

**UNIVERSITI TEKNOLOGI MARA**

**THE ISSUES AND CHALLENGES IN  
IMPLEMENTING SYSTEM INTEGRATION IN  
NON-IT PUBLIC HOSPITALS: A CASE STUDY  
IN TENGKU AMPUAN RAHIMAH HOSPITAL  
KLANG**

**SHAZALIENNA SAHARUDIN**

IT Project submitted in fulfilment of the requirements  
for the degree of

**Master of Science (Information Technology)**

**Faculty of Computer and Mathematical Sciences**

**July 2012**

# THE ISSUES AND CHALLENGES IN IMPLEMENTING SYSTEM INTEGRATION IN NON-IT PUBLIC HOSPITALS: A CASE STUDY IN TENGKU AMPUAN RAHIMAH HOSPITAL KLANG

## ABSTRACT

System integration is required to operate across the Internet or Local Area Network (LAN) and across different domain to support for processes, resources and users. The system integration between relevant departments onto a single computer system that can serve all those different departments' particular needs is complex and these requirements lead to a number of challenges. This report will concentrate on issues and major challenges for which we claim there is no easy solution. These challenges originate from the fact that users and system are becoming increasingly integrated and are effectively leading us to large-scale socio-technical distributed system. The design of integrated system is a challenge when it involves employees as a requirement to proper operation of the system as a whole. The successful implementation of system integration in healthcare does not only depend on technical issues but also acceptability and acceptance issues. The organisation will not gain any benefit unless the integration works are implemented successfully. This report adopts Technology Acceptance Model (TAM) to identify the acceptance from the end users in adopting new technology. TAM specifies the causal relationships between system design features, perceived usefulness, perceived ease of use, attitude toward using and actual usage behaviour. Focus group interviews with end users were done guided by questionnaire. The results of the interviews were categorized into few themes namely overall acceptance, usefulness, usability and behavioural intention.

*Keywords – Local Area Network (LAN), system integration, Technology Acceptance Model (TAM), system design, perceived usefulness, perceived ease of use, attitude toward using, actual usage behaviour*

## ACKNOWLEDGEMENT

*In the name of Allah, the Most Gracious and the Most Merciful*

Alhamdulillah, all praises to Allah for the strengths and His blessing in completing this project report. Special appreciation goes to my supervisor, Dr Shuzlina Binti Abdul Rahman, for her supervision and constant support. Her invaluable help of constructive comments and suggestions have contributed to the success of this research.

Not forgotten, my acknowledgement also goes to all the staffs of Tengku Ampuan Rahimah Hospital, Klang for their co-operations. Sincere thanks to my boss, all my friends for their kindness and moral support during my study.

Last but not least, my deepest gratitude goes to my family and my mother for their endless love, prayer, encouragement and support throughout this report writing. To those who indirectly contributed in this research, your kindness means a lot to me. Thank you very much.

Shazalienna Saharudin, June 2012

# TABLE OF CONTENTS

|                       | Page |
|-----------------------|------|
| STUDENT’S DECLARATION | i    |
| ABSTRACT              | ii   |
| ACKNOWLEDGEMENT       | iii  |
| TABLE OF CONTENTS     | iv   |
| LIST OF TABLES        | viii |
| LIST OF FIGURES       | ix   |
| LIST OF ABBREVIATION  | x    |

## CHAPTER ONE: INTRODUCTION

|                                  |   |
|----------------------------------|---|
| 1.1 Introduction                 | 1 |
| 1.2 Research Background          | 1 |
| 1.3 Problem Statement            | 5 |
| 1.4 Research Aim                 | 5 |
| 1.5 Research Objectives          | 6 |
| 1.6 Research Scope               | 6 |
| 1.7 Significance of the Research | 6 |
| 1.8 Research Outline             | 7 |

## CHAPTER TWO: LITERATURE REVIEW

|                        |    |
|------------------------|----|
| 2.1 System Integration | 8  |
| 2.1.1 Inputs           | 12 |

|  |    |
|--|----|
| 2.1.2 Outputs  | 12 |
| 2.1.3 Activities   | 13 |
| 2.1.4 Advantages of System Integration                               | 14 |
| 2.2 Challenges Of System Integration                                 | 14 |
| 2.3 Impact Of New Technology On Ends Users                           | 17 |
| 2.4 Model of Technology Acceptance                                   | 17 |
| 2.4.1 Theory of Reasoned Action (TRA)                                | 18 |
| 2.4.2 Theory of Planned Behaviour (TPB)                              | 20 |
| 2.4.3 The Unified Theory of Acceptance and Use of Technology (UTAUT) | 22 |
| 2.4.4 Technology Acceptance Model (TAM)                              | 24 |
| 2.5 Summary  | 27 |

### **CHAPTER THREE: METHODOLOGY**

|  |    |
|--|----|
| 3.1 Introduction   | 28 |
| 3.2 Preliminary Study  | 28 |
| 3.3 Research Methodology   | 29 |
| 3.4 Research Planning  | 31 |
| 3.4.1 Research Definition  | 32 |
| 3.4.2 Research Planning  | 32 |
| 3.4.3 Interview Design Questionnaire                             | 32 |
| 3.4.4 Collection of Data   | 32 |
| 3.4.5 Interpretation and Finding                                 | 32 |
| 3.4.6 Report   | 32 |
| 3.5 Research Model   | 33 |
| 3.5.1 Model of Usefulness, Ease of Use and Behavioural Intention | 33 |
| 3.5.2 Variables  | 34 |