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RESEARCH ARTICLE

IMPACT OF MOBILE PHONE ON THE IRAQI SOCIETY.

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Abstract

This paper recommends appropriate strategies for harnessing the benefits and mitigating the pitfalls of wireless technologies in a form of strategies. Therefore, these strategies will guide government and policymakers to harness the positive social impact and mitigate the negative social impact.

Introduction:-

Wireless technologies particular mobile phone has been revolutionizing the way people communicate and managing their personal as well as social lives. This can be seen through the exponential growth in the penetration rate of mobile phone throughout all Middle East countries including Iraq. In Iraq alone, the penetration rate has reached 110 percent as of second quarter of 2016 (Iraqi Ministry of Communication (2016)). The penetration rate of over 100 percent can occur because of multiple subscriptions. This means the total number of subscriptions has outnumbered the total number of population. Given the widespread use of the mobile phone technology across all user groups, understanding the adoption and appropriation pattern of mobile phone is gaining much interest among researchers in the mobile technology communities (Biljon and Kotze (2007)), (Kim (2008)), (Wirth et al (2008)). While technology adoption (Yi et al (2005)) and acceptance model (Davis (1989)) has been highly cited in research in this pursuit, newly found model such as technology appropriation model of mobile phone use is also gaining acceptance in explaining the mobile phone use phenomena(Wirth et al (2008)). The ubiquitous use of mobile phone in the society may have also resulted in certain benefits and threats to the society at large (Kushchu (2007)), (Mihalic and Tscheligi (2006)). In this regard, understanding use and users of mobile phone technologies in Iraq is important in guiding strategies, policy developments and regulations concerning wireless technology use. This research has made an attempt to provide knowledge and guidance through a national wide survey based on the impact framework of the work of Keating and Kushchu (Kushchu (2007)) in understanding the impact of mobile phone on the Iraqi society.

Impact of Mobile Phone:-

The impact has been categorized into positive and negative impact on the society. Positive contributions of mobile phones to society have been described in a report by Kushu (Kushchu (2007)). He categorized the dimensions of positive social impact as contributions to personal and primary relations, contributions to the society in general and contributions to the economies. Contributions to personal and primary relations encompass connection for communication and accessibility, convenience bringing efficiency especially to daily lives, charisma reflecting influence on identity and empowerment of individuals, companionship for helping individuals have fun, care providing safety and care for others, and the establishment of a culture of its own. Contributions to the society in general include the establishment of informative society, connected society, culturally innovative society, participative society and converging society. Contributions to the economies explains the mobile phone's role on

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infrastructure development, better business practices, improvements in the public sector (mobile government) and collective welfare of the individuals via social responsibility (Mihalic and Tscheligi (2006)).

On the opposite end of the spectrum, Keating (Kushchu (2007)) discussed societal problems arising from the integration of mobile phone communication into daily social life. These include the disruptions of established patterns of communication and behaviour, stress on social relationships due to these disruptions and new challenges managing antisocial behaviours. She also highlighted the conflict between "liberation" in mobility and "control" in terms of expectations to be available. The ubiquity of mobile phone contributes to a new dependence on technological connections via cell phone. As a result, new issues emerged such as the management of simultaneous contexts and spaces with different expectations and behaviours, new private vs public boundary issues and problems with the camera phone and the unauthorized transmission of visual information (Bar et al (2007)), (Aoki et al (2003)).

Based on the work of these two authors, the research conceptualize the framework of the impact study into positive impact which comprised of five dimensions and negative impact, which comprised of also five dimension. The dimensions identified as negative impact are informative society, connected society, culturally innovative society, participative society and productive society. Whereas the dimension categorized as negative impact are as follows:

- Socially Disintegrated Society: Individualistic Society, (versus caring society), Socially alienated Society, Social Relationship breakdown: illicit affair via WT, divorce through sms, Backstabbing society
- Technology Addicted Society: Excessively Dependent on Technology
- Security Threatened and Criminal Prone Society: Terrorism, Smuggling, Less Privacy, Threats, Slander, Harassment, Blackmail etc.
- Rude or Less Polite Society: Degradation of Communication Etiquette and Degeneration of language
- Threat to Iraqi Values (gambling, porno sites)

Qualitative Methodology:-

The following processes are followed in the conduct of the qualitative research:

Framework Development:-

1. Identify Criteria - Brainstorming Workshop - Draft F/work.
2. Interviews: Structured Interviews using analysis template based on Conceptual Framework.
3. Respondents: Fixed Workplace Workers - Mobile Workers - students - Senior Citizens - Housewives - Non-Adopters.
4. Focus Groups: Interactive group discussions on mobile phone adoption, appropriation and impact.
5. Groupings: Academicians - Pre-Teens - Teenagers - University Students - Support Staff - Mobile Workers - Professionals - Analysis - Interviews & focus groups transcribed.

Quantitative Methodology:-

Due to the decision to apply the Computer Telephone Interview (CATI) technique in the conduct of this research, the restrictions in the procedure has led to the design of two separate surveys: one for adoption and appropriation of mobile phone survey, and the other one for the impact of mobile phone survey. Although CATI provides the benefit of randomization of samples drawn from the population to produce accuracy in prediction and generalizability in the results, the procedures do not allow for lengthy type of survey commonly administered using the Internet or paper-based survey. This issue has led to the breakdown of the survey into two, which were run concurrently during the administration process.

Survey design: Computer Assisted Telephone Interview (CATI) technique by trained interviewers.

Population: Users of wireless phone as of May 2016, aged 13 years old and above, and able to understand Arabic or Kurdish language.

Sample: 2000 samples were drawn to provide national estimate, 1708 has been successfully acquired and usable for analysis.

Instrument: Questions were derived from the conceptualization of Kushu and Keating's work on positive and negative impact of mobile phone.

Analysis :Data analysis was conducted using descriptive statistics to chart and tabulate the information about the adoption and appropriation patterns and criteria of the samples. Analysis was also conducted to tabulate the different adoption and appropriation criteria according different cohorts. These cohorts are age, gender, marital status, employment status, ethnicity, and income. However the focus given in this report is given on age and gender: The following are the strategies adopted:

- Descriptive profile of respondents
- Descriptive report on adoption and appropriation criteria

- Analysis of differences on categorical variables for relationships
- Chi-square analysis with significant difference of 95% confidence level
- Cross tabulation between cohort groups and adoption criteria
- Cross tabulation between cohort groups and appropriation criteria

Positive Impact of Mobile Phone to Society:-

One dimension of impact being conceptualized is POSITIVE IMPACT. The draft instrument used comprised of 26 questions with the following concepts: Informative Society- Connected Society- Culturally Innovative Society - Participative Society- Productive Society.

The table indicates the factor loading of the items which emerged into six different factors. Most of the factors are conceptualized accordingly as: PI2 – connected society; PI1 – informative society; PI4 – participative society; PI5 – productive society; and PI3 – culturally innovative society. All of the factors are found reliable with reliability test of α greater than 0.7 (Hair et.al., 1998). Factor six is considered unreliable and therefore not considered as measurement of any known concept. Findings from the analysis allows for the refinement of the positive impact dimension to be used further in the actual survey. Table 1 shows the descriptive statistics on positive impact of mobile phone.

Table 1:- Descriptive statistics - positive impact of mobile phone.

PI2 - (Connected) α = .762	**Min**	**Max**	**Mean**	**Std Dev**
My mobile phone has improved my overall social connectivity/relationship	1	5	4.42	0.79
My mobile phone has allowed me to keep track and get involved with family and friends' activities	3	5	4.35	0.66
My mobile phone has given me more social freedom than before (I can mix with anybody I like).	2	5	3.66	0.81
I am comfortable with the new cultures, values and behaviours brought by the use of mobile phones.	1	5	3.60	0.84
My social network and social circle have expanded through the use of mobile phones	1	5	3.92	0.78
Average (aggregate value)			**3.99**	**0.78**
PI1 - (Informative) α = .788	**Min**	**Max**	**Mean**	**Std Dev**
My mobile phone has improved my ability to access latest social/daily life information	1	5	3.31	1.15
My mobile phone has given me quick access to public information services	1	5	3.52	0.90
My mobile phone keeps me up to date with current issues and information.	1	5	3.48	0.92
My mobile phone has given me convenient access to online information resources	1	5	3.46	1.01
Average (aggregate value)			**3.44**	**0.99**

Table 1:- Descriptive statistics - positive impact of mobile phone (continued)

PI4 - (Participative) α = .746	Min	Max	Mean	Std Dev
I have used my mobile phone to give opinions on social issues	1	5	2.74	0.84
I have used my mobile phone to participate in TV/radio programmes	1	5	2.56	1.11
Through mobile phones I have participated in social/political activities involving the public and groups	1	5	2.73	0.98
The convenient access to various government and business services through my mobile phone makes my work more efficient and productive.	1	5	3.23	0.89
Average (aggregate value)			**2.82**	**0.95**
PI5 - (Productive) α = .738	**Min**	**Max**	**Mean**	**Std Dev**
My work performance has improved because of my mobile phone.	1	5	3.18	0.90
My mobile phone has allowed me to become more creative and to do things that I may not be able to do before.	1	5	3.30	0.87
My mobile phone has enabled me to generate more income.	1	5	2.84	1.03
My mobile phone provides me with functions and features that allow me to manage my social and daily life more effectively	1	5	3.61	0.94
Average (aggregate value)			**3.23**	**0.93**
PI3 - (Innovative culture) α = .731	**Min**	**Max**	**Mean**	**Std Dev**
I have used 3G/SMS/MMS to be more creative in my communication and activities	1	5	3.74	1.16
I have used unique grammar and expressions (smiley) in text messages	1	5	3.85	0.91
I use my mobile phone to socially connect with my friends and family through sharing of jokes/advice/MMS, etc.	1	5	4.02	0.94
With the use of my mobile phone, time and distance is not an issue for me to make friends and socialise with people	1	5	4.01	0.85
Average (aggregate value)			**3.91**	**0.97**

Negative Impact of Mobile Phone to Society:-

Negative impact to society was originally measured with 21 questions and conceptualized as follows:

- NI1: Socially Disintegrated Society: Individualistic Society, (versus caring society), Socially alienated Society, Social Relationship breakdown: illicit affair via WT, divorce through sms, Backstabbing society
- NI2: Technology Addicted Society: Excessively Dependent on Technology
- NI3: Security Threatened and Criminal Prone Society: Terrorism, Smuggling, Less Privacy, Threats, Slander, Harassment, Blackmail etc.
- NI4: Rude or Less Polite Society: Degradation of Communication Etiquette and Degeneration of language
- NI5: Threat to Iraqi Values (gambling, porno sites)

Six factors emerged from the principle component analysis. The table indicates how we conceptualize factor 1, 2, 3, and 4 with the corresponding reliability test α above 0.7. Factor five and six are considered unknown and unreliable. Eventually, the refinement in the concept has been made which is quite different from the original dimensions. There were 16 items retained which can be used for further exploratory descriptive analysis and actual conduct of the survey. Table 2 shows the descriptive statistics on negative impact of mobile phone.

Table 2:- Descriptive statistics - negative impact of mobile phone

ANTI-SOCIAL AND CRIMINAL PRONE SOCIETY (NI1)	Min	Max	Mean	Std Dev
To my knowledge, mobile phone is being used for making threats, harassment, blackmail, slander in Iraq	1	5	2.82	1.16
To my knowledge, mobile phone is being used for activities that undermine the law in Iraq.	1	5	2.90	1.04
To my knowledge, mobile phone is being used as a threat to social integration in Iraq (e.g., spread rumours, to instigate racial/religious unrest, etc.).	1	5	3.06	1.02
To my knowledge, mobile phone is used as a means of anti-social services such as gambling, prostitution, etc.	1	5	2.85	1.06
Average (aggregate value)			**2.91**	**1.07**
UNCONSCIENTIOUS AND LESS POLITE SOCIETY (NI2)	**Min**	**Max**	**Mean**	**Std Dev**
I have experienced disturbing others or have been disturbed by other through the use of mobile phones in socially inappropriate places (e.g., places of worship, lecture halls, libraries, cinemas, etc.).	1	5	3.11	1.09
I have experienced being interrupted or disturbed from inappropriate use of mobile phones	1	5	3.66	1.01
On many occasions, events I attended (e.g., meetings, lectures, shows, etc.) have been disrupted by the use of mobile phones (either my phone or others).	1	5	3.45	0.96
Iraqis written communication skills have deteriorated due to abbreviation and other new forms of text messaging.	1	5	3.49	0.95
Iraqis have become a less polite society because of mobile phones.	1	5	3.16	1.16
Average (aggregate value)			**3.37**	**1.03**

Table 2:- Descriptive statistics - negative impact of mobile phone (continued)

ADDICTION AND DISINTEGRATION IN SOCIETY (NI3)	Min	Max	Mean	Std Dev
I spend a great deal of time speaking on the mobile phone at the expense of those around me.	1	5	2.86	0.99
I have experienced threats to personal relationships through mobile phones.	1	5	3.08	1.04
I find myself occupied on my mobile phone when I should be doing other things.	1	5	2.94	0.85
My life is considered miserable if I don't have my mobile phone with me at all times.	1	5	3.56	1.01
Nothing in my life and my work can be done without my mobile phone with me.	1	5	3.02	1.07
Average (aggregate value)			**3.09**	**0.99**
ADDICTION AND DISINTEGRATION IN SOCIETY (NI4)	**Min**	**Max**	**Mean**	**Std Dev**
I have experienced spending more than my allocated budget for the mobile phone bills.	1	5	3.20	1.13
I have experienced financial problems as a result of over spending on my mobile phone.	1	5	2.89	1.20
Average (aggregate value)			**3.04**	**1.16**

The CATI Survey:-

- Gender: Majority of the respondents (56.4%) are male. 43.6% of the respondents are female.
- Age Range: Majority of the respondent (39.3%) aged between 20 to 30 years old. This is followed by respondents aged 31-40 years old (20.2%). Respondents aged more than 55 are the least (6.3%).
- Marital Status: Single respondent is slightly higher (52.6%) than the married people (47.4%).
- Income Distribution: (13.6%) they earn more than 2000$, majority of the respondents (50.7%) earn 1000$ to 2000$, followed by those who earn less than 1000$ (31.1%).
- Employment Status: Majority of the respondents (29.1%) are support staff, followed by students (20.9%) and self-employed people (18.9%). (15.1%) were unemployed, (11.9%) were professionals, and the retirees are only 4.1% of total respondent.

Dimensions of Positive and Negative Impact:-

13 positive impact variables and 13 negative impact variables are included in the CATI survey questionnaire. Analysis of the factors using factor analysis identifies the eight dimensions of social impact of mobile phone. Four dimensions are positive impact and another four are negative impact. The positive impact dimensions conform to the dimensions identified by Kushchu (2007). The negative impact dimensions conform to the dimensions identified by Keating (2005). Figure 1 shows the positive and impact dimensions as a result of factor analysis.

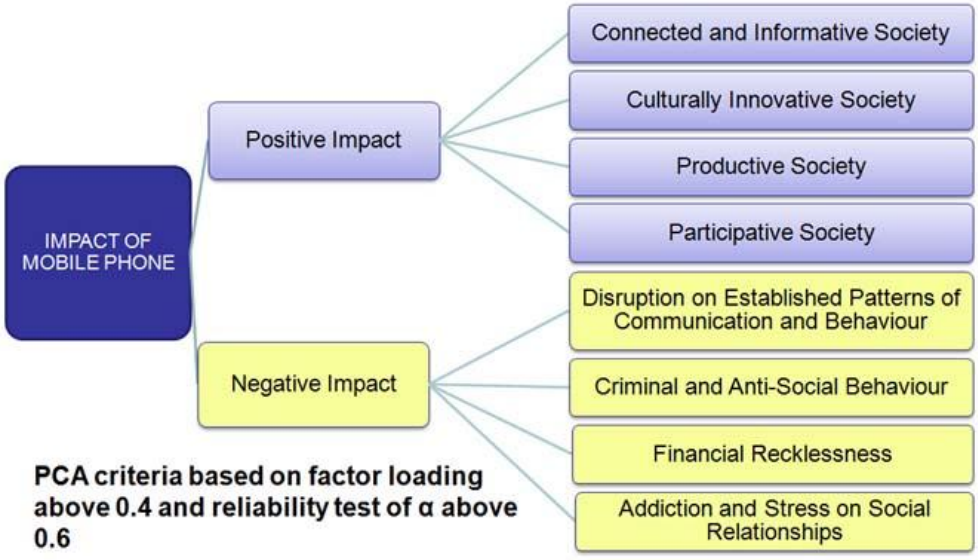

Figure 1:- Positive and negative impact dimensions

Overall Positive Impact Measured:-

The percentage of agreement for individual indicators suggests that mobile phone gives the biggest positive impact towards contributing to a connected and informative society. This is followed by culturally innovative society, productive society and participative society. Figure 2 shows the positive impact findings highlights.

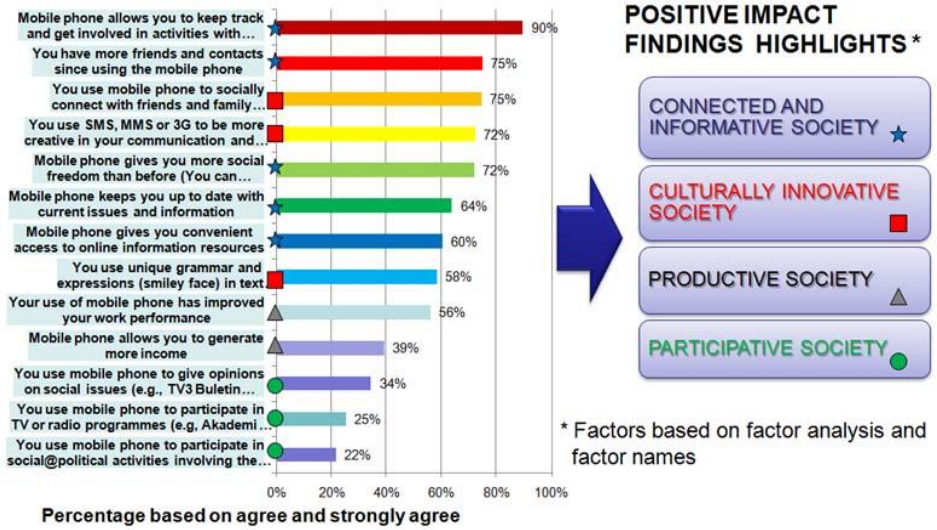

Figure 2:- Positive impact findings highlights.

Analysis on the data set according to mean responses suggests a similar outcome namely contribution to a connected and informative society, followed by culturally innovative society, productive society and participative society. Table 3 shows the aggregated mean based on dimensions.

Table 3:- Aggregated mean based on positive impact dimensions

Positive Impact Dimension	N	Min	Max	Mean	Std. Dev
Connected & Informative Society	1705	1	5	3.7	0.585
Culturally Innovative Society	1707	1	5	3.6	0.735
Productive society	1708	1	5	3.2	0.895
Participative Society	1708	1	5	2.7	0.842

Overall Negative Impact Measured:-

The percentage of agreement for individual indicators suggests that mobile phone gives the biggest negative impact to the society in relation to the disruption on established patterns of communication and behaviour. This is followed by criminal and anti-social behaviour, financial recklessness and addiction and stress on social relationships. Figure 6.8 shows the negative impact findings highlights.

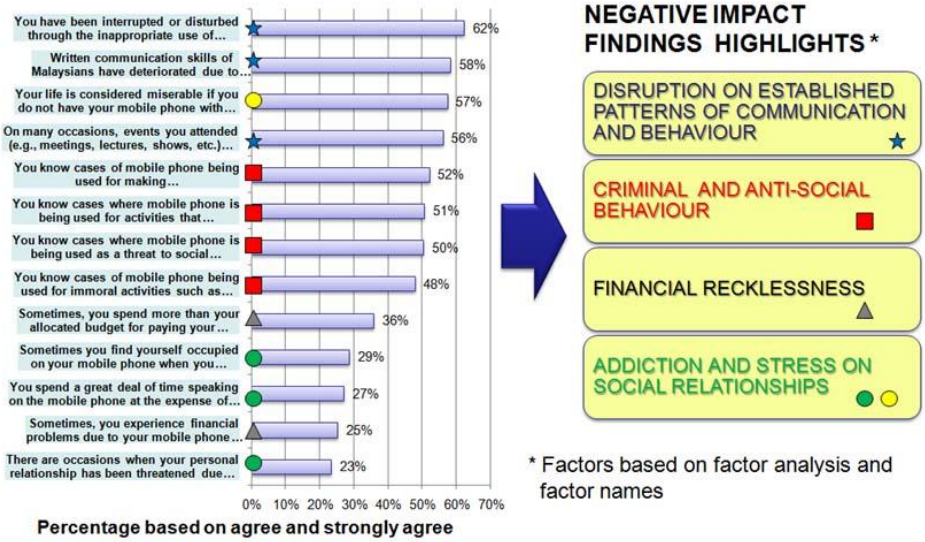

Figure 3:- Negative impact findings highlights

Analysis on the data set according to mean responses suggests a somewhat different outcome namely impact related to the disruption on established patterns of communication and behaviour, followed by financial recklessness, addiction and stress on social relationships, and criminal and anti-social behaviour. Table 4 shows the aggregated mean based on dimensions. Table 4 shows the negative impact findings details based on mean.

Table 4: - Aggregated mean based on negative impact dimensions

Negative Impact Dimension	N	Min	Max	Mean	Std. Dev
Criminal and Anti-Social Behaviour	1708	1	4	2.54	0.78
Addiction and Stress on Social Relationships	1708	1	5	2.62	0.79
Financial Recklessness	1708	1	5	2.72	0.92
Disruption on Established Patterns of Communication and Behaviour	1708	1	5	3.40	0.80

Conclusion:-

The variables in the connected society and the informative society dimensions were found to be highly correlated with each other. As a result, the two dimensions were combined. The most significant positive impact of mobile phone is its contribution towards a connected society and informative society. This includes keeping track and involvement with family and friends, expansion of social network, increase in communication social freedom, keeping up-to-date with current issues and communication, and convenient access to online information resources. It also contributes towards a culturally innovative society through the use of unique grammar to communicate and the establishment of new identity, culture and values brought about by mobile phone. To a varying degree, there are differences on how mobile phone impacts the different cohorts in the Iraqi society. In relation to gender, male benefits more than female especially in the use of mobile phone to increase productivity. This is also true for connected and informative society, and participative society. As for age group, the working age of 31-40 is the biggest beneficiary of mobile phone contribution towards a productive society. The 20-30 and 13-19 age groups are more inclined towards a culturally innovative society.

In terms of marital status, the married are more likely to be productive from the use of mobile phone compared to the single group. In contrast, the singles are more likely to be culturally innovative. Regarding employment status, the professional and retiree are the biggest beneficiaries of the mobile phone contribution towards a connected and informative society. The self-employed used the most to participate in society and to be productive. Students are most likely to be culturally innovative. As for income group, productivity using mobile phone increases as income grows. On the contrary, the mobile phone contribution towards a participative society decreases as income grows.
In contrast to the positive impact of mobile phone on society, the percentage of agreement amongst the respondents on negative impact variables is generally lower compared to the positive impact variables. This reflects the general view of the Iraqi society that the positive aspects of mobile phone outweigh the negative. Factor analysis on the survey data suggests four negative impact dimensions, namely disruption on established patterns of communication and behaviour, criminal and anti-social behaviour, financial recklessness and addiction and stress on social relationships. The highest concern amongst the society related to mobile phone is in its use that disrupts established patterns of communication and behaviour, such as interruption through its inappropriate use at certain events and places. The deterioration of written communication skills and overly dependence on mobile phone were also a concern. About half of the respondents perceived that mobile phone is used to aid criminal and anti-social behaviour. Such activities include making threats, harassment, blackmail and slander, undermining the law, spreading rumours and instigating unrest, and aiding immoral activities such as gambling and prostitution. To some extent, mobile phone can also be considered a cause of financial recklessness through overspending more than the allocated budget. About a quarter of the respondents agreed that mobile phone causes addiction and stress on social relationship.

Similar to positive impact, there are differences on how mobile phone impacts the different cohorts in the Iraqi society in relation to negative impact. In relation to gender, there are no significant differences between male and female with regard to any of the dimensions. As for age group, the elderly 55 years and above age group is the least prone to the disruption on established patterns of communication and behaviour caused by mobile phone. The 13-19 age groups are more prone to addiction and stress on social relationships and financial recklessness. In terms of marital status, the singles are more prone to addiction and stress on social relationships, and financial recklessness caused by the use of mobile phone. Regarding employment status, the professional are most likely to be concerned

on criminal and anti-social behaviour caused by mobile phone. The same group are also most likely to experience disruption on established patterns of communication and behaviour. With regard to addiction and stress on social relationships and financial recklessness, students are more likely to experience them. As for income group, the more than 2000$ income group are most likely to concern on the criminal and anti-social behaviour. With regard to the disruption on established patterns of communication and behaviour, the perception of the negative impact grows as income grows. The 1000-2000 group are more prone to addiction and stress on social relationships. Finally, the less than 1000$ income groups are more likely to experience financial recklessness due to mobile phone.

In the strategic view of Iraqi objective, following statements are represented by the following eight values of the Iraqi Vision: Perseverance, Culture of Excellence, Acceptance, Loyalty, Education, Humility, Integrity, Meritocracy. The project which was initially proposed as a single study utilizing the computer assisted telephone interview (CATI) technique, in order to ensure high representation of the information generated from the sample to the population. The accuracy derived from the sample has been calculated with a predetermined type B error of 0.01 or 1 percent. This high accuracy in the sample in representing the population allows for the findings to be used and depended on by the funding agency as well as the government in the formulation of policies and guidelines concerning the users of mobile phone as well as the Iraqi society at large.

References:-

1. Iraqi Ministry of Communication (MOC). Retrieved August 29, 2016 from http://moc.gov.iq.
2. Biljon, V.J., & Kotze, P. (2007). Modelling the Factors that Influence Mobile Phone Adoption. *SAICSIT 2007*, 2 - 3 October 2007, Fish River Sun, Sunshine Coast, South Africa.
3. Kim, S. (2008). Appropriation of wireless technology: Direct impacting factors on Youth's adoption intention and usage of the wireless protocol phone. *Information Technology Journal*, 7 (8), 1116 – 1124.
4. Wirth, W., Von Pape, T., & Karnowski, V. (2008). An integrative model of mobile phone appropriation. *Journal of Computer-Mediated Communication*, 13 (2008), 593 – 617.
5. Yi, Y. D., Wu, Z., & Tung, L. L. (2005). How individual differences influence technology usage behaviour? Toward an integrated framework, *Journal of Computer Information Systems*, 46(2), 52-63.
6. Davis, F.D. (1989) "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly* 13 (3), 318-340.
7. Kushchu, I. (2007). Positive Contributions of Mobile Phones to Society . retrieved December 17, 2007, from http://www. mgovernment.org/resurces/positivezfinal.pdf.
8. Mihalic, K. & Tscheligi, M. (2006). Interactional Context for Mobile Applications. Retrieved April 23 2008.
9. Bar, F., Pisani, F. & Weber, M. (2007). Mobile technology appropriation in a distant mirror: baroque infiltration, creolization and cannibalism. Retrieved April 2008 http://www.arnic.info/Papers/Bar_Pisani_Weber_appropriation- April07.pdf.
10. Aoki, K., & Downes, E. J. (2003). An analysis of young people's use of and attitudes toward cell phones. *Telematics and Informatics, 20*, 349-364.
11. Hair, J.F.J., Anderson, R.E., Tatham, R.L., Black, W.C., 1998. Multivariate Data Analysis, 5th edn, Prentice Hall, Upper Saddle River, New Jersey.