

# Adoption And Appropriation Of Mobile Phone On The Iraqi Society

Kusay Faisal Al-tabatabaie

**Abstract:** Wireless technologies particular mobile phone has been revolutionizing the way people communicate and managing their personal as well as social lives. This paper to investigate the adoption and appropriation pattern of mobile phone technologies on different group ages and gender in the Iraqi society, that will gain high interest among researchers in the mobile technology communities. Data analysis was conducted using descriptive statistics to chart and tabulate the information about the adoption and appropriation patterns and criteria of the samples. The analysis was also conducted to tabulate on five different cohorts in the society, which are age, gender, marital status, employment types, and income. To achieve the goals, a survey using computer-assisted telephone interviews (CATI) was conducted on 2049 random selected mobile phone users in Iraq. Results of research guides to explore the influence of individual characteristics on different patterns of mobile phone have been used. That will help in understanding the use of mobile phone across various cohort groups in the society, which leads to developing mobile phone applications that design by service providers and manufacturers respectively. Also, it will assist policy formulation on mobile phone use at the workplace or school.

**Index Terms:** Adoption; Appropriation; Wireless Technology Application.

## 1 INTRODUCTION

Mobile phones are the fastest growing in popularity since the late 1990s [1], it has become the most necessary medium of communication and part of our daily life, where has a great effect on the society's accessibility, security, safety and coordination of business. For that, mobile phones have been considered from various different targets. Start with a range from the marketing perspectives of using a mobile phone to social [2 - 4], cultural and public contexts use and applications [5, 6] and adoptions [7]. Recently, information technology introduced to wireless phone technology and its multi-functions such as multimedia, voice calls, data use, storage device, games and other social media services [8], where people use mobile phone to create, share, e-mail, browsing, and exchange information and ideas in virtual communities using uploading and downloading, games and text messaging, as well as social networking, and Internet sites for sharing photos and videos [11]. Appropriation shows the way to use, adapted, and fitted technology in the users' daily activities. Using the appropriation approach helps to understand the wireless phone usage more meaningfully through how the technology is used, the purposes it serves, and the context in which it is used through the choice of features and services [8, 9, 10]. Adoption and appropriation model had been developed from qualitative studies on teenagers [11 - 14], is done by establishing the link between users who take ownership of the technology and shows how the technology is adapted to satisfy different purposes intended by the users. Other study proposed the concept of appropriation through object-oriented and functional usage, which are pragmatic and symbolic in nature [15, 16], where mobile phone appropriation model intricate on influential factors that are both functional and symbolic, and tied to various attractors from social and psychological perspectives such as norms and restrictions, and meta-communication.

This work will count the number of mobile phone usage by creating a link between how users get ownership of technology and how the technology is adopted. To meet various purposes intended by users. Other studies have also shown that mobile phones are used to satisfy different purposes [15-17]. The search on mobile phone usage has been approached by adoption and technology acceptance model (TAM). In most cases, the technology needs to focus on specific Mobile phone techniques such as WAP phone [17, 18]. Given the variety of the technology within the mobile phone that can be suitable for users so, they access to their desired required and purposes. By following this approach, will be possible to understand the mobile phone usage clearly through how the technology is used, the context of its use through the choice of features and services.

## 2 METHODOLOGY

Due to the decision to conduct the Computer-assisted Telephone Interview (CATI) technique for this research, the limitations of the procedure has led to design two separate surveys: one for adoption and appropriation of a mobile phone survey, and the other one for the impact of a mobile phone survey. Although CATI provides the benefit the random distribution of population samples to produce to produce accuracy in prediction and circulating the results, the procedures do not allow for the lengthy type of survey, usually conducted using the Internet or paper-based survey. This issue guides us to the breakdown of the survey into two, which were carried out concurrently during the administration process. This work seeks to visualize the work of Carroll [4], which started with qualitatively on the use of the wireless phone by teenagers, into a quantitative nationwide survey. Beside Carroll, other researchers such as N. S Abdul Karim [15], and W. Wirth [16] are used in guiding this research and the development of the framework. Fig. 1 below provides an overview of the conceptual framework in guiding the conduct of this research leading to the quantitative operational structure. In this part of the research, demonstrate the adoption and appropriation. The impact of the wireless phone technologies has been investigated earlier in [8].

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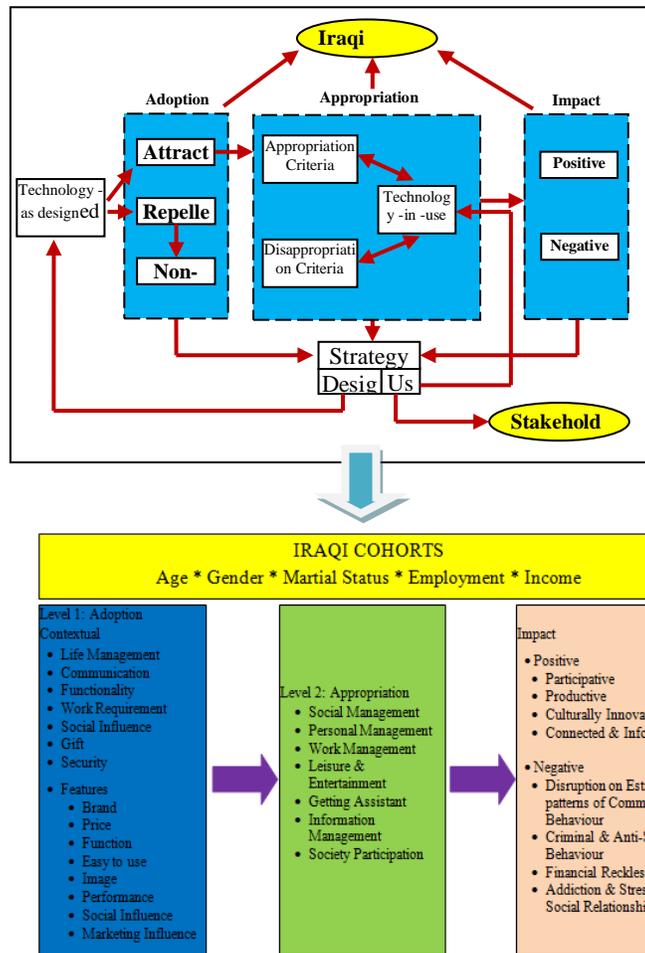


Fig 1. Overview of the research framework

In this framework, adoption has been conceptualizing as the first level of wireless phone use. At this level, the users made an attempt to first decide on using a phone, followed by the choice of wireless phone technology at the purchasing point. Adoption level allows us to identify the criteria for the decision to use the wireless phone for the first time, as well as to use more than one phone. However, given the high penetration rate of a wireless phone in Iraq, the adoption criteria can only be applied to the different types of phone technology purchased. The next level known as the appropriation level has been identified. At this level, the users appropriate the wireless phone technologies according to their social, personal, and work like activities. These activities can be captured according to the criteria identified as appropriation criteria. However, at this level, the users may also decide to revoke their existing possession of the technology, either totally or simply by changing to different types of wireless phone technologies that suit their needs.

**3 QUALITATIVE RESEARCH FINDINGS**

Qualitative research methods were used as a means to identify the adoption and appropriation criteria as well as the positive and negative impact of mobile phones. Two main methods used were interviews and focus groups. The findings divided into three parts: respondent profile, adoption of the mobile phone, and mobile phone appropriation for each group

finding as follows:

**3.1 Respondent profile**

A statistical study has been done on five different cohorts age, gender, marital status, employment status and income distribution, the results was as in figure 2, table 1, table 2, figure 3, and figure 4 respectively.

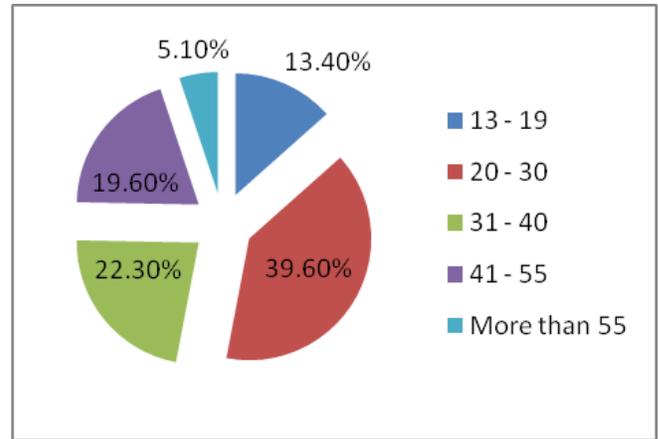


Figure 2: Respondent of age range to mobile phone users

**TABLE I**  
GENDER RESPONDENT TO MOBILE PHONE USERS

	Frequency	Percent
Male	1303	63.6
Female	746	36.4
<b>Total</b>	<b>2049</b>	<b>100.0</b>

**TABLE II**  
MARITAL STATUS

	Frequency	Percent
Single	1338	65.3
Married	711	34.7
<b>Total</b>	<b>2049</b>	<b>100.0</b>

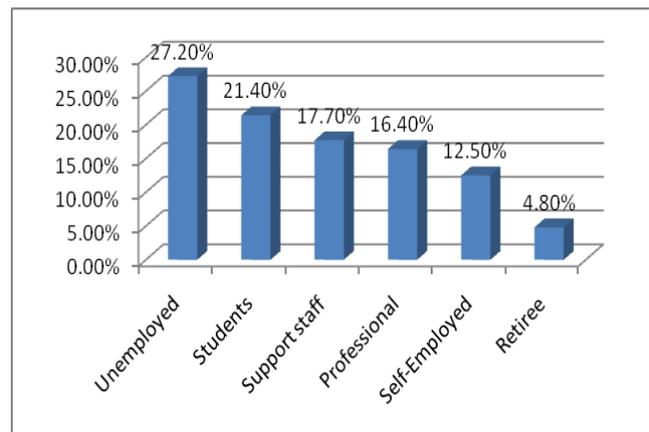
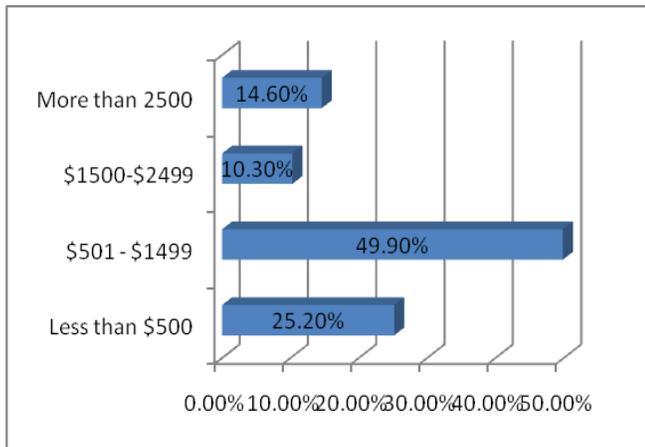
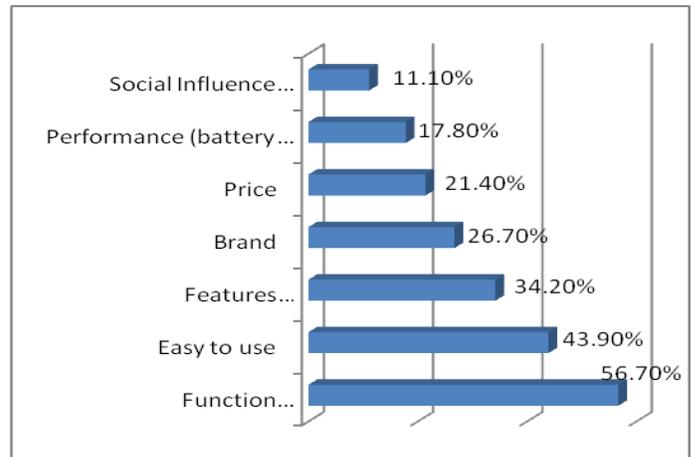


Fig. 3 Employee status



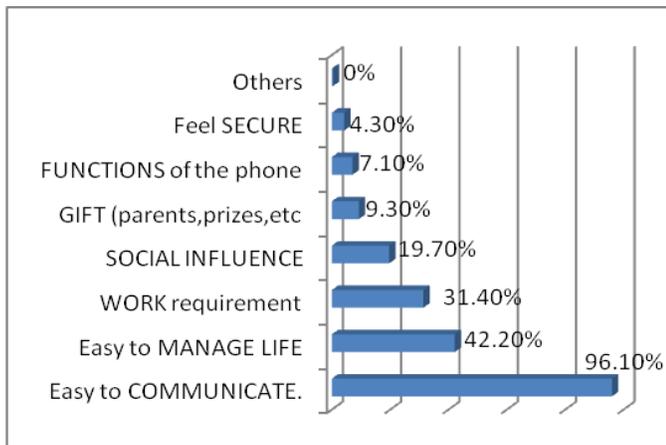
**Fig. 4** Income distribution bar chart for 1053 respondent (excluded the unemployed and students portion)



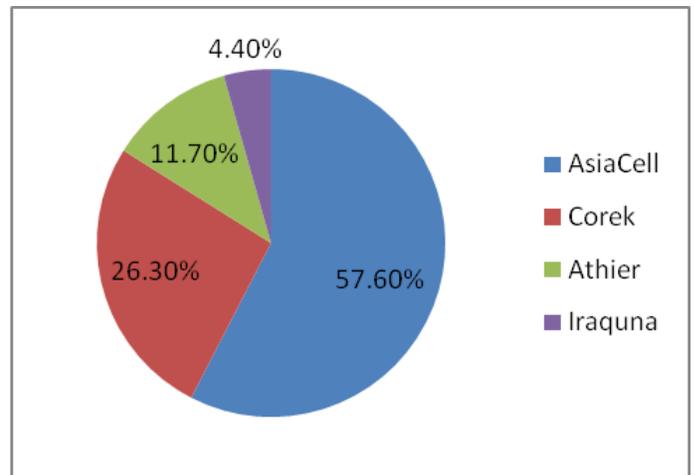
**Fig. 7** Reasons for preferred brand

**3.2 Adoption of mobile phone**

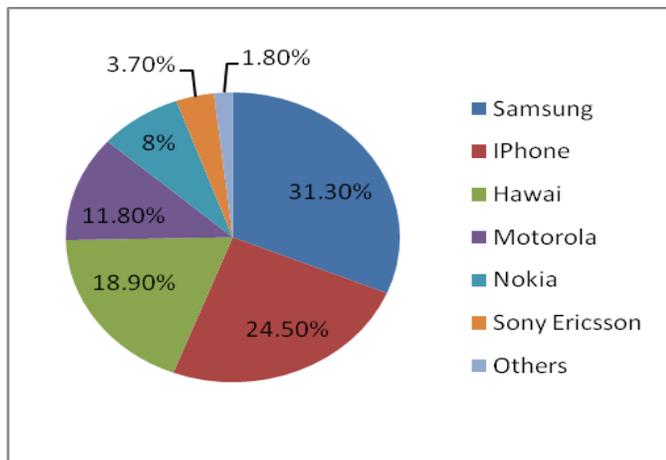
This done base on reasons for using a mobile phone the first time, mobile phone brand, reasons for preferred brand, and service provider as summarized in figures 5-8 respectively.



**Fig. 5** Main reasons for the use of mobile phone for the first time



**Fig. 8** Service provider



**Fig. 6** Mobile Phone brand

**3.3 Mobile Phone Appropriation**

This done base on the number of mobile phones used by respondent, reasons for using more than one phone, mobile phone function use, Purpose of using Mobile Phone, Change of Phone, and reasons for change of the phone. The quantities research finding outcomes shows: Majority of the respondents use one mobile (69.4%), followed by respondents use two mobile (24.6%). Those who use three mobiles or more are the minority. The most significant reason for using more than one phone is to separate different purposes (e.g. personal vs. work) (21.2%), followed by as a BACKUP (e.g. battery runs out or phone malfunctions) (8.5%). The least significant reason for using more than one phone is others (0.9%). Viber and WhatsApp are the most used function (94.3%), followed by a camera (78.8%), SMS (65.1%), alarm clock (49.2%). The least used functions are TV and mirror. The major purpose of using a mobile phone is for social management (e.g. contacting friends, social networking) (97.7%), followed by personal management (67.7%). The least significant purpose of using a mobile phone is for society participation (15.3%). For phone change, statistics give that (63.1%) of respondents wants to change their phones, and (36.9%) they do not want to change their mobiles. The main reason for the change of phone is the initial phone is damaged (33.6%), followed by a loss (14.3%) and insufficient functions (11.5%). The least significant reason

for the change of phone was either difficult to use (1%) of costly accessories (0.2%).

**4 CHARACTERISTICS OF ADOPTION AND APPROPRIATION BASED ON COHORTS**

Analyses have been performed to investigate the characteristics of the adoption and appropriation process based on different cohort groups investigated. The techniques used for the analyses are cross tabulation and Pearson Chi-Square, with a significant value of 0.05 and below, to be acceptable for indicating the significant difference between responses within categories in each cohort group. In this section, inferences have been made on the relationship between the focus variables (adoption or appropriation) criteria with the cohort groups. The findings were as summarized in table 3 below:

**TABLE III**

*RELATION BETWEEN ADOPTION, APPROPRIATION CRITERIA WITH THE COHORT GROUPS*

Cohort group	Adoption criteria	Appropriation criteria
Age group	<ul style="list-style-type: none"> <li>-Young age group (teenagers) chose a mobile phone for functionality and entertainment. While the older generation (retirees) seems to use the mobile phone for basic communication needs.</li> <li>-The middle age group (working adults), seems to adopt mobile phone to reflect their work requirements and their buying powers.</li> <li>-The teenagers and young working adults seem to be more attracted to mobile phone functionalities.</li> </ul>	<ul style="list-style-type: none"> <li>- Damaged &amp; loss are the two significant reasons which lead to different age groups to change their mobile phone.</li> <li>- Individuals in the age group of 13-19 are significantly low in changing their phones due to both reasons.</li> <li>- Working adults are more likely to change their phones due to damage and loss.</li> <li>- Those who are above 55 years old are also less likely to change their phone because of damage.</li> </ul>
Gender	<ul style="list-style-type: none"> <li>- Males acquired mobile phone significantly more for work requirement reason than female users.</li> <li>- Females get their phone through gifts significantly more than males.</li> <li>- Males have higher tendency to choose certain brand due to functionality, which is also more likely to be socially influenced in their choice of mobile phone brand.</li> </ul>	<ul style="list-style-type: none"> <li>- Males have higher tendency to buy and use more than one phone.</li> <li>- Female has more tendencies to use functions such as Camera, SMS and alarm clock, while the male would use more functional sophistication on the phone such as Wireless and Bluetooth and download latest updates technology.</li> <li>- Males have more tendency to use a mobile phone for work management, while females use a mobile phone more likely for leisure and personal management purposes.</li> </ul>
Marital status	<ul style="list-style-type: none"> <li>- Those who are single are the significantly high</li> </ul>	

	users of many of the functions and purpose of mobile phone use investigated. <ul style="list-style-type: none"> <li>- Single people are also more likely to change their mobile phone compared to married people.</li> </ul>	
Employee status	<ul style="list-style-type: none"> <li>- Unemployed group selections depend on price and functions.</li> <li>- The students have more tendency to choose their phones' brands due to the function of the phone, social influence, and image.</li> <li>- The professional group is a bit more concern with the features that suit their interest and work life.</li> <li>- The retirees seem not to care much about the brand.</li> </ul>	<ul style="list-style-type: none"> <li>- The student groups seem to be actively use phone more for personal, and information management, getting assistance, leisure and entertainment. Those groups are the highest users of the mobile functions than other groups.</li> <li>- Professional groups use mobile phone significantly more for personal, work, and information management.</li> <li>- Retirees are using the phone much less than other groups.</li> </ul>
Income distribution	Those with high income have the tendency to: <ul style="list-style-type: none"> <li>- Use brand other than Samsung.</li> <li>- Use more than one phone</li> <li>- Change phone due to inadequate features</li> <li>- Use of mobile phone for the purpose of personal, work, and information management</li> </ul>	

**5 CONCLUSIONS**

To use the mobile phone it is important to have wireless connections associated infrastructure and service provision. The wireless to makes interconnection that allows people to be connected to each other and to the public telephone network. While the availability of the infrastructure depends on the study of the mobile phone adoption which involves a complex diffusion process like technology, government, and management with the common aim of allowing individuals and businesses. And to reach to proper service provision, required to perform a proper study on mobile phone appropriation and impact of mobile phone on the society. However, public conceptions of the mobile phones focus on their use as tools for communication and social identity. Findings from this paper have provided information that is highly significant in both designs and services of the mobile phone by the manufacturers as well as service providers. This research is designed in a manner that addresses both the research community in the information technology field and the community of practices, which regards mobile phone as part of their daily life and work activities. This work has also provided a significant contribution to the theoretical understanding of mobile phone use from the information system perspective with the use of adoption and appropriation model. Also, it has achieved to contribute to knowledge and understanding a quantitative and qualitative study on adoption and appropriation of the mobile phone on the Iraqi mobile phone users. With the technique used in the survey (the CATI technique), the findings are expected to provide quality information (high reliability and validity) for use and guidance allows for regulators such as ISMS [19] produce more effective policies and regulations pertaining to mobile phone use and the promotion of various positive values in the society through proper strategies. As well as characterizations that have been made based on the five cohort groups studied to allow the manufacturers to adjust its design of mobile phone according

to the needs of the users and the service providers to readjust their marketing strategies that are more effective and profitable.

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