Electronic Government in order to facilitate human resource management in the public organization more effectively. HRMIS has been successfully implemented in 724 agencies and is expected to solve staffing structures in the Malaysian public organization. It was launched on 2011 and targeted to automate the operational processes of human resource management, develop human resource information, facilitate communication through single application and contribute towards a paperless government (HRMIS, 2013).

However, HRMIS has some teething problem. This matter was also admitted by the information management department, the department of public services by stating "*the struggle to improve the HRMIS is a long struggle*". Based on HRMIS managing issues and challenges (2014), HRMIS's problems can be categorized into six categories which are financial constraint, exceeded user capacity, database, networking, application and users' mindset. In addition, HRMIS also dealt with user satisfaction which caused some major issues, such as failure to login, slow server, interface issues, information processing problem, browser compatibility problem and



software integration issues (HRMIS, 2013). Thus, this study tries to identify the factors contributing to user satisfaction issues and net benefits. Despite of the problem has been fixed, the Government has already allocated RM 99.89 million to develop HRMIS and 58.4% from the budget have gone to hardware and software. It was reported that, the HRMIS application was suspended for few months due to problems stated above and once again, public employees was outraged of this high ICT expenditure. The problems listed above still continue until today, instead lots of improvements have been proposed and more funds have been allocated to fix HRMIS. This study focuses on HRMIS values among Malaysian public organization employees due to many unsolved issues regarding it operations (Nur Fatimah Azzaharah, 2012).

Past researches argued that the concerns on IS values is the key for IS success (Adam Mahmood et al., 2000; Al-maskari & Sanderson, 2010; Au, Ngai, & Cheng, 2002; Alali & Salim, 2011), somehow, very few studies had tried to investigate how IS values could benefit the Malaysian public sector environment. A study by Haslinda, Azizah and Othman (2013) investigated the failure factors for the government ICT projects in Malaysia and pointed out that project management is one of the factors for failure; project management failure includes the lack of user involvement at early stages, the lack of end users' involvement in IS acceptance process, user requirements not met and technology issues.

Consequently, there are many ways to view the problems regarding factors contributed to IS success or IS benefits. First, DeLone and McLean (1992) suggested looking at the quality and user satisfaction issues of the IS, while Kujala (2003) proposed more user involvement in IS development phases and Parasuraman (2000) introduced the concept of readiness in measuring technology applications. This list is

not exhaustive; however, there is a need to identify the multidisciplinary factors that contribute to the problem. In this regard, the consideration must account for technology and human behavior aspects.

As for technological aspects, concerns must be given towards the quality of IS. People tend to accept and continue using an IS when the characteristics matched their expectations (Davis, 1989). Hence, the quality of the system, information and services provided by the IS will be the key to IS success (DeLone & McLean, 2003). Past empirical evidences indicated that the IS which satisfied most user expectation will increase IS usage, prolonging IS lifetime and increase users' satisfaction (Seddon, 1997; Wixom & Todd, 2005). On the other hand, IS with the low quality of functions will decrease users' satisfaction and decrease IS usage, thus shortening its lifetime.

Other than issues on IS qualities, human behavior aspects play an important role in determining IS success (DeLone & McLean, 2003). The failure of IS developers to involve IS users, especially in facilitating aspects such as during the online admission test happened as the majority of IS developer assume it is unnecessary to actively involve the users as it could potentially lead to project delays (Kujala, 2008).

What is worse that IS users will abandon the newly installed IS if the new IS do not meet their expectations even though the developers claimed that the IS is sophisticated and meets their requirements (Kujala, 2003).

The perceived IS values are also related on how well people are ready to accept the technology (Davis, 1989). The mental and emotional preparations toward the use of technology will also influence the future benefits for both parties; the public and IS developers (Parasuraman, 2000). The awareness level for each individual is

different. For example, a bad experience related to the use of technology will negatively influence technology use and vice versa. In addition, there is no necessity to adopt each new technology into the organizations while Ragu-Nathan et al., (2008) emphasized there is a need to identify the readiness level among employees before the decision is made.

In this light, the Technology Readiness Index (TRI) developed by Parasuraman (2000) provides an in-depth insight on how technologies are measured for different people. In the meantime, past studies (Kinzie, Delcourt & Powers, 1994; Compeau & Higgins, 1995; Sun, 2005 and Walczuch, Lemmink & Streukens, 2007) have included the readiness dimension in measuring technology literacy among employees. Hence, by identifying one's openness towards technology, organizations should take into consideration the personality differences when adopting a new technology. In addition, it will increase the acceptance of technology in the organizations (Murad & Nihat, 2014).

On the other hand, today's technology also creates stress since it is undeniably an important component of our lives (Weil & Rosen, 2011). As technology moves at a rapid pace, many organizations endeavor to adapt or adopt new working style using ICT.

Consequently, such situations sometimes can create stress among the employees or is commonly known as 'technostress'. Technology stress or technostress often appears from the problems associated with technology usage (Brod, 1984) and it was stated that our passion for technology/ICT is limitless and people have devoted hours in using technology in every aspect of our lives without knowing the possible consequences of its usage. As outlined by Ofua and Pereware (2011), sources of technostress are relatively derived from the workplace which

encompasses inadequate training, technological change, increased workload, hardware and software reliability issues, working environment, and less involvement in the decision-making process.

Meanwhile, good IS characteristics such as system quality, information quality, and service quality can increase users' satisfaction. According to Galleta and Lederer (1989), IS user satisfaction can contribute to three critical areas which are benefits to the management information system (MIS) goals, the quality of work life for the IS user, and extent of IS usage survival within an organization. Consequently, by having a good quality of life, the employees' commitment to their job is high and indecent behaviors such as employee turnover, tardiness, and absenteeism can be avoided. IS user satisfaction is a common measure for net benefits and many past research have shown great interest in putting user satisfaction as a predictor (Doll & Torkzadeh, 1988; DeLone & McLean, 1992; Seddon & Kiew, 1996; Nelson, Todd & Wixom, 2005). Furthermore, studies on users' satisfaction were always associated with antecedents IS characteristics such as system quality (Seddon & Kiew, 1996; Rai, Lang & Welker, 2002; Wixom & Todd, 2005), information quality (Rai et. al, 2002; Wixom & Todd, 2005) and service quality (DeLone & McLean, 1992; Halawi, McCarthy & Aronson, 2008; Petter et. al, 2008).

### **1.3 Motivation of the Study**

Some of the findings sparked the idea for this present study as well as the paramount fact on the deterioration of the IS values as shown by the evidence provided. As a result, large scales ICT projects in Malaysia were questioned in terms of their effectiveness in serving the values for the community. In this regard, the main focus of the study is to specifically measure user satisfaction and net benefits of HRMIS in Malaysian public organization. As for this study, net benefits are non-monetary and

can be categorized as improving user satisfaction on HRMIS and employee satisfaction while performing the task. Meanwhile, Gurbaxani and Whang (1991) concluded the net benefits or values in IS are worthy when they can provide benefits such as ease the business processes, reduce operational costs, and most importantly, to serve the community.

Consequently, there are many ways to view the problems regarding deterioration of the IS values. First, DeLone and McLean (1992) suggested looking into the quality factors and user satisfaction issues of the IS while Kujala (2003) proposed user involvement in the IS development phases. Parasuraman (2000) has also introduced the concept of readiness in measuring technology applications. This list is not exhaustive, however, there is a need to identify the multidisciplinary factors that contribute to the problem. In this regard, the consideration must account for technology and human behavior aspects.

As for technological aspects, concerns must be given toward the quality of IS. People tend to accept and continue using an IS when the characteristics are aligned to their expectations (Davis, 1989). Hence, the quality of the system, information, and services provided by the IS will be the key in ensuring IS success (DeLone & McLean, 2003). Proof from previous studies have indicated that the IS which satisfied most users' expectation will increase IS usage, prolong IS lifetime, and increase users' satisfaction (Seddon, 1997; Wixom & Todd, 2005). On the other hand, IS which possesses limited quality functions will decrease users' satisfaction and decrease IS usage, thus, shortening its lifetime. Therefore, the importance of IS in organization is comprised of four dimensions: communication, operations, decision-making, and records (Daud & Amirudin, 1997). An IS will remain significant as long it can cater to these four dimensions (Nur Fazidah, 2011).

Meanwhile, good IS characteristics such as system quality, information quality, and service quality can increase users' satisfaction.

Other than issues on IS qualities, human behavior aspects play an important role in determining IS success (DeLone & McLean, 2003). Previous and recent cases of IS use in Malaysian public organization for MySikap, THIS, and SAPS applications stressed that the deterioration of IS values has occurred due to minimal user involvement in IS development. Consequently, the failure of IS developers to actively involve IS users, especially in facilitating aspects such as during the online admission test occurs as most of the IS developers assume that it is unnecessary to actively involve the users as it can potentially lead to project delays (Kujala, 2008).

The perceived IS values are also related to how well people are ready to accept the technology (Davis, 1989). The mental and emotional preparations toward the use of technology will also influence the future benefits for both parties; public and IS developers (Parasuraman, 2000). The awareness level for each individual is different, for example, a bad experience related to the use of technology will have a negative influence towards technology use and vice versa. In this light, the Technology Readiness Index (TRI) developed by Parasuraman (2000) can shed light on how technologies are measured for different people. In the meantime, past studies (Kinzie, Delcourt & Powers, 1994; Compeau & Higgins, 1995; Sun, 2005 and Walczuch, Lemmink & Streukens, 2007) had included the readiness dimension in measuring technology literacy among employees. Hence, by identifying one's openness towards technology, organizations should take taken into account the personality differences when adopting a new technology. In addition, it will increase the technology acceptance among the employees (Murad & Nihat, 2014).

As technology develops at a rapid pace, many organizations try to adapt or adopt a new working style using ICT. Consequently, such situations could create stress among the employees which is more widely known as ‘technostress’. Technology stress or technostress occurs due to the problems associated with technology usage (Brod, 1984). It was also further emphasized that our passion for technology/ICT is endless and people have devoted hours as technology are deeply rooted in each aspect of our lives without realizing the possible consequences of its usage. As outlined by Ofua and Pereware (2011), sources of technostress are relatively derived from the work place, including inadequate training, technological change, increased workload, hardware and software reliability issues, working environment, and less involvement in the decision-making process. This has no exception in the Malaysian public organization environment where new technologies dominate every organization, thus, creating more burden to employees as they need to adapt themselves with the latest development. Common causes of technostress in organization are dealing with viruses, jargons of technology, application problems, obsolete computer skills, and unavailability of technical support (Ofua & Pereware, 2011).

Therefore, the impacts of user satisfaction enablers, namely, system quality, information quality, and service quality on user’s satisfaction and net benefits in Malaysian public organization were investigated in this current study, and technostress was taken into account as one of the variables. Two moderating variables, namely, user involvement and self-readiness were also investigated in this research. From the above evidence, it is clear that urgent understanding and actions are critically needed from the Malaysian government to overcome the IS values issues and to identify factors that contributed to the problem. Moreover, by

continuing to produce flawed applications, people will start questioning the credibility of the authorities as they seem incapable to carry the responsibilities as big investments in ICT projects are worthless if they cannot deliver as what is expected.

#### **1.4 Problem Statement**

HRMIS is developed in line with the government's vision to improve the performance of Malaysian Public Organizations delivery system. The main objective of HRMIS is to develop integrated and updated human resource information for the purpose of effective human resource planning. The information provided by HRMIS is required by all government agencies and are crucial for coordinating human resource processes to support decision-making.

Measuring IS success through net benefits has become a global issue for academic researchers and practitioners (Ramdan et al., 2014). As suggested by previous studies (Murray and DeLone, 2010; Bradford, 2014, Nwosu et al., 2015 and David and Traci, 2015), this study aims to investigate the role of users' satisfaction enablers, namely, system quality, information quality, technostress, and service quality on IS user satisfaction and to what extent do the enablers influence net benefits. Prior IS research (Muneera and Didar, 2014; Mannaseh, 2015 and Ilham and Abdul, 2016) have also pointed out that user involvement and self-readiness often affect the satisfaction of IS usage. However, there are limited studies which have discussed these variables in the context of IS success or net benefits. Hence, this study is also interested to test the relationship between user involvement and self-readiness on IS user satisfaction. Undeniably, the inclusion of these variables might be influenced by the judgment of user regarding HRMIS by their prior



experience, by their specific expertise they have acquired in previous IS roles, and by any training they have received in their current roles.

Although many studies regarding HRMIS have been carried out in the Malaysian Public Organizations setting, there is no documented research on the formulation of guideline to assess the HRMIS's employee satisfactions. The guideline is important for reference and utilization since it can be employed by the organizations in order to measure the current state of HRMIS from the users' perspective. Thus, based on the findings of this study, it will be translated into metrics (guideline) as employee perception assessment criteria for HRMIS within Public Organizations.

### **1.5 Research Objectives**

The objectives of the study were used to guide the research process of this study:

1. To establish a research framework based on the modification of DeLone and McLean IS Success Model for HRMIS.
2. To investigate the relationship between system quality, information quality, technostress, service quality, IS users' satisfaction, user involvement, self-readiness and net benefits in the Malaysian public organization.
3. To propose set of metrics for evaluation of perception among Malaysian public organization employees on HRMIS.

### **1.6 Research Questions**

The following research questions are derived from this study:

1. How the study provides the framework for HRMIS?

2. Do system quality, information quality, technostress, service quality, IS users' satisfaction, user involvement and self-readiness have the impact on net benefits?
3. How to evaluate the perception of Malaysian public organization employees on HRMIS?

### **1.7 Research Scope**

This study was carried out at Malaysian public organizations. The study only concentrates on the group of employees at the operational and support level of an organization, as they represent a large portion public service employee in Malaysia. The study also accounts all government agencies covering federal governments, state governments, local governments and statutory body which employed HRMIS in performing daily tasks. The research flow diagram is shown in Figure 1.

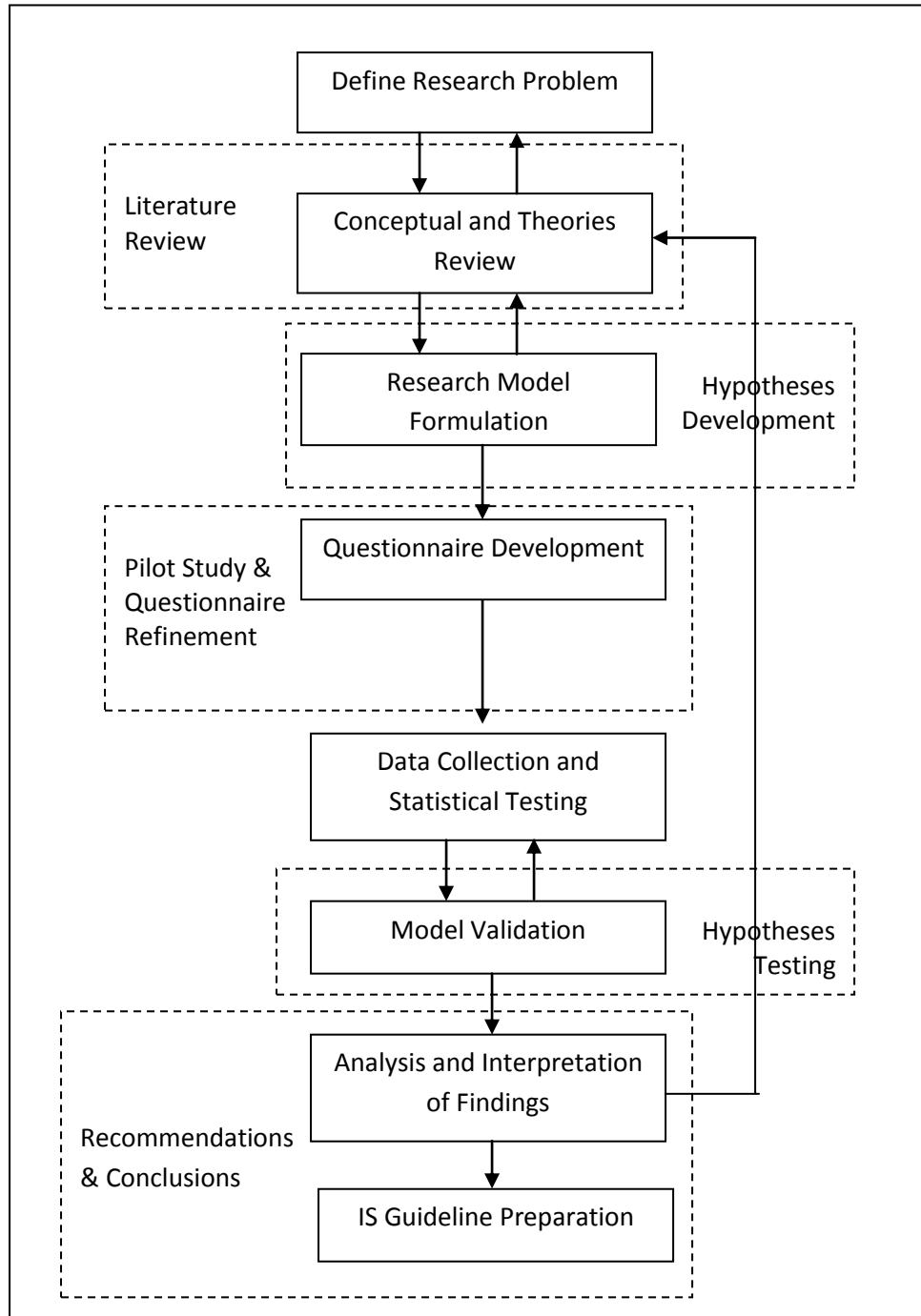


Figure 1.1: Research Flow Diagram

### 1.8 Significant of the Study

This study provides new insights for the government to have a deeper understanding of how IS user satisfaction can contribute to net benefits. One of the distinctive contributions to the study of Management Information System (MIS) is the

exploration of DeLone and McLean IS Success Model. The proposed research model posited various variables that specifically measure user satisfaction towards net benefits. Several past studies have investigated user's usage and satisfaction with IS. Therefore, this study attempts to fill the gap by giving insights into factors that affect user satisfaction in HRMIS. The identification of factors that contribute to HRMIS usage satisfaction will extend the knowledge and understanding of the effectiveness of IS design in Malaysian public organizations. Consequently, the findings can be used by the government agencies as a guideline in designing IS in general and also to improve the quality of HRMIS.

In this study, the identified metrics will be interpreted as a useful guideline for IT departments within organization to evaluate employee's perception toward HRMIS. The metrics will be categorized according to the set of questions which obtained from supported variables of the analysis. The provided metrics derived from questionnaire items, which will be used for monitoring the employee's perception. The benefits of having this guideline are to assess quality features of IS from user's perspective, to improve decision making about project design in future, to ensure accountability of IS developers and provide useful evidence regarding employee's perception toward IS. Whilst, the metrics can also be used further for other IS evaluation and not restricted to HRMIS only.

The study will also further enrich the validation of measurement of user satisfaction toward net benefits in DeLone and McLean IS Success Model. The findings are expected to provide support for surrogate measure of net benefits of IS in the organization. The introduction of new variables such as technostress, user involvement and self-readiness will be a worthy extension for the DeLone and McLean IS success model.

Furthermore, this study also will adds knowledge to the understanding of self-readiness of employees toward IS they used. It is important to the organization to identify the readiness level of their employees toward IS or technology, in order to provide assistance in coping with technologies issues.

## **1.9 Definition of Key Variables**

*System quality* refers to as the desired quality attributes of an IS. Its primary goals is to ensure organization act responsibly and have the organizational structure, procedures, processes, and resources for implementing rules that keep information within HRMIS. It covers the characteristics and quality features of the system (DeLone & McLean, 2003).

*Information quality* refers to what extents an IS can contribute in processing the information in terms of timeliness, appropriateness, reliability, accuracy, and completeness. It measures information state in HRMIS such as comprehensiveness, layout and formatting and accuracy (Nelson et al., 2005).

*Technostress* refers to the feeling of anxiety or mental pressure from overexposure with computer technology. It is a result of altered habits of work and collaboration that are being brought about due to the use of modern technology. It measures to what extent the employees can cope with the technostress when dealing with HRMIS (Ragu-Nathan et al., 2008).

*Service quality* refers to the desired quality attributes that can be provided by an IS. It represents the quality of the support that the users receive from IS department and IT support personnel such as training, hotline or helpdesk regarding HRMIS (Petter et al., 2008).

*IS user satisfaction* refers the user's level of satisfaction when utilizing an IS. It measures to what extent employees' satisfaction regarding HRMIS usage (Nelson et al., 2005).

*User involvement* is referred to various behaviors or activities that users may perform, through HRMIS development process. It measures to what extent involvement from the user during HRMIS implementation. (Ilham & Abdul, 2016).

*Self-readiness* is referred to the user's mental and emotional ability to communicate with an IS. It accounts past experiences with the same and/or similar systems. It measures to what extent the employees' mental and emotional state toward HRMIS (Gusaptono, Effendi, & Charibaldi, 2012).

*Net benefits* is referred to the benefits of utilizing an IS on the individual levels. It measures to what extent HRMIS benefited to the employees (Sharf & Shahizan, 2016).

## **1.10 Organization of the Thesis**

The thesis consists of seven chapters. Chapter 1 presents an overview of the study including key components. Chapter 2 provides the review of the relevant literatures to support the theoretical framework and research model. Chapter 3 presents the theoretical framework, research model and hypotheses formulation. In Chapter 4 presents research methodology, constructs operationalization, items development, survey and statistical technique used for data collection and analysis. Chapter 5 describes the results of the analysis. Chapter 6 presents discussion of findings and Chapter 7 provides conclusion which are drawn from the study and also recommendations for future researches.

### **1.11 Summary of the Chapter**

This chapter provides background of the study, and then sets out the motivation of the study. It is followed with problem statement and the objectives of the study. Research questions and scope are also discussed in this chapter. This chapter also outlined and justified the significant of the study and definition of key variables. Overall, this chapter described the context the study had undertaken and outlined the structure of the whole thesis.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents the literature review on Malaysian Government, Malaysian Public Organizations, Human Resource Management Information System (HRMIS), User Satisfaction enablers (System Quality, Information Quality, Technostress and Service Quality), user involvement, self-readiness, IS user satisfaction and net benefits. It draws on theory, foundation, framework and observations of recent literatures in discussing related variables mentioned above. To design the workable research model and feasible theoretical framework, past literatures is not only restricted to public service domain but had been extended to other domains as well for better understanding.

#### **2.2 Overview of Malaysian Government**

There are three branches of government in Malaysia, namely Federal, State and Local. The Federal Government holds the main authority in Malaysia administration and the federal government is based in Putrajaya, Kuala Lumpur. Branches of Federal Government are divided into legislative, executive and judicial. The executive power is vested in the cabinet and led by the Prime Minister. Meanwhile, the executive branch of the government consists of the Prime Minister, followed by the various ministers of the cabinet. The executive has the power to generate revenues through the collection of various taxes, levies, fines, summons, customs duties and fees. The position of the local government is stated under the federal constitution. The last component of the Federal Government is judiciary body and



the judiciary body stands independently and is not influenced by the legislative and executive. The Judiciary of Malaysia consists of Magistrate Court, Session Court, High Court, Court of Appeal and the Federal Court (Nur Fatimah, 2012).

The State Governments in Malaysia are the governments ruling the 13 states in the Federation of Malaysia. It structures similar to the government system of the Federal Government of Malaysia except for minor native judiciary powers in Sabah and Sarawak. All State Governments in Malaysia is ruled by either a Minister or Chief Minister. It functions cover to legislate on matters such as land matters, public works, local government, Islamic law and public holidays (Nur Fatimah, 2012).

The Local Government is the grass-root in the government hierarchy in Malaysia. Local Government takes order either from Federal or State Government to handle local issues that represent the power (Federal or State), which has limited autonomy in terms of financial and administration, have the power to sue and sued by others. The characteristics of Local Government are administered by state councilors, provide obligatory and discretionary to provide goods and services (Nur Fatimah, 2012).

### **2.3 Overview of Malaysian Public Organization**

The Malaysian public organization has undergone various transformations since the independence of our country. From its custodial role in the newly independent country, the public organization had changed and taken an active role in the country's economic development. To date, it is estimated that the Malaysian public organization employs over 1.6 million employees from 28 schemes such as state public service, federal public service, joint public service, education service, judiciary body, legal service, police and armed forces. The Malaysian public organization inherited the legacy of British public service and continued to play an

important role through the years by accommodating the needs of multiracial Malaysia in prospering economic growth and social, towards development and modernization (Nur Fatimah, 2012).

Malaysian public organization has evolved and due to strong challenges faced by the nation, a series of initiatives initiated by Malaysian government one of them is Digital Transformation Programme (DTP). The focus is directed to ICT development within Malaysian public organization and for ICT Strategic Plan 2011-2015, reported 95% was accomplished (MAMPU, 2015). Based on report from MAMPU in 2015, 7 strategic thrusts were introduced which include 21 main activities in prospering national ICT agenda. Table 2.1 summarizes the achievements of Public Sector ICT Strategic Plan for 2011 to 2015.

Table 2.1: Public Sector ICT Strategic Plan 2011-2015

Achievements	Indicator
1. 83% services available online	Overall, 95% was accomplished under ICT Strategic Plan 2011-2015
2. 31 agencies using Digital Document Management System	
3. 200 agencies using MyMesyuarat	
4. 4 pilot projects on Big Data Analytics	
5. 50 ICT experts	
6. 84 agencies using Pusat Data Sektor Awam-1	
7. 50 agencies using Pusat Data Sektor Awam-2	
8. 1Gov.Net implemented in 209 agencies	
9. 284, 027 1Gov Unified Communications users	

Source: MAMPU 2015

## 2.4 Overview of Human Resource Management Information System (HRMIS)

HRMIS is one of the flagships projects and the government has a clear mission to all public organization agencies to implement HRMIS. As shown in Table 2.2, HRMIS objectives comprises of enabling workforce planning and sizing of effective public service, automating operational processes of human resource management, developing an integrated system of human resources, facilitate integration and