



E-Awareness of University Student through Smart Phones and Developing Social Networks

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Abstract

Mobile telephone has empowered young generation manage their social life. D'Souza refers this because it has provided them independence to independence as personal agency. He describes that personal agency can be practiced through mobile phone in three ways; contactability, organizability and de-restriction. This study assumes these three dimensions of mobile assisted personal agency and examines its role in creating e-awareness. To test this assumption, a survey research was conducted by drawing sample (N=402) from various universities of Lahore. Results depict that mobile phone assisted personal agency plays a role in creating e-awareness among university students of Lahore. Thus following study suggests that this technology can be utilized for civic engagement and conscious rising among those who frequently use mobile phone.

Keywords: Mobile Phone, E-Awareness, Youth, Personal Agency, Pakistan

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1. Introduction

Until 2000, researchers were interested to investigate engineering and policy aspects of this technology, but a little attention was paid to foresee the consequences of this technology in changing the nature of human relationships [1]. However, with its growing penetration, researchers of various disciplines have initiated to excavate the possible repercussions of this technology upon human beings. The mobile phone primarily uses for communication purposes, however, this device has also been used for emotional and social communication among group members, hyper coordination. The hyper-coordination covers the "instrumental and the expressive use of the mobile telephone". People use this social gadget to express their feelings and to provide support to their peer group [2]. Most of them, particularly young people, primarily adopt mobile phone to maintain their social interactions with others.

Young people, the leading adopters of this technology [3], are the most prevalent recipients of mobile phone culture which has transformed the pre mobile phone era norms and patterns of

behavior [4]. The virtual social contact is on the rise and new forms of interaction i.e. texting have been emerged out [5]. Such types of interactions have enabled them to communicate and interact with their friends and peers more frequently and independently [6]. They utilize this social device as per their needs and requirements [7].

The young people majorly use mobile phone to keep in touch with their peers and friends [8]. They have a great sense of belongingness with their mobile phones [9-10]. On the contrary, they are also in habit of sharing their gadgets within their peer group [11]. However, they use mobile phone as private communication device to define their personal space and to create a distinction in their relationships with friends and parents [12]. Therefore, they have strong attachment with this gadget which is due to the fewer places for personal communication with their friends. Consequently, mobile phone has become a source of "tele-nesting", where this gadget performs the role of glue for cementing a space of shared intimacy between two people [10]. Habuchi (2006) identifies two types of expressive functions of mobile phone for young

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people. Mobile phone creates opportunities for new interpersonal relationships and second helps to maintain the familiar and existing relationships. Ito (2004) terms the later type of relationships as “tele-coocoon” or “full-time intimate community”, a type of lightweight conversations in various settings among a group of intimate circle of friends.

Such type of mobile phone use has provided the youth an opportunity to share their ideas, experiences and choices with their peers and friends unrestrictedly [14]. This device provides a flexible lifestyle of instant information exchange and updates and allows them to share information instantly that they want to share with their peer group and friends [15]. In this way, mobile phone has empowered young people by engaging them with their peer group and friend without any constraint.

The concept of personal/human agency is also investigated in relation to the mobile phone [16-18]. In general, agency refers to the capacity of individuals to act independently and to make their own free choices. However, agency is not the same as individualism. Individualism is a belief in the primary importance of the individual and in the virtues of self-reliance and personal independence [16]. According to the Grotevant (1998), agency exposes the inimitability of the self especially in two dimensions namely: self-assertion, displaying one’s own point of view and taking responsibility for communicating it clearly; and separateness, expressing the distinctiveness of one from others.

With regard to relationship between mobile phone and personal agency, D’Souza (2010) conducted a study to examine the practice of personal agency through mobile phone among Indian youth. He found out three factors; contactability, organizability and de-restriction, contributing in the manifestation of personal agency by mobile phone use [16]. Similarly, Mahmood et al. (2013) have reported the practice of personal agency through mobile phone among young people studying in Lahore, Pakistan. Their study confirms three factors; contactability, organizability and de-restriction, identified by D’Souza (2010) in practicing personal agency through mobile phone.

1.1 Rationale of current study

Pakistan has stepped in digital age and continuously investing on the information and communication technology infrastructure, particularly on mobile communication system. In 2003, there were only 3.29 percent people who owned the mobile phones. However, situation has been radically changed within few years as now 75 percent of people own personal mobile phones [21]. This figure has been expected to rise enormously in coming years as well.

With this increasing proliferation of mobile phone technology in Pakistan, there has been dearth of empirical evidences that reflect impact of this social

artifact upon Pakistani society, particularly on young people. Despite this fact, some studies have been highlighted the efficacy of mobile phone in enabling young people. Ahmed and Qazi (2011) discuss the role of mobile phone in connecting young people with their friends without any temporal and social constraint. Shaheen (2008) identifies a tactful use of mobile phone among youth at the time of 2008 emergency in seeking political information and mobilizing people against the government. They utilize short text messages (SMS) for the consciousness rising in such political conditions [24]. By seeing the potential benefits of mobile telephony, Pakistani political parties have now been using this technology for conscious raising and mobilizing youth. This shows the significance of this device in Pakistani society. With this reference, following study aims to explore how the practice of personal agency through mobile phone has empowered young people in creating e-awareness among their friends and fellows.

2. Analytical Framework

D’Souza (2010) explored the practice of personal agency through mobile phone among Indian youth. According to him, there were three factors of mobile phone assisted personal agency; contactability, organizability and de-restriction. Mahmood et al. (2013) also confirmed these three factors in manifesting mobile phone assisted personal agency among mobile phone users, studying at various universities of Lahore. For the following study, it was assumed that young people who practiced personal agency would also create e-awareness through mobile phone. Figure 1 depicts the analytical framework of the following study.

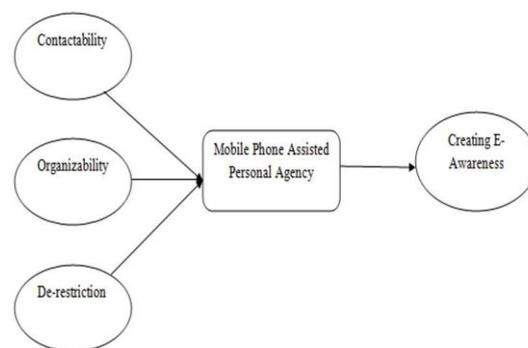


Figure 1. Mobile Phone Assisted Personal Agency as a Source of E-Awareness

2.1 Contactability

The primary reasons among young people in obtaining mobile phone are personal safety and coordination with their parents [1]. Mobile phone has made possible for young people to remain accessible and in contact with their parents and loved ones without the constraints of time and space [6, 25-26]. Hence, D’Souza (2010) conceived contactability with reference of individual safety

and coordination with parents. According to him, contactability is “the ability to be accessible and in contact “whenever” and “wherever” they were required by others even in emergency situations”. Mahmood et al. (2013) also adopted the following definition of contactability.

2.2 Organizability

Owing to the availability of mobile phone, social life becomes much easier for young people to manage. They utilize mobile phone in interacting with their friends and colleagues [14]. The mobile phone has also increased their abilities to enhance their interaction with social environment [27]. For D’Souza (2010), organizability is “the ability of mobile phone users to organize themselves in the midst of regular or contingent situations”.

2.3 De-restriction

Mobile phone has provided opportunities to the young people to express their ideas and thoughts. Moreover, this gadget allows them to communicate and negotiate with parents when they are out with friends [9]. Independence and freedom provided by mobile phone use is an often researched theme [12]. D’Souza (2010) took it as de-restriction. For him, de-restriction is “a sense of freedom and the ability of the mobile phone users to negotiate with their parents the time of returning home when they were out and about with their peers” [16].

3. Methodology

The study was conducted in Lahore, the capital of Punjab Province and the second largest city in Pakistan. The city represents a rich socio-economic and cultural diversity. Owing to its metropolitan character and the heterogeneity of its population, the city is considered to be a mini-Punjab and the “heart of Pakistan”. In Lahore, although the native language is Punjabi, people from different communities speak a variety of Pakistani languages. The national language, Urdu, is commonly spoken by most people in public places.

Lahore is also the leading educational hub of the country as having various institutes in medical, engineering, technical and vocational training, computer sciences, business administration, teacher training and general universities that offer education in various disciplines. Among them, 30 institutes have been approved by higher education commission (HEC) of Pakistan as degree awarding institutes (DAI) providing their services in Lahore. Majority of the young people, who study in these institutes, own their mobile phones because mobile phone penetration enormously increases and now middle class as well as lower class families can afford mobile phone for their children. These students represent youth population and therefore researchers decided to survey university students in order to make a youth specific sample.

By using HEC accreditation list, six stratum were developed on the basis of disciplines in which these

institutes were offering education. These stratum were as follows:

- 1) General: those institutes who offered education in more than one discipline and had various faculties
- 2) i.e. faculty of science, faculty of arts and faculty of commerce.
- 3) Medical: institutes giving education to the students in medical sciences i.e. pharmacy, general medical science and dental sciences.
- 4) Engineering: imparting education in various disciplines of engineering like chemical, electrical, civil, computer science and mechanical.
- 5) Management Studies: students getting education from there in commerce, economics, business administration and public administration.
- 6) Animal Sciences: an institute offering education to the students in veterinary and animal science.
- 7) Others: those institutes who did not fall in the above categories but they were giving professional education to the students and these degrees were recognized by HEC.

Table1. Sample Size of the Study

Strata	Degree Awarding Institute (DAI)	Estimated Students in Selected DAI	Selected Students in Sample
General	University of the Punjab	35000	200
	Government College University	3000	18
	Lahore College for Women University	4000	23
	University of the Central Punjab	8000	46
Medical	King Edward Medical University	3000	18
Engineering	University of Engineering & Technology	9000	50
Management	Global Institute	1000	6
Studies	Imperial College of Business Studies	1000	6
Animal Sciences	University of Veterinary & Animal Sciences	4000	23
Others	National College of Art & Design	2000	12
		Total	402

Table 1 presents information of the institutes selected from each stratum and approximate number of the students in each selected institute. The sample size of the following study was 402 and respondents from each stratum were selected by using proportional allocation technique. After allocating sample size to each university, survey was conducted by adopting convenient sampling technique due to the unavailability of sampling frame at university level [20]. For this purpose, Personal Agency of Mobile Phone Users Scale (PAoMPUS), developed by D'Souza (2010) and validated by Mahmood et al. (2013) in Pakistan, was used. Four point Likert scale was used in order to take responses from the respondents. In addition to this, a scale was also developed to measure the practice of e-awareness among mobile phone users. The reliability coefficient, Cronbach's α , was computed for both the scale which is 0.75 for PAoMPUS and 0.84 for e-awareness among mobile phone users.

4. Results

4.1 Demographic characteristics

Table 2 presents demographic information of the students. In this study, 226 (56.2%) percent of the respondents were male, while 176 (43.8%) of the respondents were female. Though a women university was included in sample to attain gender equality in sample size but not achieved. The reason of slightly higher percentage of male respondents in the sample was due to the higher ratio of male students at higher education level in Pakistan.

Table 2. Demographic Characteristics

	Variable	Frequency	Percent
Gender	Male	226	56.2
	Female	176	43.8
Monthly Family Income	Less than 30,000	88	21.89
	30,001-60,000	193	48.01
	Above than 60,000	121	30.10
Possession of Mobile Phone	More than 1 Year	47	11.69
	More than 2 Year	66	16.42
	More than 3 Year	289	71.89

The adoption of mobile telephone seems equal in all spheres of society. The middle as well as lower class can also now afford mobile phone to remain in contact and manage their lives. Table 2 indicates that majority of the students 193 (48.01%) reported their family income between 30,001 to 60,000 Pakistani Rupees (PKR). In addition to this, 121 (30.10) students said that their monthly family income was above than 60,000 PKR while 88 (21.89%) students indicated their monthly family

income was less than 30, 000 PKR. This trend confirms that mobile phone has penetrated almost in all classes of society. To see duration of the possession of a mobile phone, table 2 highlights that majority of the 289 (71.89%) students owned their mobile phones for the last three years while 66 (16.42%) students had this social artifact for last two years. Only 47(11.69%) students reported that they had mobile phone for almost more than one year.

4.2 Mobile phone assisted contactability

The first factor in measuring mobile phone assisted personal agency was contactability. Table 3 depicts that young people perceived mobile phone as a good source to contact people (M=3.39, S.D= 0.86) in emergency situations. In addition to this, they also replied that they heavily used (M=3.46, S.D= 0.77) mobile phone in communicating with their loved ones whenever they were in emergency.

Table3. Mobile Phone Assisted Contactability

Items	Mean	S.D
I am certain that I will be able to contact my parents or friends in case of any emergency.	3.39	0.86
Others can easily contact me in case of any emergency.	3.46	0.77
I can easily contact my parents and friends in case of any emergency.	3.59	0.72
I can easily get in touch with others wherever I am and whenever I need them.	3.49	0.78
I can easily contact people personally to gather facts to make some urgent decision while on the move.	3.00	0.94

Similarly they also supposed that other people could as well make use of this device (M=3.59, S.D= 0.72) in emergency situations. Furthermore, they felt mobile phone as a source (M=3.496, S.D= 0.78) to get in touch with others wherever they are and whenever they need them. They believed that they could contact (M=3.00, S.D= 0.94) people personally through mobile phone to gather facts in making some urgent decision while on the move.

4.3 Mobile phone assisted organizability

The second factor was organizability. Table 4 highlights that the young people had faith upon their selves (M=2.88, S.D= 0.0.94) that they could access any kind of information through mobile phone. They also believed that they tactfully used (M=2.98, S.D= 0.98) this device and paid attention while speaking on mobile phone or sending the SMS. In addition to this, they made use of this social artifact (M=2.89, S.D= 1.02) to entrain their selves and passing time irrespective temporal and spatial constraints. Moreover, they planed (M=2.77, S.D=

1.05) face to face meeting for group study or any other social activity through mobile phone as well.

Table 4. Mobile Phone Assisted Contactability

Items	Mean	S.D
I am certain that I will be able to have quick access to information services	2.88	0.94
I can easily pass time by entertaining myself with music or radio, anytime and anywhere.	2.98	0.94
I tend to pay attention to my words or text and while speaking or SMSing	2.89	1.02
I can plan an instant face-to-face meeting e.g. group study or a meeting on Internet chat.	2.77	1.05

4.4 Mobile phone assisted de-restriction

The third factor contribute in measuring mobile phone assisted personal agency was de-restriction. Table 5 indicates that mobile phone allowed young people to talk their beloved ones (M=3.41, S.D= 0.83) and it gave them the feeling of happiness and independence. They felt safe (M=3.16, S.D= 0.91) when they were carrying this device as anyone could contact them when they were out. Consequently, they used mobile phone (M=3.13, S.D= 0.94) in negotiating with parents regarding the time to return home if out with friends. Overall, the respondents on each item replied positively and felt that mobile phone allowed them to derestrict themselves within the circumstances in which they were living.

Table 5. Mobile Phone Assisted De-Restriction

Items	Mean	S.D
I feel happy that I can talk to my parents and friends whenever and from wherever I feel like.	3.41	0.83
I feel safe that my parents and friends are in touch with me when I am out.	3.16	0.91
I negotiate with my parents regarding the time to return home if I am out with friends.	3.13	0.94

4.5 Building e-awareness on social issues

The mobile phone has provided an opportunity to the young people to discuss various social issues with their colleagues, friends and other people. To measure this variable, six indicators/items were developed by the researchers. The young people used mobile phone in creating awareness on the issues they face in their daily lives. Table 6 illustrates the information on these indicators. The young people shared information on different acute diseases like dengue (M=2.81, S.D= 1.08) with others through SMS and calling. They also uses mobile phone to raise people consciousness by sharing information about various political parties

and actions (M=2.35, S.D= 1.15).They took in different political conditions. In the same way, they utilized mobile phone to informed other about corruptions (M=2.40, S.D= 1.15) happening in different sectors.

Table 6. E-Awareness on Social Issues

Items	Mean	S.D
I use mobile phone to inform my friends and colleagues about different acute diseases like dengue.	2.81	1.08
I use mobile phone to share information about various political parties.	2.35	1.15
I use mobile phone to send messages on issues like corruption.	2.40	1.15
I use mobile phone to send messages on religious matters.	2.68	1.07
I use mobile phone to share information with others about natural disasters.	2.80	1.09

Besides creating awareness on social issues, they also made use of this device on various religious matters (M=2.68, S.D= 1.07). In addition to this, they shared information with their fellows and friends on natural disasters (M=2.80, S.D= 1.09) as well. These findings show that mobile phone has emerged out as social device rather than a mere technological object.

4.6 Mobile phone assisted personal agency as a source of e-awareness

It was hypothesized that mobile phone assisted personal agency has a significant relationship in building e-awareness among young people in Pakistan. For this purpose, analysis was made by using simple linear regression method. The prediction model was statistically significant, $F(1, 400) = 166.62$, $p < .001$, and accounted for approximately 29% of the variance of e-awareness on social issues ($R^2 = .294$, Adjusted $R^2 = .292$). Results are shown below in table 7.

Table 7. Mobile Phone Assisted Personal Agency as Predictor of Building E-awareness on social issues

E-awareness on social issues				
Mobile Phone Assisted Personal Agency	R Square	Adjusted R Square	F	p
	0.294	0.292	166.62	0.000

In addition to this, it was also hypothesized that demographic variables, gender and monthly family income, and duration of a mobile phone had no significant affect in building e-awareness on social issues among young people. For this purpose, univariate analyses were performed with these independent variables to see its effect on dependent variable i.e. e-awareness on social issues through

mobile phone. Table 8 shows that Gender $F(1, 395) = 3.19$, $p > 0.01$, partial $\eta^2 = 0.10$, and Duration of Mobile Phone $F(2, 395) = 0.50$, $p > 0.01$, partial $\eta^2 = 0.59$ have not significantly affected the dependent variable, e-awareness on social issues through mobile phone. Likewise, others Monthly Family Income $F(1, 395) = 3.48$, $p > 0.01$, partial $\eta^2 = 0.009$ has also not significantly affected e-awareness on social issues through mobile phone.

Table 8. UNICOVA Results for Demographic Variable Predicting E-Awareness on Social Issues through Mobile Phone Use

Variable	F	Partial η^2	p
Gender	3.193	0.10	0.06
Duration of Mobile Phone	0.520	0.003	0.06
Monthly Family Income	3.489	0.009	0.06

These results show that mobile phone assisted personal agency has significant effect in predicting e-awareness on social issues through mobile phone. Therefore, it does not matter how costly the mobile is and how long you are carrying this social artifact but it does matter how effectively one practice his/her personal agency through mobile phone. The study has revealed that mobile phone acts as social facilitator and enabler. This small gadget has altered the people's way of communication and interaction. Social connectivity has been increased with the help of this and people exercising their civic engagement by creating awareness through this social artifact. Now further research is needed to see how this device can be utilized to wheel up civic engagement in Pakistan.

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