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**CONSUMER RESISTANCE TO INNOVATION AMONG PUBLIC  
UNIVERSITIES' STUDENTS IN PAKISTAN**



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**UUM**  
Universiti Utara Malaysia

**DOCTOR OF PHILLOSPHY  
UNIVERSITI UTARA MALAYSIA  
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**CONSUMER RESISTANCE TO INNOVATION AMONG PUBLIC  
UNIVERSITIES' STUDENTS IN PAKISTAN**

**By**



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**UUM**  
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**Kolej Perniagaan**  
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## ABSTRACT

Implementations of technological innovations have been playing key roles for firms to grow and survive in the long run particularly in a dynamic and complex market and unstable economic conditions. The success of any innovation in the market which highly depends on consumers could be one of the potential factors behind the failure of the innovation. Research on innovation resistance is still in infancy and effort to describe the resistance as well as understanding the consumers' resistance to innovation still require in-depth investigations including the context of resistance to innovation. As a response to this problem, this study examines the consumers' resistance to innovation through measuring the resistance to smartphones. This study is grounded by the resistance to innovation and appraisal theories. In the research framework, this study includes consumers' characteristics (motivation, self-efficacy, emotion (negative), and attitude towards existing product) and innovation characteristics (relative advantage, perceived risk, complexity, social influence, and price). A cross sectional, survey data was gathered from 307 university students of four public universities in Pakistan via self-administered survey questionnaires. They were statistically tested using PLS (SEM) path modeling. The results demonstrate the concept of consumers' resistance to innovation in the context of Pakistan. The results also reveal that majority of the main consumers' and innovation characteristics (complexity, emotion (negative), motivation, price, self-efficacy, social influence, and consumers' innovativeness (moderator) have significant influence on consumers' resistance to smartphone. However, three consumers' and innovation characteristics (relative advantage, perceived risk, and attitude towards existing product) are insignificant with consumers' resistance to innovation. The significant factors are good predictors of consumers' resistance to innovation. Based on the findings of the study, the theoretical and practical contributions are described. The limitations of the study are discussed and suggestions for future studies are also deliberately addressed.

**Keywords:** resistance to innovation, consumer characteristics, innovation characteristics, innovativeness, smartphone

## ABSTRAK

Pelaksanaan inovasi teknologi memainkan peranan yang penting untuk membolehkan firma berkembang dan terus bertahan dalam tempoh jangka masa yang panjang, khususnya dalam pasaran yang dinamik serta kompleks dan dalam keadaan ekonomi yang tidak stabil. Kejayaan sebarang inovasi dalam pasaran yang banyak bergantung kepada para pengguna merupakan satu faktor yang menerangkan kegagalan inovasi. Kajian tentang rintangan terhadap inovasi masih berada pada peringkat awal dan usaha untuk menerangkan rintangan dan memahami rintangan pengguna terhadap inovasi, termasuklah konteks rintangan terhadap inovasi, memerlukan penelitian yang mendesak. Oleh yang demikian, kajian ini menyelidik rintangan pengguna terhadap inovasi dengan mengukur daya rintangan terhadap telefon pintar. Kajian ini dilaksanakan berdasarkan teori rintangan terhadap inovasi dan teori penilaian. Kerangka kajian meliputi ciri-ciri pengguna (motivasi, efikasi sendiri, emosi (negatif) dan sikap terhadap produk sedia ada) dan ciri-ciri inovasi (kelebihan relatif, risiko anggapan, kerumitan, pengaruh sosial, dan harga). Data tinjauan yang merentas bahagian telah dikutip daripada sejumlah 307 orang penuntut universiti daripada empat universiti awam di Pakistan menerusi tinjauan soal selidik yang ditadbir sendiri. Data soal selidik diuji secara statistik dengan menggunakan pemodelan laluan PLS (SEM). Hasil dapatan memperlihatkan konsep rintangan pengguna terhadap inovasi dalam konteks di Pakistan. Dapatan juga memaparkan bahawa kebanyakan ciri utama pengguna dan inovasi (kerumitan, emosi (negatif), motivasi, harga, efikasi sendiri, pengaruh sosial) dan daya pembaharuan pengguna (sebagai penyederhana) mempunyai pengaruh yang signifikan terhadap rintangan pengguna kepada telefon pintar. Walau bagaimanapun, tiga ciri pengguna dan inovasi, terutamanya kelebihan relatif, risiko anggapan, dan sikap terhadap produk sedia ada didapati tidak signifikan dalam rintangan pengguna terhadap inovasi. Faktor yang signifikan merupakan peramal yang baik untuk rintangan pengguna terhadap inovasi. Sumbangan teori dan amali diterangkan berdasarkan dapatan kajian. Selain itu, batasan kajian serta saranan untuk kajian akan datang turut dikupas dengan terperinci dalam kajian ini.

**Kata kunci:** rintangan terhadap inovasi, ciri-ciri pengguna, ciri-ciri inovasi, daya pembaharuan, telefon pintar

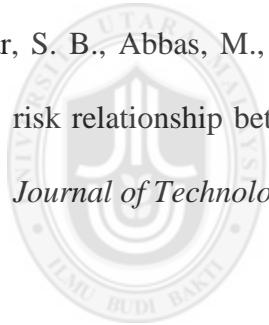


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## TABLE OF CONTENTS

<b>PERMISSION TO USE.....</b>	<b>II</b>
<b>ABSTRACT.....</b>	<b>III</b>
<b>ABSTRAK.....</b>	<b>IV</b>
<b>PUBLICATION.....</b>	<b>V</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>VI</b>
<b>TABLE OF CONTENTS.....</b>	<b>VII</b>
<b>LIST OF TABLES.....</b>	<b>XII</b>
<b>LIST OF FIGURE.....</b>	<b>XIV</b>
<b>LIST OF ABBREVIATION.....</b>	<b>XV</b>
<b>CHAPTER ONE INTRODUCTION.....</b>	<b>1</b>
1.1 Introduction.....	1
1.2 Background of the Study.....	1
1.3 Problem Statement.....	9
1.4 Research Questions.....	17
1.5 Research Objectives.....	18
1.6 Significant of the Study.....	19
1.7 Scope and limitation.....	20
1.8 Operational Definitions of Variables.....	21
1.9 Organization of the Thesis.....	23
<b>CHAPTER TWO LITERATURE REVIEW.....</b>	<b>25</b>
2.1 Introduction.....	25
2.2 The Concept of Innovation.....	25
2.3 Defining Innovation.....	26
2.4 Technological Innovation.....	27
2.5 Types of Innovation.....	28
2.6 Defining Innovativeness.....	28
2.7 Smartphone Definition.....	30
2.8 Consumer Resistance to Innovation.....	31
2.9 Gap of the Study.....	37
2.10 Sheth Model.....	38
2.11 Ram's Model.....	39
2.12 Yu and Lee Model.....	41
2.13 Technological Acceptance Model.....	43

2.14	Related Studies of Consumer Resistance to Innovation .....	43
2.15	Underlying Theories of Innovation Resistance .....	49
2.15.1	Innovation Resistance Theory.....	49
2.15.2	Appraisal Theory.....	53
2.16	Factors Affecting the Consumer Resistance to Innovation .....	55
2.17	Innovation Characteristics.....	56
2.17.1	Relative Advantage .....	56
2.17.2	Perceived Risk.....	60
2.17.3	Complexity.....	67
2.17.4	Social Influence.....	69
2.17.5	Price .....	73
2.17.6	Consumer Characteristics Factors.....	77
2.17.7	Motivation.....	78
2.17.8	Self-Efficacy .....	81
2.17.9	Emotions (Nrgative).....	87
2.17.10	Attitude towards existing product.....	91
2.18	Moderating Variables .....	93
2.18.1	Consumer Innovativeness .....	93
2.19	Theoretical Framework .....	97
2.20	Hypotheses .....	98
2.20.1	Relationship between Relative Advantage and Resistance to Innovation .....	99
2.20.2	Relationship between perceived risk and resistance to innovation.....	101
2.20.3	Relationship between complexity and resistance to Innovation .....	104
2.20.4	Relationship between Social Influence and Resistance to Innovation.....	107
2.20.5	Relationship between Price and Consumer Resistance to Innovation .....	111
2.20.6	Relationship between motivation and consumer resistance to innovations. .	114
2.20.7	Relationship between Self-Efficacy and Consumer Resistance to Innovation .....	115
2.20.8	Relationship between emotions (Negative) and consumer resistance to innovation .....	117
2.20.9	Relationship between attitude towards existing product and consumer resistance to innovation .....	120
2.20.10	Relationship between consumers innovativeness (Moderator) and consumer resistance to innovation .....	122

2.20.11	Moderating effect of consumer innovativeness on the relationship between consumer characteristics, innovation characteristics and consumer resistance to innovation .....	124
2.21	Summary .....	128
<b>CHAPTER THREE      METHODOLOGY .....</b>		<b>129</b>
3.1	Introduction .....	129
3.2	Research Design.....	129
3.3	Research Scale and Instrument Development.....	131
3.4	A Pilot Study.....	135
3.5	Measurement of variables or instrumentations .....	136
3.5.1	Consumer Resistance to Innovation.....	136
3.5.2	Relative Advantage .....	137
3.5.3	Perceived Risk.....	137
3.5.4	Complexity.....	137
3.5.5	Social Influence.....	138
3.5.6	Price .....	138
3.5.7	Motivation.....	138
3.5.8	Self-Efficacy .....	139
3.5.9	Emotions .....	139
3.5.10	Attitude towards existence product.....	140
3.5.11	Consumer Innovativeness (Moderator).....	140
3.6	Demographic Information .....	141
3.7	Data Collection.....	141
3.8	Difficulties in Data Collection .....	142
3.9	Quantitative Research .....	142
3.10	Translation of the Questionnaire .....	144
3.11	Population and Sampling of the Study.....	144
3.12	Sampling Technique and Data Collection Procedure .....	149
3.13	Techniques of Data Analysis.....	153
3.14	Summary .....	157
<b>CHAPTER FOUR              DATA ANALYSIS .....</b>		<b>158</b>
4.1	Introduction .....	158
4.2	Response Rate Analysis .....	158
4.3	Test of Non-Response Bias.....	160
4.4	Demographic Analysis.....	162

4.5	Data Coding.....	165
4.6	Preliminary Analysis and Data Screening.....	166
4.6.1	Missing Value Analysis .....	167
4.6.2	Descriptive Statistics of the Study .....	168
4.7	Model Evaluations.....	169
4.7.1	Measurement Model .....	169
4.7.2	Discriminant Validity.....	174
4.8	Structural Model.....	176
4.9	Assessment of effect size (f-squared).....	181
4.10	The Moderating Effects.....	182
4.10.1	Interaction Effect between Consumer Innovativeness and Attitude towards Existing Product.....	185
4.10.2	Interaction Effect between Consumer Innovativeness and Complexity .....	186
4.10.3	Interaction Effect between Consumer Innovativeness and Self-Efficacy....	187
4.10.4	Interaction Effect between Consumer Innovativeness and Social Influence	188
4.10.5	Interaction Effect between Consumer Innovativeness and Price.....	189
4.10.6	Interaction Effect between Consumer Innovativeness and Relative Advantage .....	190
4.10.7	Interaction Effect between Consumer Innovativeness and Perceived Risk.	191
4.10.8	Interaction Effect between Consumer Innovativeness and Motivation .....	192
4.10.9	Interaction Effect between Consumer Innovativeness and Emotion (Negative) .....	193
4.11	The determining of strength of moderating effects .....	195
4.12	Determining the Predictive Relevance of the Model .....	197
4.13	Summary of Findings .....	198
<b>CHAPTER FIVE DISCUSSION AND CONCLUSION .....</b>		<b>200</b>
5.1	Introduction .....	200
5.2	Recapitulation of the Study .....	200
5.2.1	The causal relationship between innovation characteristic factors and consumer resistance to innovation.....	203
5.2.2	Direct relationship between relative advantage and consumer resistance to innovation .....	203
5.2.3	Direct Relationship between Price and Consumer Resistance to Innovation .....	206
5.2.4	Direct Relationship between Social Influence and Consumer Resistance to Innovation .....	208

5.2.5	Direct Relationship between Complexity and Consumer Resistance to Innovation .....	211
5.2.6	Direct Relationship between Perceived Risk and Consumer Resistance to Innovation .....	213
5.2.7	The causal relationship between consumer characteristics factors and consumer resistance to innovation.....	215
5.2.8	Direct Relationship between Motivation and Consumer Resistance to Innovation .....	215
5.2.9	Direct Relationship between Self-Efficacy and Consumer Resistance to Innovation .....	217
5.2.10	Direct Relationship between Emotion (Negative) and Consumer Resistance to Innovation .....	218
5.2.11	Direct Relationship between Attitude towards Existing Product and Consumer Resistance to Innovation .....	220
5.2.12	Direct Relationship between consumer innovativeness and Consumer Resistance to Innovation.....	222
5.2.13	Factors of consumer and innovation attributes largely influence/determine consumer resistance to innovation.....	224
5.3	Moderating Effect of consumer innovativeness.....	226
5.3.1	Consumer Innovativeness Moderates the Relationship between Price and Consumer Resistance to Innovation .....	227
5.3.2	Consumer Innovativeness Moderates the Relationship between Self-Efficacy and Consumer Resistance to Innovation.....	229
5.3.3	Consumer Innovativeness Moderates the Relationship between Motivation and Consumer Resistance to Innovation.....	230
5.3.4	Consumer Innovativeness Moderates the Relationship between Emotion (negative) and Consumer Resistance to Innovation .....	231
5.3.5	Insignificant Effect.....	234
5.4	Contributions of the Research .....	236
5.4.1	Theoretical Contribution .....	236
5.4.2	Methodological Contribution.....	240
5.4.3	Managerial Contribution .....	241
5.4.4	Limitations and Suggestions for Future Studies .....	243
5.5	Conclusion.....	246
	REFERENCES.....	248
 <b>APPENDICES</b>		
	Appendix A: Questionnaire.....	313
	Appendix B: Factor Loadings.....	321

## LIST OF TABLES

Table: 1.1	Annual Mobile Phone Users in Pakistan (PTA)	4
Table: 1.2	Definition of Operational Termonologies	21
Table: 2.1	Summary of the Studies at Individual Level	36
Table: 3.1	Measurements of Study Variables	134
Table: 3.2	Cronbach's alpha for the Variables in Pilot Study	136
Table: 3.3	Population of the Study	147
Table: 3.4	Sample Size of the Study	148
Table: 3.5	Distribution of the Questionnaire to the Respondents	153
Table: 4.1	Response Rate of the Questionnaires	159
Table: 4.2	Test of Non Response Bias	161
Table: 4.3	Demographic Profile of Response	165
Table: 4.4	Variable Coding	165
Table: 4.5	Results of Descriptive Statistics of the Study Variables	168
Table: 4.6	Construct Reliability, Cronbachs Alpha, and Composite Reliability and AVE Of all the Latent Variables	173
Table: 4.7	Discriminant Validity Matrix	175
Table: 4.8	Results of hypothesis testing (Direct effects)	180
Table: 4.9	Effect size of Latent Variables	182
Table: 4.10	Moderator Hypothesis Testing	184
Table: 4.11	Effect size of ( $f^2$ ) moderating variables	197
Table: 4.12	Construct Cross Validated Redundancy	198





## LIST OF FIGURE

Figure: 1.1	Increasing Usage of Smartphone	6
Figure: 1.2	Smartphone's Sales Quarter 3 2013	8
Figure: 2.1	Sheth Model	39
Figure: 2.2	Ram Model	41
Figure: 2.3	Yu and Lee Model	42
Figure: 2.4	Proposed Framework	99
Figure: 4.1	Two-Step Process of PLS Path Model Assessment	170
Figure: 4.2	Measurement Model	171
Figure: 4.3	Structural Model Direct Relationships	177
Figure: 4.4	Interaction effect between Consumer Innovativeness and Attitude towards Existing Product	186
Figure: 4.5	Interaction effect between consumer innovativeness and complexity	187
Figure: 4.6	Interaction effect between consumer innovativeness and self-efficacy	188
Figure: 4.7	Interaction effect between consumer innovativeness and social influence	189
Figure: 4.8	Interaction effect between consumer innovativeness and price	190
Figure: 4.9	Interaction effect between consumer innovativeness and relative Advantage	191
Figure: 4.10	Interaction effect between consumer innovativeness and Perceived Risk	192
Figure: 4.11	Interaction effect between consumer innovativeness and motivation	193
Figure: 4.12	Interaction effect between consumer innovativeness and emotion (Negative)	194
Figure: 4.13	Structural Model with Moderating Variables	195

## LIST OF ABBREVIATION

ATEP	:	Attitude towards Existing Product
AVE	:	Average Variance Extracted
BMI	:	Business Monitor International
BZU	:	Bahahuddin Zakrya University
CFA	:	Confirmatory Factor Analysis
CI	:	Consumer Innovativeness
CNET	:	Communication Network
COM	:	Complexity
COMSATS	:	Commission on Science and Technology in Sustainable Development of South
CR	:	Consumer Resistance
DTPB	:	Decomposed Theory of Planned Behavior
EMO	:	Emotion
GU	:	Gomal University
IDT	:	Innovation Diffusion Theory
IOS	:	Internetwork Operating System
IUB	:	Islamia University Bahawalpur
KPK	:	Khaibar Paktonkhawa
LG	:	Lucky Goldstar
MOT	:	Motivation
MPCU	:	Model of Personal Computer Utilization
OECD	:	Organization for Economic Cooperation and Development

PDA	:	Personal Digital Assistance
PEOU	:	Perceived Ease of Use
PIM	:	Personal Information Management
PLS	:	Partial Least Square
PR	:	Perceived Risk
PTA	:	Pakistan Telecommunication Authority
PU	:	Perceived Usefulness
RA	:	Relative Advantage
SE	:	Self-Efficacy
SEM	:	Structural Equation Modeling
SI	:	Social Influence
S-Q-R	:	Simulate-Organism-Response
TAM	:	Technology Acceptance Model
TPB	:	Theory of Planned Behavior
TRA	:	Theory of Reasoned Action
UTAUT	:	Unified Theory of Acceptance and Use of Technology
VIP	:	Very Important Person

# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

This chapter provides the overview of the following points: background of the study, problem statement, research questions, research objectives, significance of the study, scope of the research, limitation of the study, organization of this thesis and provides summarized version of chapter one, respectively.

### 1.2 Background of the Study

The worldwide Smartphone users are recorded as 3 billion in 2007; and more than 4 billion in 2008 and is now expected to increase 5.5 billion by the end of 2013. Likewise, according to Boxal (2015), the number of users is anticipated to increase from 4 billion to 6.1 billion by 2020. While seeking the maximum growth, particularly Asian region is a land of maximum smartphone users. Globally, the mobile-phone technology has been rapidly growing; for instance, 4 billion smartphone users were recorded in mid-2011; whereas, according to Digitalbuzz (2011), 1.08 billion users, making 57% of the worldwide population, have been using a personal digital assistant (PDA). Over the previous years, a majority of the smartphones users' growth in the regions of Asia Pacific Region, Africa, the Middle East and Latin America, is expected to continue growing with high pace (Worldwide Mobile Market, 2009).

The contents of  
the thesis is for  
internal user  
only

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## APPENDIXES A QUESTIONNAIRE

### UUM SCHOOL OF TECHNOLOGY MANAGEMENT

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Dear Participant,

The purpose of the attached survey is to understand the Innovation characteristics and consumer characteristics regarding the consumer resistance to the innovation by the individual student's in Pakistan in Public Universities of Pakistan. There are some statements given in this survey which you are requested to answer. This questionnaire is designed to assess your perception resistance to innovation.

There is no right or wrong answers in this survey. All your answers will reflect your personal opinion about the innovation characteristics and consumer characteristics with the moderating role of consumer innovativeness in the field of technological innovation. Individual responses to this survey will be kept **CONFIDENTIAL** and will **NOT** be disclosed. Your institution will **NOT** have access to the information you have provided herein. **No reference** will be made in written or oral materials that could link you to this study. **Only grouped data will be reported in the results.**

Please read carefully the instruction at the beginning of each section, and answer all the statements as accurately as possible. Your time and cooperation will be greatly appreciated. Please take a few minutes to fill out this survey questionnaire.

Thank you in advance for taking time to complete this survey.

Yours faithfully,

Mazhar Abbas

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1 = Disagree very much | 2 = Disagree moderately | 3 = Disagree slightly | 4 = Agree slightly | 5 = Agree moderately | 6 = Agree very much |

Relative Advantage		1	2	3	4	5	6
1	<b>Smartphones are more convenient, reliable, and useful than normal mobile phones.</b> (Smartphone munasib, reliable aur am mobile se ziada isstemaal k qabil hay)						
2	<b>The Smartphone has good integration of a wide range of functions and services.</b> (Smartphone bohut achi services and functions ka majmooaa hay)						
3	<b>Smartphone are more fashionable, stylish, and trendy.</b> (smartphone ka design aur isska style bohut khoobsoorat hay)						
4	<b>The price or quality relationship is acceptable in Smartphone, as I can enjoy other free services (e.g. E-mail, voicemail, MSN &amp; Skype, word processor) anywhere I want.</b> (Smartphone ki qeemat aur quality qabil-eqabool hay jis se me isski tamam free services kisi bhi jaga isstemaal aur enjoy ker sakta hon)						
5	<b>Smartphones bigger screen and full keyboard make different functions easier to use.</b> (Smartphone ki screen aur keyboard baray hain aur iss se isko isstemaal kerna bohut assan hay)						

Self-Efficacy		1	2	3	4	5	6
1	<b>I know how to use smartphones.</b> (Main janta hoon Smartphone ko kesay isstemaal kerna hay)						
2	<b>I am confident of understanding and using smartphone.</b> (Main Smartphone ko samjhney aur isstemaal kernay se mutmaieen hoon)						
3	<b>I am comfortable with using technical and advanced consumers' products (e.g. mp3 player, computer, digital camera, PDA, etc).</b> (Main bohut easy mehsoos kerta hoon tamam electronics ki masnoaat ko isstemaal ker k)						
4	<b>I would be able to use smartphone, even if I have never used it before.</b> (Main ne pehlay kabhi isstemaal ni kia Smartphone ki iss k bawajood me issko use kernay k qabil hoo jaionga)						

<b>Motivation</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	<b>It is very exciting and entertaining to use smartphones (Ye bohot dilchasp aur Smartphone ko isstemaal kernay se tafreeh milti hay)</b>						
2	<b>Using smartphone would be helpful to my work (Smartphone k isstemaal se apnay kaam ma madadgaar sabit hooga)</b>						
3	<b>I need smartphone for its new features/functions. (Mujhay Smartphone ki nai khasoosiat aur function ki waja se isski zarurat hay).</b>						
4	<b>I have intentions to use smartphone in the near future. (Mustakbil qareem ma Smartphone isstemaal kernay ka irada rakhta hoon)</b>						

<b>Attitude towards existing Product</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	<b>I do not like the idea of putting so many functions together in a cell phone. (Main ek mobile phone ma ek sath bohot se functions ya kaam kernay ko pasand nahi kerta)</b>						
2	<b>I am quite satisfied and have favorable attitude towards normal mobile phones. (Main bohot mutmaeen hoon aur am mobile phones bohot achay hain)</b>						
3	<b>I prefer compact and handy mobile phones. (Main compact aur assan mobile ko targee daita hoon)</b>						

<b>Complexity</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	<b>Smartphones may be complex to use. (Smartphone isstemaal kernay ma pecheeda hoo sakta hay)</b>						
2	<b>Understanding and using smartphones may require more skills and or mental effort. (Smartphone ko sahnay aur isstemaal kernay ma ziada maharat aur zehni koshish ki zarurat hoti hay)</b>						
3	<b>It may be a bit difficult to understand internet, gaming, mp3, and PDA functions in smartphones. (Smartphone ma internet, game, aur PDA afaal ko samjhna thora mushkil hay)</b>						
4	<b>It may be difficult to make updates &amp; put new software in smartphones. (Ye update kalye Smartphone ma nai software dalna mushkil hay)</b>						

Perceived Risk		1	2	3	4	5	6
1	<b>Smartphone performance may not meet my expectations.</b> (Smartphone ki kargardagi meri twaqooaat ko pooraa ni ker saktay hain)						
2	<b>I afraid of getting out of battery, while I need to use smartphone for a long time.</b> (Mujhay ek taweel waqat kalye Smartphone isstemaal kernay ki zarurat hay aur lambay arsay kalye batry bhi isstemaal kernay ki zarurat hay)						
3	<b>I fear of losing much money if I lost/broke my smartphone.</b> (Mujahy Smartphone gum hoonay aur tootnay se raqam doobnay ka khoof hay)						
4	<b>I fear of losing my personal information and other important data, if I lost my smartphone.</b> (Main ne ager Smartphone ko khoo dia to tu meri zaati maloomat degar ahham data khoonay ka khoof hay)						
5	<b>It is risky to spend relatively more money for buying a smartphone.</b> (Ye ek Smartphone khareednay nisbatan ziada paisa kharch kernay per khatra hay)						
6	<b>Smartphone can easily break if dropped etc., and may stop functioning.</b> (Smartphone girr jai tu tootnay ka khatra aur iss k kaam kerna bhi ruk sakta hay)						

Social Influence		1	2	3	4	5	6
1	<b>Friends and family are very helpful to me in making decision of buying smartphone.</b> (Dostoo aur family walay Smartphone khareednay ma bohot madadgaar saabit hotay hain)						
2	<b>I will ask the openions from my friends and family when buying a smartphone.</b> (Jab me Smartphone khreedoonga tu apnay dostoo aur family se mashwara ker k loonga)						
3	<b>Friends and family give me a valuable advice when I buying a smarphone.</b> (jab me ne Smartphone khareedna hoo to doost aur family walo ne bohot qeemti aara daitay hain)						
4	<b>I trust my friends and family about their openions and advices of smartphones.</b> (Mujhay apni family aur dostoo k mashwaray per bohot aitmaad hay)						
5	<b>I will purchase a smartphones because my friends and family recommend to me.</b> (Main Smartphone khareedoonga q k meri khandaan aur dostoon ne kaha hay)						

Price		1	2	3	4	5	6
1	<b>Price is the most important factor when purchasing Smartphone.</b> (jab smartphone khareedna hoo to qeemat bht aham rukun hay)						
2	<b>I compare prices of other Smartphone's brands and store brands before I choose one.</b> (Khareednay se pehlay me ne smartphone aur dossray brands ki qeematoon ko compare kia)						
3	<b>I buy Smartphone because they are worth to used regarding between with their price &amp; usage quality.</b> (Main ne smartphone isi lye khareeda kuin k ye qeemat aur quality wise bht acha hay)						
4	<b>I am uncertain which Smartphone's brands provide real value for money in terms of product quality</b> (mujhay thoora shaak hay k smartphone brand asal value daita hay k ni)						
5	<b>The cheapness of some Smartphone's brand suggests to me that they may have some risks, such as low quality.</b> (Sasta smartphone hoosakta hay laina khatra na hoo quality burin a hoo)						

Emotions		1	2	3	4	5	6
1	<b>I feel angry with smartphone purchase decision</b> (Main smartphone ki khareedaari k faislay ma gussa mehsoos kerta hn)						
2	<b>I feel irritated with your smartphone purchase decision</b> (Main smartphone ki khareedari k faislay per jalan mehsoos kerta hn)						
3	<b>I feel frustrated with the usage of smartphone.</b> (Mian smartphone k isstemaal k sath mayoosi mehsoos kerta hn)						
4	<b>I scared from the usage of smartphone</b> (Main smartphone k isstemaal se darr mehsoos kerta hn)						
5	<b>I afraid to buy the smartphone</b> (Main smartphone khareednay ma khoof mehsoos ker raha hn)						
6	<b>I am anxious to purchase the smartphone</b> (Main smartphone ki khareedari kalye bohot fikar mand hoon)						

<b>Consumer Innovativeness (Moderator)</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	<b>I am really interested in learning about new products (new brands, quality, and improvements).</b> (Main nai massnooat ma dilchaspi rakhta hoon).						
2	<b>Right now, I am using many of new products.</b> (Ab tak me ne bohot new cheezain isstemaal ki hain)						
3	<b>I think new product are really useful</b> (Meray khayal ma nai cheezain isstemaal k qabil hain)						
4	<b>I love to try new products before anyone else</b> (Mujhay nai cheezain isstemaal kernay ko pasand kerta hoon)						
5	<b>Presently I am using new products and services appealing to me</b> (Main aaj kal nai cheezain isstemaal ker raha hn)						
6	<b>People often ask me to give my opinion about products (new brands, quality, and improvements).</b> (loog mujhay nai masnooat k baray ma mashwara daitay hain jaisay new brand, qeemat etc)						
7	<b>Lately, I have been hearing a lot about new products appealing to me</b> (Haal he ma ne nai cheezo k baray ma bohot suna hay)						

<b>Consumer Resistance to Innovation</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	<b>I will wait to buy smartphone till it proves beneficial for me.</b> (Maian intezaar karoonga smartphone kalye jab tak ye meray lye faida mand saabit ni hota)						
2	<b>I need to clarify some queries and justify the reason to buy smartphone.</b> (Main ne kuch sawaalat ko wazay aur smartphone ko khareednay kalye kiwaja se jawaz paish kernay ki zarurat hay)						
3	<b>I am waiting for the right time and required capability to buy smartphone.</b> (main smartphone khareednay kalye darust waqat aur matlooba salahiyat kalye intezaar ker raha hoon)						
4	<b>Buying smartphone maybe a wastage of money.</b> (Smartphone khareedna shayad paisay ka zia hay)						
5	<b>I fear of wasting my time using smartphones.</b> (Mian smartphone ko isstemaal kertay howay apna waqat barbaad ker k khoof mehsoos kerta hn)						
6	<b>Smartphone may decrease my autonomy.</b> (Smartphone meri khud mukhtaari kam ker sakta hay)						
7	<b>I need to get a solution for some of my complaints / objections before I buy smartphone.</b> (Main ne apni shikayaat ma se kuch kalye ek hul hasil kernay kalye						

	zarurat hay aur ittrezaat ma smartphone khreednay se pehlay soochta hoon)						
8	<b>I fear of certain changes smartphone may impose on me.</b> (smartphone ki kuch tabdeeliyon se mujhay khoof aata hay)						
9	<b>It is unlikely that I buy smartphone in the near future.</b> (Ye mustakbil kareeb ma smartphone khareednay k imkaan nahi hain)						
10	<b>I don't need smartphone</b> (Mujahy smartphone ki zarurat nahi hay)						
11	<b>Smartphone is not for me.</b> (Smartphone meray lye nahi hay)						



**UUM**  
Universiti Utara Malaysia

## Demographic Information

1- What is your gender?(aap ki jins kia hay)

Male  Female

2- What is Your Province? (aap ka sooba konsa hay)

Punjab  Sindh  Balouchistan  KPK

Please mention your age (Baraay meharbani umer bataien)

20-30  30-40  40-50  50-above

3- What is your Current Study Program? (aapka mojudoda taalemi shooba konsa hay)

Bachelor Degree  Master  PhD

4- Your Mobile Phone Service Provider? (aap kon si mobile service isstmaal kertay hain)

Ufone  Mobilink  Telenor  Warid  Zong

5- Which Type of Mobile Service You May Subscribe? (aap ne konsi service isstmaal ker rahay hain)

Prepaid  Postpaid

6- What is the brand of your Smartphone? (Mention Below) (aap k mobile ka model konsa hay)

Nokia  Samsung  LG  Apple

7- What is your Mod of study?(aapka taleemi silsala konsa hay)

Full Time Student  Distance Learning  Part Time

8- Personal spending monthly? (aapki monthly jaib kharach kitna hay)

10000

10001-15000

15001-20000

20001-25000

25001-Above

Thank you for your time and effort

## APPENDIXES B

### Factor Loadings

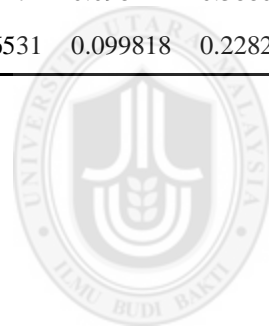
	<b>ATEP</b>	<b>CI</b>	<b>COM</b>	<b>CR</b>	<b>EMO</b>	<b>MOT</b>	<b>P</b>	<b>PR</b>	<b>RA</b>	<b>SE</b>	<b>SI</b>
<b>ATEP2</b>	<b>0.86401</b>	0.151586	0.338389	0.244984	0.318925	0.135107	0.217121	0.135793	0.122311	0.240711	0.142783
<b>ATEP3</b>	<b>0.84978</b>	0.210588	0.412482	0.233979	0.292784	0.203931	0.232185	0.178644	0.189764	0.093922	0.156162
<b>CI1</b>	0.288067	<b>0.7055</b>	0.22836	0.367091	0.109189	0.554911	0.390715	0.12099	0.492767	0.486107	0.404363
<b>CI3</b>	0.18017	<b>0.72516</b>	0.173779	0.336728	0.084461	0.516281	0.388536	0.202691	0.419587	0.456963	0.361685
<b>CI4</b>	0.101426	<b>0.76036</b>	0.084251	0.310169	0.024685	0.495414	0.323461	0.145881	0.44043	0.439143	0.355887
<b>CI6</b>	-0.01032	<b>0.6631</b>	-0.01006	0.316781	0.026871	0.356006	0.28349	0.067631	0.348376	0.444604	0.330847
<b>CI7</b>	0.028919	<b>0.70904</b>	0.089983	0.35416	0.019462	0.453885	0.373524	0.278379	0.393224	0.367407	0.413806
<b>COM1</b>	0.267802	0.142227	<b>0.73928</b>	0.277787	0.198959	0.149185	0.229545	0.1939	0.164834	0.06805	0.039954
<b>COM2</b>	0.342944	0.184374	<b>0.82077</b>	0.32299	0.253295	0.158702	0.265917	0.218048	0.146849	0.092914	0.165918
<b>COM3</b>	0.394012	0.175567	<b>0.8393</b>	0.328935	0.364027	0.199576	0.203053	0.12719	0.19003	0.07571	0.15656
<b>COM4</b>	0.380872	0.07197	<b>0.73416</b>	0.191949	0.36515	0.089312	0.116619	0.135015	0.07449	0.011799	0.105671
<b>CR1</b>	0.182127	0.410112	0.269892	<b>0.92285</b>	0.235231	0.422583	0.423399	0.226892	0.371977	0.331533	0.37011
<b>CR10</b>	0.173889	0.323115	0.281603	<b>0.90453</b>	0.238633	0.351334	0.340807	0.138325	0.286634	0.239513	0.319844
<b>CR11</b>	0.173889	0.323115	0.281603	<b>0.90453</b>	0.238633	0.351334	0.340807	0.138325	0.286634	0.239513	0.319844
<b>CR2</b>	0.224539	0.293325	0.150189	<b>0.53193</b>	0.11551	0.238891	0.31739	0.263826	0.289203	0.208026	0.278002
<b>CR3</b>	0.3045	0.366234	0.349048	<b>0.63482</b>	0.196038	0.333393	0.374202	0.149628	0.347039	0.257564	0.375983
<b>CR7</b>	0.287488	0.269435	0.364342	<b>0.53354</b>	0.329123	0.281067	0.296055	0.111043	0.23481	0.138186	0.279259



<b>CR8</b>	0.182127	0.410112	0.269892	<b>0.92285</b>	0.235231	0.422583	0.423399	0.226892	0.371977	0.331533	0.37011
<b>EMO1</b>	0.340055	0.115676	0.285011	0.314697	<b>0.89465</b>	0.014143	0.137194	0.031384	0.125714	0.057446	0.154821
<b>EMO2</b>	0.324141	0.118674	0.356927	0.203249	<b>0.83068</b>	0.024368	0.134742	0.098647	0.093426	0.103645	0.067812
<b>EMO3</b>	0.144904	-0.05679	0.260061	0.145127	<b>0.63738</b>	-0.11155	0.010134	-0.02339	-0.01729	-0.03118	0.039216
<b>MOT1</b>	0.188177	0.60992	0.231322	0.434756	0.038539	<b>0.83619</b>	0.366206	0.134972	0.583606	0.628272	0.329118
<b>MOT2</b>	0.191076	0.509958	0.096826	0.288037	-0.02656	<b>0.81832</b>	0.29908	0.125424	0.579784	0.572795	0.317079
<b>MOT3</b>	0.104053	0.559965	0.1186	0.347571	-0.06256	<b>0.75308</b>	0.315477	0.153022	0.494635	0.516998	0.336826
<b>MOT4</b>	0.130086	0.406235	0.144165	0.304003	-0.00282	<b>0.71944</b>	0.324728	0.210979	0.488841	0.416022	0.290897
<b>P2</b>	0.309399	0.438024	0.252224	0.399596	0.091926	0.366355	<b>0.79641</b>	0.439898	0.327423	0.30433	0.408964
<b>P3</b>	0.189991	0.416459	0.19135	0.352327	0.111804	0.39113	<b>0.78347</b>	0.394906	0.390821	0.362154	0.371558
<b>P4</b>	0.119163	0.293152	0.218037	0.389433	0.126284	0.255524	<b>0.76773</b>	0.37593	0.319441	0.327593	0.400623
<b>P5</b>	0.145842	0.313864	0.099641	0.191692	0.046471	0.215785	<b>0.61692</b>	0.37984	0.240488	0.238096	0.296528
<b>PR2</b>	0.194896	0.241046	0.24539	0.162279	0.04524	0.157132	0.372931	<b>0.68329</b>	0.138457	0.056204	0.228864
<b>PR3</b>	0.157118	0.166463	0.223264	0.213704	0.040492	0.158991	0.399454	<b>0.80768</b>	0.179522	0.119235	0.242428
<b>PR4</b>	0.104709	0.125607	0.072497	0.166193	0.037757	0.107062	0.384208	<b>0.7796</b>	0.145469	0.107998	0.209355
<b>PR5</b>	0.119627	0.140682	0.145327	0.138616	0.070083	0.112083	0.393424	<b>0.74393</b>	0.104151	0.125352	0.259643
<b>PR6</b>	0.09176	0.207537	0.092491	0.146061	-0.01296	0.192816	0.416603	<b>0.68144</b>	0.237111	0.227329	0.320031
<b>RA1</b>	0.112862	0.513037	0.158128	0.275129	0.001577	0.525379	0.303966	0.13861	<b>0.74408</b>	0.459953	0.310999
<b>RA2</b>	0.119145	0.42827	0.135669	0.337136	0.081919	0.576043	0.292005	0.135604	<b>0.82888</b>	0.543234	0.344116
<b>RA3</b>	0.205336	0.471044	0.195297	0.321582	0.09256	0.604029	0.333647	0.155185	<b>0.81514</b>	0.530149	0.309601
<b>RA4</b>	0.07982	0.417925	0.064456	0.27747	0.053973	0.481376	0.363458	0.200244	<b>0.72232</b>	0.457276	0.317679

<b>RA5</b>	0.164666	0.440063	0.170033	0.330159	0.148462	0.434781	0.369337	0.204881	<b>0.70655</b>	0.443503	0.323212
<b>SE1</b>	0.187737	0.498692	0.094946	0.274632	0.079474	0.550945	0.349564	0.112868	0.548299	<b>0.86557</b>	0.312583
<b>SE2</b>	0.155135	0.438619	0.093966	0.227109	0.009134	0.519292	0.257053	0.099973	0.482794	<b>0.78722</b>	0.297794
<b>SE3</b>	0.173136	0.511522	0.081232	0.328339	0.085635	0.611601	0.392225	0.183054	0.540178	<b>0.84223</b>	0.32882
<b>SE4</b>	0.073898	0.478608	-0.04988	0.141925	-0.01532	0.484456	0.304738	0.120591	0.433413	<b>0.62415</b>	0.30794
<b>SI1</b>	0.183165	0.44417	0.158622	0.294996	0.108973	0.344939	0.333822	0.197211	0.377165	0.349227	<b>0.7208</b>
<b>SI2</b>	0.066561	0.357702	0.135599	0.300928	0.089336	0.276143	0.373335	0.347103	0.331578	0.239867	<b>0.77205</b>
<b>SI3</b>	0.176388	0.438237	0.113098	0.401975	0.109929	0.360866	0.417838	0.292534	0.333419	0.298171	<b>0.86798</b>
<b>SI4</b>	0.103617	0.427272	0.098421	0.388034	0.075065	0.353593	0.457885	0.274523	0.316747	0.358272	<b>0.8017</b>
<b>SI5</b>	0.15186	0.286531	0.099818	0.228201	0.114609	0.205891	0.333957	0.159459	0.273415	0.256427	<b>0.68717</b>

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## APPENDIX B

بسم الله الرحمن الرحيم

السيد \_\_\_\_\_ المحترم

تحية طيبة ...

م / طلب مقبلة

يرجى التفضل بالموافقة على اجراء مقابلة مع سيدتكم حول موضوع (تبادل المعلومات بين الدوائر احد تطبيقات الحكومة الالكترونيه ذي قار / العراق) لكوني طالب دكتوراه في قسم الحاسبات في جامعة اوتارا الماليزية . هذه الدراسة تعمل على التحقق وكثشاف العوامل التي قد تاتر على عملية تبادل المعلومات بين الدوائر في محافظة ذي قار . هذه المقابلة سوف تساعد على الحصول على المعلومات حول تبادل البيانات او المعلومات بين الدوائر . الناتج من هذا البحث او حصيلة هذا البحث قد تادي الى منفعة الى الدوائر والمحافظة بصورة عامة لمعرفة العوامل التي قد تادي الى فشل او تقلل عملية تبادل المعلومات بالطرق الالكترونيه . دون مساعدتكم ودعمكم في هذا البحث لن يكتمل ولان برى النور . وتاكذ لن جميع المعلومات المقدمة هنا هي لاغراض أكاديمية.

السيد ناصر جابر فرحان الخفاجي، وهو طالب دكتوراه في مجال تكنولوجيا المعلومات في جامعة أوتارا ماليزيا (UUM) / ماليزيا. ويشرف على هذا البحث من قبل:

- (1) Dr. Abdul Jaleel Kehinde Shittu [abdialeel@uum.edu.my](mailto:abdialeel@uum.edu.my)
- (2) Prof Madya Dr. Wan Rozaini Sheikh Osman. [rozai174@uum.edu.my](mailto:rozai174@uum.edu.my)

شكرا جزيلاً لمساعدتي لتحقيق أهداف هذه الدراسة التي هي مهمة جدا في الكشف عن القضايا المصيرية للحكومة الإلكترونية في محافظة ذي قار. لا تتردد في الاتصال بي في +60-1116556123 أو [nassirfarhan@yahoo.com](mailto:nassirfarhan@yahoo.com) أو [93456@student.uum.edu.my](mailto:93456@student.uum.edu.my) إذا كانت هناك حاجة أي معلومات إضافية.

Universiti Utara Malaysia

ولكم الامر مع التقدير

بسم الله الرحمن الرحيم

م ا الى من بهمه الامر

نؤيدلكم ان السيد \_\_\_\_\_ قد اجري مقابلة مع السيد \_\_\_\_\_ بخصوص جمع بيانات حول تبادل المعلومات (تفاعل بين الدوائر احد انواع الحكومة الالكترونيه ) بعد ان تم المناولة من خلال طرح الاسئلة الموجهه من قبل طالب الدكتوراه وتمت المناقشة على مرحلتين جميع الاسئلة بصورة مفصلة .

الوقت :

تاريخ اول مقابلة :

الوقت :

تاريخ ثاني مقابلة :



اسم مدير الدائرة

UUM  
مع التقدير  
Universiti Utara Malaysia

اميل مدير الدائرة او الدائرة

## APPENDIX C

### First Session of Interviews

#### 1. Biography of the interviewees (First Section: First Part)

- 1.1 Please, can you briefly introduce yourself?
- 1.2 How long you have been working in the agency?
- 1.3 Can you share with me your experience in this agency?

#### 2. General Questions (Second Section: First Part)

- 2.1 Will you please give some information about the project (electronic interaction among local agencies)?
- 2.2 What is the purpose of this project (the electronic interaction among local agencies)?
- 2.3 How many employees are there in this project (the electronic interaction among local agencies)?
- 2.4 When did the project start?
- 2.5 Why did you change from traditional to the digital (electronic) applications?
- 2.6 At the moment, do you exchange the information among the agencies?
- 2.7 What types of information do you exchange among the governmental agencies?
- 2.8 What is the information exchange percentage among agencies involved in this project (electronic interaction among local agencies)?
- 2.9 What is the type of interaction (electronic information sharing) among agencies?
- 2.10 What are the factors that affect the process of the electronic interaction among local agencies?
- 2.11 What are the main factors that affect the process of electronic interaction among the local agencies?
- 2.12 Is there a noticeable improvement in the process of information exchange at the moment?
- 2.13 Regarding Dhi-Qar Province, do you think the agencies are prepared to interact electronically? Why?

## Second Session of Interviews

### 3. QUESTIONS ON THE TECHNOLOGICAL FACTORS

#### 3.1 Costs

- 3.1.1 Do you think the project (electronic interaction among local agencies) will be completed as it is scheduled? (If yes, why? And if no, why?)
- 3.1.2 Do you have additional costs for the information exchange project among the local agencies in Dhi-Qar Province?

#### 3.2 Benefits

- 3.2.1 What are benefits of this project (electronic interaction among the local agencies)?
- 3.2.2 What are the ways do you think that, the interaction among local agencies will provide benefits to other agencies at local, state and federal level?

#### 3.3 Compatibility

- 3.3.1 Was it easy to integrate this system with the current computer systems?
- 3.3.2 Is this project Compatible with the need of your agency?

#### 3.4 Complexity

- 3.4.1 Do you think that the electronic interaction among agencies is an easy process?
- 3.4.2 Do you think that the electronic interaction among agencies easy/difficult concept?
- 3.4.3 Do you think it is difficult to apply this project across all agencies of Dhi-Qar Province?

#### 3.5 Information Security

- 3.5.1 Do you think that Information Security is very important in this project (The Information sharing among local agencies)?
- 3.5.2 Are there threats do you expect that may lead to the failure of the project? (If yes, what kind are these threats?)
- 3.5.3 Can you tell me, how do you take care of the security of the information in the process of the information sharing among the local agencies in Dhi-Qar Province?

#### **4. QUESTIONS ON THE ORGANIZATIONAL FACTORS**

##### **4.1 IT Capability**

- 4.1.1 How many Operations are performed electronically among the agencies?  
(Alternative Question: Do you expect that operations among agencies will be good, if yes, why? And if not, why?)
- 4.1.2 What is the level of computer literacy among the employees?
- 4.1.3 How many IT employees there are in your agency?
- 4.1.4 Does your agency have any professional IT manager?

##### **4.2 Top Management Support**

- 4.2.1 What is the attitude of the top management in Dhi-Qar government towards the project implementation?
- 4.2.2 Can you tell me if there is any motivation from the Top management to implement the project (electronic interaction among local agencies)?

##### **4.3 Internal Resistances to Change**

- 4.3.1 Have you recorded any resistance from the employees?
- 4.3.2 What motivate the employees to use the project application?

#### **5. QUESTIONS ON ENVIRONMENTAL FACTORS**

##### **5.1 Legislations**

- 5.1.1 Are there any legislations for the electronic interaction among the local agencies (if No, so why did not you create any legislation as the project started 2004)?

##### **5.2 Physical Security**




- 5.2.1 Can you tell me how many offices are involved in this project?
- 5.2.2 Can you tell me what the specific physical security requirements to fulfil are?
- 5.2.3 Can you explain to me, is the server under a control system?

##### **5.3 Trust**

- 5.3.1 Briefly please, how are the relationships among the local agencies in Dhi-Qar Province?
- 5.3.2 Can you tell me how do you create trust among the local agencies?



APPENDIX D

	<b>Asian EFL Academy</b>	
<b>CERTIFICATE OF THESIS EDITING &amp; PROOFREADING</b>		
<b>Document Title (INTERACTION FACTORS THAT EFFECT ON E-GOVERNMENT IN LOCAL GOVERNMENT)</b>		
<b>Job Performed</b>		
(A) Editing-proofreading		
(B) Style editing and formatting		
Proofreading request made by :	<b>NASSIR JARBIR FARHAN (Passport No. G2208252 )</b>	06 October 2013
A) <b>Proofreading statement:</b> I hereby declare that the our Academy editor has edited the aforementioned document.		
B) <b>Validation procedure was performed by Asian EFL Academy</b>		
Employee signature:	Date: 02 November 2013	
ASIAN EFL ACADEMY SDN. BHD. 917421-D 93B-1-22 JALAN SUNGAI DUA 11700 GELUGOR, PULAU PINANG .....		

## APPENDIX E

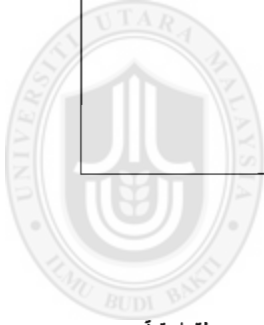
وفقا للمقاييس التي اجريت مع عدد من الموظفين في محافظة ذي قار، الذين لديهم علاقة مباشرة مع عملية التفاعل الإلكتروني (الحكومة الإلكترونية). تبينت النتائج التالية الموضحة في الجدول ادناه.

Factors	Agree تلق	Not Agree لا تلق
<b>Technological Context</b>		
<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>Lack of perceived benefits of the electronic interaction between local agencies, and lack of awareness of the potential benefits of the process of interaction.</li> <li>قلة الفوائد التي يمكن الحصول عليها من عملية التفاعل الإلكتروني (تقصد الحكومة الإلكترونية) أو تبادل المعلومات الإلكتروني بين الوكالات المحلية (تقصد بين الدوائر في محافظة ذي قار) ، وكذلك هناك قلة وعي من الفوائد المحتملة في عملية التفاعل الإلكتروني بين الوكالات المحلية (الحكومة الإلكترونية)</li> </ul>		
<p><b>Costs</b></p> <ul style="list-style-type: none"> <li>Agencies involved in the process of electronic interaction has budgetary constraints, and the process of the electronic interaction between local agencies cause additional costs to the agency associated with maintenance, support and training of staff.</li> <li>الوكالات المشاركة في عملية التفاعل الإلكتروني (الحكومة الإلكترونية) لديها قيود الميزانية (تقصد لديها مبلغ قليله مخصصه للحكومة الإلكترونية)، وعملية التفاعل الإلكتروني بين الوكالات المحلية (تقصد الحكومة الإلكترونية) بين الدوائر في محافظة ذي قار) تسبب تكاليف إضافية لوكالة المرتبطة الصيانة والدعم والتدريب للموظفين (تقصد ان هناك مصاريف اضافيه عند الاستمرار بالحكومة الإلكترونية).</li> </ul>		
<p><b>Compatibility</b></p> <ul style="list-style-type: none"> <li>Not consistent with the needs of the local agencies involved in the process of electronic interaction and objectives.</li> <li>لا تتفق مع احتياجات الوكالات المحلية للمشاركة في عملية التفاعل الإلكتروني وأهدافها (تقصد ان الحكومة الإلكترونية الان لا تلبي احتياجات الدوائر في محافظة ذي قار)</li> <li>Not compatible with existing systems previously.</li> <li>غير متوافق مع الأنظمة الموجودة سابقا (أي ان الأنظمة المستخدمة بالحكومة الإلكترونية (وهو نظام للنكس) غير متطابق مع الأنظمة الموجوده حاليا (وهو الويندوز))</li> <li>Requires the distribution of tasks (Data entry process).</li> <li>يتطلب توزيع المهام (عملية إدخال البيانات) (تقصد تتطلب طاقه مائله لإدخال جميع الوثائق والمعاملات الورقيه الى الحاسوب)</li> <li>Required training for all staff on the new system.</li> <li>مطلوب تدريب لجميع الموظفين على النظام الجديد (وهو نظام للنكس المستخدم في الحكومة الإلكترونية).</li> </ul>		
<p><b>Complexity</b></p> <ul style="list-style-type: none"> <li>Difficulty in using the new system, and difficult to accept the concept of the electronic interaction between agencies</li> <li>صعوبة في استخدام النظام الجديد (وهو نظام للنكس)، ويصعب قبول مفهوم التفاعل الإلكتروني بين وكالات المحلية في محافظة ذي قار</li> </ul>		
<p><b>Information Security</b></p> <ul style="list-style-type: none"> <li>Fear of the process of sending information by electronic means between local agencies.</li> <li>الخوف من عملية إرسال المعلومات عن طريق الوسائل الإلكترونية بين الوكالات المحلية (بين دوائر محافظة ذي قار).</li> <li>Requires protection devices as well as software used in the process of electronic interaction between local agencies</li> <li>يتطلب أجهزة الحماية فضلا عن البرمجيات المستخدمة في عملية التفاعل الإلكتروني بين الوكالات المحلية.</li> </ul>		

Organizational Context	
<p><b>IT Capability</b></p> <ul style="list-style-type: none"> <li>IT skills among the staff of limited local agencies, as well as the agencies lack the infrastructure for electronic interaction between local agencies.</li> <li>مهارات تكنولوجيا المعلومات بين موظفي الوكالات المحلية محدودة (بين موظفي الدوائر الحكومية في محافظة ذي قار)، فضلا عن بعض الوكالات تقتصر إلى البنية التحتية الإلكترونية للتفاعل بين الوكالات المحلية.</li> </ul>	
<p><b>Internal Resistance of Change</b></p> <ul style="list-style-type: none"> <li>Resistance by a number of directors of local agencies to use modern technology in the process of sending data between local agencies.</li> <li>المقاومة من جانب عدد من مدراء الوكالات المحلية (دوائر محافظة ذي قار) لاستخدام التكنولوجيا الحديثة في عملية إرسال البيانات بالطرق الإلكترونية بين الوكالات المحلية.</li> </ul>	
<p><b>Top management Support</b></p> <ul style="list-style-type: none"> <li>Lack of interest in and support of the managers of some of the agencies of the electronic interaction process; for some reason the limited resources available to the agencies, and the lack of support from the province to the participating agencies the process of electronic interaction.</li> <li>عدم الاهتمام والدعم من مديري بعض الوكالات من عملية التفاعل الإلكترونية (أو الحكومة الإلكترونية)، لسبب محدودية الموارد المتاحة للوكالات (عدم وجود أموال إضافية للدوائر)، وعدم وجود دعم من المحافظة إلى الوكالات المشاركة في عملية التفاعل الإلكتروني.</li> <li>There is no incentive for employees to use modern technology.</li> <li>لا يوجد هناك أي حافز للموظفين لاستخدام التكنولوجيا الحديثة.</li> </ul>	
Environmental Context	
<p><b>Trust</b></p> <ul style="list-style-type: none"> <li>Problems of relations between local agencies, and the lack of trust between local agencies.</li> <li>مشاكل العلاقات بين الوكالات المحلية (وجود مشاكل بين بعض دوائر في محافظة ذي قار)، وعدم وجود الثقة بين الوكالات المحلية.</li> </ul>	
<p><b>Physical Security</b></p> <ul style="list-style-type: none"> <li>Lack of protection devices to prevent any external risk on devices used in the process of electronic interaction among local agencies.</li> <li>عدم وجود أجهزة حماية لمنع أي خطر خارجي على الأجهزة المستخدمة في عملية التفاعل الإلكتروني بين الوكالات المحلية.</li> <li>Change places servers frequently result in damage to the devices as well as the constant interruptions.</li> <li>متغير أماكن الخوادم يؤدي في كثير من الأحيان في الأضرار التي لحقت الأجهزة فضلا عن الانقطاع المستمر للتيار الكهربائي.</li> </ul>	
<p><b>Legislations</b></p> <ul style="list-style-type: none"> <li>The lack of legislation that support the process of the electronic interaction between local agencies, and obliges agencies to use electronic methods to send information.</li> <li>عدم وجود التشريعات التي تدعم عملية التفاعل الإلكتروني بين الوكالات المحلية (عدم وجود قوانين لتبادل الإلكتروني بين الدوائر المحلية في محافظة ذي قار)، وتلزم الوكالات على استخدام الوسائل الإلكترونية لإرسال المعلومات.</li> </ul>	

ونرجوا من سيادتكم المشاركة في الجزء الأخير من هذه الدراسة، والتي هي مختصة بالتحقق من النتائج النهائية. مخرجات هذا البحث أو نتائج هذا البحث قد يؤدي إلى الفائدة التي تعود على الوكالات المحلية و كذلك محافظة ذي قار بشكل عام، لمعرفة العوامل التي قد تؤدي إلى فشل أو تقليل تبادل المعلومات بالوسائل الالكترونية. دون مساعدتكم ودعمكم في هذا البحث ان يكتمل. وتؤكد من ان جميع المعلومات المقدمة هنا هي للأغراض الأكاديمية.

يمكنك كتابة اي تعليق هنا " يمكنك استخدام اللغة العربية



ختم او توقيع

**UUM**  
Universiti Utara Malaysia

مع التقدير

الاسم:

التاريخ:

## APPENDIX J (Nvivo Report)

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials
<b>Node</b>					
Nodes\\First Group Interviews\\BENEFITS					
Document					
Internals\\First Group Interviews\\Participant 1-1					
No		0.2302	6		
			1	1	
Therefore, we are doing our best to overcome these obstacles by applying the modern exchange information and providing computers which will reduce efforts on the employees and will facilitate the citizens' interests and interactions, moreover, the idea of the e-government will compel the citizens themselves to use the modern technologies and as a result the society will progress. In addition, the project will help in making-decision process.					
			2	1	
Actually, the electronic interaction is very important at the present time for Dhi Qar province because of the increasing number of the population especially after 2003, in addition a large number of the people of marshes are now moving to the city so the local agencies have witnessed increase in the number of the visitors.					
			3	1	
The project will facilitate the communication with the remote local agencies in the province which cannot be reached in bad weather.					
			4	1	
The electronic interaction facilitates the work among the local agencies and reduces efforts on employees.					
			5	1	
but most of the exchange information is between the local agencies and the <Agency Name>					
			6	1	
I think the benefits of the project should be identified for both the employees and the managers of the local agencies by the directorate of <Agency Name> so that a large number of the local agencies in the province participate without any rejections.					
Internals\\First Group Interviews\\Participant 1-2					
No		0.2571	7		
			1	1	
The electronic interaction is the essential application of the e-government. Actually this project aims to use the electronic interaction to facilitate the interaction among the local agencies so that modern technologies replace the traditional means which in return will save time and efforts. This will contribute in the development of Iraq					

Reports\\Coding Summary By Node Report (2)



Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Internals\\First Group Interviews\\Participant 2-1

No 0.1315 4

1 1

Regarding the directorate of <Agency Name> in Dhi-Qar, the purpose is to make the interactions of the agency in a continuation process with the other local agencies through spreading the knowledge about the official books and administrative legislations. More significantly, the purpose focuses on creating a real communication between the directorate of <Agency Name> and [redacted] in the province by using recent means through which [redacted] will be able to register and fill the application forms electronically.

2 1

Therefore, I believe that the level of information exchange among some participated agencies which involve in the project since it was founded is 3%. This percentage may collapse the project because an employee or an administrator will feel that this project is just a waste of money.

3 1

we strive to educate the other agencies of the interaction benefits because of the importance it can bring to Dhi Qar province agencies and their employees. Dhi- Qar directorate <Agency Name> is considered one of the main service agencies that can benefit of the information exchange because other agencies of Dhi-Qar need to document the certificates and to certify the certificates for applicants who will work in their agencies.

4 1

the lack of awareness about the usefulness of the information exchange, or e-government in the directorate <Agency Name> of Dhi Qar, this obstacle is also important.

Internals\\First Group Interviews\\Participant 2-2

No 0.0737 2

1 1

The project will provide a great contribution to Dhi Qar directorate of <Agency Name> because it is the [redacted] directorate in Dhi-Qar province. Therefore, the employees find difficulty to achieve the work because of the large number of the clients who come to the agency. Hence, this contributes in the delay of the completion of the citizens' interests. However, this project provides a good service for the citizens and will reduce overcrowded at the directorate and will also provide the best services for the other agencies.

2 1

Frankly, at the moment I find no benefits out of this project (the e-government) because most of the available applications cannot be used by the unqualified employees.

Internals\\First Group Interviews\\Participant 3-1

No 0.0538 1

1 1

the project has been politicized and has become an electoral benefit rather than to be a benefit for the local agencies because non-qualified individuals are employed in the e-government applications which led to the delay of the project due to factors such as the cost and lack of expertise and awareness of the benefits of the project.

Internals\\First Group Interviews\\Participant 3-2

No 0.2647 5

1 1

The purpose of the project is mainly to reform and to develop the province. Therefore, if this project is achieved successfully it would be a great step that performed by Dhi Qar province towards progress and serving the citizens. So this project is to organize the work of the local agencies and to reduce corruption as well.

Reports\\Coding Summary By Node Report (2)

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials
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2 1

At the present time, there is no exchange of information among the other agencies in the province that is due to several reasons including the large number of the local agencies that have not been involved in the interaction.

3 1

<Agency Name> of Dhi Qar requested the province not to include the [redacted] within a project that does not contain a large number of employees; moreover, it requested more employees to be appointed to enter the information. In fact, I think there are no benefits from the project and that Dhi Qar <Agency Name> will continue with the ways that suit its interests.

4 1

In fact I don't feel any improvement in the interaction between the agencies, in contrary, the opposite is now happening, there is a decrease compared with the previous years.

5 1

Actually, a number of letters have been already sent to a number of local agencies at the beginning of the project. A few numbers of these local agencies responded reluctantly, but the other have not responded yet. These letters are about the participation in this project. However, there are no restrictions compelling the managers to participate in this project. So I think it will take time until all local agencies be ready to participate. In addition, there should be a kind of education about the importance and the benefits of the e-government applications since this project is a part of it.

#### Internals\\First Group Interviews\\Participant 4-1

No 0.1888 4

1 1

Unfortunately, this project seems as slow as turtles in movement. It is progressing very slowly. Just imagine starting from 2004 until now we are only discussing the factors led to the delay or may stop the project completely if the top management and the project's supervisors continue to neglect this project (the electronic interaction among the local agencies in Dhi Qar province).

2 1

As you know, Dhi Qar directorate of <Agency Name> is one of the important service agencies in the province. However, because of the increase number of the population, the explosions happen in the country and the pollution it is necessary to find other means to control [redacted]. Therefore, this project implemented with a very low rate of information exchange among the local agencies where some information exchanged between Dhi Qar directorate of <Agency Name> and some the other local agencies such as the directorate of <Agency Name> and the <Agency

3 1

Unfortunately, the directorate of <Agency Name> refused to exchange the information because they only want to receive the information of the other agencies, consequently, there would not be any kind of benefits the other agencies to find.

4 1

think it is even difficult to force the current involved agencies to apply the applications because the benefits of this project are not identified clearly to most of the local agencies.

#### Internals\\First Group Interviews\\participant 4-2

No 0.1042 3

1 1

The main purpose of the electronic interaction among the local agencies in Dhi Qar province is to reduce the effort on the citizens and the employees as well, in addition to offer a good services to the citizens by using the modern electronic means.

2 1

However, there is a difficulty to accept the electronic interaction among the local agencies in Dhi Qar province. Regarding the vague possible benefits of the process, Dhi Qar <Agency Name> hesitated to continue in this project. This will obstacle the work and applying it in all of the local agencies in the province.



Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials
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3 1

In fact, there are many factors. For example, some departments' managers do not accept the project because they are not aware of the benefits the project will bring for Dhi Qar < Agency Name >.

Internals\\First Group Interviews\\participant 5-1

No 0.2033 4

1 1

The main purpose of the electronic interaction among the local agencies is to reduce effort and time; moreover, it is also to eliminate the traditional means (documents) procedures which waste much money in copy papers and inks. In addition, the electronic interaction will create confidentiality for the information exchange. More importantly, the electronic interaction will eliminate corruption. These are the most expected requirements from this project to fulfill.

2 1

Generally, the e-government will benefit the citizens and the government respectively. In fact, this project is a form or a part of the e-government. Unfortunately, the province authorities are unaware of the benefits the project will bring to the province and to Iraq in general. The project will make a great step of changing from the traditional means (the documents) which waste effort and time to the most easily, safe electronic means which reduce costs. Frankly, at the beginning of the project there will be more costs, but there will be good results when the information exchange starts.

3 1

Actually there is no clear vision to apply the electronic interaction by the electronic means.

4 1

Moreover, it is also due to the unknown benefits the project may offer to Dhi Qar province.

Internals\\First Group Interviews\\Participant 6-1

No 0.1745 5

1 1

One important application is exchanging the information among the local agencies. We are doing our best in order to help the citizens; instead of going to every single agency, their procedures would be available and would be easily processed electronically. More importantly, the project will save time and effort and will reduce the financial and administrative corruption so that in the future the citizens will be able to process any local agency and pay the electricity and water bills from their houses through the portal. The portal will contain a page for complains and interactions.

2 1

The main reason behind this project is to benefit the citizens through processing all of their procedures from one local agency rather than they visit all of them.

3 1

Iraq is trying to pace development in modern sciences where most of the countries recently use the modern technologies to serve their own citizens and to save time and costs on one hand and to reduce efforts on their employees on the other where the traditional means (the use of pen and paper) in paying invoices, job applications and issuing passports are almost disappeared. Therefore, we are trying to get rid of this boring routine to development same like other countries as well as to reduce the financial and administrative corruption. According to the United Nation's report on the most corrupted countries in the world, Iraq is listed as one of these corrupted countries.

4 1

in addition the traditional means waste much money, time and efforts. Regarding Dhi Qar province, the population is in increase so the traditional means do not suit the needs of the local agencies hence the current project is considered to be a step forward, but there are so many factors that may obstruct the project.

Reports\\Coding Summary By Node Report (2)

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Colled By Initials
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5 1

Besides, the information that sent between the <Agency Name> and the other agencies in order to know about the tenders, since most of these information are considered to be services and contain confidential details that must be secret in the process of the information exchange as well as there are important information that should never be delayed in the information exchange process between the general directorate for <Agency Name> and the other local agencies and that the traditional means may delay and hinder the work

#### Internals\\First Group Interviews\\Participant 6-2

No 0.1248 3

1 1

Moreover, one more benefit for the e-government is that it will help in securing the information which is a priority that Iraq needs at the moment. Therefore, we are in need for more promotion and education for this project. In addition, the project will symbolize the trend to good governance; I mean transparency, integrity, democracy and electronic election in addition the information exchange will help in the census, through which budgets are allocated for each province, which is facing political obstacles and maintaining stability and security in the province.

2 1

Moreover, the project will reduce the traditional means among the local agencies where most of them are still using the traditional routine means. For example, they send a certain individual from one agency to another to certify a particular document or to pay the invoices.

3 1

Because of the unstable political and administrative situation in Iraq, conflicts arise and, consequently, these conflicts will negatively affect the construction process in Iraq and Dhi Qar province in particular. The available employees at the project are not aware of the importance of what this project may offer for the province and for the citizens in general.

#### Internals\\First Group Interviews\\Participant 7-1

No 0.2717 4

1 1

Anyhow, the interaction exchange, as a part of the e-government, is already applied but it is limited to several agencies because of the lack of education and awareness of the importance of the electronic interaction among the agencies.

2 1

The traditional means of corresponding information among the agencies are not sufficient at the present time because the number of the employees in the province is huge; moreover, the number of the local agencies in the province is increased. Consequently, the use of the traditional means makes it difficult for the agencies because of the accumulated documents. Therefore, it is of necessity to convert all these documents into a smaller accurate process that saves time and effort. Thus, this electronic interaction will benefit the directorate <Agency Name> in Dhi Qar province, consequently, we accept the project

3 1

Just imagine the situation that we are using the documents for more than 40 years and these documents are kept in stores belong to the offices. Therefore, there is a large amount of documents in all agencies and ministries that occupy vast space in addition that they can be damaged while all these documents can be converted electronically in a CD or a hard desk. Moreover, as I stated earlier, that the modern technology facilitates the work no matter if the size is huge or small and provide accurate services for the citizens and this is what the government tries to fulfill.

4 1

As a manager for the <Agency Name>, I agree on the applications of the project, but the problem is that some of the local agencies do not know that the connection of all the agencies to the network will facilitate the work among the agencies and the province. This is considered as a contribution to the agencies and a better way for them than using the traditional means.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials
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Internals\\First Group Interviews\\Participant 7-2

No 0.3046 5

1 1

In fact, the real benefit behind the application is to convert all the available documents at the local agencies to computers and deal

2 1

In fact, the electronic interaction among the local agencies will facilitate the process of inquiry about the information sent from the province. Moreover, it will contribute even statistically. In addition, the project will save the information for a long time without any damage. This was the main reason that encouraged the <Agency Name> to be one of the participants in this project. In fact, we do not care if other agencies could get the information we have or not.

3 1

The only motivation that encouraged the <Agency Name> to contribute in this project is that electronic interaction is extremely effortless and interesting process; in addition, the information will be available at any time whenever I need it, therefore, the shift to the digital means will put an end to the huge documents.

4 1

Regarding Dhi Qar <Agency Name>, the province depends on it too much because it supplies all the other local agencies as well as the electric such as petrol or diesel. The supply process is implemented based on the information that sent by the province, the <Agency Name> or other local agencies. Therefore, applying the electronic interaction will make the work more accurate and will reduce the corruption; moreover, it will create transparency where the local agencies processed and the date of the delivery will be known to the province through the electronic interaction which the directorate of the communication will provide. Thus, this will protect the <Agency Name> of any suspicious in case of robbery.

5 1

I think if the local agencies realize the benefits of the project for them and for the province, I they will prepare to participate.

Internals\\First Group Interviews\\Participant 8-1

No 0.2250 4

1 1

However, <agency Name> offers administrative support for the local agencies in the province. The project is provided with additional servers in addition to some other computers connected with them. This project will help the managers to get precise information on one hand and will reduce time and effort on the citizens and getting good services on the other.

2 1

Let me add something, this project will eliminate the administrative corruption where there are cases of corruption in some local agencies, for example, in the process of entering the information into computers, some case of corruption regarding the salaries was revealed and that the salaries under false names were received by one employee at the agency.

3 1

the modern means work can be achieved very fast with less cost. In addition, the information remain completely secret as well as to keep up with the other countries that near Iraq such as Bahrain, Jordan and United Arab of Emirates which are considered to be advanced countries in applying the e-government and its applications.

4 1

There are many important factors. For example, the lack of qualified individuals in the local agencies, the absence of lawful legislation and some of the local agencies do not have the tendency to participate in the project though they can. Moreover, some individuals do not trust the project. They think this project will change the agency and will not bring any financial benefits to the local agency. In addition, other local agencies are not enough aware of the project.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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2 1

Actually managers should motivate their employees. For example, if the managers are well aware of the benefits the project may bring into the agency, they will encourage the employees to have training-courses and to participate in the interaction. Similarly, if the managers, there are many of them, are not aware of the importance of the project, I think the motivation will be weak.

**Nodes\\Second Group Interviews\\Organizational Context\\IT Capability**

**Document**

**Internals\\Second Group Interview\\Participant 1-1**

No 0.0843 4

1 1

I have mentioned in the previous interview that the percentage of the information exchange is exceeding 25%. Actually, this percentage is good comparing with the percentage in any other local agencies.

2 1

I think all of the employees are fond and have enough experience on using the computers, therefore, they will feel comfortable when they use computers.

3 1

There are around 7 experienced employees with higher certificates that qualifying them for the project applications and, if necessary, they can design the applications by themselves.

4 1

Certainly Mr. [REDACTED] is a good candidate for this position for his expertise in administrative applications because he had several training courses in the field of e-government applications in some different countries in the world.

**Internals\\Second Group Interview\\Participant 1-2**

No 0.0674 4

1 1

As I mentioned earlier, 20% percent of the electronic interaction process among the local agencies is recently happening in Dhi Qar province.

2 1

There are enough number of the qualified employees in computer skills in the province and they feel comfortable with these applications, however, the number differs from one agency to another based on the knowledge and skills among the employees.

3 1

There are around 7 individuals between engineers and technicians, in addition to the manager Mr. [REDACTED].

4 1

I think Mr. [REDACTED] the manager of the e-government in Dhi Qar province is well-qualified and he has enough experience on the e-government applications because he was trained well in Italy, turkey and Jordan.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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**Internals\\Second Group Interview\\Participant 1-3**

No 0.0703 4  
 \_\_\_\_\_  
 1 1

There are a large number of interaction operations and correspondences that are applied now. In fact some agencies are still using the traditional means; however, others use the electronic interaction and the number is in increase.

2 1

In \_\_\_\_\_, there is enough number of employees who are familiar with computers. Certainly, there is still a need to train them, but I think the recent number is enough.

3 1

There are around 7 individuals between engineers and technicians. According to my experience, I think the number is sufficient and to give training opportunities for others in the province.

4 1

As I told you earlier, in \_\_\_\_\_ there are enough experienced employees on the e-government applications. I am here the responsible manager for the information.

**Internals\\Second Group Interview\\Participant 2-1**

No 0.0951 4  
 \_\_\_\_\_  
 1 1

Regarding Dhi-Qar province, there is electronic exchange among the \_\_\_\_\_ and the \_\_\_\_\_ and the \_\_\_\_\_ of Dhi-Qar. But for the rest of the agency, there seems no motivation to use the interactional exchange due to many reasons. However, the interaction exchange does not exceed 3%.

2 1

Regarding the \_\_\_\_\_ in Dhi Qar, there is a good number of employees who can use the computer skillfully. In addition, there are computer courses to educate them to use some electronic applications such as documents management systems. Moreover, there are some employees who find it difficult to use computer, therefore, they resort to the use of documents. This kind of employees includes a number of managers. They are regarded as an obstacle to the progress of the province.

3 1

There are a few numbers of them in Dhi Qar \_\_\_\_\_. I cannot determine the exact number, but they are less than what the directorate of education needs.

4 1

In Dhi Qar \_\_\_\_\_, there is a section which is specialized in educational maintenance applications and simple applications. As for the e-government, the number does not exceed three individuals and I am the person who is supervising the project in Dhi Qar \_\_\_\_\_ with the help of qualified professors.

**Internals\\Second Group Interview\\Participant 2-2**

No 0.0777 4  
 \_\_\_\_\_  
 1 1

Regarding Dhi Qar \_\_\_\_\_, which is the first contributor in this project, the rate of information exchange is 2%. Regarding the other agencies involved in the project, I think the interaction exchange is less.

2 1

A few months ago all the employees of \_\_\_\_\_ were tested in their ability to use simple applications of the computers. The result showed that the majority of them face difficulties to adapt with these applications though they are very simple applications in comparison with the e-government and the systems it uses.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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3 1

The number of the employees does not exceed 12%. This number is actually not enough to process all the needs of the [redacted]. Therefore, we requested the authorities to provide us with some employees. Unfortunately, the request is still in process since a year ago.

4 1

Absolutely, especially at the computer center at Dhi-Qar [redacted] where there are two experienced individuals in the e-government applications.

**Internals\\Second Group Interview\\Participant 3-1**

No 0.0728 4

1 1

The operations that exchanged by electronically do not exceed 2%, this does not include all the participating local agencies. Some local agencies do not interact when the information is exchanged electronically and prefer traditional means in the process of information exchange.

2 1

There are several well-qualified employees, but unfortunately some of the professors cannot use the computers especially professors of history and science.

3 1

There are a small number of the employees. Actually I do not know the real number of the computer technology's professors and technicians.

4 1

In Dhi Qar [redacted] there is a computer center and it is the responsible for e-government and there is a well-qualified manger as well as professor [redacted] and professor [redacted].

**Internals\\Second Group Interview\\Participant 3-2**

No 0.0904 4

1 1

The percentage does not exceed 1%. This is only about the processes among the [redacted] and the [redacted].

2 1

It depends on the type of the local agencies. However, there are agencies who still use the traditional means as a result the number of the employees who use computers is low, an example is the directorate of tax where the employees who can use computers is very low.

3 1

There is a good and enough number of the employees. However, the problem is not with the number of the employees rather it is about training them where a number of them are sent outside Iraq for training on the application of the e-government, moreover, most of these employees have no experience in the computer skills and because they were selected inappropriately.

4 1

I am the responsible director of the computer center in [redacted].









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