UNIVERSITI TEKNOLOGI MARA

THE READINESS OF CLOUD COMPUTING: A CASE STUDY IN POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

FARAH HANIM MOHD FAUZI

Thesis submitted in partial fulfillment of the requirements for the degree of

Master of Science (Information Technology)

Faculty of Computer and Mathematical Sciences

January 2014

ABSTRACT

Cloud computing is a new technology that provides flexible and massive online computing power. There are many cloud computing systems nowadays, for example Google, Windows, IBM and Amazon. Nowadays, the demands for computing resources were increase. The companies would found that, by using outside computing resources was more economical than build a new computing capacity internally. Mostly, cloud computing allows a company to expand their network and server infrastructure. Some of cloud computing services will add more network and server capacity to company web sites as demand for services of the Web site increase. The readiness to adopt new technology requires a deep understanding of the technology and the adoption factors that drive the organization to make decision to adopt new technology. This study aims to investigate the readiness towards Cloud Computing in Politeknik Sultan Salahuddin Abdul Aziz Shah. The significance for this research is this study will contribute for some ideas and understanding about cloud computing implementation in the organization especially for the researchers who are doing a research on the effectiveness of cloud computing application. This study will be conducted at Unit Teknologi Maklumat (UTM) and Jabatan Matematik, Sains and Komputer, Politeknik Sultan Salahuddin Abdul Aziz Shah and focus on the readiness towards cloud computing application. Conceptual Model for Cloud Computing Adoption is a model used to identify the factors that drive an organization to get ready in implementing Cloud Computing services. The level of readiness to adopt Cloud Computing will be investigated by using Cloud Computing Maturity Model, which consists of maturity assessment and adoption assessment. Responses from IT experts from Politeknik Sultan Salahuddin Abdul Aziz Shah were analyzed and the rating scores from the assessments will indicate the level of readiness towards cloud computing in PSA. The expected results for this study will help the organization to measure the level of readiness towards cloud computing application. Besides, the study also helps to measure how the organization accepted, embrace and applied cloud computing within their organization. The recommendation for this study is the study should be explored with large size of respondents includes students. Besides, other recommendation is the top managements should be chosen as one of the respondents to get more accurate evaluations and results.

ACKNOWLEDGEMENT

Bismillahhirrahmannirrahim

In completion of this thesis, all praise to Allah the Almighty for His love and strength to empower me to successfully conclude this study. My gratitude also goes to my supervisor, Madam Mudiana Mokhsin @ Misron for her precious guidance and encouragement during the completion of my thesis. This thesis would not been the same as presented, without her continual support and advices.

My hearties gratitude and thanks goes to my family for their encouragement, love, prayer, patience and trust while providing comfort during the raining days.

Last but not least, I offer my regards and blessings to all of those who supported me in any respect during the completion of this thesis.

TABLE OF CONTENTS

		Page
STU	DENT'S DECLARATION	ì
ABS	STRACT	ii
ACK	KNOWLEDGEMENT	iii
TAB	BLE OF CONTENTS	iv
LIST	Γ OF TABLES	vii
LIST OF FIGURES		
CHA	APTER 1: INTRODUCTION	1
1.1	Introduction	1
1.2	Project Background	2
1.3	Problem Statement	4
1.4	Project Aim	5
1.5	Project Objectives	6
1.6	Project Scope	6
1.7	Project Significance	6
1.8	Project Outline	7
CHA	APTER 2: LITERATURE REVIEW	9
2.1	Introduction	9
2.2	Cloud Computing	9
2.3	Types of Cloud Services	10
2.4	Advantages of Cloud Computing	12
2.5	Benefits of Migration to Cloud Computing	14
2.6	Criteria of Readiness for Cloud Computing	15
2.7	The Characteristics of Cloud Computing	17

2.8	Summary	17
CHA	PTER 3: METHODOLOGY	18
3.1	Introduction	18
3.2	Research Design	18
	3.2.1 Qualitative Research Method	19
	3.2.2 Quantitative Research Method	19
3.3	Selected Research Design	20
	3.3.1 Interview	22
	3.3.2 Questionnaire	24
3.4	Research Methodology	24
	3.4.1 Phase 1	25
	3.4.2 Phase 2	25
	3.4.3 Phase 3	25
	3.4.4 Phase 4	28
3.5	Model for Cloud Computing Maturity Assessment	28
	3.5.1 Details of Domain for Assessment	29
	3.5.2 Level of Maturity Assessment	31
	3.5.3 Level of Adoption Assessment	32
3.6	Summary	33
CHA	PTER 4: RESULTS	34
4.1	Introduction	34
4.2	Factors of Adoption to Cloud Computing	34
4.3	Conceptual Model for Cloud Computing Adoption Interview Evaluation	36
4.4	Cloud Computing Maturity Model Survey Evaluation	40
	4.4.1 Organizational Background	40
	4.4.2 Maturity Assessment Results	41
	4.4.3 Adoption Assessment Results	42
4.5	Summary	42