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CONSUMER RESISTANCE TO INNOVATION AMONG PUBLIC UNIVERSITIES’ STUDENTS IN PAKISTAN

MAZHAR ABBAS

DOCTOR OF PHILLOSOPHY
UNIVERSITI UTARA MALAYSIA
2016
CONSUMER RESISTANCE TO INNOVATION AMONG PUBLIC UNIVERSITIES’ STUDENTS IN PAKISTAN

By

MAZHAR ABBAS

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School of Technology Management and Logistics,
Universiti Utara Malaysia,
In Fulfilment of Requirement for the Degree of Doctor of Philosophy
Kolej Perniagaan  
(College of Business)  
Universiti Utara Malaysia

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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


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


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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ATEP</td>
<td>Attitude towards Existing Product</td>
</tr>
<tr>
<td>AVE</td>
<td>Average Variance Extracted</td>
</tr>
<tr>
<td>BMI</td>
<td>Business Monitor International</td>
</tr>
<tr>
<td>BZU</td>
<td>Bahahuddin Zakrya University</td>
</tr>
<tr>
<td>CFA</td>
<td>Confirmatory Factor Analysis</td>
</tr>
<tr>
<td>CI</td>
<td>Consumer Innovativeness</td>
</tr>
<tr>
<td>CNET</td>
<td>Communication Network</td>
</tr>
<tr>
<td>COM</td>
<td>Complexity</td>
</tr>
<tr>
<td>COMSATS</td>
<td>Commission on Science and Technology in Sustainable Development of South</td>
</tr>
<tr>
<td>CR</td>
<td>Consumer Resistance</td>
</tr>
<tr>
<td>DTPB</td>
<td>Decomposed Theory of Planned Behavior</td>
</tr>
<tr>
<td>EMO</td>
<td>Emotion</td>
</tr>
<tr>
<td>GU</td>
<td>Gomal University</td>
</tr>
<tr>
<td>IDT</td>
<td>Innovation Diffusion Theory</td>
</tr>
<tr>
<td>IOS</td>
<td>Internetwork Operating System</td>
</tr>
<tr>
<td>IUB</td>
<td>Islamia University Bahawalpur</td>
</tr>
<tr>
<td>KPK</td>
<td>Khaibar Paktonkhawa</td>
</tr>
<tr>
<td>LG</td>
<td>Lucky Goldstar</td>
</tr>
<tr>
<td>MOT</td>
<td>Motivation</td>
</tr>
<tr>
<td>MPCU</td>
<td>Model of Personal Computer Utilization</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>Acronym</td>
<td>Definition</td>
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<tr>
<td>PDA</td>
<td>Personal Digital Assistance</td>
</tr>
<tr>
<td>PEOU</td>
<td>Perceived Ease of Use</td>
</tr>
<tr>
<td>PIM</td>
<td>Personal Information Management</td>
</tr>
<tr>
<td>PLS</td>
<td>Partial Least Square</td>
</tr>
<tr>
<td>PR</td>
<td>Perceived Risk</td>
</tr>
<tr>
<td>PTA</td>
<td>Pakistan Telecommunication Authority</td>
</tr>
<tr>
<td>PU</td>
<td>Perceived Usefulness</td>
</tr>
<tr>
<td>RA</td>
<td>Relative Advantage</td>
</tr>
<tr>
<td>SE</td>
<td>Self-Efficacy</td>
</tr>
<tr>
<td>SEM</td>
<td>Structural Equation Modeling</td>
</tr>
<tr>
<td>SI</td>
<td>Social Influence</td>
</tr>
<tr>
<td>S-Q-R</td>
<td>Simulate-Organism-Response</td>
</tr>
<tr>
<td>TAM</td>
<td>Technology Acceptance Model</td>
</tr>
<tr>
<td>TPB</td>
<td>Theory of Planned Behavior</td>
</tr>
<tr>
<td>TRA</td>
<td>Theory of Reasoned Action</td>
</tr>
<tr>
<td>UTAUT</td>
<td>Unified Theory of Acceptance and Use of Technology</td>
</tr>
<tr>
<td>VIP</td>
<td>Very Important Person</td>
</tr>
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</table>
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
REFERENCES


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*Available at SSRN 2349457.*


Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. Information systems research, 14(2), 189-217.


Chomeya, R. (2010). Quality of psychology test between Likert scale 5 and 6 points. *Journal of Social Sciences, 6*(3), 399-403.


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Gauthier, C. (2010). *From Consumer Resistance to Stakeholder Resistance The case of nanotechnology* (No. hal-00521610). HAL.


Lorenzo, J. D. (2000, September). Barreras en los procesos de cambio en las organizaciones: estudio de un caso. In *X Congreso Nacional de ACEDE, Oviedo (Spain).*


Morgan, M., Burden, K., (2011). *Smartphone technologies and markets*. ABI Research


Schneidawind, J. (1992). *Big Blue unveiling. USA Today, November, 23, 2B.*


The number of smartphone users in the world is expected to reach a giant 6.1 billion by 2020 (Digital Trends) http://www.digitaltrends.com/mobile/smartphone-users-number-6-1-billion-by-2020/


in Thailand and Taiwan. *International Journal of Business and Information, 10*(2), 198.


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
PhD Candidate, UUM College of business (STML)
Phone: +60175305049; e-mail: mazharabbas@ciitvehari.edu.pk
Universiti Utara Malaysia
06010 UUM Sintok, Kedah, Darul Aman, Malaysia.
1 = Disagree very much | 2 = Disagree moderately | 3 = Disagree slightly | 4 = Agree slightly | 5 = Agree moderately | 6 = Agree very much |

### Relative Advantage

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Smartphones are more convenient, reliable, and useful than normal mobile phones. (Smartphone munasib, reliable aura am mobile se ziada isstemal k qabil hay)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>The Smartphone has good integration of a wide range of functions and services. (Smartphone bohot achi services and functions ka majmooaa hay)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Smartphone are more fashionable, stylish, and trendy. (smartphone ka design aur isska style bohot khoobsoorat hay)</td>
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</tr>
<tr>
<td>4</td>
<td>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. (Smartphone ki qeemat aur quality qabil-eqabool hay jis se me isski tamam free services kisi bhi jaga isstemaal aur enjoy ker sakta hon)</td>
<td></td>
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<tr>
<td>5</td>
<td>Smartphones bigger screen and full keyboard make different functions easier to use. (Smartphone ki screen aur keyboard baray hain aur iss se isko issstemaal kerna bohot assan hay)</td>
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</table>

### Self-Efficacy

<table>
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<tr>
<th></th>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I know how to use smartphones. (Main janta hoon Smartphone ko kesay istemal kerna hay)</td>
<td></td>
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<tr>
<td>2</td>
<td>I am confident of understanding and using smartphone. (Main Smartphone ko samjhnay aur istemaal kernay se mutmaieen hoon)</td>
<td></td>
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<tr>
<td>3</td>
<td>I am comfortable with using technical and advanced consumers’ products (e.g. mp3 player, computer, digital camera, PDA, etc). (Main bohot easy mehsoos kerta hoon tamam electronics ki masnoaat ko istemaal ker k)</td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>I would be able to use smartphone, even if I have never used it before. (Main ne pehlay kabhi istemaal ni kia Smartphone ki iss k bawajood me issko use kernay k qabil hoo jaionga)</td>
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</table>
### Motivation

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

### Attitude towards existing Product

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

### Complexity

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

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

## Social Influence

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Friends and family are very helpful to me in making decision of buying smartphone. (Dostoo aur family walay Smartphone khareednay ma bohot madadgaar saabit hotay hain)</td>
</tr>
<tr>
<td>2</td>
<td>I will ask the opinions from my friends and family when buying a smartphone. (Jab me Smartphone khreedoonga tu apnay dostoo aur family se mashwara ker k loonga)</td>
</tr>
<tr>
<td>3</td>
<td>Friends and family give me a valuable advice when I buying a smartphone. (jab me ne Smartphone khareedna hoo to doost aur family walo ne bohot qeemti aara daitay hain)</td>
</tr>
<tr>
<td>4</td>
<td>I trust my friends and family about their opinions and advices of smartphones. (Mujhay apni family aur dostoo k mashwaray per bohot aitmaad hay)</td>
</tr>
<tr>
<td>5</td>
<td>I will purchase a smartphones because my friends and family recommend to me. (Main Smartphone khareedoonga q k meri khandan aur dostoon ne kaha hay)</td>
</tr>
<tr>
<td>Price</td>
<td>1</td>
</tr>
<tr>
<td>-------</td>
<td>---</td>
</tr>
<tr>
<td>1</td>
<td><strong>Price is the most important factor when purchasing Smartphone.</strong> <em>(jab smartphone khareedna hoo to qeemat bht aham rukun hay)</em></td>
</tr>
<tr>
<td>2</td>
<td><strong>I compare prices of other Smartphone's brands and store brands before I choose one.</strong> <em>(Khareednay se pehlay me ne smartphone aur dossray brands ki qeemat ko compare kia)</em></td>
</tr>
<tr>
<td>3</td>
<td><strong>I buy Smartphone because they are worth to used regarding between with their price &amp; usage quality.</strong> <em>(Main ne smartphone isi lye khareeda kuin k ye qeemat aur quality wise bht acha hay)</em></td>
</tr>
<tr>
<td>4</td>
<td><strong>I am uncertain which Smartphone's brands provide real value for money in terms of product quality.</strong> <em>(mujhay thoo ra shaak hay k smartphone brand asal value daita hay k ni)</em></td>
</tr>
<tr>
<td>5</td>
<td><strong>The cheapness of some Smartphone's brand suggests to me that they may have some risks, such as low quality.</strong> <em>(Sasta smartphone hoosakta hay laina khatra na hoo quality burin a hoo)</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emotions</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>I feel angry with smartphone purchase decision</strong> <em>(Main smartphone ki khareedaari k faislay ma gussa mehsoos kerta hn)</em></td>
<td></td>
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<tr>
<td>2</td>
<td><strong>I feel irritated with your smartphone purchase decision</strong> <em>(Main smartphone ki khareedari k faislay per jalan mehsoos kerta hn)</em></td>
<td></td>
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<tr>
<td>3</td>
<td><strong>I feel frustrated with the usage of smartphone.</strong> <em>(Mian smartphone k istemal k sath mayoosi mehsoos kerta hn)</em></td>
<td></td>
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<tr>
<td>4</td>
<td><strong>I scared from the usage of smartphone</strong> <em>(Main smartphone k istemaal se darr mehsoos kerta hn)</em></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td><strong>I afraid to buy the smartphone</strong> <em>(Main smartphone khareednay ma khoof mehsoos ker raha hn)</em></td>
<td></td>
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<tr>
<td>6</td>
<td><strong>I am anxious to purchase the smartphone</strong> <em>(Main smartphone ki khareedari kalye bohot fikar mand hoon)</em></td>
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</table>
### Consumer Innovativeness (Moderator)

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<table>
<thead>
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<tbody>
<tr>
<td>1</td>
<td>I am really interested in learning about new products (new brands, quality, and improvements). (Main nau massnooaat ma dilhaspi rakhtay hoon).</td>
</tr>
<tr>
<td>2</td>
<td>Right now, I am using many of new products. (Ab tak me ne bohot new cheezain istemmaal ki hain)</td>
</tr>
<tr>
<td>3</td>
<td>I think new product are really useful (Meray khayal ma nau cheezain istemmaal k qabil hain)</td>
</tr>
<tr>
<td>4</td>
<td>I love to try new products before anyone else (Mujhay nau cheezain istemmal kernay ko pasand kerta hoon)</td>
</tr>
<tr>
<td>5</td>
<td>Presently I am using new products and services appealing to me (Main aaj kal nau cheezain istemmaal ker raha hain)</td>
</tr>
<tr>
<td>6</td>
<td>People often ask me to give my opinion about products (new brands, quality, and improvements). (loog mujhay nau masnooaat k baray ma mashwara daitay hain jaisay new brand, qeemat etc)</td>
</tr>
<tr>
<td>7</td>
<td>Lately, I have been hearing a lot about new products appealing to me (Haal he ma nau cheezo k baray ma bohot suna hain)</td>
</tr>
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</table>

### Consumer Resistance to Innovation

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<table>
<thead>
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<tbody>
<tr>
<td>1</td>
<td>I will wait to buy smartphone till it proves beneficial for me. (Main intezaar karoonga smartphone kalye jab tak ye meray lye faida mand saabit ni hota)</td>
</tr>
<tr>
<td>2</td>
<td>I need to clarify some queries and justify the reason to buy smartphone. (Main ne kuch sawaalat ko wazay aur smartphone ko khareednay kalye kiwaja se jawaz paish kernay ki zarurat hain)</td>
</tr>
<tr>
<td>3</td>
<td>I am waiting for the right time and required capability to buy smartphone. (Main smartphone khareednay kalye darust waqat aur matlooba salahiyat kalye intezaar ker raha hoon)</td>
</tr>
<tr>
<td>4</td>
<td>Buying smartphone maybe a wastage of money. (Smartphone khareedna shayad paisay ka zia hay)</td>
</tr>
<tr>
<td>5</td>
<td>I fear of wasting my time using smartphones. (Mian smartphone ko istemmaal kertay howay apna waqat barbaad ker k khoof mehsoos kerta hain)</td>
</tr>
<tr>
<td>6</td>
<td>Smartphone may decrease my autonomy. (Smartphone meri khud mukhtari kam ker sakta hay)</td>
</tr>
<tr>
<td>7</td>
<td>I need to get a solution for some of my complaints / objections before I buy smartphone. (Main ne apni shikayaat ma se kuch kalye ek hul hasil kernay kalye)</td>
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<td>---</td>
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<tr>
<td>8</td>
<td><strong>I fear of certain changes smartphone may impose on me.</strong> <em>(smartphone ki kuch tabdeelion se mujhay khoof aata hay)</em></td>
</tr>
<tr>
<td>9</td>
<td><strong>It is unlikely that I buy smartphone in the near future.</strong> <em>(Ye mustakbil kareeb ma smartphone khareednay k imkaan nahi hain)</em></td>
</tr>
<tr>
<td>10</td>
<td><strong>I don’t need smartphone</strong> <em>(Mujahy smartphone ki zarurat nahi hay)</em></td>
</tr>
<tr>
<td>11</td>
<td><strong>Smartphone is not for me.</strong> <em>(Smartphone meray lye nahi hay)</em></td>
</tr>
</tbody>
</table>
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 mojooda 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

<table>
<thead>
<tr>
<th></th>
<th>ATEP2</th>
<th>CI</th>
<th>COM</th>
<th>CR</th>
<th>EMO</th>
<th>MOT</th>
<th>P</th>
<th>PR</th>
<th>RA</th>
<th>SE</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEP2</td>
<td>0.86401</td>
<td>0.151586</td>
<td>0.338389</td>
<td>0.244984</td>
<td>0.318925</td>
<td>0.135107</td>
<td>0.217121</td>
<td>0.135793</td>
<td>0.12231</td>
<td>0.240711</td>
<td>0.142783</td>
</tr>
<tr>
<td>ATEP3</td>
<td>0.84978</td>
<td>0.210588</td>
<td>0.412482</td>
<td>0.233979</td>
<td>0.292784</td>
<td>0.203931</td>
<td>0.232185</td>
<td>0.178644</td>
<td>0.189764</td>
<td>0.093922</td>
<td>0.486107</td>
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<tr>
<td>CI1</td>
<td>0.288067</td>
<td>0.7055</td>
<td>0.22836</td>
<td>0.367091</td>
<td>0.109189</td>
<td>0.554911</td>
<td>0.390715</td>
<td>0.12099</td>
<td>0.492767</td>
<td>0.456963</td>
<td>0.361685</td>
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<td>CI3</td>
<td>0.18017</td>
<td>0.72516</td>
<td>0.173779</td>
<td>0.336728</td>
<td>0.084461</td>
<td>0.516281</td>
<td>0.388536</td>
<td>0.202691</td>
<td>0.419587</td>
<td>0.12099</td>
<td>0.165918</td>
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<tr>
<td>CI4</td>
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<td>0.76036</td>
<td>0.084251</td>
<td>0.310169</td>
<td>0.024685</td>
<td>0.495414</td>
<td>0.323461</td>
<td>0.145881</td>
<td>0.44043</td>
<td>0.439143</td>
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<tr>
<td>CI6</td>
<td>-0.01032</td>
<td>0.6631</td>
<td>-0.01006</td>
<td>0.316781</td>
<td>0.026871</td>
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<td>0.28349</td>
<td>0.067631</td>
<td>0.348376</td>
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<td>CI7</td>
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<td>0.089983</td>
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<td>0.019462</td>
<td>0.453885</td>
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<td>0.278379</td>
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<td>COM1</td>
<td>0.267802</td>
<td>0.142227</td>
<td>0.73928</td>
<td>0.27787</td>
<td>0.198959</td>
<td>0.149185</td>
<td>0.229545</td>
<td>0.1939</td>
<td>0.164834</td>
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<td>COM2</td>
<td>0.342944</td>
<td>0.184374</td>
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<td>0.32299</td>
<td>0.253295</td>
<td>0.158702</td>
<td>0.265917</td>
<td>0.218048</td>
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<td>0.092914</td>
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<td>COM3</td>
<td>0.394012</td>
<td>0.175567</td>
<td>0.8393</td>
<td>0.328935</td>
<td>0.364027</td>
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<td>0.73416</td>
<td>0.191949</td>
<td>0.36515</td>
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<td>0.135015</td>
<td>0.07449</td>
<td>0.011799</td>
<td>0.105671</td>
</tr>
<tr>
<td>CR1</td>
<td>0.182127</td>
<td>0.410112</td>
<td>0.269892</td>
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|     | 0.182127 | 0.410112 | 0.269892 | **0.92285** | 0.235231 | 0.422583 | 0.423399 | 0.226892 | 0.371977 | 0.331533 | 0.37011  
|-----|----------|----------|----------|-------------|----------|----------|----------|----------|----------|----------|----------
| EMO1| 0.340055 | 0.115676 | 0.285011 | **0.89465** | 0.014143 | 0.137194 | 0.031384 | 0.125714 | 0.057446 | 0.154821 | 0.154821  
| EMO2| 0.324141 | 0.118674 | 0.356927 | **0.83068** | 0.024368 | 0.134742 | 0.098647 | 0.093426 | 0.103645 | 0.067812 | 0.067812  
| EMO3| 0.144904 | -0.05679 | 0.260061 | **0.63738** | -0.11155 | 0.010134 | -0.02339 | -0.01729 | -0.03118 | 0.039216 | 0.039216  
| MOT1| 0.188177 | 0.60992  | 0.231322 | 0.434756   | 0.038539 | 0.83619  | 0.366206 | 0.134972 | 0.583606 | 0.628272 | 0.329118  
| MOT2| 0.191076 | 0.509958 | 0.096826 | 0.288037   | -0.02656 | **0.81832** | 0.29908  | 0.125424 | 0.579784 | 0.572795 | 0.317079  
| MOT3| 0.104053 | 0.559965 | 0.1186   | 0.347571   | -0.06256 | **0.75308** | 0.315477 | 0.153022 | 0.494635 | 0.516998 | 0.336826  
| MOT4| 0.130086 | 0.406235 | 0.144165 | 0.304003   | -0.00282 | **0.71944** | 0.324728 | 0.210979 | 0.48841  | 0.416022 | 0.290897  
| P2  | 0.309399 | 0.438024 | 0.252224 | 0.399596   | 0.091926 | 0.366355 | **0.79641** | 0.439898 | 0.327423 | 0.30433  | 0.408964  
| P3  | 0.189991 | 0.416459 | 0.19135  | 0.352327   | 0.111804 | 0.39113  | **0.78347** | 0.394906 | 0.390821 | 0.362154 | 0.371558  
| P4  | 0.119163 | 0.293152 | 0.218037 | 0.389433   | 0.126284 | 0.255524 | **0.76773** | 0.37593  | 0.319441 | 0.327593 | 0.400623  
| P5  | 0.145842 | 0.313864 | 0.099641 | 0.191692   | 0.046471 | 0.215785 | **0.61692** | 0.37984  | 0.240488 | 0.238096 | 0.296528  
| PR2 | 0.194896 | 0.241046 | 0.24539  | 0.162279   | 0.04524  | 0.157132 | **0.68329** | 0.138457 | 0.056204 | 0.228864 | 0.228864  
| PR3 | 0.157118 | 0.166463 | 0.223264 | 0.213704   | 0.040492 | 0.158991 | **0.80768** | 0.179522 | 0.119235 | 0.242428 | 0.242428  
| PR4 | 0.104709 | 0.125607 | 0.072497 | 0.166193   | 0.037757 | 0.107062 | **0.7796**  | 0.145469 | 0.107998 | 0.209355 | 0.209355  
| PR5 | 0.119627 | 0.140682 | 0.145327 | 0.138616   | 0.070083 | 0.112083 | **0.74393** | 0.104151 | 0.125352 | 0.259643 | 0.259643  
| PR6 | 0.09176  | 0.207537 | 0.092491 | 0.146061   | -0.01296 | 0.192816 | **0.68144** | 0.237111 | 0.227329 | 0.320031 | 0.320031  
| RA1 | 0.112862 | 0.513037 | 0.158128 | 0.275129   | 0.001577 | 0.525379 | **0.74408** | 0.459953 | 0.310999 | 0.310999 | 0.310999  
| RA2 | 0.119145 | 0.42827  | 0.135669 | 0.337136   | 0.081919 | 0.576043 | **0.82888** | 0.543234 | 0.344116 | 0.344116 | 0.344116  
| RA3 | 0.205336 | 0.471044 | 0.195297 | 0.321582   | 0.09256  | 0.604029 | **0.81514** | 0.530149 | 0.309601 | 0.309601 | 0.309601  
| RA4 | 0.07982  | 0.417925 | 0.064456 | 0.27747    | 0.053973 | 0.481376 | **0.72232** | 0.457276 | 0.317679 | 0.317679 | 0.317679  

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APPENDIX A

KEDAH SEJARRERA

UUM/CAS/AHSGS/93456
23 May 2012

Nasir Jabir Farhan Al-Khafaji (93456)
Room 101, Block H, DPP Maybank
Universiti Utara Malaysia

Dear Sir/Madam,

DATA COLLECTION FOR PROJECT PAPER/THESIS

This is to certify that Mr. Nasir Jabir Farhan Al-Khafaji (matric number: 93456) is a full-time graduate student in Doctor of Philosophy (Information Technology) at UUM College of Arts and Sciences. He needs to do his field study and data collection for his project paper/thesis in order to fulfill the partial requirements of his graduate studies.

We sincerely hope that your organization will be able to assist him in the data collection and the distribution of the questionnaires for his research.

Thank you.

"MUU BUDI BAKTI"

Yours sincerely,

ABD. RAHMAN MOHD. ISA
Assistant Registrar
Awang Had Salleh Graduate School of Arts and Sciences
Universiti Utara Malaysia

C.C. UUM/CAS/AHSGS/93456
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 have you 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?
CERTIFICATE OF THESIS EDITING & PROOFREADING

Document Title (INTERACTION FACTORS THAT EFFECT ON E-GOVERNMENT IN LOCAL GOVERNMENT)

Job Performed
(A) Editing-proofreading
(B) Style editing and formatting

Proofreading request made by: NASSIR JARBRIR FARHAN (Passport No. G2208252 ) 06 October 2013

A) Proofreading statement: I hereby declare that the our Academy editor has edited the aforementioned document.

B) Validation procedure was performed by Asian EFL Academy

Employee signature: Date: 02 November 2013
ASHIAN EFL ACADEMY SDN. BHD.
913-1-22 JALAN SUNGAI DUA
31200 GELUGOR, PULAU PINANG
## APPENDIX E

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<th>Factors</th>
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<tr>
<td><strong>Benefits</strong></td>
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<td>Lack of perceived benefits of the electronic interaction between local agencies, and lack of awareness of the potential benefits of the process of interaction.</td>
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<tr>
<td>* The lack of awareness among local agencies about the benefits of electronic interaction.</td>
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<tr>
<td>Cost Effective</td>
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<tr>
<td>* Agencies involved in the process of electronic interaction has borrowed the solution to the problem of interaction.</td>
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<tr>
<td>Compatibility</td>
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<tr>
<td>* Not consistent with the needs of the local agencies involved in the process of electronic interaction and objectives.</td>
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<tr>
<td>Complexity</td>
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<tr>
<td>* Difficulty in using the new system, and difficult to accept the concept of the electronic interaction between agencies.</td>
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<tr>
<td>Information Security</td>
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<tr>
<td>* The fear of sending information by electronic means between local agencies.</td>
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<tr>
<td>* The lack of security and protection of data transmitted between agencies.</td>
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### Organizational Context

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<th>IT Capability</th>
<th>IT skills among the staff of limited local agencies, as well as the agencies lack the infrastructure for electronic interaction between local agencies.</th>
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<td>مهارات التكنولوجيا المعلومات بين موظفي الوكالات المحلية محدودة (بما وضعت مهارات المعلومات الفنية في مختلف الوكالات فيما عدا بعض الوكالات تطور إلى التدابير الالكترونية لكشف بين الوكالات المعلوماتية)</td>
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<tr>
<th>Internal Resistance of Change</th>
<th>Resistance by a number of directors of local agencies to use modern technology in the process of sending data between local agencies.</th>
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<td>المجموعة من عدد من مديري الوكالات المعلوماتية (وكالات متعلقة بالأجهزة) مدعومًا من مراقبة النشر المناقصة، وتوجد معرفة محدودة بين الوكالات المعلوماتية (وكالات متعلقة بالأجهزة)</td>
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<tr>
<th>Top management Support</th>
<th>Lack of interest in and support of the managers of some of the agencies in the electronic interaction process; for some reasons the limited resources available to the agencies, and the lack of support from the province to the participating agencies in the process of electronic interaction.</th>
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<tr>
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<td>عدم الإفصاح عن مدى غموض الوكالات من سهولة التفاعل الإلكترونية (وا أن الوكالات الفنية المعنيات بالوكالات الفنية محدودة) وتوجد معرفة محدودة بين الوكالات الفنية في عملية التفاعل الإلكترونية</td>
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| There's no incentive for employees to use modern technology. | لا يوجد هامش لاحتكام استخدام التكنولوجيا الحديثة. |

### Environmental Context

<table>
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<th>Trust</th>
<th>Problems of relations between local agencies, and the lack of trust between local agencies.</th>
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<td>مشاكل العلاقات بين الوكالات المحلية (وجود مشاكل بين بعض الوكالات في محاولة نقل فكر جهة أو عدم وجود اتصال بين الوكالات المحلية)</td>
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<th>Physical Security</th>
<th>Lack of protection devices to prevent any external risk on devices used in the process of electronic interaction among local agencies.</th>
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<td>عدم وجود عناية خاصة من أجل تأمين الأجهزة المخصصة في عملية التفاعل الفنية بين الوكالات المحلية</td>
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<th>Change places servers frequently entail damage to the devices as well as the constant interruption.</th>
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<td>متغير مثال الأجهزة يوجد في العبة من الأجهزة في الأحرار التي تتعلق الأجهزة التفاعلية لا تشمل من الإعداد المخصص للأجهزة التفاعلية.</td>
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<th>Legislations</th>
<th>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.</th>
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<td>عدم وجود التشريعات التي تشجع سهولة التفاعل الإلكترونية بين الوكالات المحلية (وهجم وقود وقود فائد التفاعل الإلكتروني بين الوكالات الفنية في عملية التفاعل في إطار)</td>
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<th>Requires the agencies to use the methods of electronic communication.</th>
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ويجدرنا من ساءكم المشاركون في الجزء الأخير من هذه الدراسة، والتي هي مخصصة بالطبع من النتائج النهائية. خطوط هذا البحث أو نتائجه هذا البحث قد يؤدي إلى الفنانة التي تحسب على الوكالات الحالية و كذلك، محظورة، ذي في ذلك، بشكل عام، أسرة العوامل التي قد تؤدي إلى فشل أو تقليل تداخل المعلومات بوسائل الاتصال،اتجاهية. دومًا، أعدكم ودعمكم في هذا البحث أن يكملون وذلك من أن جميع المعلومات المذكورة هنا هي الأفكار الإلكترونية.

فيما يلي كتابة أي تطبيق هذا "بالطبع استخدام اللغة العربية".

مع التقدير
اسم:
التاريخ:
APPENDIX J (NVivo Report)

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**Node**

**Nodes:** \First Group Interviews\ **BENEFITS**

**Document**

**Internals:** \First Group Interviews\ **Participant 1-1**

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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 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. 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. The project will facilitate the communication with the remote local agencies in the province which cannot be reached in bad weather.

4. The electronic interaction facilitates the work among the local agencies and reduces efforts on employees.

5. but most of the exchange information is between the local agencies and the Agency Name.

6. 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**

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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.
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In fact, there are other benefits that we may gain as employees at the e-government in programming and computer engineering.

The main purpose of the project is to follow the progress of modern countries and to facilitate the local agencies' work and interactions with less time and less effort, and this is what every country aims at.

Actually, the traditional means are stressful and slow compared with modern technology means. Moreover, modern methodologies will save time and reduce effort therefore the employees will feel comfortable to process all of the interactions for the citizens and for the other agencies with safety and confidentiality.

Regarding DCQ "Agency Name", we actually check the names of the employees. This system that was used in 2003 by which salaries for employees are distributed where the local agencies send the names of their employees regularly so that we check it constantly and they receive any other salaries from any other agency.

I think the percentage among only the involved local agencies does not exceed 20%.

Actually, some local agencies do not know the main purpose of the electronic interaction project for both the province and the agency.

Internals\First Group Interviews\Participant 1-3

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I think, first these employees have to be educated on the project and on how this project will benefit the country and will contribute in reducing the corruption and costs and it will offer accurate information.

Unfortunately, some local agencies are not aware that this project will help them in accessing the information easily.

The electronic means specifically the electronic interaction among the local agencies will reduce the waste of money that paid to buy the copy paper documents. Moreover, it will help us future plans in reducing unemployment rate that spread in the province as a result of the administrative corruption and nepotism. However, the e-government is considered an important component to build the modern countries, because without the e-government applications, where the project is a part of it, it would very difficult to provide equal services to the citizens when using the traditional means.

Still, some managers insist on using the traditional means, however, I think when they know the benefits of the electronic interaction they will change their minds.
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No 0.1115 4

Regarding the directorate of <Agency Name> in Dhi-Qar, the purpose is to make the interactions of the agency in a continuous 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 new communication between the directorate of <Agency Name> and the province by using recent means through which the service will be able to register and fill the application forms electronically.

Therefore, I believe that the lack of information exchange among some participated agencies as well as 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.

we strive to advocate 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 benefit from 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 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.

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No 0.0737 2

The project will provide a great contribution to Dhi-Qar directorate <Agency Name> because it is the main 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 clients' interests. However, this project provides a good service for the citizens and will reduce overcrowding at the directorate and will also provide the best services for the other agencies.

Finally, as the moment I find no benefits out of this project <e-government> because most of the available applications cannot be used by the unqualified employees.

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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.

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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.

Report\Coding Summary by Node Report (2)
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.

"Agency Name" Dhi Qar requested the province not to include the ______ 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.

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.

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**

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

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 ______. 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 other local agencies such as the directorate of "Agency Name" and the "Agency ________

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

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**

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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.

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 obstruct the work and applying it in all of the local agencies in the province.
In fact, there are many factors. For example, some department managers do not accept the project because they are not aware of the benefits the project will bring for the Qatar Agency.

Internals\First Group Interviews\participant 5-1

No 0.033 4

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 staff. 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 of part of the e-government. Unfortunately, the provincial authorities are unaware of the benefits the project will bring to the province and to Qatar in general. The project will make a great step of changing from the traditional means (documents) which waste effort and time to the most easily, safe electronic means which reduce costs. Finally, 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 the Qatar province.

Internals\First Group Interviews\participant 6-1

No 0.175 5

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 complaints 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 deal with all of them.

3 1

Iraq is trying so 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 developments some like other countries as well as to reduce the financial and administrative corruption. According to the United Nations 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 the Qatar 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.
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: 1248

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, it means 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

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

3

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 the Iraqi provinces in particular. The available employees at the project are not aware of the importance of the project, and the results are not good as expected.

Internals/First Group Interviews/Participant 7-1

No: 1237

Anyway, 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

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 necessary to convert all these documents into an electronic format that saves time and effort. Thus, this electronic interaction will benefit the directorate -Agency Name- in the Iraqi province, consequently, we accept the project.

3

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 directories that occupy vast space in addition that they can be damaged while these documents can be converted electronically in a CD or a hard disk. Moreover, as it stated earlier, that the modern technology facilitates the work in 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

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.

Reports/Coding Summary By Node Report (2)
In fact, the real benefit behind the application is to convert all the available documents at the local agencies to computers and deal

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.

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 in any time whenever I need it, therefore, the shift to the digital means will put an end to the huge documents.

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 directors of the communication will provide. Thus, this will protect the Agency Name or any sanctions in case of default.

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

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.

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 and other fake names were retrieved by one employee at the agency.

the modern means work can be achieved very fast with less cost. In addition, the information remains 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.

There are many important factors. For example, the lack of qualified individuals in the local agencies, the absence of lawful legislations 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.

Reports\Coding Summary by Node Report (2)
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**

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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 fixed 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, [Name] 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**

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As I mentioned earlier, 20% percent of the electronic interaction process among the local agencies is recently happening in Dit Qas 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 [Name].

| 4 | 1 |

I think [Name], the manager of the e-government in Dit Qas province is well-qualified and he has enough experience on the e-government applications because he was trained well in Italy, Turkey and Jordan.
There are a large number of interaction operations and correspondences that are applied now. In fact, some agencies are still using the traditional methods, however, others use the electronic interaction and the number is in increase.

In 2, 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.

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.

As I told you earlier, in 4, there are enough experienced employees on the e-government applications. I am here the responsible manager for the information.

Regarding Dhi-Qar province, there is electronic exchange among the 1 and the 2 and the 3 of Dhi-Qar. But for the rest of the agency, there seems no motivation to use the inter-echange due to many reasons. However, the interaction exchange does not exceed 3%.

Regarding the 1 in Dhi-Qar, there is a good number of employees who can use the computer ability. In addition, there are computer courses to educate them to use some electronic applications such as document management systems. Moreover, there are some employees who find it difficult to use computer, therefore, they rely 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.

There are a few numbers of them in Dhi-Qar 1. I cannot determine the exact number, but they are less than what the directorate of education needs.

In Dhi-Qar 1, there is a section which is specialised 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 1 with the help of qualified professors.

Regarding Dhi-Qar 1, 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.

A few months ago all the employees of 1 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.
The number of the employees does not exceed 12%. This number is actually not enough to process all the needs of the organization. Therefore, we requested the authorities to provide us with some employees. Unfortunately, the request is still in progress since a year ago.

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

Internals\Second Group Interview\Participant 3-1

No 0.0778 4 1 1

The operations that exchanged 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.

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

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

In Dhi-Qar there is a computer center and it is responsible for e-government and there is a well-qualified manager as well as professor and professor.

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 and the

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.

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 e-government, moreover, most of these employees have no experience in the computer skills and because they were selected inappropriately.

I am the responsible director of the computer center in

Reports\Coding Summary By Node Report